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EMS Recreation Study Document 03. Survey of recreational use within the Plymouth Sound and Estuaries European Marine Site.

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February, 2017

A report for Plymouth City Council prepared by the Marine Biological Association of the UK.

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Incorporated by
Royal Charter

Date: February, 2017

Version: Draft 1

Recommend Citation: Langmead, O., Tillin, H., Griffiths, C; and Bastos, E, Milburn, H & Arnold, M (2017) EMS Recreation Study Document 03. Survey of recreational use within the Plymouth Sound and Estuaries European Marine Site. A report for Plymouth City Council prepared by the Marine Biological Association of the UK.

Acknowledgements

This report was commissioned by Plymouth City Council and funded through a consortium of additional local authorities working together consisting of Cornwall Council, South Hams District Council and West Devon Borough Council with support from Natural England.

The contribution of the officers involved is recognised, including Kaja Curry (Plymouth City Council and Tamar Estuaries Consultative Forum), Natasha Collings-Costello and Sarah Arden from Cornwall Council, Rob Sekula from South Hams District Council, Angela Gall, Corine Dyke and Andrew Stanger from Natural England.

We also acknowledge the invaluable contribution of the volunteer surveyors: Liam Gibson; Diane Solomon; Rebecca Metcalf; Jenny Linnell; Samuel Richards; David Moreton; Valerie Williams; Kevin Williams; Ellie Ward-Edwards; Emily Whiting; Ankitha Manohar; Dean Bowles; Alexandra Colbing; Anna Luff; Hannah Wilson; Laura Prigge; Hannah Snead; Niamh Brown; Jemima Dimbleby; Jennifer Naybour; Katherine Baxter; Ella Clifton; Nova Mieszkowska; Rosie Tarrant; Lucy Jupe; Christine Bennett; Alec De La Fuente Rogers; Nadia Frontier; Maria Carbin; Krista Sherman; Anja Klein; Angela Pellowe; Lisa Peakman-Short; Hafizh Hanafiah Sapei and Claire Eatock.

The following volunteer trainees within the Marine Biological Association of the UK provided invaluable help in digitising the questionnaires: Hannah Milburn, Ana Chaverra, Bethan Follis, Lucia Drabikova, Carmel Roche and Tom Ferguson. We also thank the volunteers that assisted us in facilitating the workshops, Anna Luff and Alex Colbing.

This work was commissioned by the Natural Infrastructure Team, Plymouth City Council and closely overseen by Kaja Curry (Natural Infrastructure Officer and Tamar Estuaries Consultative Forum Co-ordinator). The project was steered by the Plymouth Sound and Tamar Estuaries Recreation Mitigation Task Group which consisted of Plymouth City Council, Cornwall Council, South Hams District Council, West Devon Borough Council and was advised by Natural England.

The Marine Biological Association of the UK has a long-term specific interest in the research into, and management of, our immediate marine and coastal environment. In recognition of the importance of this project the MBA generously matched the funding.

This study would not have been possible without the support of the visitors to the Plymouth Sound and Estuaries European Marine site who freely gave their time to answer site surveys, attend workshops and complete the online survey. The project team at the MBA appreciate and acknowledge their contribution.

Executive Summary

The Plymouth Sound and Estuaries EMS is a complex site of marine inlets and larger bays which provides conditions for a number of coastal and marine recreational activities. The proximity of the site to the city of Plymouth provides recreational users with infrastructure and many access points to undertake a number of land and water based recreational activities including coastal walking, sailing, rowing, swimming, kayaking, sea angling and rock-pooling.

Recreational activities can adversely affect habitats and disturb species, through a range of pressures arising from activities such as noise, abrasion and penetration of the seabed, litter, organic enrichment, contamination, physical change to other seabed types and introduction of light. It is therefore important to balance use of the site for recreational purposes while maintaining the conservation objectives for the designated site features.

Tamar Estuaries Consultative Forum (TECF), as the estuary management partnership, is responsible for management of the EMS and must have regard to direct and indirect effects on all designated features. To date, no comprehensive survey of recreational use of the site has been undertaken, representing a gap in our understanding of the use of the site and the potential for interactions with protected features. Thus this survey of recreational activities was designed to provide evidence to support the management of the site using three complementary methods: on-site visitor surveys, targeted workshops for key recreational activities and online questionnaires.

The combined reach of the three approaches was as follows: a total of 644 on-site surveys were conducted across 19 sites, in each of the four seasons and this constituted a total of 314 volunteer survey hours. A total of 4222 people were recorded entering the site accompanied by 422 dogs. The interview success rate averaged 60% acceptance across the sites and seasons. The targeted workshops focused on recreational angling (boat and shore based), sailing (dinghy, yacht) and power-boating, sub-aqua diving and paddle-sports (rowing, canoeing / kayaking, stand-up paddle-boarding) and were attended by a total of 35 participants, many of which represented clubs and societies with large memberships. The online survey had a total of 655 responses over the period from 18th November until 3rd January 2017.

What emerged from these three approaches combined was that predominantly recreational users are local to Devon and Cornwall (87% of visitor groups in the on-site survey and 82% on online survey respondents). There were seasonal trends in the data with more non-local visitors in summer as would be expected with tourists visiting the area from further afield.

Terrestrial activities accounted for the majority of visitors surveyed both on-site and online. There were clear preferred locations that emerged from the on-site surveys within the EMS (upper Tamar (Calstock-Cotehele area), the Tavy (Lopwell Dam – Bere Ferrers area), Hoe (Devil's Point to Barbican) and the coast path between Mount Batten and Wembury. The online survey indicated that the Outer Estuary (management zone M) and the Open Coast (zone P) were most used, with much lower

patterns of use in the upper Tamar and Tavy. This pattern likely reflects the main access points to the EMS and proximity to the main population centre of Plymouth.

The most popular marine-based recreational activities were canoeing/kayaking, angling, sailing and swimming and was consistent between the on-site and on-line surveys. Most activities showed similar distribution and intensity between the approaches used to gather the spatial data, aside from paddle-sports which had contrasting patterns of use between the on-site surveys (showing high intensities of activity in the upper parts of the estuaries (Tamar, Tavy, Yealm), and the targeted workshops and online survey which indicated most activity was going on in the Plymouth Sound. In this specific case, most confidence would be place in the results of the targeted workshop on paddle-sports which was likely most representative of the activity.

As well as providing a picture of what activities are distributed at which locations in the EMS and their seasonality and intensity, an indication on what makes the site attractive to visitors was gained. 'Attractive scenery' and 'Close to home' were consistently the highest scoring responses in both the on-site (26% and 23% of responses) and online surveys (17% and 15%), indicating the strong association for the site by local residents. This was also consistent for SPA sites as well as the wider EMS. This insight into site preferences is also supported by the responses to the question about what factors would lead to an alternative site being chosen. In the on-site survey, 17% of local resident visitor groups stated that no features of another site would make it more attractive to visit over the EMS, and 15% of responses in the online survey, suggesting again, the strong relationship that local visitors have with the EMS. Responses to speculative changes to the site yielded a similar finding in that 54% of local residents stating that none of the suggested changes would alter the amount of time they spent at the site (on-site survey). Again this reiterates the value of the EMS to local users, and their strong site fidelity.

To identify the core visitor area where most of the visitors to the EMS originate we have generated Zone of Influence maps using the on-site visitor survey data. Using the home postcodes supplied by local resident visitors (resident in Devon or Cornwall) to each site, we calculated the shortest distance by road between their postcode and the site that they visited. We based the Zone of Influence on visitors that arrive by car or motorbike as this is the most commonly used form of transport to get to sites and is therefore most representative of the distances visitors travel. From this distance data we identified the 3rd quartile point (the point between the middle distance and the maximum distance travelled by visitors). The 3rd quartile point distance separates the closest 75% of visitors from the 25% that travel further. The closest 75% are considered to be the core local visitors. The Zone of Influence that was derived from the core visitor group (12.3km and 12.1km for the SAC and SPA respectively) and these distances align well with previous studies. However a standard methodology for identify Zones of Influence has yet to be defined, with these other studies using slightly different approaches to mark a boundary that is representative of patterns of site visitors.

This study provides a snapshot of the patterns of recreational use of the EMS. Three approaches were used in combination to ensure that the most comprehensive picture of recreational use was obtained, each method contributing a different aspect to the overall picture. However there are limitations to the study as a whole, mostly relating to the use of volunteer surveyors (e.g. gaps in

coverage and uneven effort), but also to the external factors that predict visit rates (e.g. weather, tides, holidays).

This study comprises the most comprehensive survey of recreational use of the Plymouth Sound and Estuaries EMS to date and has provided detailed information about recreational activities and recreational users of the site. Future work that needs to be done in order to build on this understanding and identify where management needs to be focussed in relation to the conservation objectives of the site would comprise the sensitivity assessment of the site features against the pressures that arise from the distribution and intensity of recreational activities shown here.

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The Plymouth Sound and Estuaries European Marine Site (EMS) consists of the Plymouth Sound and Estuaries Special Area of Conservation (SAC), and the Tamar Estuaries Complex Special Protection Area (SPA) (see Figure 1), and is designated for those habitat and species features listed in Table 1 and Table 2**.**

Figure 1. The Plymouth Sound and Estuaries European Marine Site, incorporating the Plymouth Sound and Estuaries Special Area of Conservation (SAC), and the Tamar Estuaries Complex Special Protection Area (SPA)

Table 1. Designated Features of the Plymouth Sound and Estuaries SAC

Designation Type	Feature	Subfeature
SAC Annex I habitat	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)	
	Estuaries	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
		Circalittoral rock
		Infralittoral rock
		Intertidal mixed sediments
		Intertidal mud
		Intertidal rock
		Intertidal seagrass beds
		Subtidal mixed sediments
		Subtidal mud
		Subtidal sand
		Subtidal seagrass beds
	Large shallow inlets and bays	Circalittoral rock
		Infralittoral rock
		Intertidal rock
		Subtidal coarse sediment
		Subtidal mixed sediments
		Subtidal mud
		Subtidal sand
		Subtidal seagrass beds
	Mudflats and sandflats not covered by seawater at low tide	Intertidal coarse sediment
		Intertidal mixed sediments
		Intertidal mud
		Intertidal sand and muddy sand
		Intertidal seagrass beds
	Reefs	Circalittoral rock
		Infralittoral rock
		Intertidal rock
	Sandbanks which are slightly covered by sea water all the time	Subtidal coarse sediment
		Subtidal mixed sediments
		Subtidal mud
		Subtidal sand
		Subtidal seagrass beds
SAC Annex II species	Allis shad (*Alosa alosa*)	
	Shore dock (*Rumex rupestris*)	

Table 2. Designated Features of the Tamar Estuaries Complex SPA

Designation Type	Feature	Subfeature
SPA Bird features	Non-breeding Avocet (*Recurvirostra avosetta*)	
	Non-breeding Little egret (*Egretta garzetta*)	
SPA Supporting habitat	Annual vegetation of drift lines	
	Coastal reedbeds	
	Freshwater and coastal grazing marsh	
	Intertidal mixed sediments	
	Intertidal mud	
	Intertidal sand and muddy sand	
	Intertidal seagrass beds	
	Water column	
	Saltmarsh	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

1.2 Conservation features and impacts from recreation

The Plymouth Sound and Estuaries EMS is a complex site of marine inlets and larger bays which provides conditions for a number of coastal and marine recreational activities. The proximity of the site to the city of Plymouth provides recreational users with infrastructure and many access points to undertake a number of land and water based recreational activities including sailing, rowing, swimming, coastal walking, kayaking, sea angling and rock-pooling.

Recreational activities can adversely affect habitats and disturb species, through a range of pressures defined in the Advice on Operations guidance produced by Natural England. Relevant pressure pathways arising from activities include noise, abrasion / penetration of the seabed, litter, organic enrichment, contamination (synthetic compounds / organo - metal / hydrocarbon / PAH), spread of non-indigenous species; physical change (to other seabed types) and introduction of light. It is therefore imperative to balance use of the site for recreational purposes while maintaining the conservation objectives for the designated site features.

1.3 Aims, objectives and approach

The purpose of the work is to inform the Habitats Regulations Assessment of the local plans for all four local planning authorities in relation to potential impacts on the Plymouth Sound and Tamar Estuaries European Marine Site. This report presents the results of the site based visitor survey, targeted workshops and online questionnaire into recreational activities across the Plymouth Sound and Estuaries European Marine Site.

As the estuary management partnership, TECF is responsible for management of the EMS and must have regard to direct and indirect effects on all designated features. Gathering evidence on site use by recreational visitors is fundamental to achieve a greater understanding of potential impacts and disturbance to the features of conservation importance present within both the Plymouth Sound and Estuaries Special Area of Conservation (hereafter termed 'SAC') and the Tamar Estuaries Complex Special Protection Area (hereafter termed 'SPA').

This understanding was gained using three complementary methods:

1) Visitor survey data was collected via site-use observations and structured questionnaires. These provided information on visitor numbers, activities undertaken, routes taken on site, visitor origin, and motivations for visits.

2) Targeted workshops with key activity groups (recreational anglers, paddle sports, dinghy and yacht sailors and sub-aqua divers) yielded detailed information about site use and seasonal trends.

3) Online recreational use questionnaires captured information about visitor origin and preferred sites for visits.

From these three data gathering exercises, a picture of the recreational use of the Plymouth Sound and Estuaries EMS can be built up, in order to determine how well used particular locations are, the identity of specific locations where potentially damaging activities occur. This is key to underpin management responses to recreational pressures (Fearnley et al, 2012).

This report details and interprets the results from the three methods (site based visitor surveys, targeting workshops and online recreational use questionnaires).

2. On-site visitor survey

2.1 Rationale

The objective of this component of the study was to obtain a seasonal picture of the recreational use of the Plymouth Sound and Estuaries European Marine Site. This included understanding the different types of activities that are undertaken by recreational users, their frequencies and intensities across the site, and any damaging activities that may have interactions with the protected features of the site. There was also a separate objective to build up an understanding of where the visitors originated from in order to identify a Zone of Influence for the site.

2.2 Methods

2.2.1 Survey locations

Using the information collated for the Scoping report (Griffiths et al. 2016) 28 initial survey locations were identified across the Plymouth Sound and Estuaries EMS. As the on-site surveys would be conducted by a small pool of volunteers, this number was reduced to a more tractable 20 key sites. All 28 sites were visited to assess their ease of access and general use patterns and a final list of 19 locations was agreed (Figure 2).

2.2.2 Survey structure

The on-site visitor surveys comprised counts of people visiting the location plus interviews with a random sample of visitors. Counts and interviews were designed to capture the range of recreational use occur within each part of the EMS. Each of the 19 sites within the EMS were surveyed once in each of the four seasons during 2016:

- Spring – March, April and May;
- Summer – June, July and August;
- Autumn – September, October and November; and
- Winter – December.

At each location, a trained volunteer surveyor undertook surveys in two-hour sessions. Surveyors were asked to spend a minimum of four hours on site, and to complete a minimum of two full two-hour sessions between 07:00 - 09:00, 09:00-11:00, 11:00- 13:00, 13:00-15:00, 15:00-17:00 and 17:00-

19:00. Each site was surveyed once at a time suitable to the volunteers but also wherever possible on either a weekend, bank holiday or school holiday day with good weather to gain as many responses and capture representative patterns of recreational use.

During each two-hour period, the surveyor recorded the number of people and the number of groups passing their location, and also noted the recreational activity undertaken by that group. The number of dogs was also noted. Interviews were conducted on people passing the surveyors location; the sample of people interviewed was randomised through the surveyor approaching all people passing (as long as they were not already interviewing others). Only one person (selected at random) from each group / party was interviewed.

Figure 2. On-site visitor survey locations across the Plymouth Sound EMS

The following survey protocol was followed:

- No unaccompanied minors were approached or interviewed;
- Surveyors were polite and courteous at all times;
- Surveyors were trained in the questionnaire and interview approach, ensuring standard sampling;
- All surveyors read and signed a risk assessment and carried a mobile phone at all times;

- Days with inclement weather were avoided, and flexibility into the survey schedule was incorporated to allow for such days.

2.2.3 Visitor survey questionnaire

The questionnaire was designed to capture the following visitor information (see Appendix A):

- Activities undertaken;
- Route travelled around the site, on land and on the water;
- Frequency of visits to the site and times of usual visits;
- Opinions relating to management issues and potential changes;
- Features that influenced choice of visit site; and
- Home postcode of the visitor and whether a local resident or visiting tourist.

2.2.4 Visitor routes

Information on visitor routes was collected by interviewers asking visitors to draw their routes on paper maps (during the Spring season), and write a supplementary description. All routes were individually cross-referenced to each questionnaire. In many cases the map drawing was supplemented with a thorough written description of the route around the site to aid the digitisation process. These data were subsequently digitised and ArcGIS was used to generate 'most direct route' lengths in km. In Summer, Autumn and Winter surveys the route information was taken solely through a written description (since interpreting maps proved difficult and time consuming). Unfortunately, this change in method led some confusion with the volunteer surveyors and a number of questionnaires were returned without any route information (12, 19 and 13 for Summer, Autumn and Winter respectively, representing 10%, 13% and 11% of all visitor group questionnaires).

2.2.4 Zone of Influence

European site strategic mitigation schemes for recreational pressure tend to use visitor surveys to define a zone of influence based on the core area from which visitors originate. The Zone of Influence (ZoI) is the zone within which it is considered that an impact on European site interest can be identified (Fearnley et al., 2014). It defines the geographical area within which potential impacts need to be avoided or mitigated for, and outside which it can be concluded that significant effects on the European site are unlikely.

Visitor surveys, including those conducted for this study typically identify a core visitor area (one of Influence) close to the site from where the majority of visitors originate. Although tourists or people visiting the site for a particular purpose may travel further than the majority of visitors these are typically a minority of visitors to the site and the ZoI is based on the distance travelled by most (75%) local residents visiting the site (defined in this study as people living in Cornwall or Devon).

The Zone of Influence calculation is based on the postcode data gathered during the face to face visitor surveys (see On-Site survey, Section 2.2.3).

In some interviews the visitors did not provide valid place name or postcode information. The visitor origin data for the remaining interviews (489) with relevant information was used for the ZoI assessment. The step-by-step methodology used to calculate the ZoI is outlined below:

1) Select from all the surveys the visitors that identify themselves as local based on the answer 'Living in Devon/Cornwall on a day trip or short visit'

2) From this group select all the surveys where people arrived at the site by car or motorcycle

3) For all local visitors arriving by car or motorcycle collect the postcode and using GIS (ESRI ArcMap 10.3) identify the shortest distance travelled by road from that postcode to the site where they were surveyed. Distances were calculated for both the SAC and SPA site boundary as appropriate.

4) If there no postcode was recorded but the person has provided an address e.g. 'Wembury' calculate the shortest distance between the centre of that hamlet/town/village or parish and the site boundary where they were surveyed. Again distances were calculated for both the SAC and SPA site boundary as appropriate.

5) From the full range of distances travelled by local residents, calculate the 3rd quartile. This distance is mid-way between the median distance (the middle of the range distance) and the furthest distance travelled by a local visitor. The third quartile point separates the visitors into the 75% of closest visitors from the 25% that live furthest away. Note that this distance is based on the road network not the straight distance ('as the crow flies') between the home location and the SPA or SAC site boundary. The 75% of local visitors are considered to be the core visitor group.

6) Using GIS software (ESRI ArcMap 10.3) create the convex hull analysis. The convex hull analysis creates the smallest polygon to encompass the home postcodes of the 75% of closest visitors.

7) Create figures to illustrate the ZoI. The Figures (results section, Figure 23 and Figure 24) show:

- All the local visitor postcodes surrounding the EMS site
- The convex hull boundary (dark green for the SAC, dark blue for the SPA).

- To put the convex hull into context we have also drawn a straight-line (Euclidean) buffer zone, based on the area enclosing a straight line drawn from the site boundary out to the 3rd quartile distance.

The figures were created to show the convex hull analysis and Euclidean buffer based on data for all local visitors that arrive by car/motorcycle.

2.3 Results

2.3.1 Survey effort

- **On-site surveys were conducted by volunteer surveyors at 19 sites around the Plymouth Sound and Estuaries SAC, in each of the four seasons**
- **In total 314 volunteer hours were spent at the 19 sites across the four seasons**
- **Survey effort was not equal across the 19 sites, and four seasons due to volunteers occasionally failing to carry out surveys**
- **MBA staff filled the gaps wherever they could, contributing 78 staff hours**
- **Volunteer surveyors conducted a total 562 interviews with visitor groups with an interview success rate overall of 60%**

The overall on-site survey coverage was good with a few exceptions. Surveys were missed in the Spring survey at four sites (Oreston, Barbican, Devils Point and Mount Wise) due to volunteers failing to carry out their allocated surveys (Table 3). This is a risk of using volunteers, and it was unfortunate that this occurred near the end of the season so there was insufficient time to reallocate the sites. In Summer, data were lost from Riverside (which was surveyed twice), and in Autumn, data were lost from Saltash and the survey at Newton Ferrers was not conducted. Again, this was due to the volunteers failing to carry out their allocated surveys. The winter survey (conducted entirely in December of 2016) comprised 14 out of the 19 sites, with no surveys undertaken at Wembury, Barbican, Riverside, Cotehele and Torpoint.

MBA staff conducted surveys to fill gaps in the volunteer coverage, contributing 39 surveys or 78 staff hours in total. This was particularly the case in the Winter survey, when it was hard to maintain volunteer surveyors interest through inclement conditions.

However, in total 314 volunteer hours were spent at the 19 sites across Spring, Summer, Autumn and Winter of 2016.

The survey effort was not evenly spread across the day, and was concentrated more in the centre of the day. In addition, the days were longer in Summer and Autumn, with the data collected in the 17.00-19.00 window (which was not the case in the Spring and Winter surveys).

Table 3 Distribution of survey effort across the sites for the four seasons and time of day windows

Site number	Site Name	Spring						Summer						Autumn						Winter					
		7.00-9.00	9.00-11.00	11.00-13.00	13.00-15.00	15.00-17.00	17.00-19.00	7.00-9.00	9.00-11.00	11.00-13.00	13.00-15.00	15.00-17.00	17.00-19.00	7.00-9.00	9.00-11.00	11.00-13.00	13.00-15.00	15.00-17.00	17.00-19.00	7.00-9.00	9.00-11.00	11.00-13.00	13.00-15.00	15.00-17.00	17.00-19.00
1	Newton Ferrers																								
2	Wembury																								
3	Bovisand																								
4	Mount Batten																								
5	Oreston																								
6	Barbican																								
7	Devils Point																								
8	Mount Wise																								
9	Riverside																								
10	Lopwell Dam																								
11	Bere Ferrers																								
12	Weir Quay																								
13	Cotehele																								
14	Calstock																								
15	Cargreen																								
16	Saltash																								
17	Wacker Quay																								
18	Torpoint																								
19	Kingsand / Cawsand																								

In total, the surveyors conducted 562 interviews with individual groups during their site visits (Table 4). The most interviews were conducted during the Summer season (183) and the least during Winter (92). There were 377 refusals; this represents an interview success rate of overall of 60%. Interestingly the success rate varied considerably across the different survey seasons; Spring 72%, Summer 63%, Autumn 56% and Winter 47%. The lower interview success rate in Autumn and Winter may be related to the weather conditions, with visitor groups preferring not to stand around to complete the interviews.

Across all survey seasons, 523 visitor groups (48%) confirmed that they had previously been interviewed, which would indicate that the survey has captured representative data from regular and repeat visitors from the site.

Table 4. Summary of total visitor survey effort across the 19 sites in both the SAC and SPA, presented for each of the four seasons surveyed

	Number of sites surveyed	Time period	Refusals	Already interviewed	Interviews	Entering site (People)	Entering site (Groups)	Entering site (Dogs)
Spring	1	7.00-9.00	3	3	3	10	3	2
	4	9.00-11.00	4	7	22	74	14	28
	13	11.00-13.00	28	46	73	437	116	97
	13	13.00-15.00	16	39	36	358	68	39
	8	15.00-17.00	7	45	12	128	18	22
	0	17.00–19.00	-	-	-	-	-	-
	39	**TOTAL**	**58**	**140**	**146**	**1007**	**219**	**188**
Summer	0	7.00-9.00	-	-	-	-	-	-
	6	9.00-11.00	6	7	22	71	24	27
	15	11.00-13.00	20	43	65	434	116	43
	15	13.00-15.00	42	64	50	744	200	63
	12	15.00-17.00	28	55	37	392	121	46
	4	17.00-19.00	11	7	9	51	32	9
	52	**TOTAL**	**107**	**176**	**183**	**1692**	**493**	**188**
Autumn	0	7.00-9.00	-	-	-	-	-	-
	6	9.00-11.00	23	8	23	108	24	29
	11	11.00-13.00	26	29	47	310	119	77
	13	13.00-15.00	34	54	54	484	92	80
	5	15.00-17.00	22	24	15	96	25	9
	0	17.00-19.00	NA	NA	NA	NA	NA	NA
	35	**TOTAL**	**105**	**115**	**139**	**998**	**260**	**195**
Winter	1	7.00-9.00	3	0	4	9	1	5
	3	9.00-11.00	2	4	4	31	10	17
	13	11.00-13.00	57	18	53	256	95	74
	10	13.00-15.00	24	42	20	188	65	47
	4	15.00-17.00	21	28	13	41	15	8
	0	17.00-19.00	-	-	-	-	-	-
	31	**TOTAL**	**107**	**92**	**94**	**525**	**186**	**151**
TOTAL ALL SEASONS			**377**	**523**	**562**	**4222**	**1158**	**722**

A breakdown of the survey effort by location complete with tally information is given in Table 5, Table 6, Table 7 and Table 8 for the Spring, Summer, Autumn and Winter season respectively.

Table 5. Summary of Spring visitor survey effort at each survey location across both the SAC and SPA

Location	Time period	Refusals	Already interviewed	Interviews	Entering site (People)	Entering site (Groups)	Entering site (Dogs)
*Bere Ferrers	11.00 - 13.00	4	-	4	34	9	7
*Bere Ferrers	13.00 - 15.00	2	-	-	16	4	3
*Bere Ferrers	15.00 - 17.00	-	-	-	28	8	6
Total		6	-	4	78	21	16
Bovisand	7.00-9.00	3	3	3	10	3	2
Bovisand	9.00 - 11.00	3	3	9	32	9	6
Bovisand	11.00 - 13.00	11	12	8	80	6	22
Total		17	18	20	122	18	30
Calstock	11.00 - 13.00	-	1	-	17	-	2
Calstock	13.00 - 15.00	-	1	3	32	1	3
Calstock	15.00 - 17.00	-	4	3	6	-	-
Total		-	6	6	55	1	5
*Cargreen	11.00 - 13.00	-	-	5	3	15	-
*Cargreen	13.00 - 15.00	-	-	-	-	-	-
Total		-	-	5	3	15	-
Cawsand	11.00 - 13.00	4	4	1	12	2	3
Cawsand	13.00 - 15.00	6	4	4	63	7	2
Total		10	8	5	75	9	5
Cotehele1	9.00 - 11.00	-	1	1	18	1	10
Cotehele1	11.00 - 13.00	-	1	4	40	2	16
Cotehele1	13.00 - 15.00	-	5	2	52	2	5
Cotehele1	15.00 - 17.00	1	7	1	26	-	5
Total		1	14	8	136	5	36
Cotehele2	9.00 - 11.00	-	-	9	17	4	8
Cotehele2	11.00 - 13.00	-	4	4	70	21	20
Cotehele2	15.00 - 17.00	2	9	-	50	2	5
Total		2	13	13	137	27	33
*Lopwell Dam	11.00 - 13.00	1	-	10	15	9	4
*Lopwell Dam	13.00 - 15.00	-	10	8	2	17	1
*Lopwell Dam	15.00 - 17.00	-	18	4	10	7	2
Total		1	28	22	27	33	7
Mount Batten	11.00 - 15.00	5	24	20	49	9	9
TOTAL		5	24	20	49	9	9
Newton Ferrers	11.00 - 13.00	-	-	7	62	16	3
Total		-	-	7	62	16	3
*Riverside1	13.00 - 15.00	2	-	4	7	1	4
*Riverside1	15.00 - 17.00	-	4	-	2	1	2
Total		2	4	4	9	2	6
*Riverside2	13.00 - 15.00	2	-	3	3	-	-
*Riverside2	15.00 - 17.00	4	3	4	6	-	2
Total		6	3	7	9	-	2
*Saltash	11.00 - 13.00	-	-	5	34	13	7
Total		-	-	5	34	13	7
Torpoint	11.00 - 13.00	3	-	-	6	13	-
Torpoint	13.00 - 15.00	-	-	-	16	-	2
Total		3	-	-	22	13	2
*Wacker Quay	9.00 - 11.00	1	3	3	7	-	4
*Wacker Quay	11.00 - 13.00	-	-	5	15	1	4
*Wacker Quay	13.00 - 15.00	-	11	5	20	-	7
Total		1	14	13	42	1	15
*Weir Quay	13.00 – 15.00	1	-	-	3	-	-
Total		1	-	-	3	-	-
Wembury	13.00 – 15.00	3	8	7	144	36	12
Total		3	8	7	144	36	12
* Note those sites with an asterisk represent SAC and SPA, all other sites just the SAC							

Table 6 Summary of Summer visitor survey effort at each survey location across both the SAC and SPA.

Location	Time period	Refusals	Already interviewed	Interviews	Entering site (People)	Entering site (Groups)	Entering site (Dogs)
Barbican	9.00-11.00	1	*	5	11	15	*
Barbican	11.00-13.00	1	*	5	30	51	5
Barbican	13.00-15.00	7	*	4	19	50	3
Total		9	*	14	60	116	8
*Bere Ferrers	9.00-11.00	2	3	*	18	1	10
*Bere Ferrers	11.00-13.00	*	4	*	13	*	5
*Bere Ferrers	13.00-15.00	*	*	*	7	*	1
Total		2	7	*	38	1	16
Bovisand	11.00-13.00	0	0	5	3	6	1
Bovisand	13.00-15.00	1	5	6	9	9	5
Bovisand	15.00-17.00	2	2	10	15	10	2
Total		3	7	21	27	25	8
Calstock	15.00-17.00	*	*	*	51	12	9
Calstock	17.00-19.00	*	*	*	11	17	6
Total		*	*	*	62	29	15
*Cargreen	15.00-17.00	0	0	0	14	9	*
*Cargreen	17.00-19.00	0	0	3	18	10	2
Total		*	*	*	32	19	2
Cawsand/Kingsand	13.00-15.00	10	0	5	150	30	6
Cawsand/Kingsand	15.00-17.00	7	5	5	18	3	0
Total		17	5	10	168	33	6
Cotehele	11.00-13.00	0	0	4		6	
Cotehele	13.00-15.00	*	*	*	73	25	12
Cotehele	15.00-17.00	*	*	*	91	40	15
Total		0	0	4	164	71	27
Devil's Point	11.00-13.00	4	5	5			0
Devil's Point	13.00-15.00	6	11	4	106	15	
Devil's Point	15.00-17.00	1	14	3	102	21	3
Total		11	30	12	208	36	3
*Lopwell Dam	11.00-13.00	1	6	6	2	6	3
*Lopwell Dam	13.00-15.00	2	6	8	1	7	
*Lopwell Dam	15.00-17.00	0	14	6		6	2
Total		3	26	20	3	19	5
Mount Batten	15.00-17.00	15	0	5	58	11	7
Mount Batten	17.00-19.00	10	5	4	22	5	1
Total		25	5	9	80	16	8
Mount Wise	9.00-11.00	1	0	7	7	1	4
Mount Wise	11.00-13.00	1	7	7	7	*	2
Mount Wise	13.00-15.00	3	14	2	4	1	1
Total		5	21	16	18	2	7
Newton Ferrers	11.00-13.00	*	*	*	44	12	4
Total		*	*	*	44	12	4
Noss Mayo	13.00-15.00	1	*	*	35	11	4
Noss Mayo	15.00-17.00	*	*	*	18	6	2
Total		1	*	*	53	17	6
Oreston	9.00-11.00	0	2	2	22	5	11
Oreston	11.00-13.00	11	4	4	19	2	2
Oreston	13.00-15.00	4	2	2	38	13	9
Total		15	8	8	79	20	22
*Riverside 1	9.00-11.00	2	0	8	6	*	2
*Riverside 1	11.00-13.00	1	8	6	11	*	5
Total		3	8	14	17	*	7
*Riverside 2	11.00-13.00	0	0	11	8	*	4
*Riverside 2	13.00-15.00	3	11	8	5	2	3
*Riverside 2	15.00-17.00	3	20	6	3	*	1
Total		6	31	25	16	2	8

Location	Time period	Refusals	Already interviewed	Interviews	Entering site (People)	Entering site (Groups)	Entering site (Dogs)
*Saltash	15.00-17.00	0	0	2	6	2	*
*Saltash	17.00-19.00	1	2	2	0	0	0
Total		1	2	3	6	2	0
Torpoint	11.00-13.00	0	4	4	7	2	5
Torpoint	13.00-15.00	1	4	0	11	4	6
Total		1	8	4	18	6	11
*Wacker Quay	11.00-13.00	0	5	5	14	1	3
*Wacker Quay	13.00-15.00	0	11	6	23	3	4
*Wacker Quay	15.00-17.00	*	*	*	16	1	5
Total		*	16	11	53	5	12
*Weir Quay	9.00-11.00	*	2	*	18	2	2
*Weir Quay	11.00-13.00	*	*	*	26	*	2
*Weir Quay	13.00-15.00	*	*	*	13	*	4
Total		*	2	*	57	2	8
Wembury	11.00-13.00	1	*	5	250	30	2
Wembury	13.00-15.00	4	*	5	250	30	5
Total		5	*	10	500	60	7
* Note those sites with an asterisk represent SAC and SPA, all other sites just the SAC							

Table 7 Summary of Autumn visitor survey effort at each survey location across both the SAC and SPA

Location	Time period	Refusals	Already interviewed	Interviews	Entering site (People)	Entering site (Groups)	Entering site (Dogs)
Barbican	11.00-13.00	7	*	6	28	25	3
Barbican	13.00-15.00	7	3	11	6	20	2
Barbican	15.00-17.00	4	*	1	6	8	0
Total		18	3	18	40	53	5
*Bere Ferrers	9.00-11.00	*	*	*	19	5	7
*Bere Ferrers	11.00-13.00	*	*	*	23	5	10
*Bere Ferrers	13.00-15.00	*	*	*	5	0	1
Total		*	*	*	47	10	18
Bovisand	9.00-11.00	11	0	8	26	8	4
Bovisand	11.00-13.00	11	8	9	51	13	13
Bovisand	13.00-15.00	0	17	3	28	4	5
Total		*	*	*	100	25	22
Calstock	11.00-13.00	1	4	4	1	11	6
Calstock	13.00-15.00	*	4	0	4	5	5
Total		1	8	4	5	16	11
*Cargreen	9.00-11.00	11	8	8	8	4	3
*Cargreen	11.00-13.00	1	11	3	5	3	2
Total		12	19	11	13	7	5
Cawsand/Kingsand	13.00-15.00	2	3	3	18	2	4
Total		2	3	3	18	2	4
Cotehele	13.00-15.00	1	0	18	156	7	23
Total		1	0	18	156	7	23
Devil's Point	15.00-17.00	10	14	6	75	8	4
Devil's Point	13.00-15.00	11	0	14	111	22	12
Total		22	14	20	191	30	16
*Lopwell Dam	11.00-13.00	1	*	*	3	3	3
*Lopwell Dam	13.00-15.00	1	5	4	13	5	2
*Lopwell Dam	15.00-17.00	0	9	3	2	5	2
Total		2	14	7	18	13	7
Mount Batten	11.00-13.00	3	0	4	17	3	3
Total		3	0	4	17	3	3
Mount Wise	15.00-17.00	5	0	4	11	2	1
Total		5	0	4	11	2	1
Oreston	9.00-11.00	1	0	6	17	1	8

Location	Time period	Refusals	Already interviewed	Interviews	Entering site (People)	Entering site (Groups)	Entering site (Dogs)
Oreston	11.00-13.00	1	6	12	18	1	6
Oreston	13.00-15.00	*	18	*	5	1	3
Total		2	24	18	40	3	17
*Riverside	13.00-15.00	11	0	1	9	3	0
*Riverside	15.00-17.00	3	1	1	2	2	2
Total		14	1	2	11	5	2
*Wacker Quay	9.00-11.00	0	*	1	4	2	*
*Wacker Quay	11.00-13.00	*	*	5	1	7	5
*Wacker Quay	13.00-15.00	0	*	0	*	2	*
Total		0	*	6	5	11	5
*Weir Quay	9.00-11.00	*	*	*	34	4	7
*Weir Quay	11.00-13.00	*	*	*	20	3	3
*Weir Quay	13.00-15.00	*	*	*	13	*	2
Total		*	*	*	67	7	12
Wembury	11.00-13.00	1	0	4	143	45	23
Wembury	13.00-15.00	1	4	*	116	21	21
Total		2	4	4	259	66	44
* Note those sites with an asterisk represent SAC and SPA, all other sites just the SAC							

Table 8 Summary of Winter visitor survey effort at each survey location across both the SAC and SPA

Location	Time period	Refusals	Already interviewed	Interviews	Entering site (People)	Entering site (Groups)	Entering site (Dogs)
*Bere Ferrers	9.00-11.00	*	*	*	7	5	7
*Bere Ferrers	11.00-13.00	*	*	*	9	1	1
*Bere Ferrers	13.00-15.00	*	*	*	10	2	4
Total		*	*	*	26	8	12
Bovisand	11.00-13.00	1	0	9	2	11	7
Bovisand	13.00-15.00	*	9	*	1	5	1
Bovisand	15.00-17.00	0	17	4	*	5	*
Total		1	26	13	3	22	8
Calstock	11.00-13.00	1	3	3	11	6	9
Calstock	13.00-15.00	1	4	1	4	2	9
Total		2	7	4	15	8	18
*Cargreen	11.00-13.00	0	2	2	5	*	1
Total		0	2	2	5	*	1
Cawsand/Kingsand	11.00-13.00	5	*	8	17	1	6
Cawsand/Kingsand	11.00-13.00	2	*	*	5	*	4
Total		7	*	8	22	1	10
Devil's Point	11.00-13.00	22	4	4	66	16	5
Devil's Point	13.00-15.00	17	4	4	16	7	4
Devil's Point	15.00-17.00	14	2	2	22	7	3
Total		53	10	10	104	30	12
*Lopwell Dam	11.00-13.00	2	0	4	6	2	4
*Lopwell Dam	13.00-15.00	0	4	5	12	1	5
*Lopwell Dam	15.00-17.00	1	9	3	5	*	*
Total		3	13	12	23	3	9
Mount Batten	15.00-17.00	6	0	4	14	3	5
Total		6	0	4	14	3	5
Mount Wise	13.00-15.00	4	11	9	20	8	7
Mount Wise	11.00-13.00	6	0	10	40	20	10
Total		10	11	19	60	28	17
Newton Ferrers	11.00-13.00	11	6	6	27	6	10
Newton Ferrers	13.00-15.00	0	7	1	16	2	2
Total		11	13	7	43	8	12
Noss Mayo	11.00-13.00	0	3	3	56	29	6
Noss Mayo	13.00-15.00	2	3	*	91	38	10
Total		2	6	3	*	*	*

Location	Time period	Refusals	Already interviewed	Interviews	Entering site (People)	Entering site (Groups)	Entering site (Dogs)
Oreston	11.00-13.00	4	*	4	10	2	10
Total		4	*	4	10	2	10
*Saltash	7.00-9.00	3	0	4	9	1	5
*Saltash	9.00-11.00	2	4	4	17	2	7
Total		5	4	8	26	3	12
*Wacker Quay	13.00-15.00	*	*	*	17	*	5
Total		*	*	*	17	*	5
*Weir Quay	9.00-11.00	*	*	*	7	3	3
*Weir Quay	11.00-13.00	3	*	*	2	1	1
*Weir Quay	13.00-15.00	0	*	*	1	*	*
Total		3	*	*	10	4	4

*** Note those sites with an asterisk represent SAC and SPA, all other sites just the SAC**

2.3.2 Numbers of visitors

- **4,222 people were recorded entering the site**
- **The greatest number of people were recorded in Summer and the least in Winter**
- **722 dogs were recorded accompanying site visitors**
- **The ratio of people per dog was greatest in Winter (3.5:1) and least in Summer (9:1) suggesting dog walkers are a greater component of the winter visitors**

In total, 4222 people were recorded entering the site; the largest number of people recorded entering the site occurred in summer (1,692 individuals) and the lowest in Winter (525 individuals) (Table 9).

A total of 722 dogs were recorded accompanying site visitors. The number of dogs was comparable across the seasons (in both Spring and Summer – 188 dogs were recorded, in Autumn – 195 dogs were recorded and in Winter 151 (which may reflect the lower survey effort for Winter 31 completed surveys compared with 52 in Summer). However, since there was a greater number of visitors entering the sites during the Summer period, the ratio of individuals per dog is much greater in the Winter (3.5 people per dog) than in summer (9 people per dog) with Spring and Autumn having ratios of 5.4 and 5.1 respectively, suggesting that dog walkers use the site all year round but there is a much wider use of the site by non-dog walkers in the warmer seasons, particularly during Summer.

Table 9 Seasonal summary of survey effort and visitor patterns

	Spring	Summer	Autumn	Winter	All
Number of surveys	**39**	**52**	**35**	**31**	**157**
Interviews	156	221	139	118	644
Refusals	58	107	105	107	377
Already interviewed	140	176	115	92	523
Entering site (People)	1007	1692	998	525	4222
Entering site (Groups)	219	493	260	186	1158
Entering site (Dogs)	188	188	195	151	722

2.3.3 Visit purpose

- **87% of visitor groups local residents, with 10% visiting from outside of Devon and Cornwall, and 3% classified as 'Other'**
- **In Winter 96% of visitor groups interviewed in the SAC were local residents, while in Summer 85% were local residents, reflecting seasonal trends in visitors from outside Devon and Cornwall**
- **Less of a seasonal signal in the % local residents was seen in the SPA sites, with the proportion of local residents visiting consistently greater than 91%**

Visitor groups were asked the purpose of their visit in order to establish whether they were local residents (living in Devon or Cornwall) or were visiting from further away. Data from all survey locations were pooled to give an overview of visitor origin within the EMS, then the SPA locations were analysed separately to see if the visitors differed.

The overwhelming majority of visitor groups to the SAC live locally within the local Devon and Cornwall area, generally visiting on a day trip or short visit (Table 10). Overall, 87% of visits to the SAC were made by local residents, with 10% visiting from outside of Devon and Cornwall, and 3% classified as 'Other'.

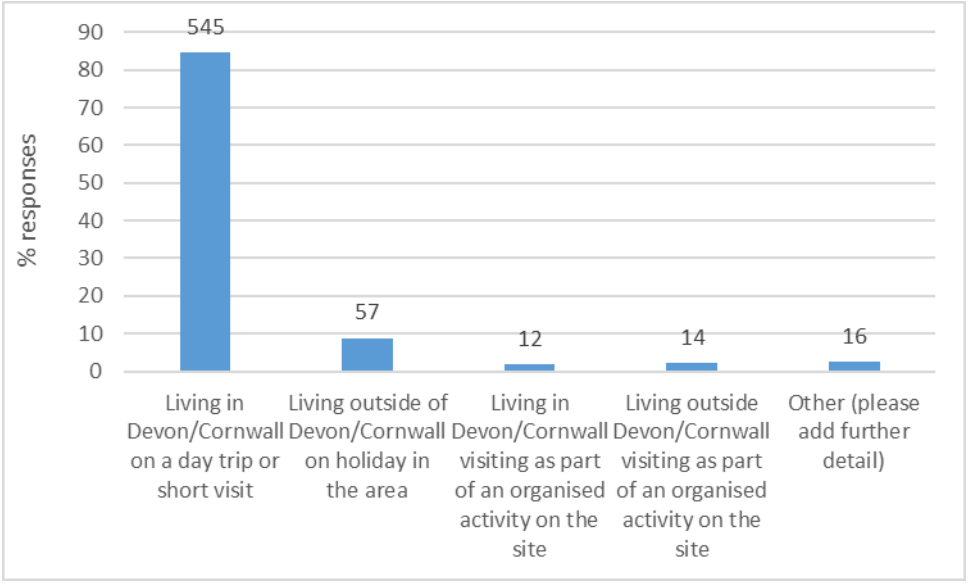


Figure 3 Response of visitor groups within EMS locations when asked about the purpose of their visit. Data originate from all 19 survey locations with all seasons aggregated. Values represent the % of responses with # responses above each column.

The highest percentage of local residents was found in Winter (96%) and the lowest in Summer (85%), reflecting the seasonal pattern of visitors to the site.

Table 10. Response of visitor groups within SAC locations when asked about the purpose of their visit. Data originate from all 19 survey locations and are classified by survey season. The values represent the count of responses per category and as (%) of the season totals, and mean % of season total when all seasons are aggregated. Values in [] represent the average % across all seasons.

What is the purpose of your visit today?	Spring	Summer	Autumn	Winter	All
Number of surveys	**39**	**52**	**35**	**31**	**157**
Living in Devon/Cornwall on a day trip or short visit	135 (87) [21]	184 (83) [29]	115 (77) [18]	111 (94) [17]	545 (85) [21]
Living outside of Devon/Cornwall on holiday in the area	16 (10) [2]	23 (10) [4]	14 (9) [2]	4 (3) [1]	57 (8) [2]
Living in Devon/Cornwall visiting as part of an organised activity on the site	3 (2) [0]	4 (2) [1]	3 (2) [0]	2 (2) [0]	12 (2) [0]
Living outside Devon/Cornwall visiting as part of an organised activity on the site	2 (1) [0]	9 (4) [1]	2 (1) [0]	1 (1) [0]	14 (2) [0]
Other	0 (0) [0]	1 (0) [0]	15 (10) [2]	0 (0) [0]	16 (3) [0]
Total local	**138 (88) [21]**	**188 (85) [29]**	**118 (79) [18]**	**113 (96) [18]**	**557 (87) [22]**
Total non-local	**18 (12) [3]**	**32 (14) [5]**	**16 (11) [2]**	**5 (4) [1]**	**71 (10) [3]**
Total	156 [24]	221 [34]	149 [23]	118 [18]	644 [100]

Visitor groups to the SPA constituted more local residents (93% in the SPA compared with 85% in the SAC). There was less of a seasonal pattern in the number of local residents compared with visitors from further afield with the greatest proportion of local residents again in Winter (97%) but the other seasons having 91% or above local residents (Table 11).

Table 11. Response of visitor groups within SPA locations (a subset of 7 of the 19 SAC locations) when asked about the purpose of their visit. Data originate from the following locations: Riverside, Lopwell Dam, Bere Ferrers, Weir Quay, Cargreen, Saltash and Wacker Quay, and are classified by survey season. The values represent the count of responses per category and as (%) of the season totals, and mean % for 'All'. Values in [] represent the average % across all seasons.

What is the purpose of your visit today?	Spring	Summer	Autumn	Winter	All
Living in Devon/Cornwall on a day trip or short visit	61 (91) [26]	90 (93) [38]	36 (92) [15]	33 (97) [14]	220 (93) [26]
Living outside of Devon/Cornwall on holiday in the area	6 (9) [3]	4 (4) [2]	3 (8) [1]	0 (0) [0]	13 (5) [3]
Living in Devon/Cornwall visiting as part of an organised activity on the site	0 (0) [0]	2 (2) [1]	0 (0) [0]	0 (0) [0]	2 (1) [0]
Living outside Devon/Cornwall visiting as part of an organised activity on the site	0 (0) [0]	0 (0) [0]	0 (0) [0]	1 (3) [0]	1 (1) [0]
Other	0 (0) [0]	1 (1) [0]	0 (0) [0]	0 (0) [0]	1 (0) [0]
Total local residents	**61 (91) [26]**	**92 (95) [39]**	**36 (92) [15]**	**33 (97) [14]**	**222 (94) [23]**
Total non-local visitors	**90 (9) [3]**	**4 (4) [2]**	**3 (8) [1]**	**1 (3) [0]**	**14 (6) [1]**
Total per season	**67 [28]**	**97 [41]**	**39 [16]**	**34 [14]**	**237 [100]**

2.3.4 Visitor activities

- **Walking was the most common activity in the SAC (28% of visitor groups) and overall more people stated they were engaged in terrestrial activities than marine activities (approximately 2/3)**
- **Other important terrestrial activities included dog walking (21% of visitor groups) and outing with family (12%)**
- **Other terrestrial activities undertaken included birdwatching, cycling, horse riding and jogging.**
- **Hotspots for terrestrial activities include the upper Tamar (Calstock-Cotehele area), the Tavy (Lopwell – Bere Ferrers), Hoe (Devils Point to Barbican) and the coast from Mount Batten to Wembury**
- **The most popular marine activities were Canoeing and kayaking (4% of visitor groups), rock-pooling (4%), Fishing – angling (3%), sailing yacht and swimming (3%).**
- **Key areas for marine activities varied by activity type; the upper parts of the estuaries were important for paddle-sports while the Outer Estuary around Drake's Island is important for sailing and motor vessels.**

Visitors were asked to confirm the main activities they were undertaking during their visit to the site. Respondents could cite multiple activities, for example a group may be dog walking and angling (fishing), or swimming, kayaking and wildlife watching. All EMS sites were considered together and then the SPA sites were analysed separately to draw out any differences. Finally differences between local residents of Devon and Cornwall were compared with visitors from further afield (non-local visitors).

The most common activities recorded from the visitor surveys within the EMS were walking (41% of terrestrial activities and 28% overall), dog walking (29% of terrestrial activities and 21% overall) (Figure 4, Table 15), and outing with children/family (17% of terrestrial activities and 12% overall). The other important terrestrial activity was bird watching/nature watching. Cycling, Horse riding and jogging were less common and there were no respondents visiting the site to fly kites. Because terrestrial activities are more popular than marine, the activity types are considered separately.

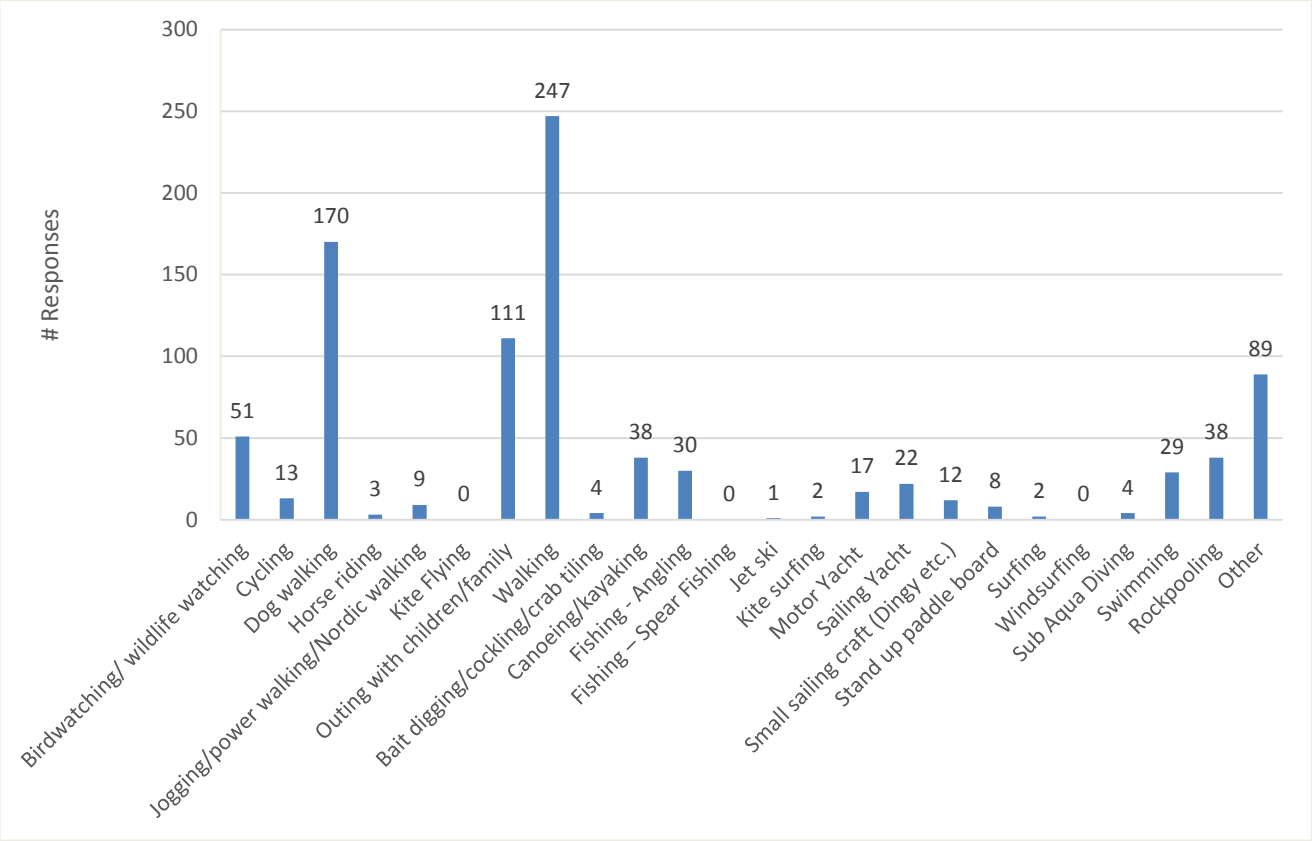


Figure 4 Frequency of activities stated by respondents in on-site surveys within the EMS, aggregated for all sites and seasons (data labels indicate numbers of responses).

Table 12 Response of visitor group when asked to identify their main activity (terrestrial only) undertaken during their visit to SAC locations (all 19 locations pooled, classified by season. The values represent the count of responses per category and as [% of terrestrial activity values], (% of the season totals), with means of these values presented for all seasons in column 'All'.

Terrestrial activity type	Spring	Summer	Autumn	Winter	All
Number of surveys	**39**	**52**	**35**	**31**	**157**
Birdwatching/ wildlife watching	18 [13] (8)	19 [9] (6)	9 [6] (5)	5 [4] (3)	51 [8] (6)
Cycling	2 [1] (1)	4 [2] (1)	3 [2] (2)	4 [3] (3)	13 [2] (2)
Dog walking	28 [20] (12)	48 [24] (16)	49 [34] (25)	47 [39] (30)	172 [29] (21)
Horse riding	0 [0] (0)	1 [0] (0)	1 [1] (1)	1 [1] (1)	3 [1] (1)
Jogging/power walking/Nordic walking	0 [0] (0)	4 [2] (1)	3 [2] (2)	2 [2] (1)	9 [2] (1)
Kite Flying	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)
Outing with children/family	24 [17] (10)	53 [26] (17)	23 [16] (12)	11 [9] (7)	111 [17] (12)
Walking	68 [49] (29)	75 [37] (24)	55 [38] (28)	49 [41] (31)	247 [41] (28)
TERRESTRIAL SEASONAL TOTALS	**140**	**204**	**143**	**119**	**606**

From the information given by visitor groups, clear hotspots for terrestrial activities emerge (Figure 5). These include: Lopwell Dam, Riverside and along the Eastern bank of the Tamar near the bridges, Mount Wise, Devil's Point, Mount Batten and Bovisand. All of these sites are readily accessible from the city, which may explain their popularity.

In terms of seasonal patterns, the central part of the Tamar around the bridges (survey sites Riverside and Saltash) shows use during Spring and Summer but .less so in the other two months. The seafront along the Hoe is well used year round, as would be expected due to its proximity to the city and ease of access (survey sites Devils Point, Mount Wise and Barbican), as is Oreston, and the coastal path from Mount Batten to Wembury on the Eastern side of the outer Sound. On the Western shore of the Sound, the coastal path from Mount Edgecombe to Cawsand/Kingsand (Spring / Summer) and Cawsand/Kingsand to Rame Head (Winter).

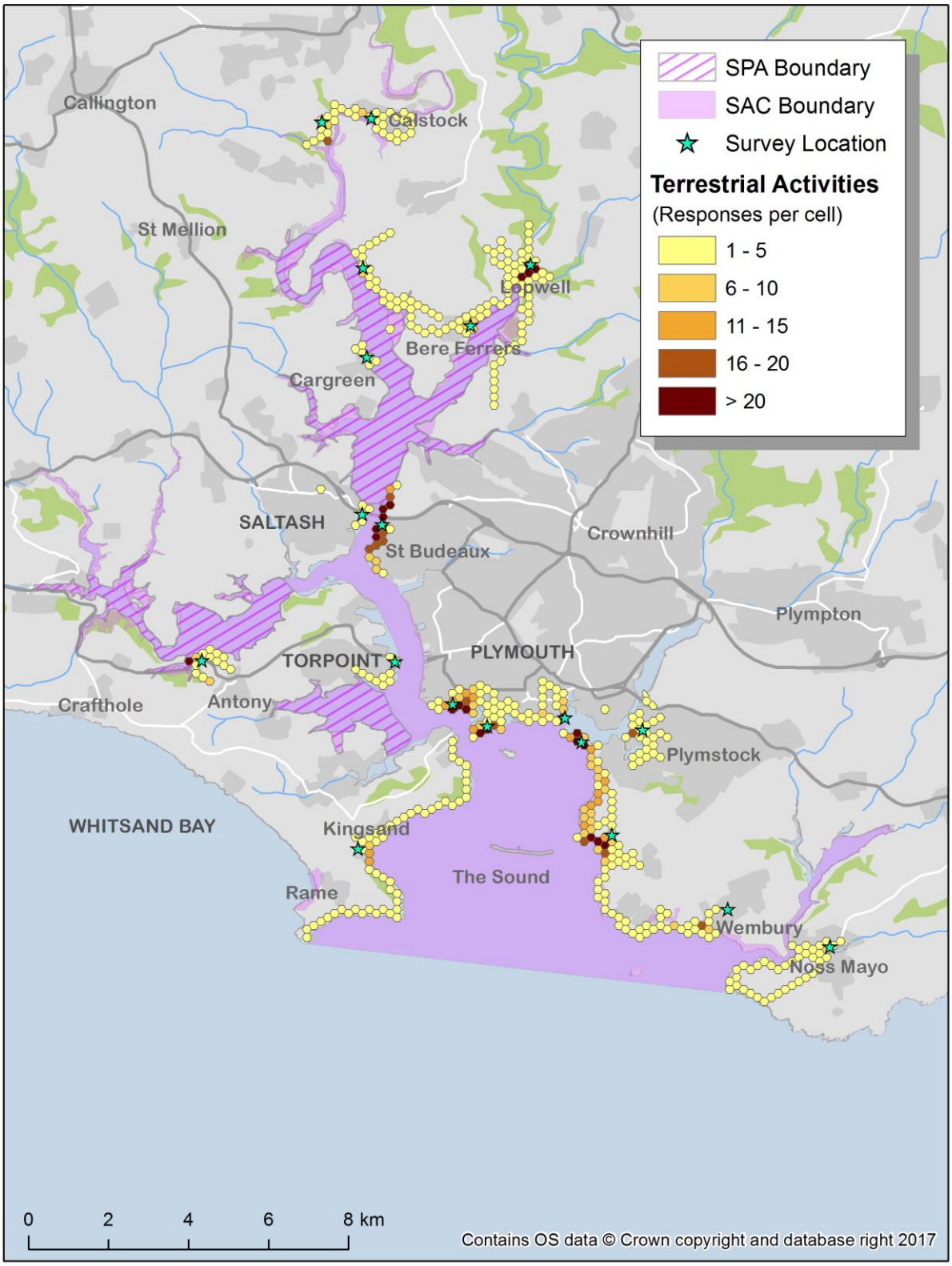
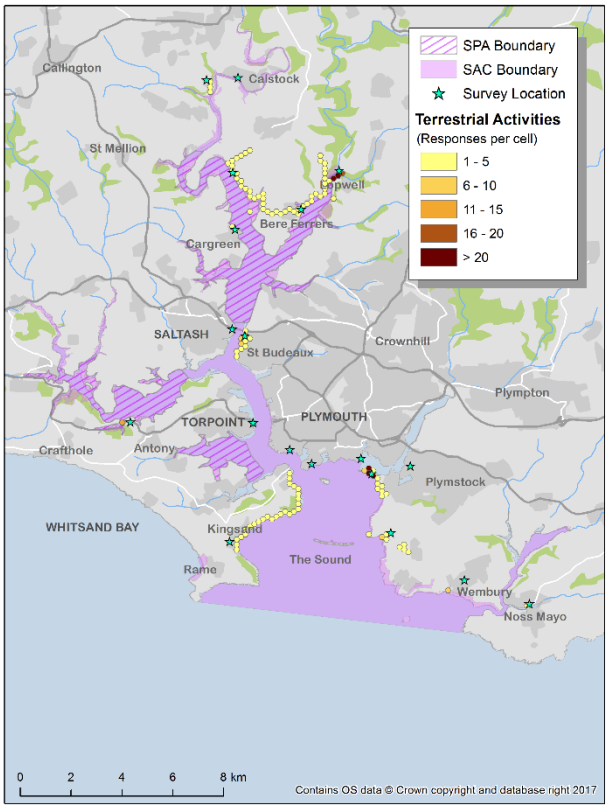
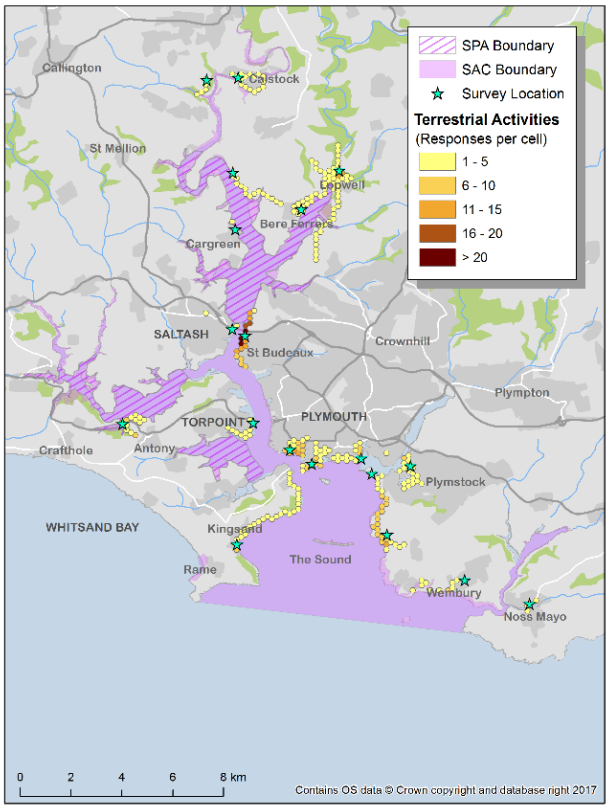


Figure 5. Distribution and intensity of terrestrial activities across the EMS based on responses on routes taken through the sites from on-site visitor surveys.

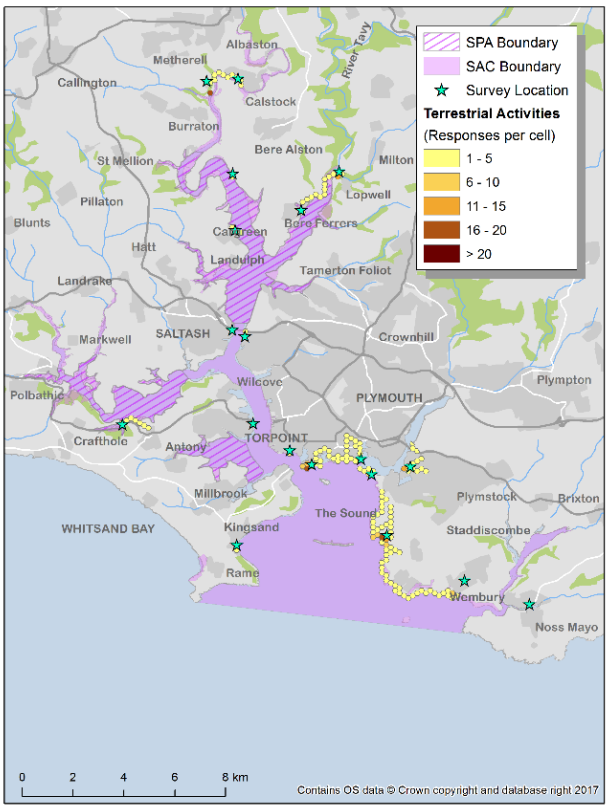
Spring



Summer



Autumn



Winter

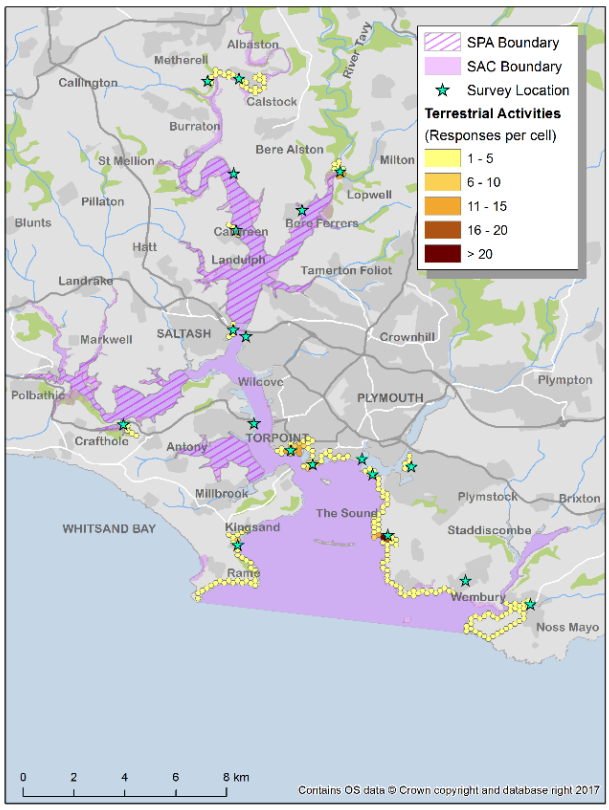


Figure 6. Distribution and intensity of terrestrial activities across the EMS based on responses on routes taken through the sites from the on-site visitor surveys, presented by survey season.

Much fewer visitor groups (approximately one in three) identified their main activity as a marine activity type (204 visitor groups overall compared with 606 that gave terrestrial activities as reasons to visit the site, Table 13). The most common marine activities were Canoeing and kayaking (16% overall of marine responses), Fishing – angling (16%), motor and sail yachting (both 10%), swimming (12%) and rock-pooling (18%). No visitor groups answered that they were visiting to engage in windsurfing or spear fishing.

A large number of visitor groups were doing 'other' activities (12%) that fell outside the list supplied to surveyors. Specific responses included: 'enjoying the view', eating (picnics, ice-cream and at cafes), painting, photography, metal detecting, geocaching, sunbathing, picking blackberries, visiting relatives, Frisbee, playing Pokemon Go, reading, visiting Lopwell Barn (our survey there coincided with an open day), visiting the Christmas Garland at Cotehele, and dropping of Christmas presents.

Table 13 Response of visitor group when asked to identify their main activity (marine plus 'Other') undertaken during their visit to SAC locations (all 19 locations pooled, classified by season. The values represent the count of responses per category and as [% of marine activity values], (% of the season totals).

Marine activity type	Spring	Summer	Autumn	Winter	All
Number of surveys	**39**	**52**	**35**	**31**	**157**
Bait digging/cockling/crab tiling	0 [0] (0)	2 [2] (1)	2 [5] (1)	0 [0] (0)	4 [2] (1)
Canoeing/kayaking	15 [25] (6)	15 [18] (5)	7 [16] (4)	1 [5] (1)	38 [16] (4)
Fishing - Angling	3 [5] (1)	17 [21] (6)	3 [7] (2)	6 [32] (4)	29 [16] (3)
Fishing – Spear Fishing	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)
Jet ski	0 [0] (0)	0 [0] (0)	1 [2] (1)	0 [0] (0)	1 [1] (0)
Kite surfing	0 [0] (0)	2 [2] (1)	0 [0] (0)	0 [0] (0)	2 [1] (0)
Motor Yacht	11 [19] (5)	2 [2] (1)	1 [2] (1)	3 [16] (2)	17 [10] (2)
Sailing Yacht	9 [15] (4)	6 [7] (2)	6 [14] (3)	1 [5] (1)	22 [10] (3)
Small sailing craft (Dingy etc.)	3 [5] (1)	0 [0] (0)	6 [14] (3)	3 [16] (2)	12 [9] (2)
Stand up paddle board	3 [5] (1)	3 [4] (1)	1 [2] (1)	1 [5] (1)	8 [4] (1)
Surfing	0 [0] (0)	0 [0] (0)	2 [5] (1)	0 [0] (0)	2 [1] (0)
Windsurfing	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)
Sub Aqua Diving	1 [2] (0)	2 [2] (1)	1 [2] (1)	0 [0] (0)	4 [2] (1)
Swimming	4 [7] (2)	16 [20] (5)	7 [16] (4)	1 [5] (1)	28 [12] (3)
Rockpooling	10 [17] (4)	17 [21] (6)	7 [16] (4)	3 [16] (2)	37 [18] (4)
MARINE SEASONAL TOTALS	**59**	**82**	**44**	**19**	204
Other activities	39 (16)	22 (7)	11 (6)	18 (12)	90 (10)

For sites within the SPA, dog walking and birdwatching appeared to be more important activities than within the wider SAC (6% for SAC, compared with 11% for SPA for birdwatching and 21% for the SAC and 30% for the SPA for dog walking). By contrast the proportion of visitor groups engaged in walking and outings with children/family were lower for the SPA sites (Table 14).

Table 14. Response of visitor group when asked to identify their main activity (terrestrial only) undertaken during their visit to SPA locations (7 locations pooled), classified by season. The values represent the count of responses per category and as [% of terrestrial activity values], (% of the season totals).

Terrestrial activity type	Spring	Summer	Autumn	Winter	All
Number of surveys	**39**	**52**	**35**	**31**	**157**
Birdwatching/ wildlife watching	13 [28] (18)	14 [18] (13)	3 [13] (7)	2 [7] (5)	32 [17] (11)
Cycling	1 [2] (1)	2 [3] (2)	1 [4] (2)	0 [0] (0)	4 [2] (1)
Dog walking	17 [36] (23)	29 [37] (28)	12 [50] (27)	16 [59] (42)	74 [46] (30)
Horse riding	0 [0] (0)	0 [0] (0)	1 [4] (2)	1 [4] (3)	2 [2] (1)
Jogging/power walking/Nordic walking	0 [0] (0)	2 [3] (2)	0 [0] (0)	0 [0] (0)	2 [1] (1)
Kite Flying	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)
Outing with children/family	6 [13] (8)	15 [19] (14)	2 [8] (4)	2 [7] (5)	25 [12] (8)
Walking	10 [21] (14)	16 [21] (15)	5 [21] (11)	6 [22] (16)	37 [21] (14)
TERRESTRIAL SEASONAL TOTALS	**47**	**78**	**24**	**27**	**176**

Within the SPA the most common marine activities were dinghy sailing (3% overall), yacht sailing (7%) and recreational angling (5%) and canoeing/kayaking (2%). Swimming and rock-pooling were not common activities reported by the visitor groups to the SPA (which fits what we would expect given the opportunities to engage in these activities). None of the visitor groups surveyed were bait digging, jet skiing, stand up paddle boarding, surfing, windsurfing or sub-aqua diving[1].

Table 15. Response of visitor group when asked to identify their main activity (marine plus 'Other') undertaken during their visit to SPA locations (7 locations pooled), classified by season. The values represent the count of responses per category and as [% of marine activity values], (% of the season totals).

Marine activity type	Spring	Summer	Autumn	Winter	All
Number of surveys	**39**	**52**	**35**	**31**	**157**
Bait digging/cockling/crab tiling	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)
Canoeing/kayaking	4 [27] (5)	1 [6] (1)	1 [10] (2)	0 [0] (0)	6 [11] (2)
Fishing - Angling	2 [13] (3)	7 [44] (7)	0 [0] (0)	3 [60] (8)	12 [29] (5)
Fishing – Spear Fishing	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)
Jet ski	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)
Kite surfing	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)
Motor Yacht	3 [20] (4)	0 [0] (0)	0 [0] (0)	0 [0] (0)	3 [5] (1)
Sailing Yacht	6 [40] (8)	6 [38] (6)	5 [50] (11)	1 [20] (3)	18 [37] (7)
Small sailing craft (Dingy etc.)	0 [0] (0)	0 [0] (0)	4 [40] (9)	1 [20] (3)	5 [15] (3)
Stand up paddle board	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)
Surfing	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)
Windsurfing	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)
Sub Aqua Diving	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)
Swimming	0 [0] (0)	2 [13] (2)	0 [0] (0)	0 [0] (0)	2 [3] (1)
Rockpooling	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)	0 [0] (0)
MARINE SEASONAL TOTALS	**15**	**16**	**10**	**5**	**46**

[1] Langmead has witnessed Stand-up paddle-boarding and jet-skiing in the SPA

Marine activity type	Spring	Summer	Autumn	Winter	All
Other	11 (15)	11 (10)	11 (24)	6 (16)	39 (16)

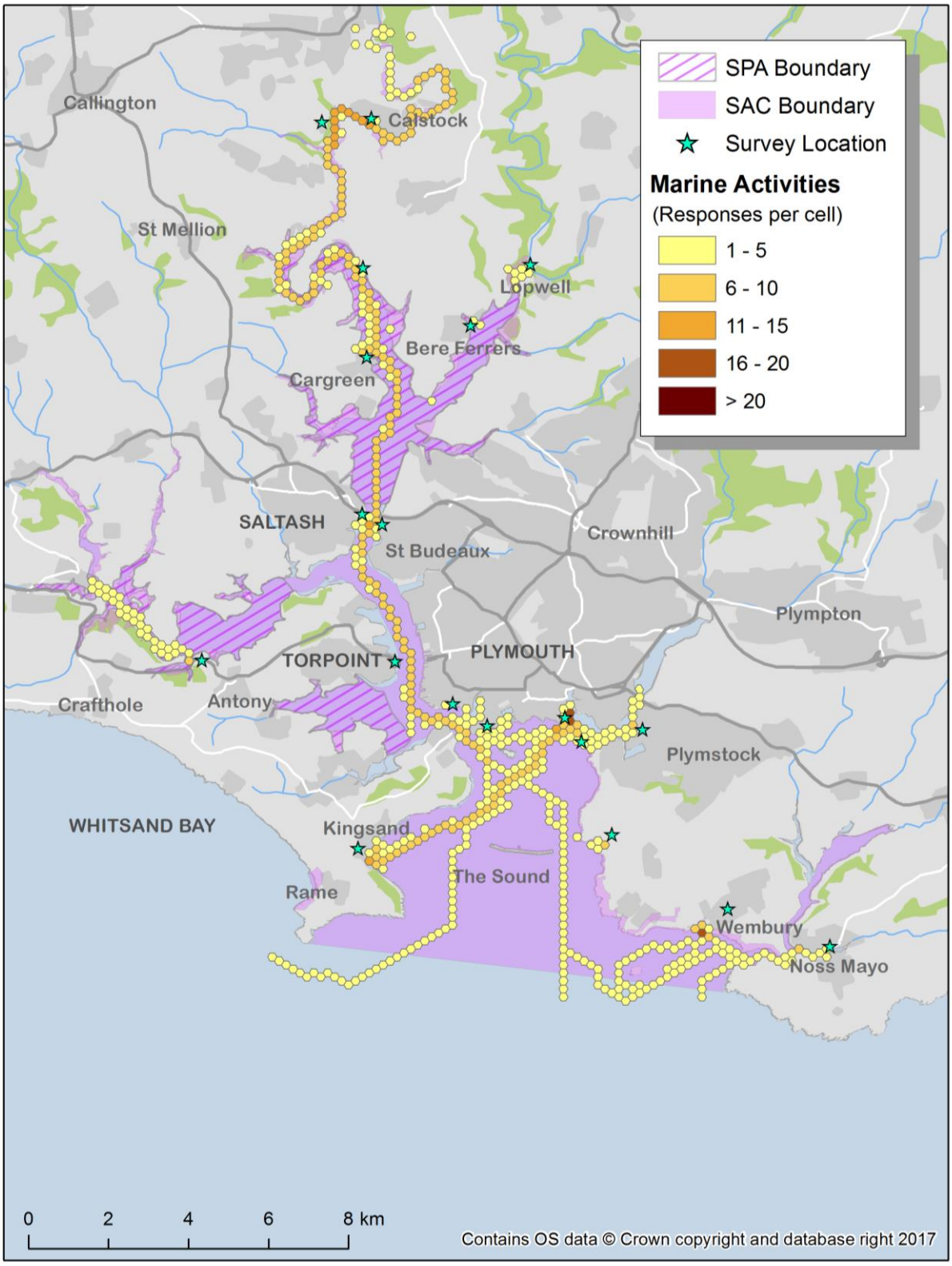


Figure 7. Distribution and intensity of marine activities across the EMS based on responses on routes taken through the sites from on-site visitor surveys (aggregated for all seasons).

The distribution and intensity of all marine activities combined for all seasons is presented in Figure 7. Popular sites include the Barbican and almost all of the Outer Estuary management area is well used. There are important routes taken by recreational users from the upper Tamar to Kingsand, Wembury and the Yealm. The Cattewater comprising the Mount Batten and Sutton Harbour areas is also important, as is the Upper Lynher and Lopwell Dam.

Route information for sailing activities (combined for yacht sailing, small craft sailing and windsurfing) is given by season in (Figure 8). No visitor groups gave information on this activity during Winter (thus there is no map). The key areas identified from this activity are the upper Tamar (Spring), the transit from Weir Quay to Cawsand and Barbican/Plym areas (Summer and Autumn) (Figure 9).

The distribution and intensity of use by motor vessels (combined for motor yachts and jet skis) show a similar pattern to that of sailing vessels (Figure 10). The Tamar is important, as is the area around Drake's island and into the Plym. The transit across from Mount Batten to Kingsand is also important, and to a lesser extent, the route into the Yealm. The seasonal signal is also strong, with very little activity in Winter and much less in Autumn than in Spring and Summer (Figure 11).

By contrast, the distribution of paddle-sport activity (combined for canoeing, kayaking, rowing and stand-up paddle-boarding) is concentrated into the upper parts of the estuaries: the Tamar above Weir Quay including Cotehele, Calstock and all the way up to Gunnislake; the top of the Tavy at Lopwell Dam, the upper part of the Lynher, the Cattewater from Mount Batten to the Laira Bridge and the Yealm estuary from Wembury to Noss Mayo (Figure 12). There are also hotspots of activity at Cawsand / Kingsand and Bovisand Bays, with the activity strongly seasonal, and highest in Spring and Summer (Figure 13).

The distribution and intensity of recreational angling activity is shown in (Figure 14). Most fishing was reported in Summer and this was concentrated mainly at the Plymouth sites (Barbican, Mount Batten, Devil's Point, Mount Wise) but also occurred further up the Tamar at Saltash, Cargreen and Weir Quay (Figure 15).

Beach activities (constituting swimming and rock-pooling aggregated) were popular at the beach sites of Cawsand/ Kingsand, Bovisand, Wembury, Mount Batten and also at Devil's Point (presumably stated by visitors to Firestone Bay) (Figure 16). A few less likely sites were also reported e.g. Lopwell Dam, Bere Ferrers and Wacker Quay (which are all quite muddy but evidently used for swimming nonetheless). Oreston was another non-beach site used for swimming, and furthermore it was used all year round (Figure 17). However, the main seasonal trend was the concentration of these activities during Summer.

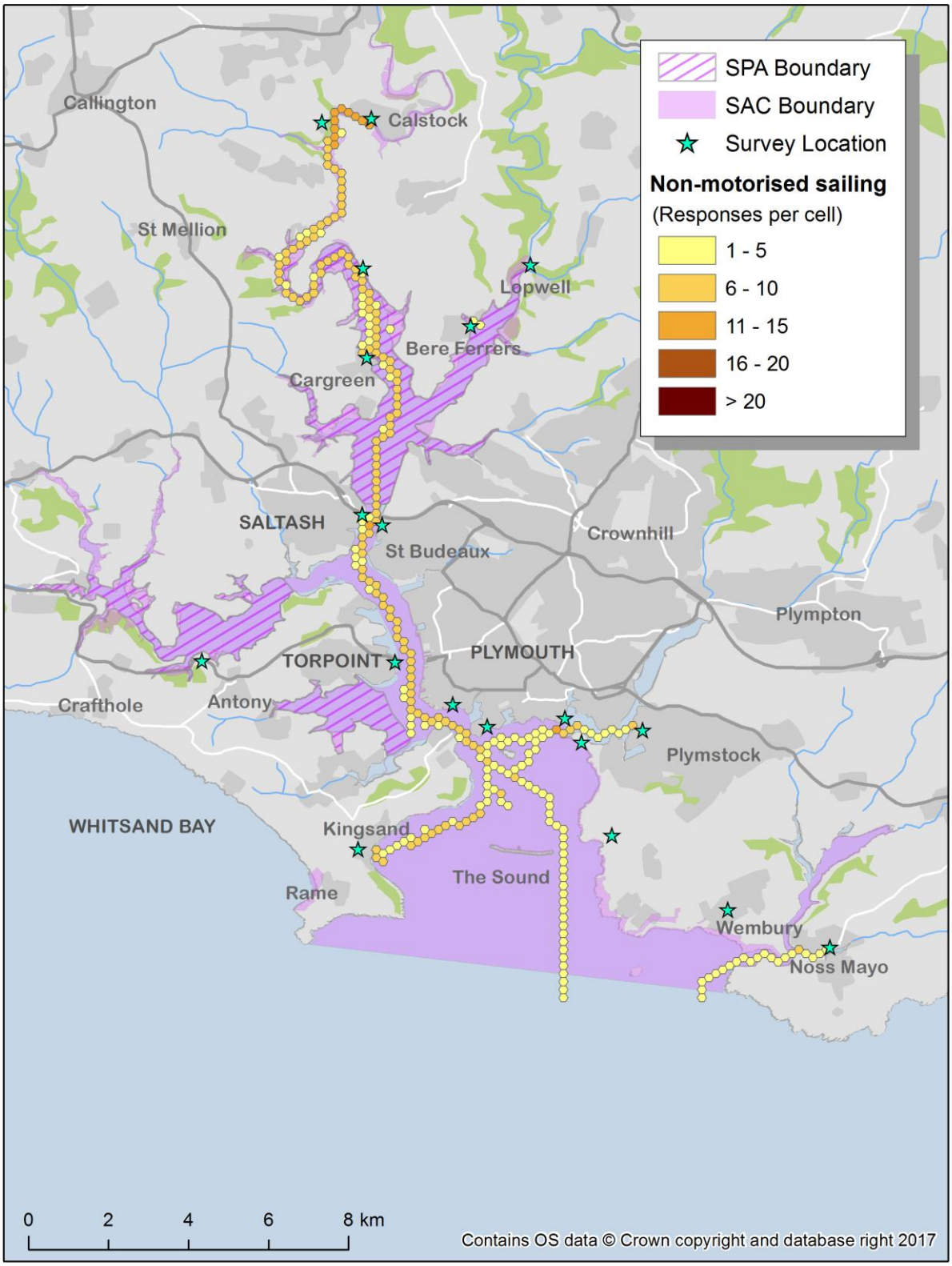
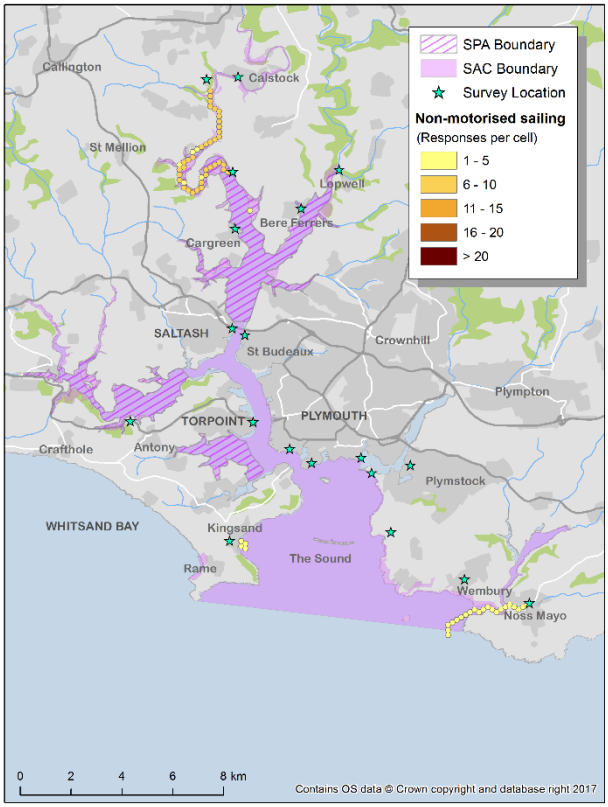
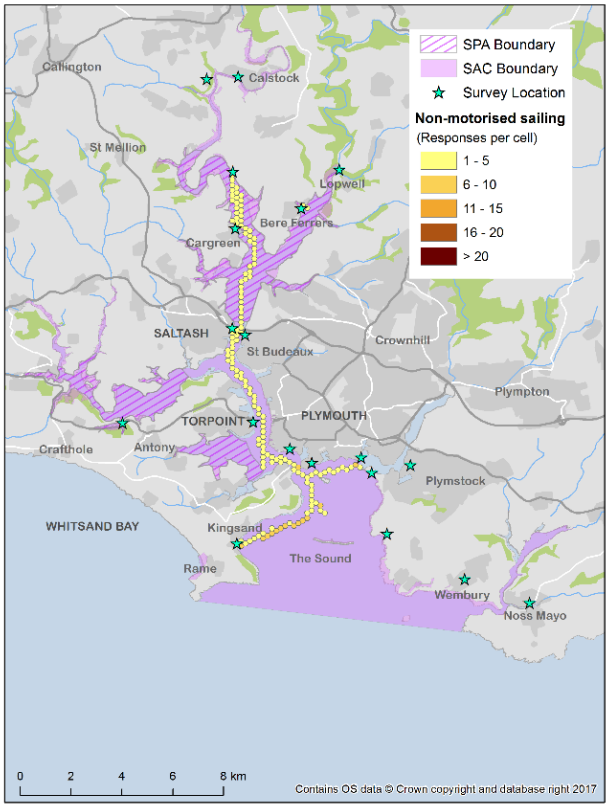


Figure 8. Distribution and intensity of sailing activities (yacht sailing, small craft sailing and windsurfing) mapped from route information for the Plymouth Sound and Estuaries EMS.

Spring



Summer



Autumn

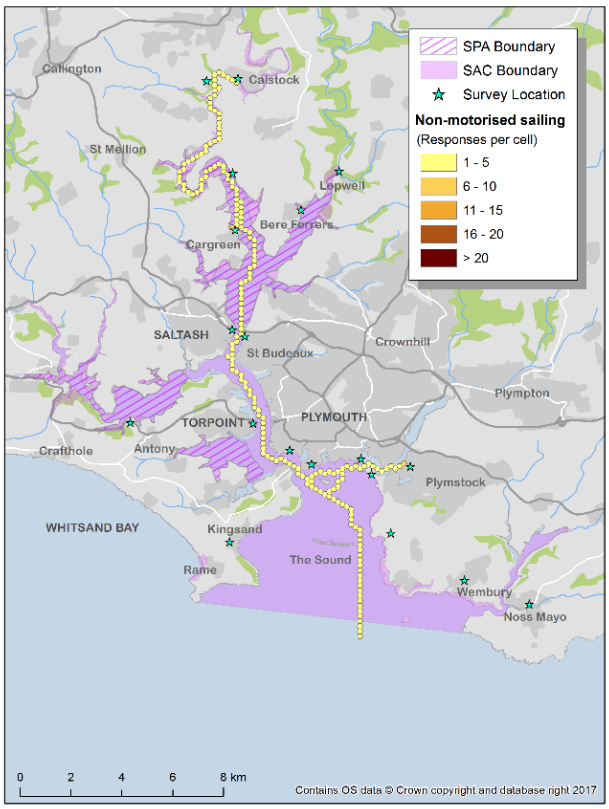


Figure 9. Distribution and intensity of sailing activities (yacht sailing, small craft sailing and windsurfing) mapped from route information by season for the Plymouth Sound and Estuaries EMS. No visitor groups gave route information during the Winter surveys.

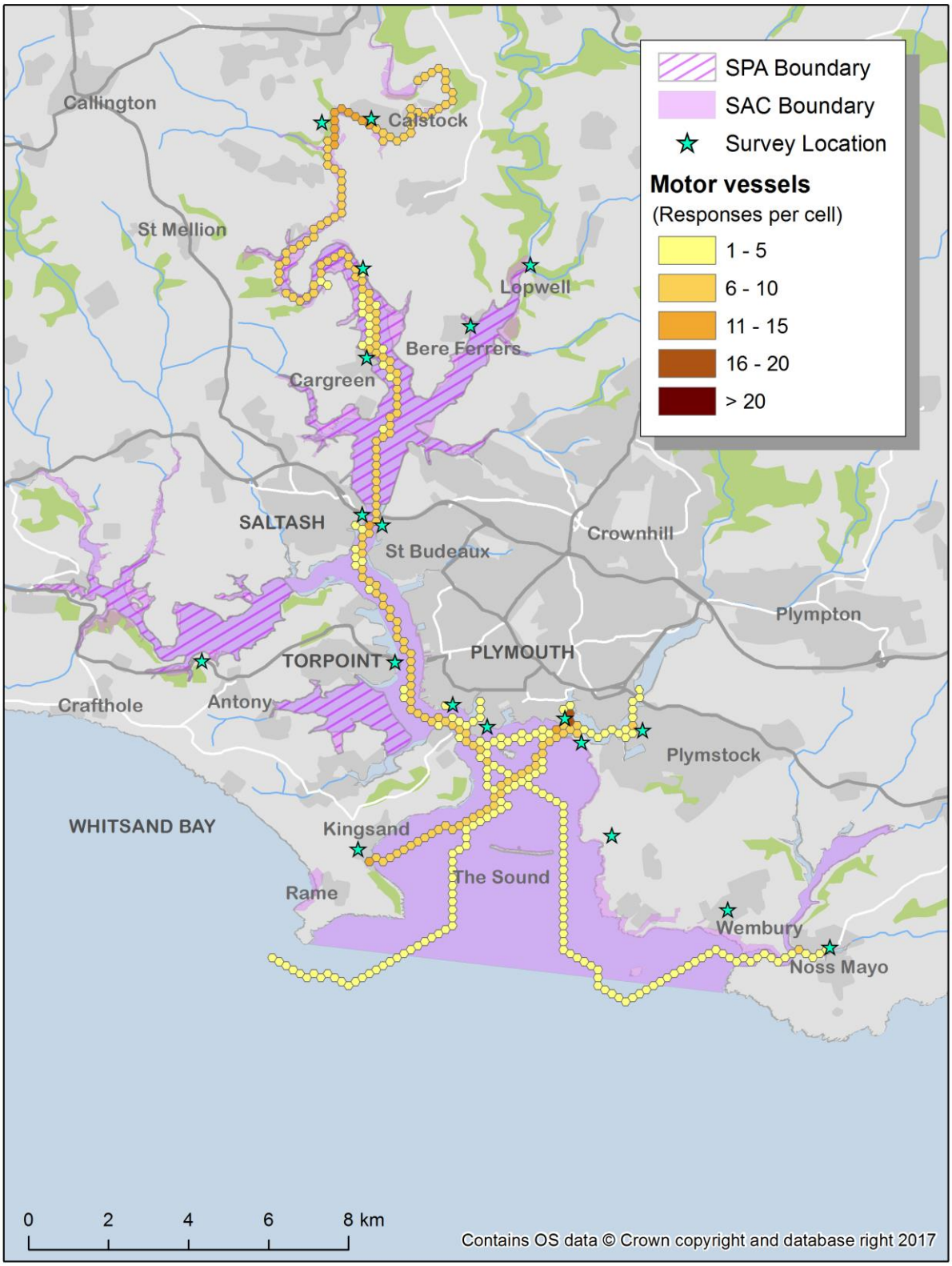
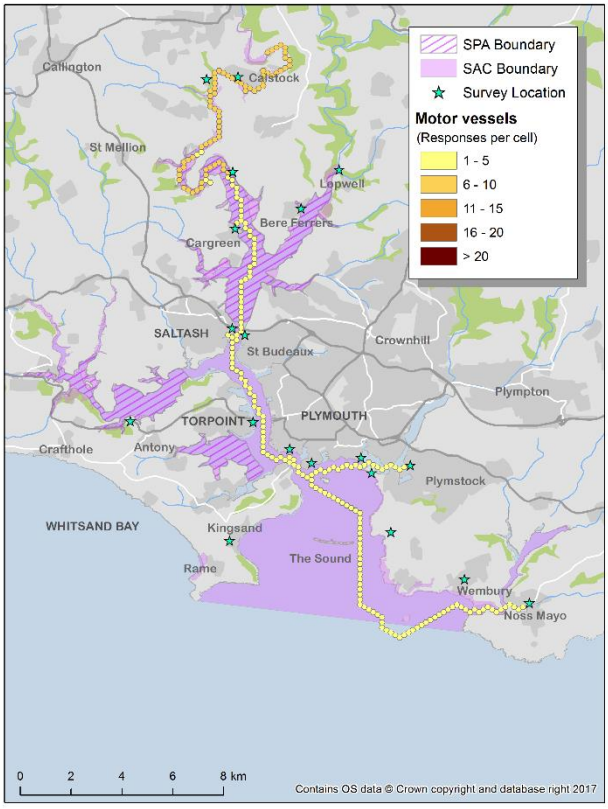
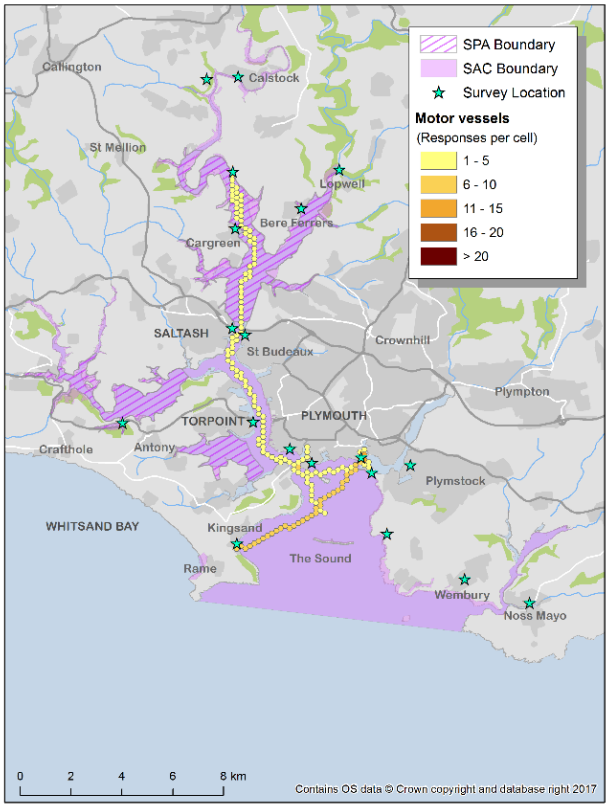


Figure 10. Distribution and intensity of motor vessel activity (combined for motor yachts and jet skis) mapped from route information for the Plymouth Sound and Estuaries EMS.

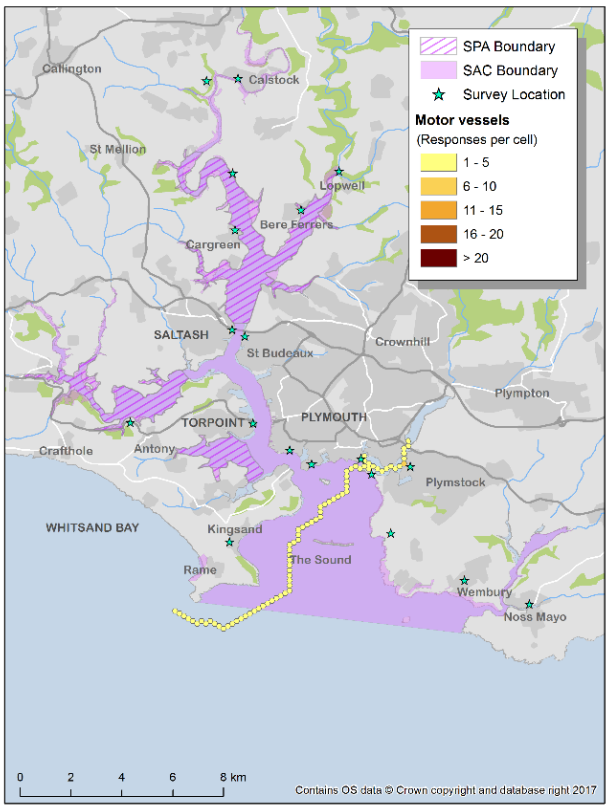
Spring



Summer



Autumn



Winter

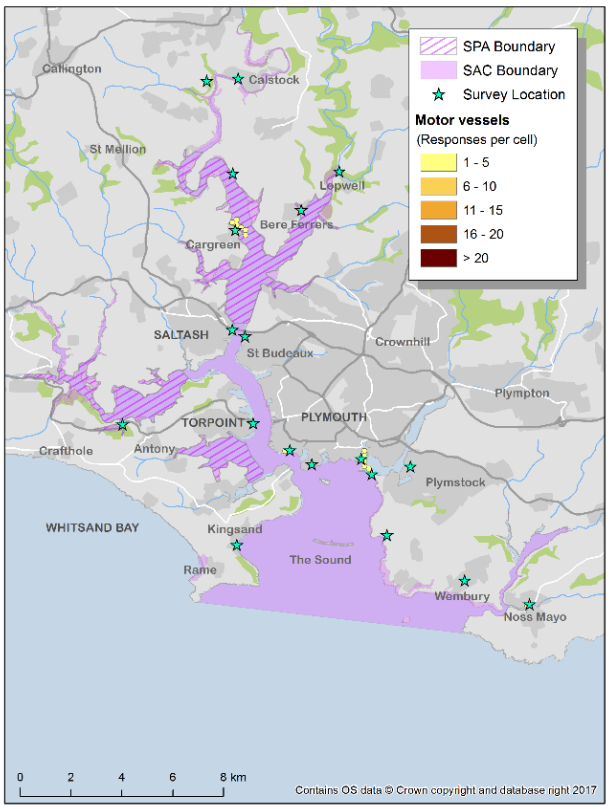


Figure 11 . Distribution and intensity of motor vessel activity (combined for motor yachts and jet skis) mapped from route information by season for the Plymouth Sound and Estuaries EMS.

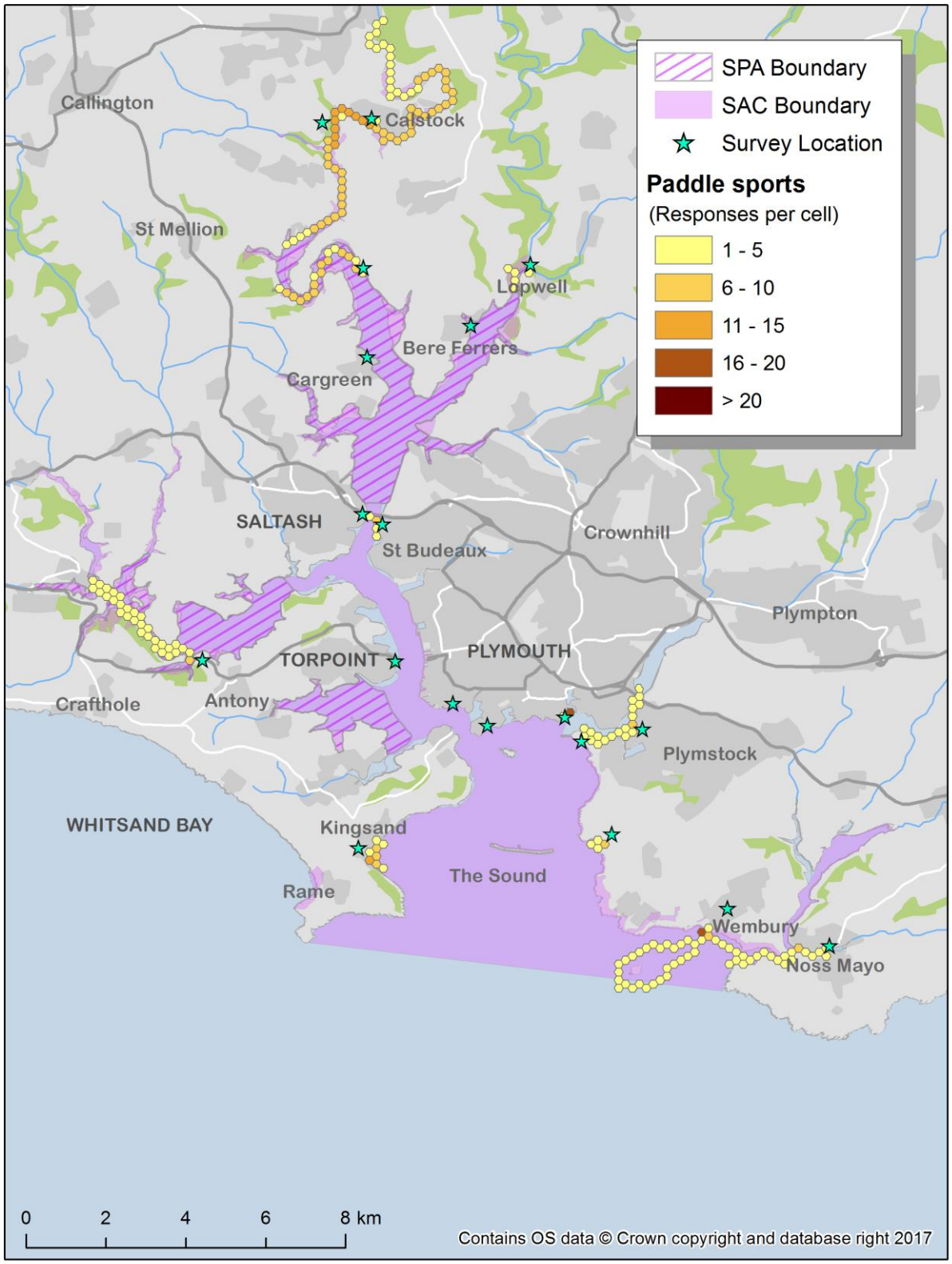
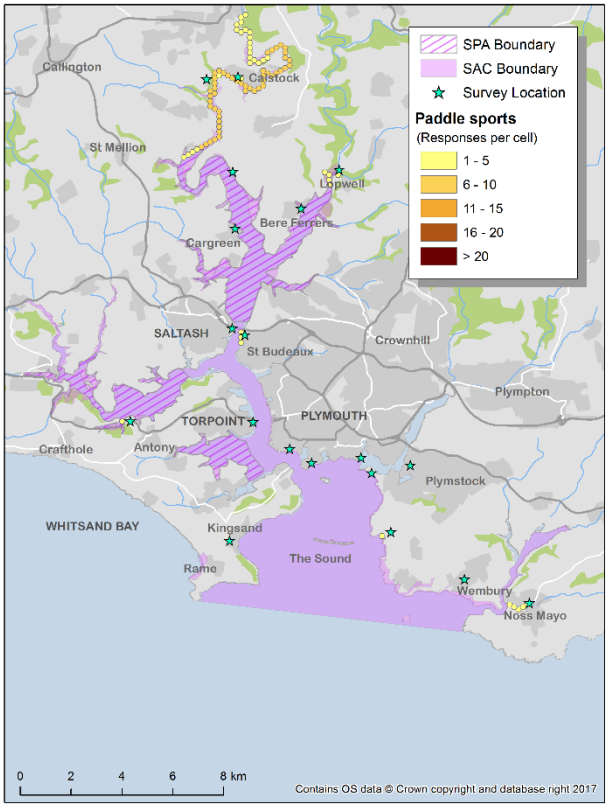
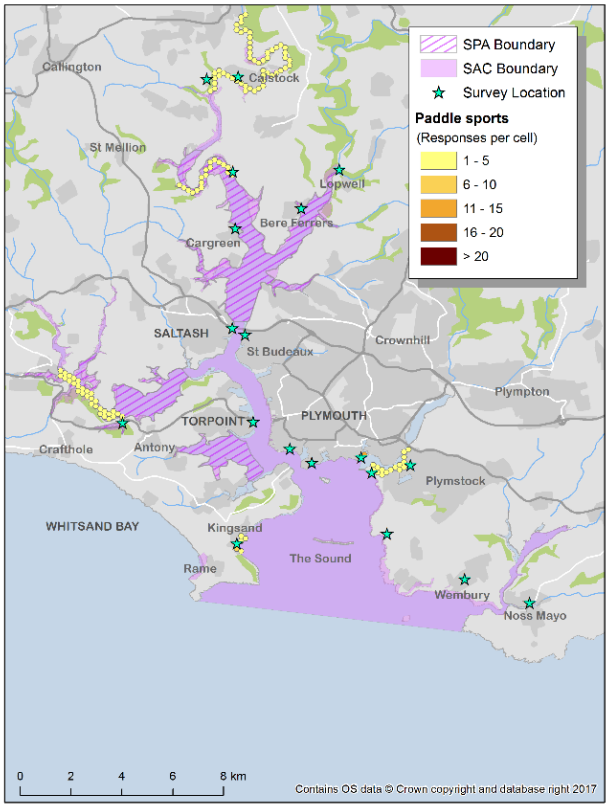


Figure 12. Distribution and intensity of paddle-sport activity (combined for canoeing, kayaking, rowing and stand-up paddle-boarding) mapped from route information for the Plymouth Sound and Estuaries EMS.

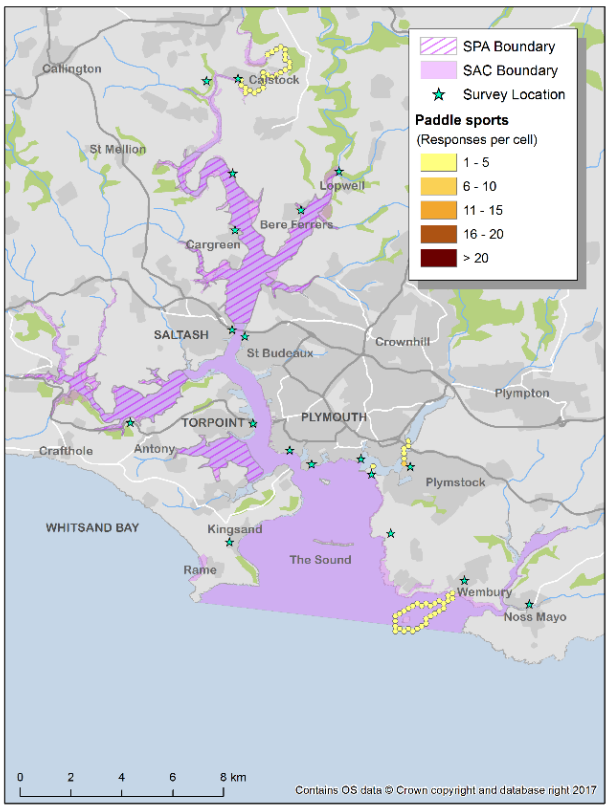
Spring



Summer



Autumn



Winter

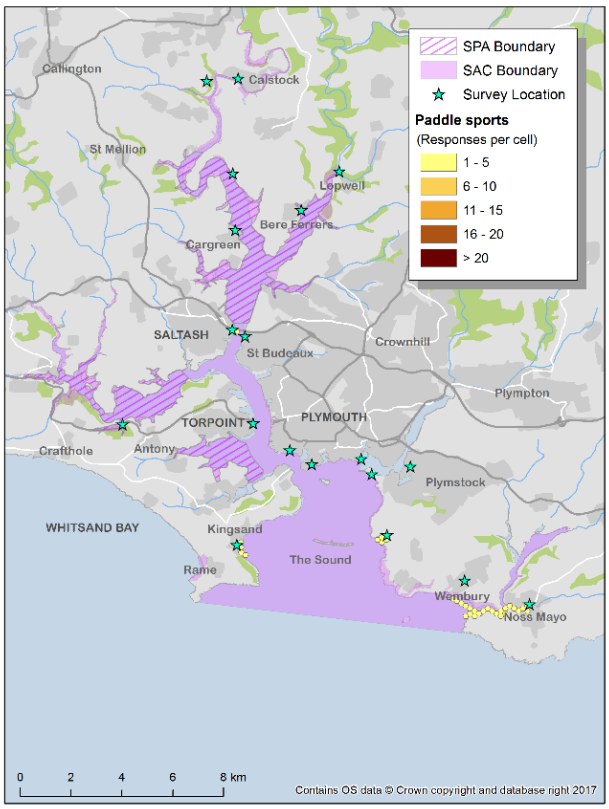


Figure 13 Distribution and intensity of paddle-sport activity (combined for canoeing, kayaking, rowing and stand-up paddle-boarding) mapped from route information by season for the Plymouth Sound and Estuaries EMS.

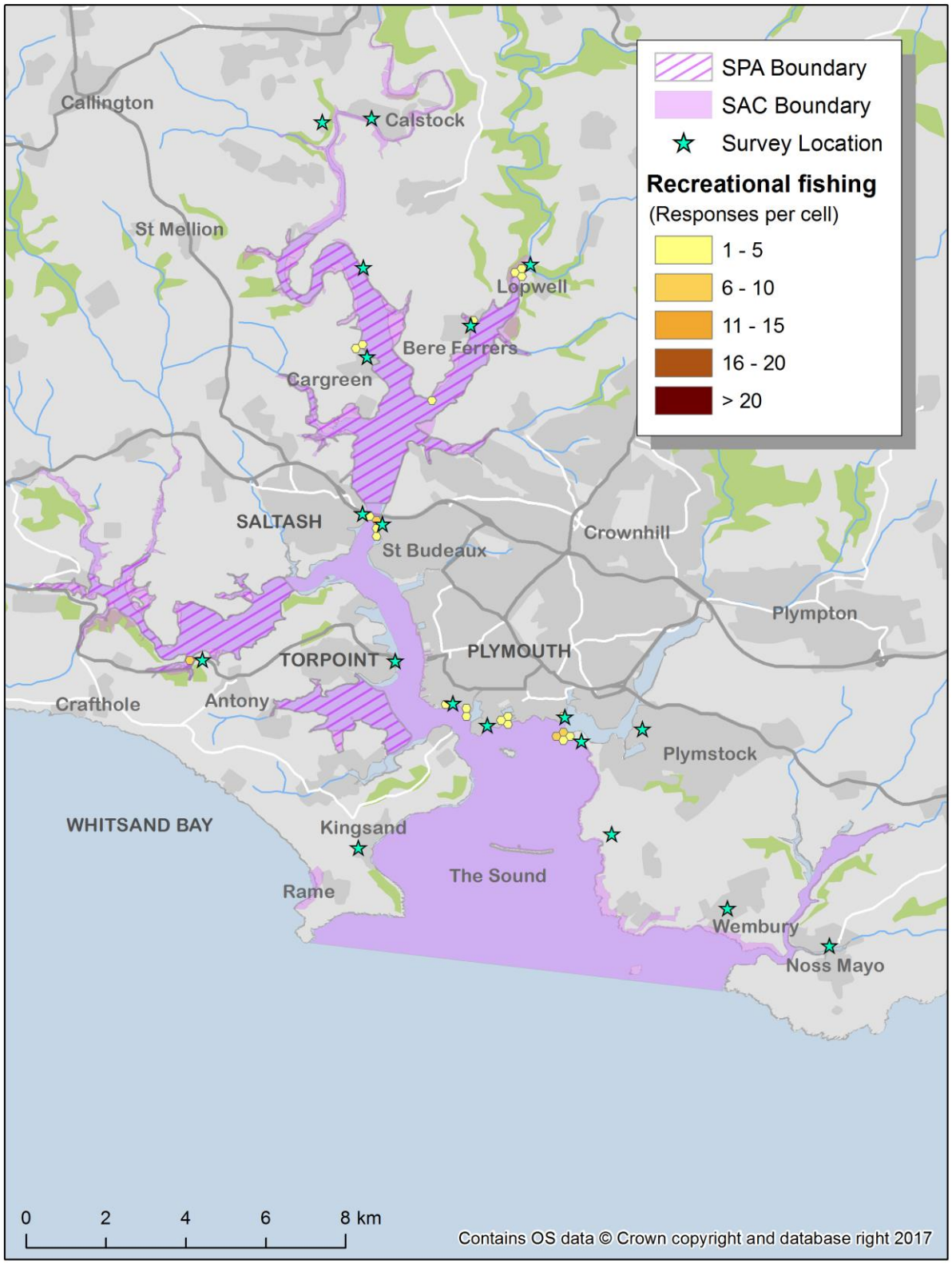
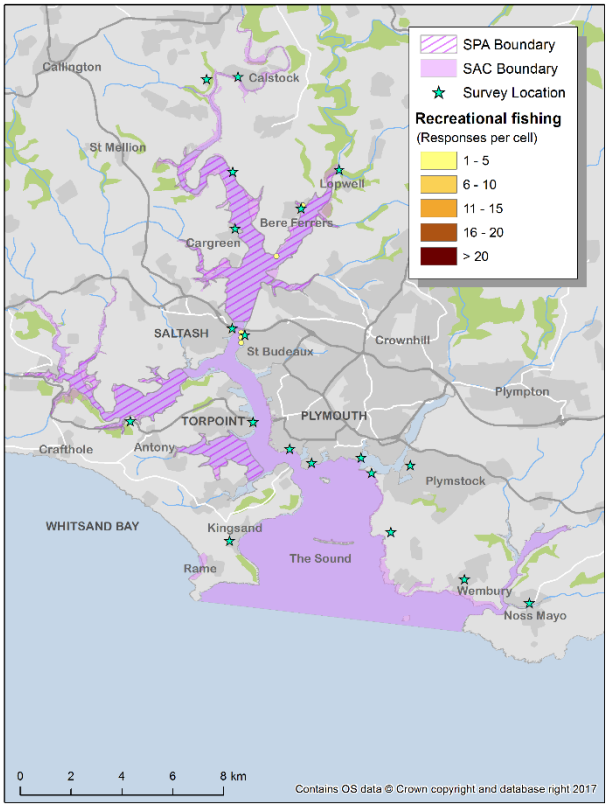
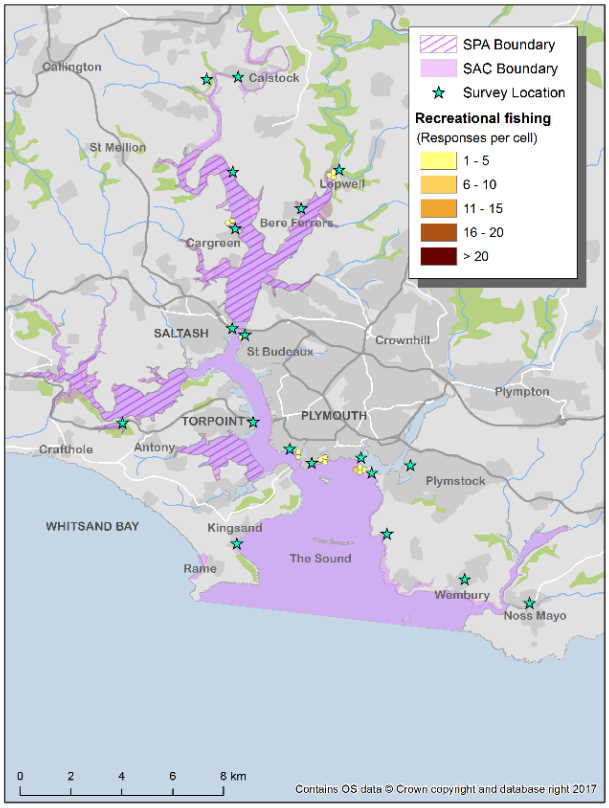


Figure 14. Distribution and intensity of recreational angling activity mapped from on-site survey responses for the Plymouth Sound and Estuaries EMS

Spring



Summer



Autumn

Winter

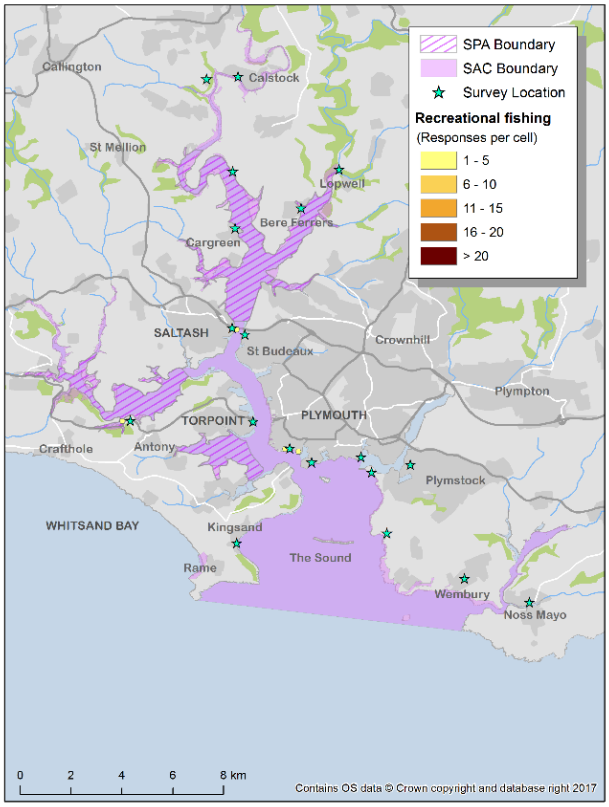


Figure 15 Distribution and intensity of recreational angling activity mapped by season for the Plymouth Sound and Estuaries EMS.

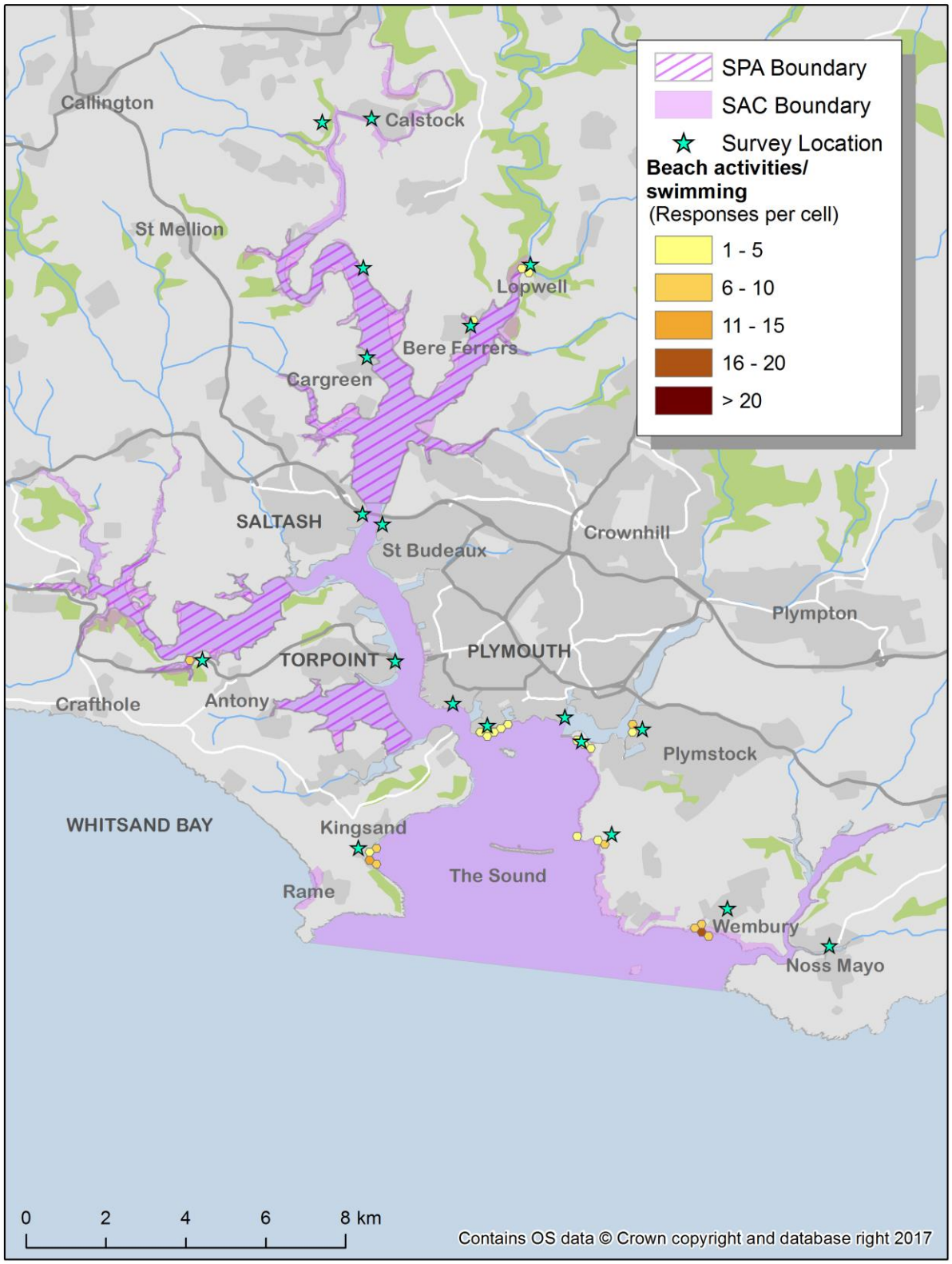
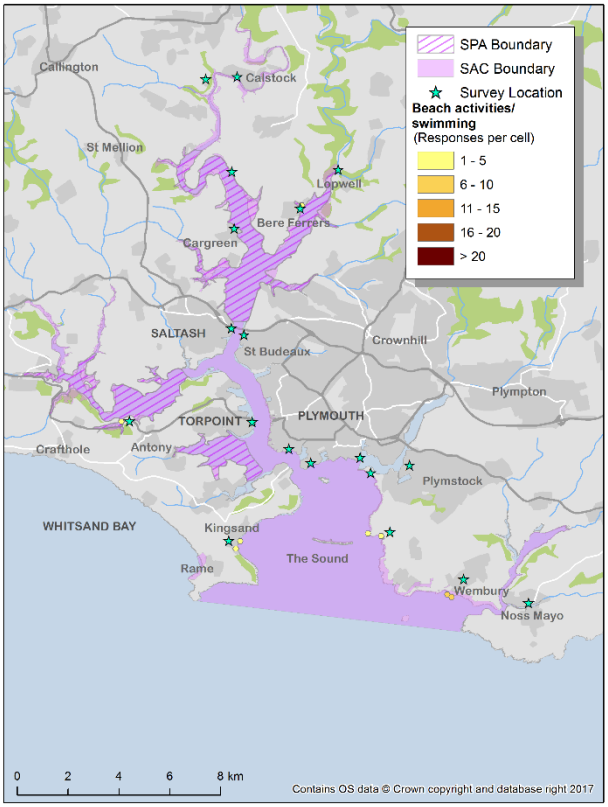
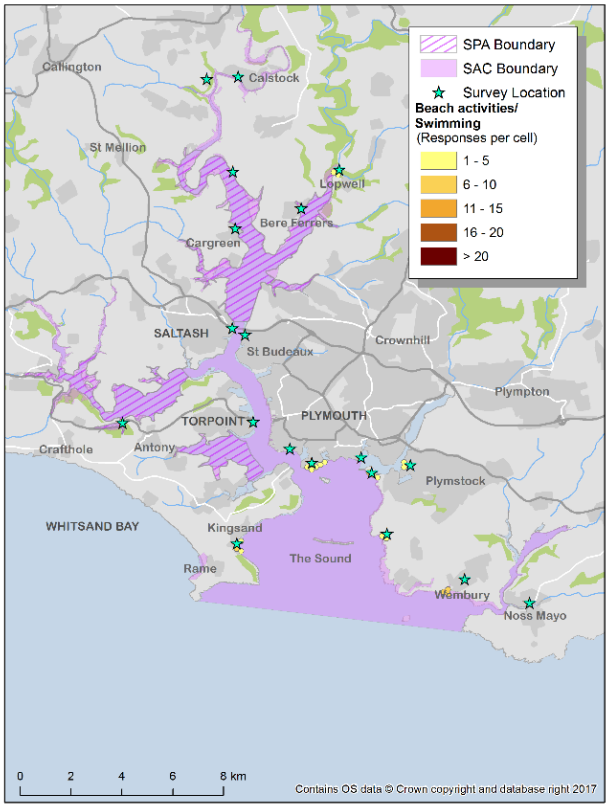


Figure 16 Distribution and intensity of beach activities (rock-pooling and swimming) mapped from on-site visitor survey responses from the Plymouth Sound and Estuaries EMS.

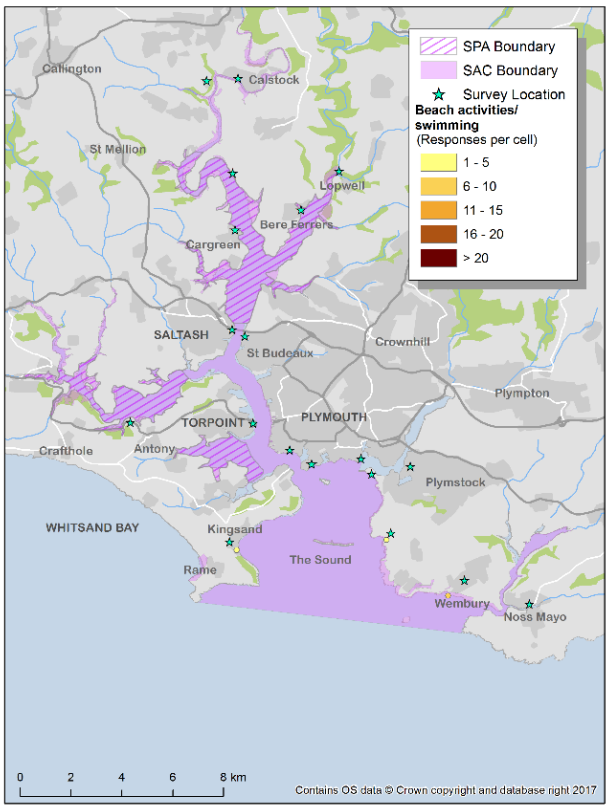
Spring



Summer



Autumn



Winter

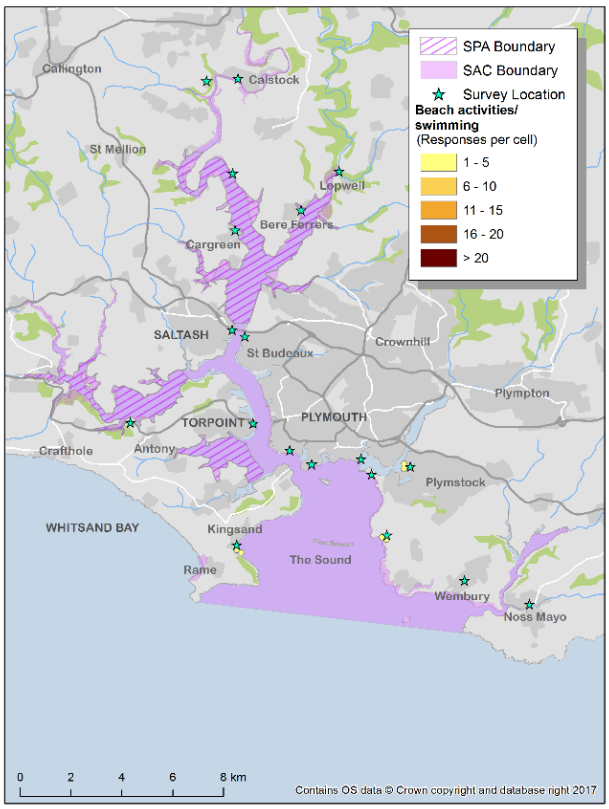


Figure 17 Distribution and intensity of beach activities (rock-pooling and swimming) mapped by season for the Plymouth Sound and Estuaries EMS.

Difference in activities between local residents and visitors from outside Devon and Cornwall are shown in Table 16. There are comparable percentages of walkers (28% and 26% for local residents and visitors from further afield respectively), but there are comparably fewer dog walkers within the visitors from outside Devon and Cornwall (9% compared with 20%), and a greater proportion of swimmers and rockpoolers (3% and 7% for swimmers and 4% and 7% for rockpoolers for local residents compared with visitors from outside Devon and Cornwall respectively).

Table 16. Main visitor activity by residency group (local residents of Devon and Cornwall and visitor from outside the counties), aggregated for all sites and seasons. Values represent counts of responses (multiple responses allowed per visitor group), with % of residency group in () and % overall [].

	Local Residents	Visitors from outside Devon and Corwall	Other	Total
Birdwatching/ wildlife watching	40 (5) [4]	11 (9) [1]	0 (0) [0]	51 [6]
Cycling	11 (1) [1]	2 (2) [0]	0 (0) [0]	13 [1]
Dog walking	151 (20) [17]	11 (9) [1]	8 (47) [1]	170 [19]
Horse riding	3 (0) [0]	0 (0) [0]	0 (0) [0]	3 [0]
Jogging/power walking/Nordic walking	9 (1) [1]	0 (0) [0]	0 (0) [0]	9 [1]
Kite Flying	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 [0]
Outing with children/family	90 (12) [10]	20 (17) [2]	1 (6) [0]	111 [12]
Walking	214 (28) [24]	31 (26) [3]	2 (12) [0]	247 [27]
Bait digging/cockling/crab tiling	4 (1) [0]	0 (0) [0]	0 (0) [0]	4 [0]
Canoeing/kayaking	30 (4) [3]	6 (5) [1]	2 (12) [0]	38 [4]
Fishing - Angling	29 (4) [3]	1 (1) [0]	0 (0) [0]	30 [3]
Fishing – Spear Fishing	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 [0]
Jet ski	1 (0) [0]	0 (0) [0]	0 (0) [0]	1 [0]
Kite surfing	1 (0) [0]	1 (1) [0]	0 (0) [0]	2 [0]
Motor Yacht	16 (2) [2]	1 (1) [0]	0 (0) [0]	17 [2]
Sailing Yacht	18 (2) [2]	4 (3) [0]	0 (0) [0]	22 [2]
Small sailing craft (Dingy etc.)	10 (1) [1]	2 (2) [0]	0 (0) [0]	12 [1]
Stand up paddle board	6 (1) [1]	2 (2) [0]	0 (0) [0]	8 [1]
Surfing	1 (0) [0]	1 (1) [0]	0 (0) [0]	2 [0]
Windsurfing	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 [0]
Sub Aqua Diving	3 (0) [0]	1 (1) [0]	0 (0) [0]	4 [0]
Swimming	20 (3) [2]	8 (7) [1]	1 (6) [0]	29 [3]
Rockpooling	29 (4) [3]	9 (7) [1]	0 (0) [0]	38 [4]
Other	76 (10) [8]	10 (8) [1]	3 (18) [0]	89 [10]
Total	762 (100) [85]	121 (100) [13]	17 (100) [2]	900 [100]

2.3.5 Visit frequency

- **49% of interviewed groups confirmed that they visited the site at least several times per month (20-60 visits per year)**
- **In Winter, there were a greater proportion of visitors who came at least once a month compared with Summer (64% vs 43%)**
- **There were least first time visitors in Winter**
- **The distribution of visitor frequency was consistent between all the sites (SAC) and the seven SPA sites**
- **The majority of local residents (55% overall and 64% of local residents) visit at least once a month. Only 23% of local residents visited less than once a month (or 20% overall).**

Visitor groups were asked how often they visited the survey location within the Plymouth Sound and Estuaries EMS for recreational purposes over the last year. From 644 interviewed groups, 636 responses were gained. Overall patterns of visit frequency for the EMS were compared with SPA sites and also differences between local residents and non-local visitors were identified.

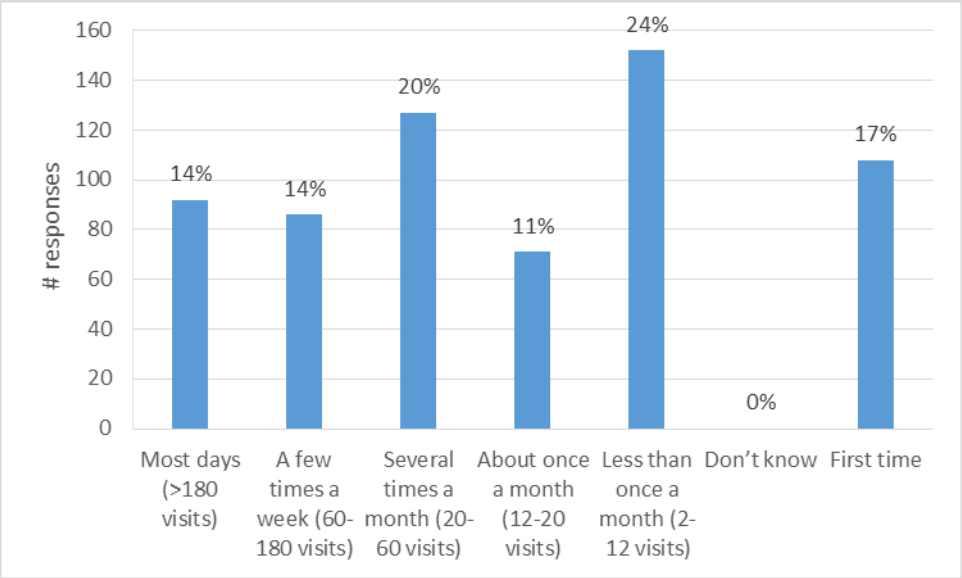


Figure 18. Distribution of responses of visit frequency (# responses with % of respondents above) for all sites and seasons.

Across all seasons, most respondents indicated that they visited the site less than once a month (24%) (Figure 4). 49% of interviewed groups confirmed that they visited the site at least several times per month (20-60 visits per year) (Table 17). This indicates regular recreational use of the site and that visitors are faithful to the location; furthermore, 15% of groups said that they visit most days.

Across the seasons, a higher proportion of visitor groups responded that they visited several times a month in Winter (64% compared with 41, 43 and 47% for Spring, Summer and Autumn respectively)(Table 17). Visitor groups that made less than 20 visits per year to the site were proportionally relatively stable across the different seasons (36, 38, 33 and 31% for Spring, Summer, Autumn and Winter respectively), but there were markedly less first time visitors during Winter (5%) compared with Spring, Summer and Autumn (20, 19 and 20% respectively).

Table 17. Responses of visitor groups when asked how often they had visited the site over the past year (SAC). The values represent the count of responses with percentages per season ().

Over the past year, roughly how often have you visited this particular location for recreational purposes?	Spring	Summer	Autumn	Winter	All
Number of surveys	**39**	**52**	**35**	**31**	**157**
Most days (>180 visits)	19 (13) [3]	28 (13) [4]	22 (15) [3]	23 (19) [4]	**92 [14]**
A few times a week (60-180 visits)	19 (13) [3]	24 (11) [4]	21 (14) [3]	22 (19) [3]	**86 [14]**
Several times a month (20-60 visits)	27 (18) [4]	42 (19) [7]	27 (18) [4]	31 (26) [5]	**127 [20]**
About once a month (12-20 visits)	15 (10) [2]	31 (14) [5]	19 (13) [3]	6 (5) [1]	**71 [11]**
Less than once a month (2-12 visits)	39 (26) [6]	53 (24) [8]	30 (20) [5]	30 (25) [5]	**152 [24]**
Don't know	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	**0 [0]**
First time	30 (20) [5]	43 (19) [7]	29 (20) [5]	6 (5) [1]	**108 [17]**
Seasonal total	**149 (100) [23]**	**221 (100) [35]**	**148 (100) [23]**	**118 (100) [19]**	**636 [100]**

A similar pattern of visitor group frequency was seen when the SPA sites were analysed separated (Table 18). Higher numbers of regular visitors (at least several times a month) were recorded in Winter (61%) compared with the other seasons (40, 42 and 56% for Spring, Summer and Autumn respectively). In addition, there were also less first time visitors in Winter (9%) compared with the other seasons (22, 21 and 13% for Spring, Summer and Autumn respectively) (Table 18).

Table 18. Responses of visitor groups when asked how often they had visited the sites within the SPA only over the past year. The values represent the count of responses with percentages per season ().

Over the past year, roughly how often have you visited this particular location for recreational purposes?	Spring	Summer	Autumn	Winter	All
Number of surveys	**39**	**52**	**35**	**31**	**157**
Most days (>180 visits)	5 (8)	7 (7)	8 (21)	7 (21)	**27 (14)**
A few times a week (60-180 visits)	8 (13)	11 (11)	7 (18)	6 (18)	**32 (15)**
Several times a month (20-60 visits)	12 (19)	23 (24)	7 (18)	8 (24)	**50 (21)**
About once a month (12-20 visits)	7 (11)	10 (10)	4 (10)	0 (0)	**21 (8)**
Less than once a month (2-12 visits)	17 (27)	26 (27)	8 (21)	10 (29)	**61 (26)**
Don't know	0 (0)	0 (0)	0 (0)	0 (0)	**0 (0)**
First time	14 (22)	20 (21)	5 (13)	3 (9)	**42 (16)**
Seasonal total	**63 (100)**	**97 (100)**	**39 (100)**	**34 (100)**	**233 (100)**

When the results are compared between local residents and non-local visitors, the regular pattern of use by local residents is further reinforced, with the majority (55% overall and 64% of local residents) visiting at least once a month. Only 23% of local residents visited less than once a month (or 20% overall).

Non-local visitors fall in the less frequent categories (less than once a month, 4% and first time, 5%).

Table 19 Visit frequency compared by local resident vs non-local visitor (aggregated for all seasons and sites surveyed). Values indicate number of responses with () indicating % of visitor group (local, non-local) and [] % overall.

Over the past year, roughly how often have you visited this particular location for recreational purposes?	Local resident	Non-local visitor	Other	All
Most days (>180 visits)	83 (15) [13]	1 (1) [0]	8 (50) [1]	**92 [14]**
A few times a week (60-180 visits)	85 (15) [13]	0 (0) [0]	1 (6) [0]	**86 [14]**
Several times a month (20-60 visits)	119 (22) [19]	6 (9) [1]	2 (13) [0]	**127 [20]**
About once a month (12-20 visits)	66 (12) [10]	3 (4) [0]	2 (13) [0]	**71 [11]**
Less than once a month (2-12 visits)	125 (23) [20]	25 (36) [4]	2 (13) [0]	**152 [24]**
First time	72 (13) [11]	35 (50) [6]	1 (6) [0]	**108 [17]**
Seasonal total	**550 (100) [86]**	**70 (100) [11]**	**16 (100) [3]**	**636 [100]**

2.3.6 Seasonality of visits

- **37% of visitor groups stated that they made their visits all year round**
- **34% of these year round visitors were local residents with just 2% non-local visitors**
- **Of the non-local visitors 30% tended to visit in Summer and 27% were first time visitors, with just 5% visiting in Winter**

Visitor groups were asked about the seasonality of their visit in relation to the activity that they were undertaking during their interviewed visit. The question allowed visitors to provide multiple responses and from a total of 644 completed interviews, 800 responses were obtained (Table 20). General patterns of seasonal use were identified and compared between local residents and non-local visitors.

The majority of responses (37%) stated that the visitor groups made their visits all year round (Table 20). Of these visitor groups, 34% were local residents and just 2% were non-local visitors (plus 1% 'other').

The seasonal distribution of responses for non-local visitors was mostly Summer (30% of all non-local visitor groups) and 'First visit' (27% on all non-local visitor groups) with just 5% of non-local visitor groups stating 'Winter' (Table 20).

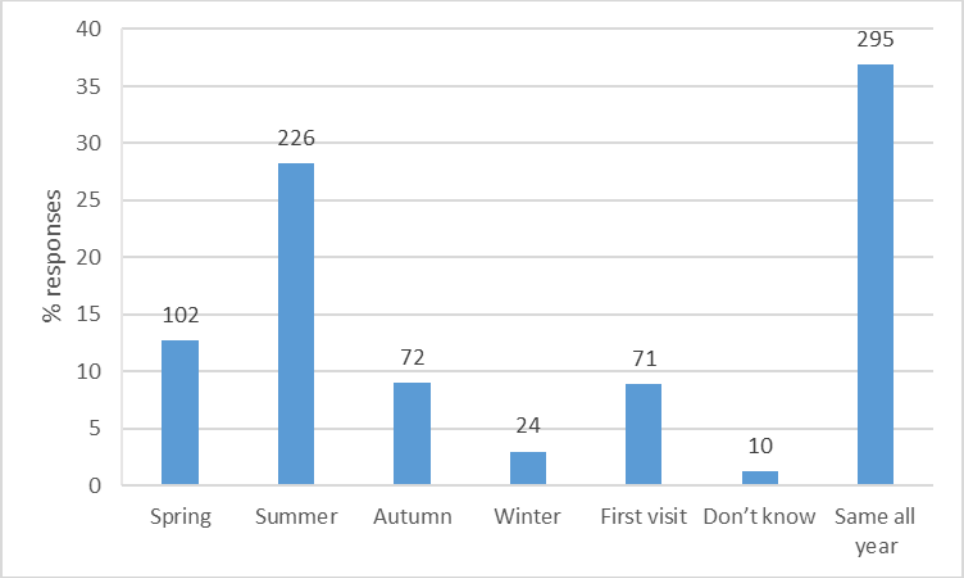


Figure 19. Responses stated by visitor groups when asked whether they tended to visit the site at a particular time of year, for the activity that they were undertaking during their interview. Values represent % of all responses (aggregated for sites, and season with # responses above each column).

Table 20. Responses stated by visitor groups when asked whether they tended to visit the site at a particular time of year, for the activity that they were undertaking during their interview. Values represent numbers of responses with % of local resident or non-local visitor in () and % overall in [].

Do you tend to visit this site more during a particular season?	Local resident	Non-local visitor	Other	All
Spring	87 (13) [11]	14 (15) [2]	1 (5) [0]	102 [13]
Summer	194 (28) [24]	28 (30) [4]	4 (21) [1]	226 [28]
Autumn	62 (9) [8]	8 (9) [1]	2 (11) [0]	72 [9]
Winter	17 (2) [2]	5 (5) [1]	2 (11) [0]	24 [3]
First visit	45 (7) [6]	25 (27) [3]	1 (5) [0]	71 [9]
Don't know	8 (1) [1]	2 (2) [0]	0 (0) [0]	10 [1]
Same all year	274 (40) [34]	12 (13) [2]	9 (47) [1]	295 [37]
Total	687 (100) [86]	94 (100) [12]	19 (100) [2]	800 [100]

2.3.7 Time of day per visit

- **Most visits to the EMS were between 9am and 12pm (18%), and 12 and 3pm (20% of all responses)**
- **Winter visitors tended to visit between 12pm and 3pm (23% of responses) while Summer visits were more evenly spread through the day**
- **Visitor patterns in the SPA were similar to the SAC although Tidal and weather / sea conditions appeared more important to SPA visitors**

Interviewed groups were asked whether they tended to visit the site at a certain time of day. Multiple responses were by respondents, and a total of 958 responses were obtained (336 of these responses were from the seven SPA sites) (Table 21). Seasonal differences in the time of day of visits were identified, and comparisons between the SAC and SPA sites were made.

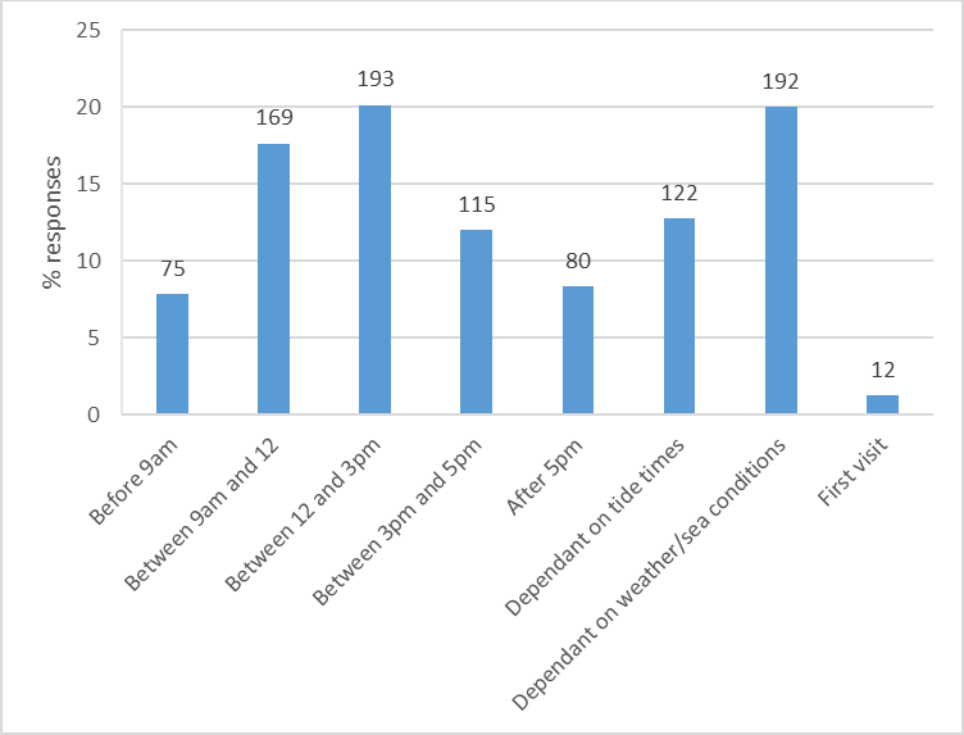


Figure 20 Responses stated by visitor groups when asked what time of day they tended to visit. Values represent % of all responses with # responses above each column.

The most frequently stated time for visits to the EMS was between 9am and 12pm, and 12 and 3pm (18% and 20% of all responses respectively) (Figure 20). Visits were also highly influenced by the tide times (13% of responses overall) and the weather / sea conditions (20% of responses).

In Winter, the most frequently stated visit time was between 12pm and 3pm (23% of responses for that season), and the least (with just 5%) after 5pm. In Summer, the responses are spread more

evenly across all time categories, but the sea conditions appear to be of greater importance to visiting groups (28% of responses for that season).

Table 21. Responses of visitor groups when asked if they tended to visit this particular location at a certain time of day. Data for all sites surveyed within the SAC are presented The values represent the count of responses with % per season () and % overall in [].

Do you tend to visit this particular location at a certain time of day?	Spring	Summer	Autumn	Winter	All
Number of surveys	**39**	**52**	**35**	**31**	**157**
Before 9am	11 (5) [1]	20 (6) [2]	21 (10) [2]	23 (12) [2]	75 [8]
Between 9am and 12	34 (17) [4]	52 (15) [5]	43 (20) [4]	40 (21) [4]	169 [18]
Between 12 and 3pm	45 (22) [5]	61 (18) [6]	44 (20) [5]	43 (23) [4]	193 [20]
Between 3pm and 5pm	17 (8) [2]	42 (12) [4]	22 (10) [2]	34 (18) [4]	115 [12]
After 5pm	15 (7) [2]	35 (10) [4]	20 (9) [2]	10 (5) [1]	80 [8]
Dependant on tide times	35 (17) [4]	41 (12) [4]	26 (12) [3]	20 (11) [2]	122 [13]
Dependant on weather/sea conditions	48 (23) [5]	97 (28) [10]	27 (13) [3]	20 (11) [2]	192 [20]
First visit	0 (0) [0]	0 (0) [0]	12 (6) [1]	0 (0) [0]	12 [1]
Seasonal total	**205 (100) [21]**	**348 (100) [36]**	**215 (100) [22]**	**190 (100) [20]**	**958 [100]**

Visitor groups at the SPA sites showed similar response patterns to that of the SAC, with the highest frequencies in the 9am to 12pm and 12pm to 3pm time categories. Visits before 9am were less frequent though than within the SAC as a whole. In addition, the conditions (tide, weather/sea condition) appear to be of greater importance to SPA visitors compared to the SAC as a whole (18% compared with 13% for SPA and SAC tide conditions and 26% and 20% for weather/sea conditions) (Table 22).

Table 22. Responses of visitor groups when asked if they tended to visit this particular location at a certain time of day. Data are presented for the 7 sites within the SPA. The values represent the count of responses with percentages per season () and % overall in [].

Do you tend to visit this particular location at a certain time of day?	Spring	Summer	Autumn	Winter	All
Number of surveys	**39**	**52**	**35**	**31**	**157**
Before 9am	4 (5) [1]	4 (3) [1]	7 (13) [2]	6 (12) [2]	21 [6]
Between 9am and 12	11 (13) [3]	19 (13) [6]	8 (15) [2]	10 (20) [3]	48 [14]
Between 12 and 3pm	17 (20) [5]	28 (19) [8]	6 (11) [2]	6 (12) [2]	57 [17]
Between 3pm and 5pm	8 (9) [2]	17 (12) [5]	3 (6) [1]	8 (16) [2]	36 [11]
After 5pm	7 (8) [2]	12 (8) [4]	3 (6) [1]	2 (4) [1]	24 [7]
Dependant on tide times	12 (14) [4]	18 (12) [5]	18 (33) [5]	12 (24) [4]	60 [18]
Dependant on weather/sea conditions	28 (32) [8]	48 (33) [14]	6 (11) [2]	5 (10) [1]	87 [26]
First visit	0 (0) [0]	0 (0) [0]	3 (6) [1]	0 (0) [0]	3 [1]
Seasonal total	**87 (100) [26]**	**146 (100) [43]**	**54 (100) [16]**	**49 (100) [15]**	**336 [100]**

2.3.8 Visit duration

- **36% of all responses indicate that visitors spend 1-2 hours at the site**
- **68% of visits are less than 2 hours**
- **Winter visits are generally shorter than those in the other seasons**
- **Visits to the SPA tended to be shorter than the SAC**
- **Local residents tended to make proportionally more short visits and non-local visitors made proportionally more longer visits**

Visitor groups were asked about the duration or expected duration of their visit. Data were compared for seasonal patterns and for visitors to the SPA sites. The highest frequency of responses was 1-2 hours (36% of visits overall). When considered together with the shortest visit category (less than 1 hour), this accounts for 68% of visits. Just over one third (35%) of visits were stated as over 2 hours in duration.

In Winter, there are less visits over two hours (22% of visits compared with 37%, 36% and 36% for Spring, Summer and Autumn respectively).

Table 23. Responses given by interviewed visitor groups on their duration (or expected duration) of their interviewed visit. The values presented are from all the sites within the SAC. Values represent counts of responses and are summarised as percentages per season () and percentages overall [].

How long have you spent/will you spend at this site today?	Spring	Summer	Autumn	Winter	All
Number of surveys	**39**	**52**	**35**	**31**	**157**
Less than 1 hour	36 (23) [6]	70 (32) [11]	48 (32) [7]	46 (39) [7]	200 [31]
1-2 hours	61 (40) [10]	72 (33) [11]	48 (32) [7]	46 (39) [7]	227 [35]
2-3 hours	24 (16) [4]	31 (14) [5]	28 (19) [4]	14 (12) [2]	97 [15]
More than 3 hours	33 (21) [5]	48 (22) [7]	25 (17) [4]	12 (10) [2]	118 [18]
Seasonal total	154 (100) [24]	221 (100) [34]	149 (100) [23]	118 (100) [18]	642 [100]

The SPA sites show a slightly different pattern concerning the duration of visits: the most frequent duration of visit was reported as less than 1 hour (Table 24). Overall, a slightly higher proportion of SPA visits were of less than 2 hours (73% compared with 68% for the SAC).

The seasonal trends of shorter visits in Winter determined in the SAC responses was also apparent in the SPA site responses.

Table 24 Responses given by interviewed visitor groups on their duration (or expected duration) of their interviewed visit. The values presented are from the 7 SPA sites. Values represent counts of responses and are summarised as percentages per season ().

How long have you spent/will you spend at this site today?	Spring	Summer	Autumn	Winter	All
Number of surveys	**39**	**52**	**35**	**31**	**157**
Less than 1 hour	19 (28) [8]	37 (38) [16]	17 (44) [7]	14 (41) [6]	87 [37]
1-2 hours	28 (42) [12]	35 (36) [15]	10 (26) [4]	12 (35) [5]	85 [36]
2-3 hours	5 (7) [2]	9 (9) [4]	4 (10) [2]	5 (15) [2]	23 [10]
More than 3 hours	15 (22) [6]	16 (16) [7]	8 (21) [3]	3 (9) [1]	42 [18]
Seasonal total	67 (100) [28]	97 (100) [41]	39 (100) [16]	34 (100) [14]	237 [100]

Visit duration varied between local residents and non-local visitors, in that non-local visitors tended to spend longer at the sites with proportionally more responses in the longer duration categories (38% compared with 16% for non-local visitors and local residents respectively for visits lasting more than 3 hours) (Table 25).

Table 25 Responses given by interviewed visitor groups on their duration (or expected duration) of their interviewed visit, by visitor type (local resident, non-local visitor). The values presented are counts of responses and are summarised as percentage of visitor type () and percentage overall [].

How long have you spent/will you spend at this site today?	Local resident	Non-local visitor	Other	Total
Less than 1 hour	176 (32) [27]	15 (21) [2]	9 (56) [1]	**200 [31]**
1-2 hours	206 (37) [32]	17 (24) [3]	4 (25) [1]	**227 [35]**
2-3 hours	84 (15) [13]	12 (17) [2]	1 (6) [0]	**97 [15]**
More than 3 hours	89 (16) [14]	27 (38) [4]	2 (13) [0]	**118 [18]**
Total by visitor type	**555 (100) [86]**	**71 (100) [11]**	**16 (100) [2]**	**642 [100]**

2.3.9 Why visitors chose to come to the site

- **26% (276) of all responses indicate that visitors were drawn to the site by the 'attractive scenery / views'**
- **There were no obvious seasonal patterns in the responses given by visitor groups**
- **SPA sites visitors chose the site for the same reasons as visitors to the SAC sites**
- **More local residents chose 'close to home' as a reason for visiting, while non-local visitors tended to state their reason as 'Refreshments' and 'Toilets'.**

Visitor groups were asked to describe what specifically makes them choose to visit the particular location rather than another local site. Multiple responses were allowed, and from 644 surveys of visitor groups 1,100 responses were obtained. Responses were compared by season and SPA compared with the SAC and between local residents and non-local visitors.

The most frequently stated comments about why visitors chose that site were: 'attractive scenery / views' (26% of responses), 'close to home' (24% of responses), and 'right place for activity' (13% of responses) (Figure 21, Table 26). There were no obvious seasonal patterns in the responses given by visitor groups.

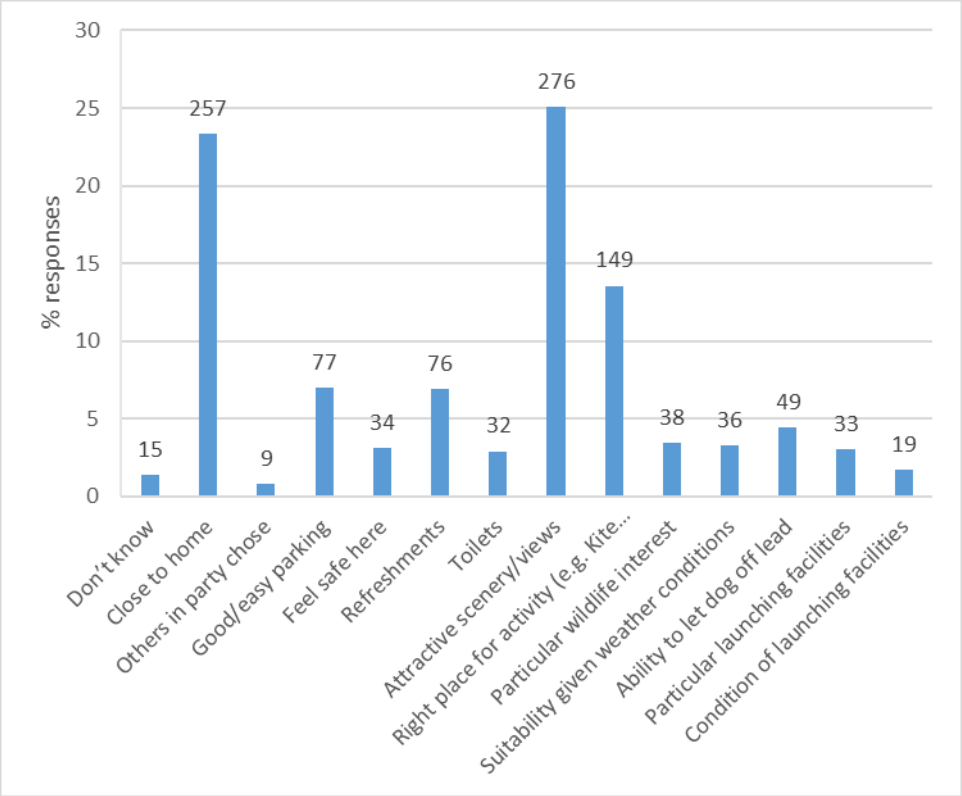


Figure 21. Responses provided by interviewed groups when asked what makes them come here specifically rather than another local site. The values represent % responses with the count of responses above each column.

A large number of specific comments around site choice were also obtained; some of these relate to access (disabled access, bus links to Plymouth), others to preferences and habits of the visitors (e.g. have been coming since childhood, proximity to friends), the qualities of the site (calm and peaceful, wildlife), and the facilities (café, pub for lunch, launching facilities).

Table 26. Responses provided by interviewed groups when asked 'What makes you come here specifically, rather than another local site? The values represent and the count of responses (multiple answers per group interviewed) for all sites within the SAC with percentages per season in () and percentages overall in [].

What makes you come here, specifically, rather than another local site?	Spring	Summer	Autumn	Winter	All
Don't know	3 (1) [0]	9 (2) [1]	1 (0) [0]	2 (1) [0]	**15 [1]**
Close to home	61 (23) [6]	83 (20) [8]	68 (26) [6]	45 (27) [4]	**257 [23]**
Others in party chose	1 (0) [0]	4 (1) [0]	3 (1) [0]	1 (1) [0]	**9 [1]**
Good/easy parking	15 (6) [1]	23 (6) [2]	26 (10) [2]	13 (8) [1]	**77 [7]**
Feel safe here	11 (4) [1]	8 (2) [1]	8 (3) [1]	7 (4) [1]	**34 [3]**
Refreshments	17 (7) [2]	32 (8) [3]	18 (7) [2]	9 (5) [1]	**76 [7]**
Toilets	6 (2) [1]	16 (4) [1]	7 (3) [1]	3 (2) [0]	**32 [3]**
Attractive scenery/views	60 (23) [5]	100 (24) [9]	69 (27) [6]	47 (29) [4]	**276 [25]**
Right place for activity (e.g. fishing/good for kids)	41 (16) [4]	69 (17) [6]	19 (7) [2]	20 (12) [2]	**149 [14]**
Particular wildlife interest	11 (4) [1]	16 (4) [1]	8 (3) [1]	3 (2) [0]	**38 [3]**
Suitability given weather conditions	7 (3) [1]	20 (5) [2]	4 (2) [0]	5 (3) [0]	**36 [3]**
Ability to let dog off lead	10 (4) [1]	19 (5) [2]	13 (5) [1]	7 (4) [1]	**49 [4]**
Particular launching facilities	13 (5) [1]	13 (3) [1]	6 (2) [1]	1 (1) [0]	**33 [3]**

Condition of launching facilities	5 (2) [0]	6 (1) [1]	7 (3) [1]	1 (1) [0]	**19 [2]**
Seasonal total	**261 (100) [24]**	**418 (100) [38]**	**257 (100) [23]**	**164 (100) [15]**	**1100 [100]**

Responses from within the SPA site reflect the pattern within the wider SAC in terms of why visitors chose to visit that site specifically; 'attractive scenery/views' was most important with 25% of responses, followed by 'close to home' with 22%, and 'right place for activity' scored 15% of all responses (Table 27).

Table 27 Responses provided by interviewed groups when asked 'What makes you come here specifically, rather than another local site? The values represent and the count of responses (multiple answers per group interviewed) for the 7 sites within the SPA with percentages per season in () and percentages overall in [].

What makes you come here, specifically, rather than another local site?	Spring	Summer	Autumn	Winter	All
Don't know	1 (1) [0]	5 (3) [0]	0 (0) [0]	1 (2) [0]	7 [2]
Close to home	24 (21) [2]	29 (15) [3]	20 (28) [2]	13 (25) [1]	86 [20]
Others in party chose	0 (0) [0]	1 (1) [0]	0 (0) [0]	0 (0) [0]	1 [0]
Good/easy parking	5 (4) [0]	8 (4) [1]	7 (10) [1]	6 (12) [1]	26 [6]
Feel safe here	5 (4) [0]	3 (2) [0]	2 (3) [0]	1 (2) [0]	11 [3]
Refreshments	7 (6) [1]	13 (7) [1]	3 (4) [0]	2 (4) [0]	25 [6]
Toilets	2 (2) [0]	4 (2) [0]	1 (1) [0]	2 (4) [0]	9 [2]
Attractive scenery/views	26 (22) [2]	52 (27) [5]	19 (27) [2]	10 (20) [1]	107 [25]
Right place for activity (e.g. fishing/good for kids)	21 (18) [2]	30 (16) [3]	8 (11) [1]	7 (14) [1]	66 [15]
Particular wildlife interest	9 (8) [1]	10 (5) [1]	4 (6) [0]	3 (6) [0]	26 [6]
Suitability given weather conditions	3 (3) [0]	9 (5) [1]	0 (0) [0]	2 (4) [0]	14 [3]
Ability to let dog off lead	4 (3) [0]	14 (7) [1]	3 (4) [0]	4 (8) [0]	25 [6]
Particular launching facilities	7 (6) [1]	7 (4) [1]	2 (3) [0]	0 (0) [0]	16 [4]
Condition of launching facilities	2 (2) [0]	5 (3) [0]	2 (3) [0]	0 (0) [0]	9 [2]
Seasonal total	**116 (100)**	**190 (100)**	**71 (100)**	**51 (100)**	**428 (100)**

There were some differences between the local resident visitor groups and non-local visitors in terms of why they chose the site. Proportionally twice as many local resident groups identified 'close to home' as a reason (24% compared with 12% by group type). Proportionally less local resident groups identified 'refreshments', 'toilets' and 'Right place for activity' as a reason for site selection (7% compared with 11% of group type, 2% compared with 8% of group type, and 13% compared with 18% of group type respectively).

Table 28. Responses provided by interviewed groups when asked 'What makes you come here specifically, rather than another local site? The values represent and the count of responses (multiple answers per group interviewed) with percentages per local vs non-local visitor in () and percentages overall in [].

What makes you come here, specifically, rather than another local site?	Local resident	Non-local visitor	Other	All
Don't know	15 (2) [1]	0 (0) [0]	0 (0) [0]	**15 [1]**
Close to home	232 (24) [21]	12 (12) [1]	13 (48) [1]	**257 [23]**
Others in party chose	8 (1) [1]	1 (1) [0]	0 (0) [0]	**9 [1]**
Good/easy parking	67 (7) [6]	7 (7) [1]	3 (11) [0]	**77 [7]**

Feel safe here	31 (3) [3]	2 (2) [0]	1 (4) [0]	**34 [3]**
Refreshments	65 (7) [6]	11 (11) [1]	0 (0) [0]	**76 [7]**
Toilets	24 (2) [2]	8 (8) [1]	0 (0) [0]	**32 [3]**
Attractive scenery/views	244 (25) [22]	26 (26) [2]	6 (22) [1]	**276 [25]**
Right place for activity (e.g. fishing/good for kids)	129 (13) [12]	19 (19) [2]	1 (4) [0]	**149 [14]**
Particular wildlife interest	33 (3) [3]	5 (5) [0]	0 (0) [0]	**38 [3]**
Suitability given weather conditions	31 (3) [3]	5 (5) [0]	0 (0) [0]	**36 [3]**
Ability to let dog off lead	47 (5) [4]	2 (2) [0]	0 (0) [0]	**49 [4]**
Particular launching facilities	29 (3) [3]	3 (3) [0]	1 (4) [0]	**33 [3]**
Condition of launching facilities	17 (2) [2]	0 (0) [0]	2 (7) [0]	**19 [2]**
Total	**972 (100) [88]**	**101 (100) [9]**	**27 (100) [2]**	**1100 [100]**

2.3.10 Transport

- **69% of all visitor groups arrived by car and 23% arrived by foot**
- **All other modes of transport accounted for <8% of the visitor groups**
- **There were no obvious differences in transport mode between local residents and visitors**

Visitor groups were asked which transport mode they used to arrive at their particular site, and a total of 644 responses were obtained (Table 29).

The majority of people (69%) came to the site by car or motorcycle (Table 29, Figure 22). This pattern was consistent between local residents of Devon and Cornwall and visitors from outside the counties (68% and 70% respectively). The second most popular mode of transport was ‘On foot’ with 23% of respondents overall. The other modes of transport had much lower frequencies of responses; By water (4%), Bus (2%), Bicycle (1%), Train (0.3%) and Horse (0.2%). None of the visitors from outside of Devon and Cornwall arrived by train or horse.

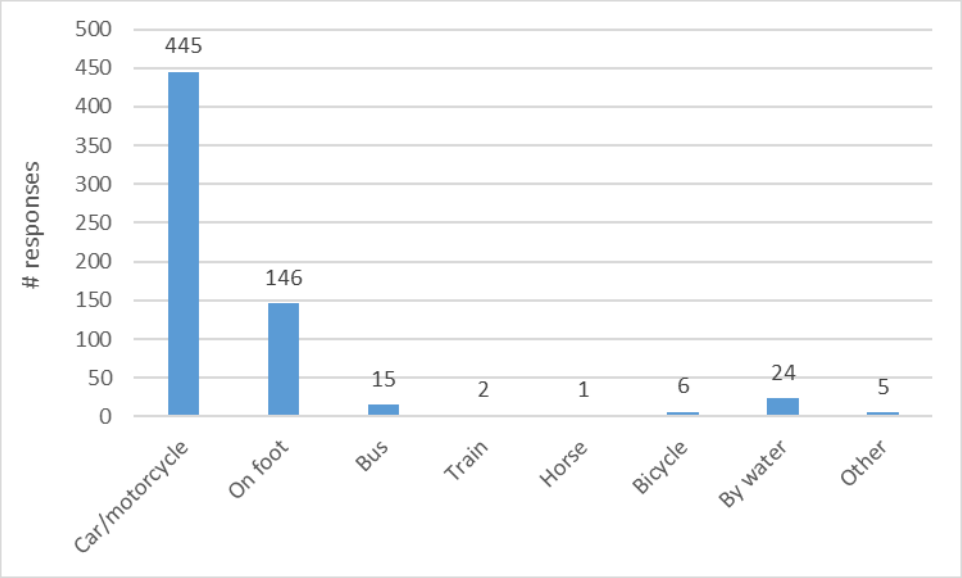


Figure 22 Transport used by visitor groups to get to the site. Values represent numbers of responses (visitor groups) aggregated for all seasons and sites.

Table 29. Transport used by visitor groups to get to the site, aggregated for season and site. Values represent counts of responses (selection was restricted to one per visitor group), () indicate % per residency group (local resident of Devon or Cornwall vs visitors from outside these counties) and [] shows overall %.

What form of transport did you use to get here today?	Local resident	Visitor from outside Devon and Cornwall	Total
Car/motorcycle	391 (70) [61]	48 (68) [7]	445 [69]
On foot	121 (22) [19]	15 (21) [2]	146 [23]
Bus	14 (3) [2]	1 (1) [0]	15 [2]
Train	1 (0) [0]	1 (1) [0]	2 [0]
Horse	1 (0) [0]	0 (0) [0]	1 [0]
Bicycle	6 (1) [1]	0 (0) [0]	6 [1]
By water (e.g. boat, canoe etc.)	18 (3) [3]	6 (8) [1]	24 [4]
Other	5 (1) [1]	0 (0) [0]	5 [1]
All	**557 (100) [86]**	**71 (100) [11]**	**644 [100]**

2.3.10 Speculative site change

- **The majority (54%) of local resident groups said that the amount of time they would spend at the site would not change under any of the suggested conditions**
- **Possible changes that would encourage more time spent at the site include the provision of dog waste bins and better surfaces of paths**
- **Site use would likely decrease with the introduction of parking charges, if the site became busier or if dogs were required to be on leads**

Visitor groups were asked whether in light of speculative on site change, would they spend more or less time at the site. Seven types of change were posed and in total 3644 responses were gathered for local resident groups (Table 30).

The majority (54%) of local resident groups said that the amount of time they would spend at the site would not change under any of the scenarios. Possible changes that would encourage more time spent at the site include the provision of dog waste bins and better surfaces of paths. Conversely site use would likely decrease with the introduction of parking charges, if the site became busier or if dogs were required to be on leads.

Table 30. Response of local resident groups when asked how speculative site changes would influence the amount of time they spend at the Plymouth Sound and Estuaries EMS Values represent counts of responses with percentages per row () and percentages overall [].

Response to speculative on site change	More	Less	Same	Don't know	Total
Site became busier with more people	11 (2) [0]	276 (51) [8]	241 (45) [7]	10 (2) [0]	**538 [15]**
Better path surfacing/routing	118 (22) [3]	13 (2) [0]	375 (71) [10]	20 (4) [1]	**526 [14]**
Parking charges introduced or increased	60 (12) [2]	273 (53) [7]	157 (31) [4]	21 (4) [1]	**511 [14]**
Dogs required to be on leads	93 (18) [3]	133 (25) [4]	261 (50) [7]	38 (7) [1]	**525 [14]**
Provision of dog waste bins	208 (40) [6]	11 (2) [0]	271 (52) [7]	29 (6) [1]	**519 [14]**
Presence of warden/beach manager	68 (13) [2]	25 (5) [1]	346 (68) [9]	72 (14) [2]	**511 [14]**
Part of shore closed in areas sensitive for wildlife	75 (15) [2]	54 (11) [1]	333 (65) [9]	52 (10) [1]	**514 [14]**
Totals	**633 (122) [17]**	**785 (150) [22]**	**1984 (381) [54]**	**242 (47) [7]**	**3644 [100]**

2.3.11 Features that would attract local residents to alternative sites

- **17% of local resident visitor groups stated that no features would make another site more attractive indicating high site fidelity by local residents to the EMS**
- **The highest scoring features that would draw visitors to an alternative site were 'Attractive scenery' (18%), 'More dog friendly' (10%), and 'Cheaper/free parking' (9% of responses)**

Visitor groups were asked what features would be necessary to attract them to alternative sites instead of the Plymouth Sound and Estuaries EMS. The responses from the local resident visitor groups are summarised in Table 31. In total 744 responses were provided from the 557 local resident groups.

17% of local resident visitor groups stated that no features would make another site more attractive indicating high site fidelity by local residents to the EMS. The highest scoring features that would draw visitors to an alternative site were 'Attractive scenery' (18% of responses), 'More dog friendly' (10% of responses), and 'Cheaper/free parking' (9% of responses).

Table 31. Responses of local residents when asked what features would be necessary to make an alternative site to Plymouth Sound and Estuaries EMS attractive. Values represent counts of responses with percentages of the total in ().

What features would be necessary to make another site attractive for you to use instead of here?	Response counts (%)
No features/nothing	125 (17)
More dog friendly	71 (10)
Better launching/access to water	51 (7)
Better path surfacing/routing	33 (4)
Refreshments (e.g. cafe)	62 (8)
Better information/maps/boards	20 (3)
Measures to control other users	17 (2)
Toilets	70 (9)
Better/easier parking facilities	41 (6)
Cheaper/free parking	66 (9)
Closer to home	53 (7)
Attractive scenery	135 (18)
Total	744 (100)

2.3.12 Additional comments about the EMS

- **The majority of the comments about the site were positive (54%)**
- **Site access (5%), litter (5%), maintenance (5%) and parking (4%) emerged as with high frequency in visitor comments**

Visitor groups interviewed were asked whether they had any additional comments about the EMS. All comments provided by the interviewees are given in Appendix A2. The majority of the comments about the site are positive (54%) (Table 32) e.g. Lovely area and hard to beat, great for activities and lovely place. Lots of happy memories. There are several recurring issues that respondents are keen to report concerning site access (5%), litter (5%), maintenance (5%) and parking (4%). Other comments that were given at lower frequencies included the number of holiday homes in the area, fly-tipping and pylons.

Table 32 Comment response frequencies summarised by main types provided by visitor groups. Values represent the number of responses with percentages overall in ().

Comment type	# responses
General positive	215 (54)
Access issues	20 (5)
Litter issues	20 (5)
Maintenance issues	19 (5)
Parking issues	16 (4)
Dogs – negative	13 (3)
Recreational facilities - negative	13 (3)
Dogs – positive	8 (2)
Toilet facilities issues	8 (2)
Wildlife	7 (2)
Cafe facilities	7 (2)
Tourist/holiday home issues	7 (2)
Good for children	6 (2)
Recreational facilities - positive	6 (2)
Miscellaneous	6 (2)
Boating – negative	5 (1)
Planning/development issues	5 (1)
Boating – positive	4 (1)
Swimming – positive	3 (1)
Swimming – negative	3 (1)
Fishing issues	3 (1)
Fly-tipping issues	3 (1)
Pylon issues	2 (1)
Total number of comments	**399 (100)**

2.3.13 Zone of Influence

- **The Zone of Influence (ZoI) analyses indicate that the core group of local visitors (the nearest 75% of local residents that visit the European site by car or motorbike) travel a maximum distance of 12.3 km to visit the SAC and 12.1 km to visit the SPA**

The Zone of Influence (ZoI) analyses indicate that the core group of local visitors (the nearest 75% of local residents that visit the European site by car or motorbike) travel a maximum distance of 12.3 km to visit the SAC and 12.1 km to visit the SPA. Figure 23 and Figure 24 display two ZoI buffers based on the core visitor group. The convex hull buffers (dark green for the SAC and dark blue for the SPA)

represent the smallest area that can be drawn to include the home postcodes of the core group of local visitors. A straight line (Euclidean) buffer was also drawn around the site (pale green for SAC and pale blue for SPA). This straight-line (Euclidean) buffer is also based on the distance travelled by the core visitor group but represents this distance as a straight line drawn out from the site boundary.

It should, therefore, be noted that the same core visitor distance underpins both the convex hull boundary and the straight line (Euclidean) buffer. As the convex hull is based on home postcodes and the distance travelled along the road network it is smaller and skewed along main roads and towards population centres.

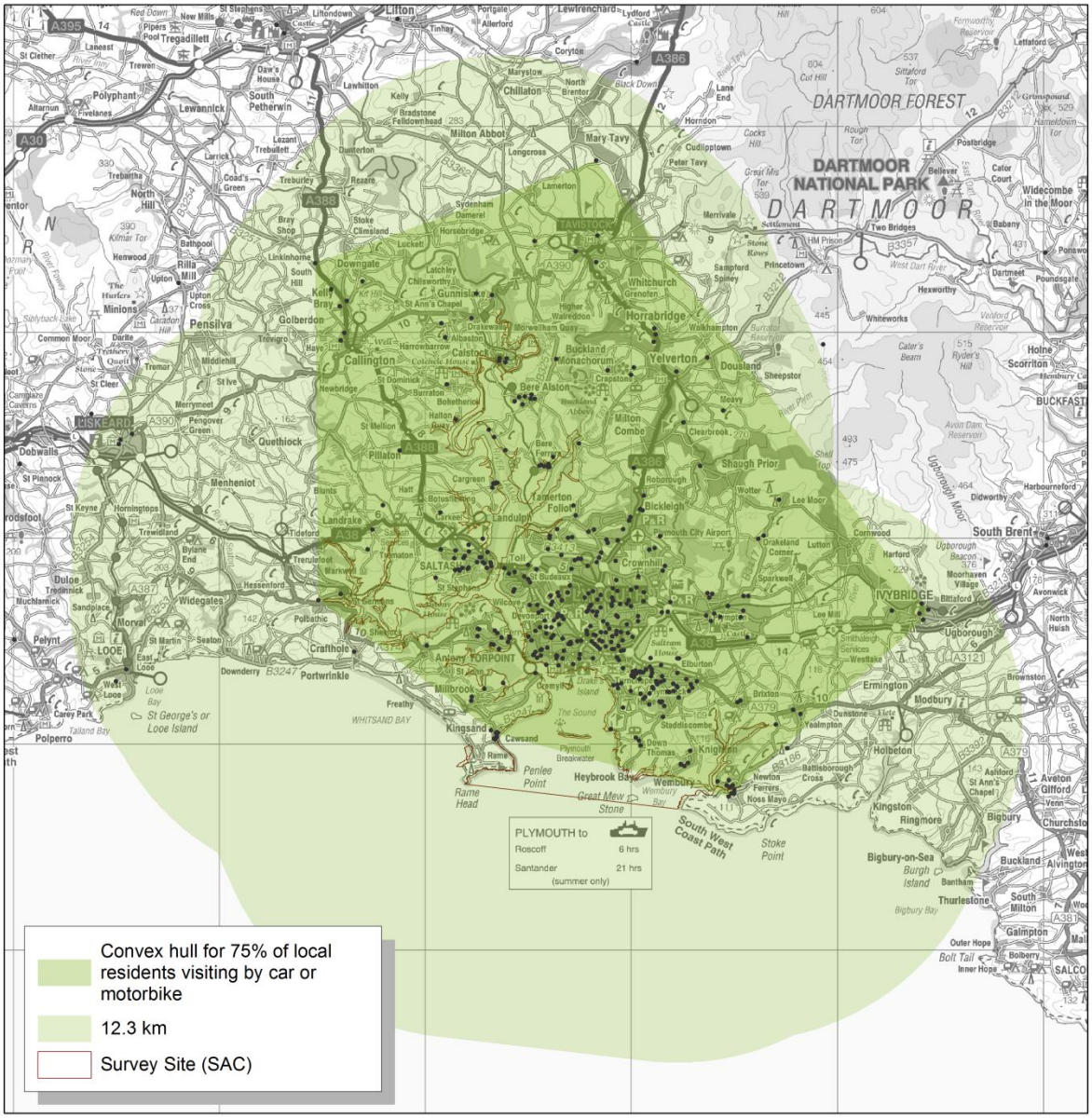


Figure 23. The 12.3 km buffers (convex hull and straight-line Euclidean buffer) based on the maximum distance travelled by the closest 75% of local residents that visit the SAC and travel by car or motobike. The convex hull (dark green) polygon represents the smallest distance that contains the nearest 75% of local visitors (based on postcodes of respondents). The pale green buffer zone represents the same distance (12.3 km) drawn as a straight line from the site boundary.

Figure 24. The 12.1 km buffers (convex hull and straight-line Euclidean buffer) based on the maximum distance travelled by the closest 75% of local residents that visit the SPA and travel by car or motobike. The convex hull (dark blue) polygon represents the smallest distance that contains the nearest 75% of local visitors (based on postcodes of respondents). The pale blue buffer zone represents the maximum distance travelled by the nearest 75% of residents (12.1 km) drawn as a straight line from the site boundary.

3 Targeted workshops

3.1 Rationale

Some recreational activities are widely undertaken within the Plymouth Sound and Estuaries EMS but may not have been representatively captured by the on-site surveys (due to specific access points, tidal conditions, timings etc.). Thus a series of three targeted workshops focussing on the resident recreational angling, yachting and diving, and paddle-sports communities were held (11th, 12th and 13th October 2016 respectively). The overarching aim was to identify where in the EMS the activities took place, and at what intensity, to support information collected in the on-site surveys. In addition, information was also collected on specific sub-activities such as anchoring/mooring, access points that cause direct pressures on intertidal and subtidal habitat features within the EMS, and ask questions about best practices

3.2 Method

3.2.1 Identification of key workshop invitees

A list of organisations such as clubs, societies and recreation industry commercial operators (such as charter skippers, marinas, tackle and bait shops, watersports centres, dive shops and skippers) was drawn up in relation to the four targeted activities (angling, yachting, diving and paddle-sports) (Appendix B1). Invitations to the workshops were sent directly to these key organisations, and these were followed up with emails and phone calls.

3.2.2 Promotion of workshops

In addition to inviting the organisations above, wider promotion of the workshops was undertaken via local radio, social media (twitter, facebook, email distribution lists) plus the distribution of flyers in strategic locations e.g. bait shops, water sports centres and at popular locations for the activities (full list given in Appendix B2) such as slipways, relevant National Trust visitor centres and pubs and cafes close to sites.

3.2.3. Recreational activity workbooks

Workbooks for each recreational activity were developed to capture information from workshop attendees (Appendix C1-5). One was produced for each activity, and for yachting, separate workbooks were created for clubs and individuals to ensure that data were in an appropriate format for analysis, and an additional workbook was developed for motor yachting.

3.2.4 Delivery and facilitation

The overall structure was similar for each of the three targeting workshops. Refreshments were available on arrival and throughout the evening. Then introductions were made and information about the project was presented, together with the tasks for the evening. Participants were then

placed into small groups and worked through each workbook with large (A1 and A3) maps of the EMS with a facilitator (approximately 1 hour). We also asked participants to identify any locations where they had seen shad on an A1 map of the EMS.

At the end of the information gathering session there an opportunity to hear about marine safety from a local RNLI representative and at the recreational angling workshop, a representative from the Devon and Severn IFCA spoke about recreational angling within the wider context of fisheries management and answered some specific enforcement queries. Finally, the workshops were concluded and participants thanked, and an opportunity to see the MBA unusual fish collection was offered. The RNLI, IFCA representation, refreshments and weird fish collection were all provided specifically as incentives to encourage invited recreational users, organisations and industry operators to attend and participate. The project team present comprised no less than 5 members for each workshop, to enable close engagement with attendees, detail on workshop participation (anonymised) and facilitation is summarised in Table 33).

Table 33 Workshop participants by type and project team for each of the three targeted workshops

Workshop	Attendee type	Number	Activity
Recreational fishing	Individual	7	Recreational fishing
	Charterboat skipper (industry)	3	Recreational fishing
	Individual	1	Sub-aqua diving
	Facilitator (costed)	1	Project team
	Facilitators (volunteer)	5	
Recreational sailing & diving	Individual	4	Sailing (dinghy/yacht/motor)
	Club representative	7	Sailing (dinghy/yacht/motor)
	Marina (industry)	1	Sailing (dinghy/yacht/motor)
	Individual	4	Sub-aqua diving
	Facilitator (costed)	1	Project team
	Facilitator (volunteer)	4	
Paddle-sports	Individual	7	Paddle sports & rowing
	Club representative	1	Paddle sports & rowing
	Facilitator (costed)	0	Project team
	Facilitator (volunteer)	5	

3.2.5 Analysis and mapping

The emergent activity maps and corresponding workbooks were digitised by recreational activity. Sub-activities that could be closely linked with pressures on intertidal and subtidal features were grouped across recreational activities (e.g. anchoring, and dive shots, hand haulouts/shore access/pontoons/slipways). Maps were generated by activity and season and also aggregated for the year.

3.3 Results

3.3.1 Recreational fishing

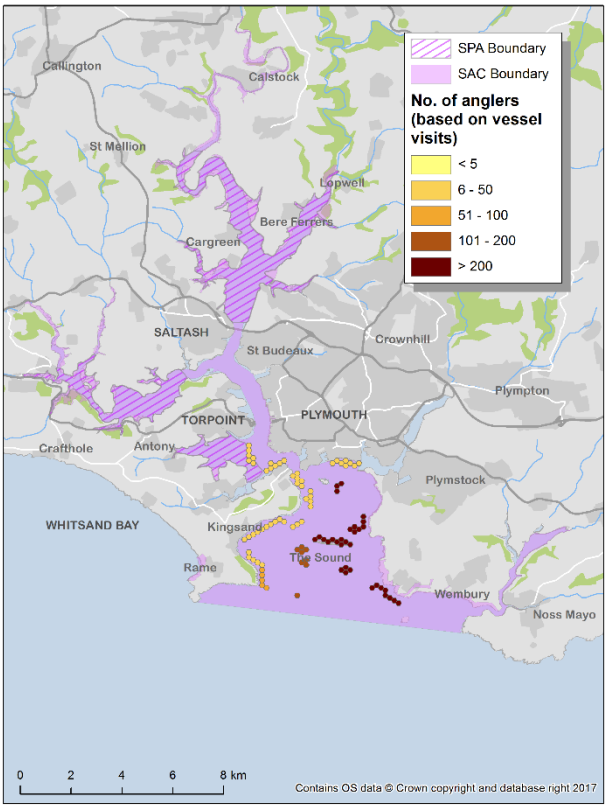
- **The key sites for vessel based angling are within the Plymouth Sound, in particular the Plymouth Breakwater and the reefs in front (Tinkers, Panther and Knap), the wreck "The Elk", around Cawsand Bay and out to Penlee Point on the Western side of the open coast, and off Bovisand and Heybrook on the Eastern side**
- **Vessel angling sites inside the Tamar Estuary are used mostly in Autumn and Winter, when the weather prohibits access to the more exposed sites**
- **Sites in the Outer Estuary are also important for vessel based(Barbican, Firestone Bay, Barnpool, Drake's Island), especially in Winter**
- **Shore based angling sites are mostly concentrated around the Outer Estuary (Mount Batten Breakwater, Barbican, Devil's Point, Mount Edgecumbe, into the Tamar (Mount Wise), St Budeaux and at Saltash. Sites further up the estuaries were reported at the confluence of the Tavy and at Pentillie Castle on the upper Tamar**

The seasonal pattern of sea angling gained from charter boat skippers (Figure 25), show the high fidelity to sites around the EMS throughout the seasons. The Tamar sites (West Mud, Barnpool, Obelisk), and the Plymouth Hoe Foreshore areas are mostly used in Autumn and Winter when other sites may not be accessible (weather refuge). The Plymouth Breakwater is very important across the seasons, as are the three reefs in front of it (Tinkers Shoal, Knap and Panther Reefs) and the Elk wreck. Cawsand to Penlee Point is also well used but less so in Winter than the other seasons, and the same pattern is seen at Heybrook, again relating to the more exposed nature of these sites in the EMS.

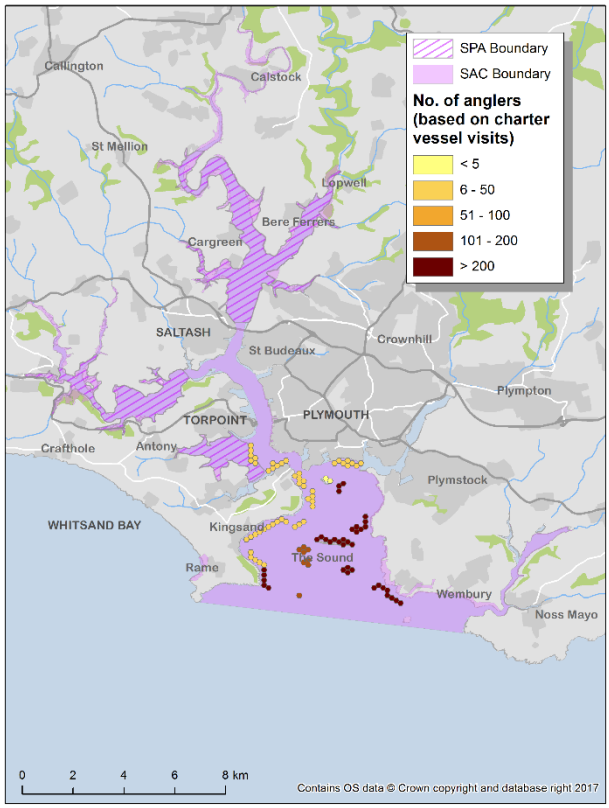
A similar pattern of use by recreational anglers (reported vessel densities of other angling vessels) is given in Figure 26. The Cawsand Bay area is clearly very important for recreational angling all year round, and the area from Pier Cellars to Penlee Point is used by anglers using kayaks as well. Kayak anglers also use Jennycliff Bay and the area from Bovisand out to the Mewstone for their activity, plus the Knap and Panther Reefs.

The distribution and intensity of shore-based recreational angling (Figure 27) shows very heavy use of key sites around the EMS. These are mainly concentrated around the Barbican, Hoe, Devil's Point areas plus Mount Edgecumbe Beach, the Mount Batten Breakwater and also in the central part of the Tamar (St Budeaux and Saltash). Further up the Tamar, shore based sites were identified at Pentillie Castle and where the railway line crosses from the Plymouth side north of Tamerton Lake and also on the Bere Peninsula side. There is also shore based angling at Cawsand and near Bovisand (Leekbed Bay) and in the Plym at Oreston and on the Laira Bridge.

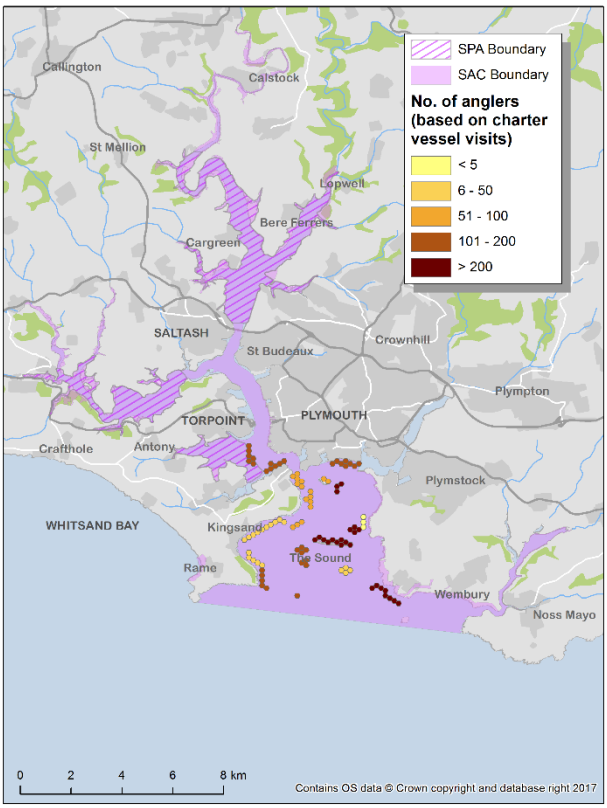
Spring



Summer



Autumn



Winter

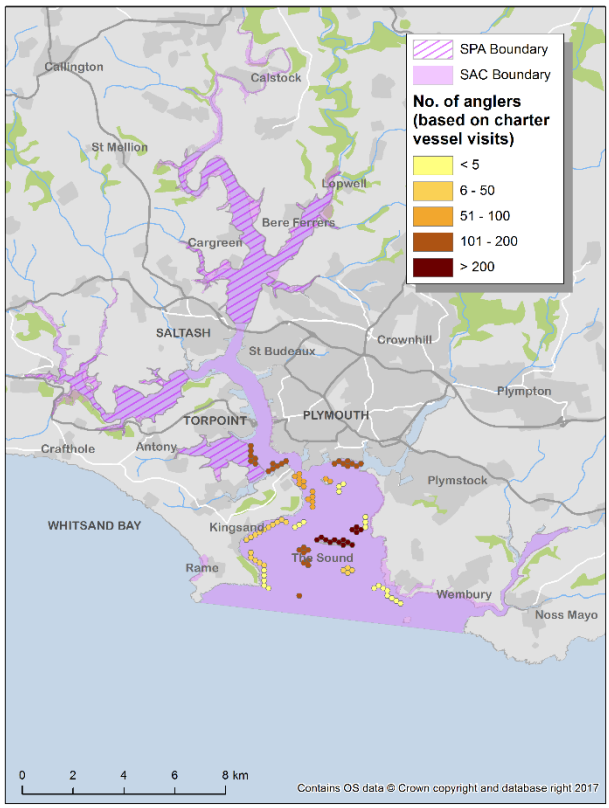
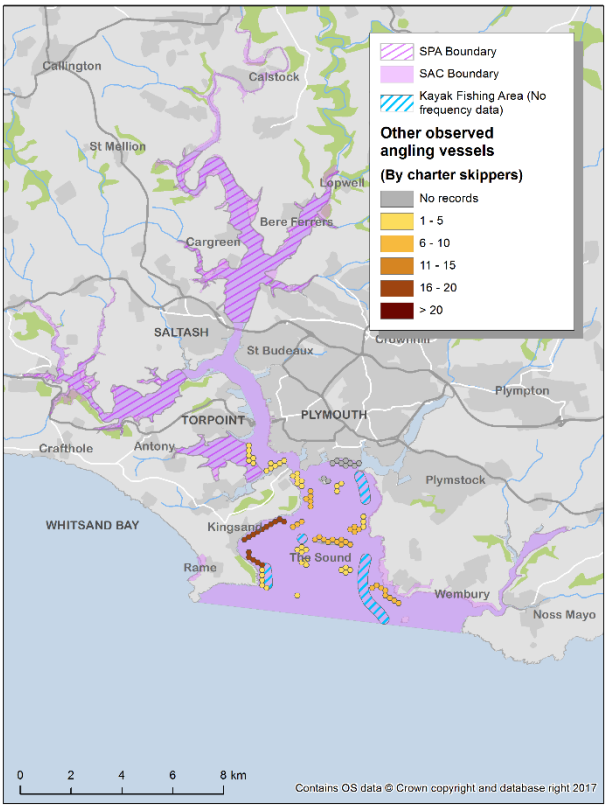
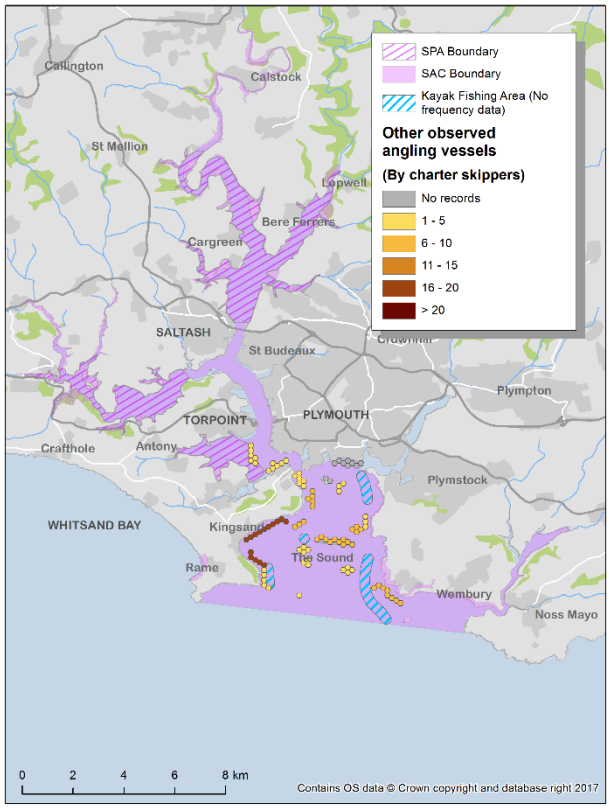


Figure 25. Seasonal patterns of recreational fishing (angling) activity based on workshop responses from charter skippers

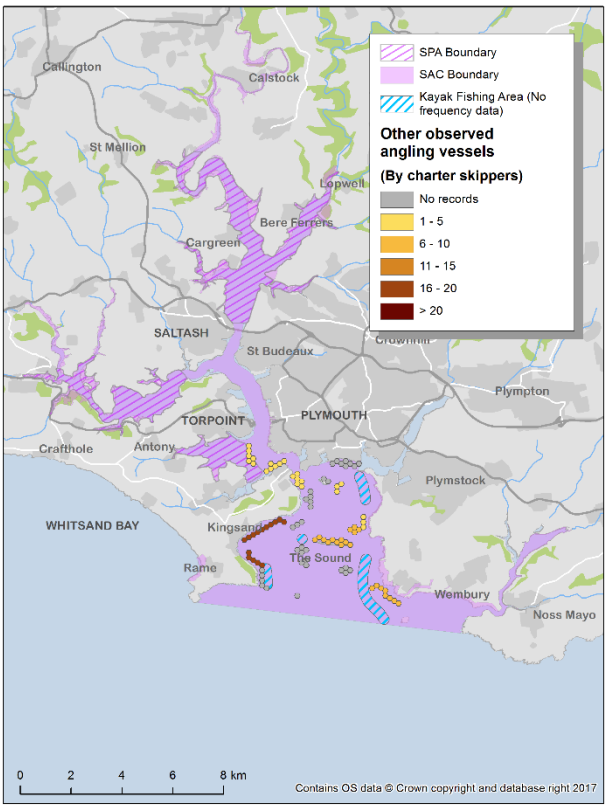
Spring



Summer



Autumn



Winter

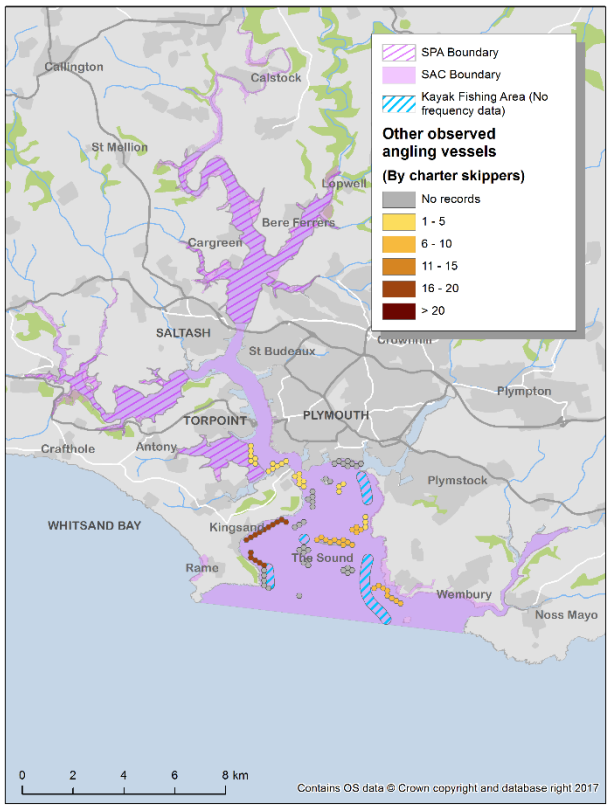


Figure 26 Seasonal distribution and intensity of other angling vessels reported by charter boat skippers, plus locations of kayak fishing areas.

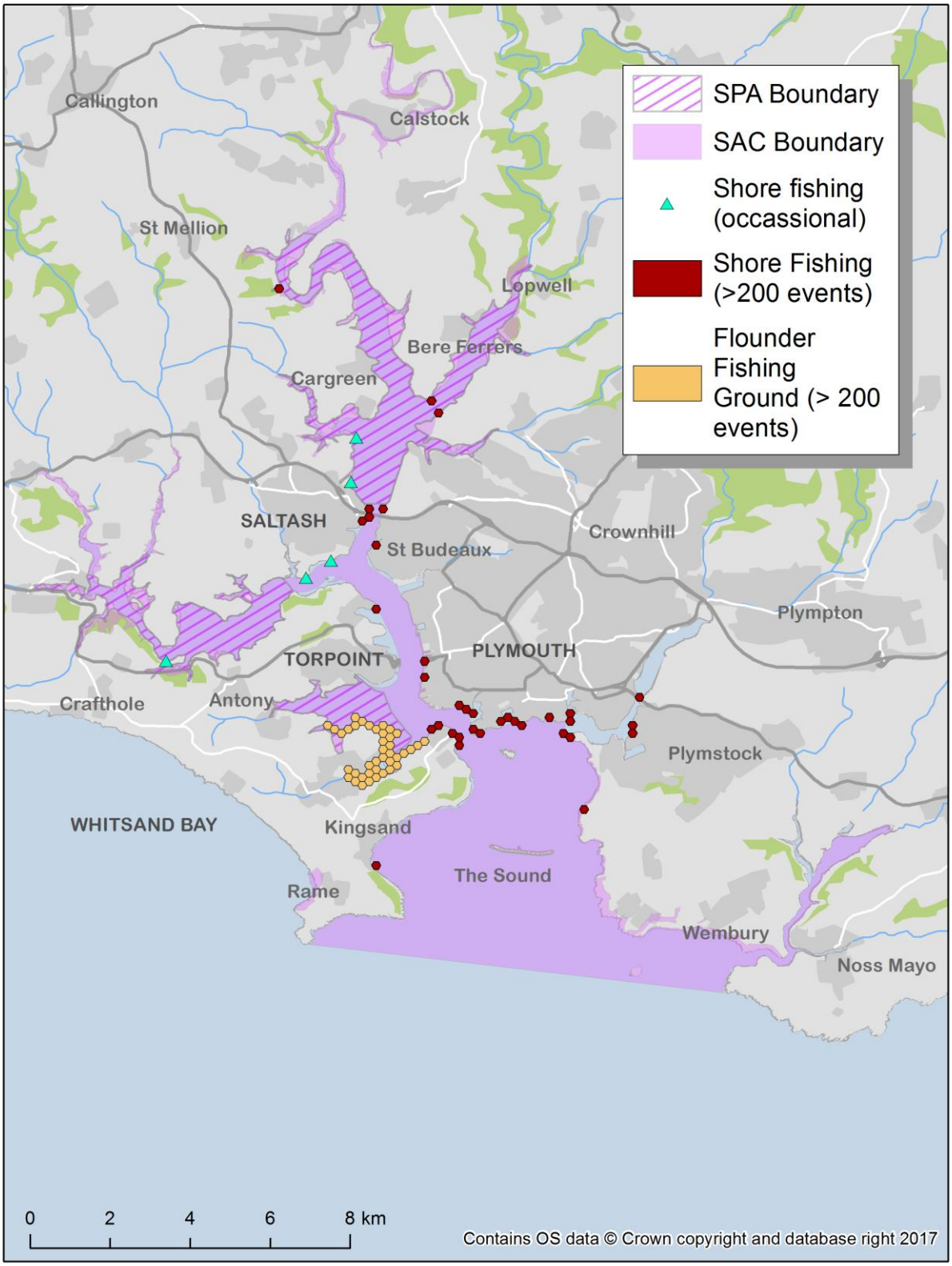


Figure 27 Intensity of shore based recreational angling in the Plymouth Sound and Estuaries EMS.

3.3.2 Bait collection

- **Four types of bait were reported collected in the EMS: mackerel, prawns, worms and peeler crabs**
- **Collection locations were The locations for these bait collecting activities are very different for each target**
- **Mackerel are targeted in the Outer Sound**
- **Worms in the Tamar, St John's Lake and the Lynher, and also in the Plym**
- **Prawns are collected around the Hoe and central Tamar**
- **Most crab tiling activity takes place in the Tamar around Saltash, St Budeaux up to Tamerton (and also in the Plym)**

Workshop attendees were asked to identify where they collected bait for fishing or they knew others collected bait.

Workshop attendees reported four different types of bait for recreational fishing being collected within the Plymouth Sound and Estuaries EMS. These were: mackerel, worms (lugworm and ragworm), prawn and recently moulted shore crab 'peelers' (via crab tiling). The locations for these bait collecting activities are very different for each target (Figure 28): mackerel are targeted in the Outer Sound; worms in the Tamar, St John's Lake and the Lynher, and also in the Plym; prawns are collected around the Hoe and central Tamar; while most crab tiling activity takes place in the Tamar around Saltash, St Budeaux up to Tamerton (and also in the Plym).

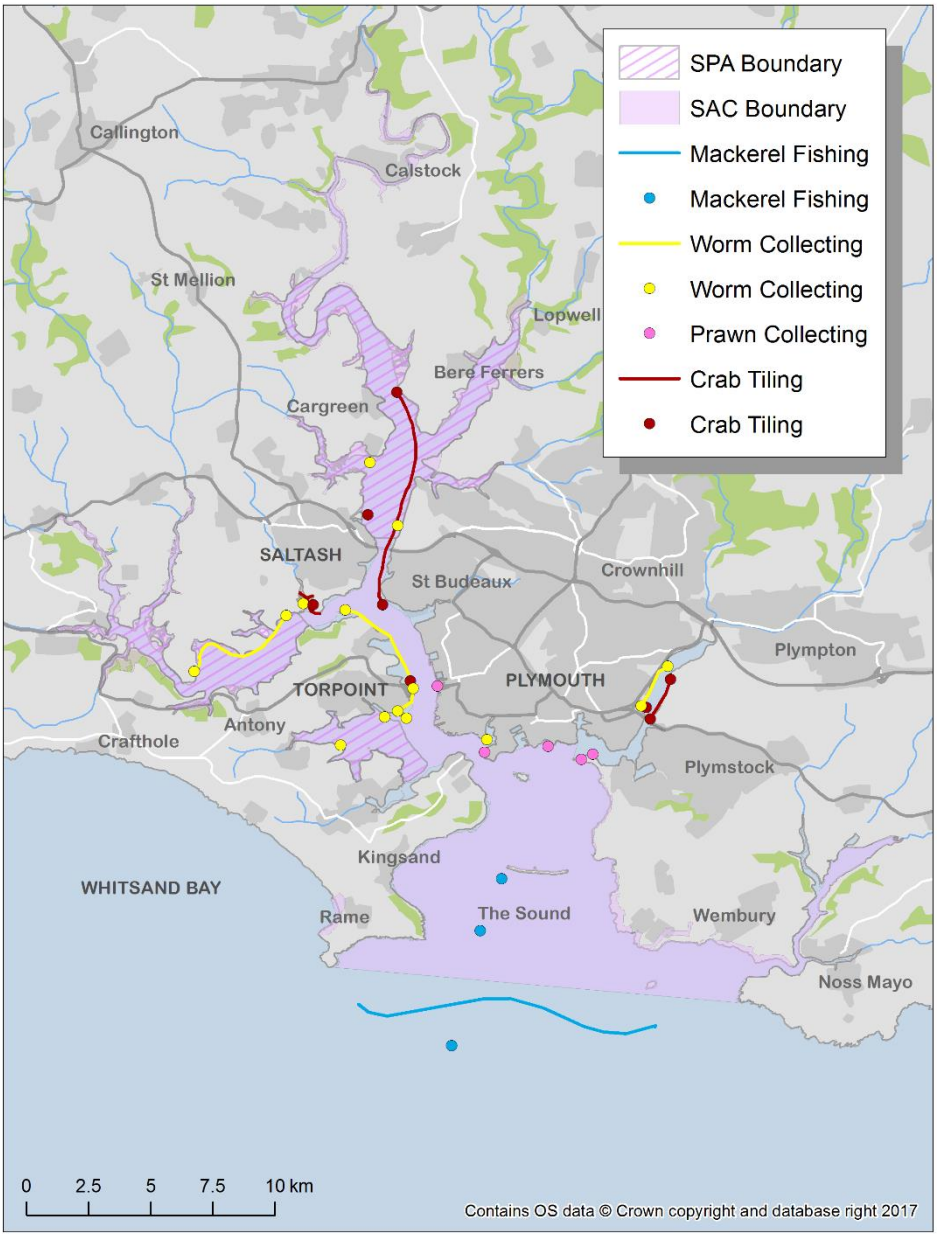


Figure 28 Bait collection sites within the EMS

3.3.3 Shad sightings

- **Shad were reported from only two sites: Devil's Point and Rame Head**

Workshop attendees were asked to identify where they had sighted Allis shad (*Alosa alosa*), a conservation feature of the SAC. Combined sightings (for all attendees) are shown in Figure 29. Shad were reported from only two sites: Devil's Point and Rame Head (Figure 29).

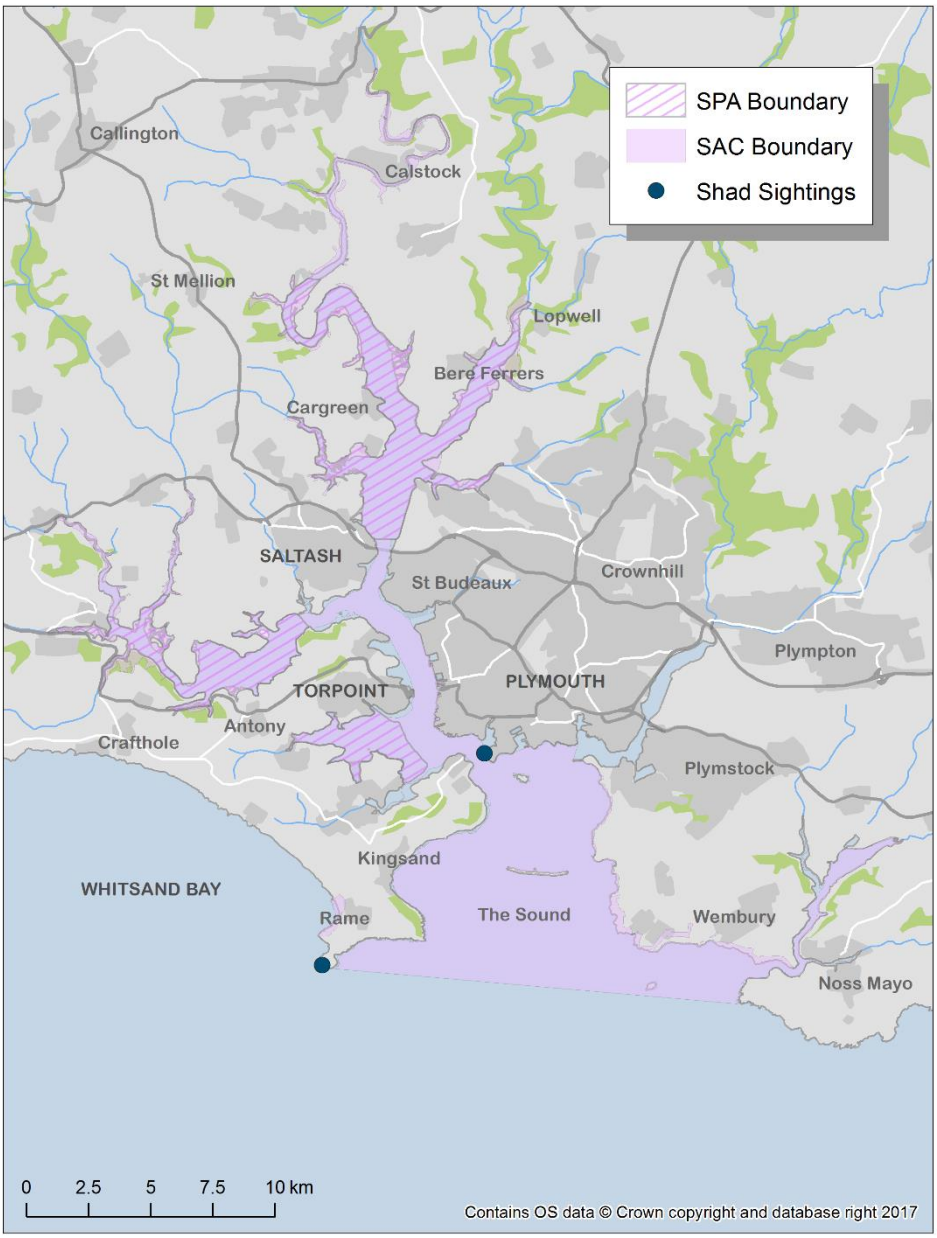


Figure 29 Sightings of Allis shad (*Alosa alosa*) in the Plymouth Sound and Estuaries EMS

3.3.4 Sailing

- **Sailing is concentrated in the outer three management zones of the EMS with low levels of activity in the Tamar between St Budeaux and Weir Quay and none reported from the Tavy**
- **There was a strong seasonal signal in the data collated with most activity taking place in Summer and least in Winter**

Workshop attendees were asked to identify where they (or the club members that they represented) sailed within the Plymouth Sound and Estuaries EMS, with detail on intensity and seasonality.

The most important areas of the EMS are clearly within the Plymouth Sound, in Management Areas M (Outer Estury) and N (Sheltered Bay). The open coast (P) is also a key area, as is the central Tamar area (K). No sailing was reported from the Tavy and low levels of activity from the Tamar between St Budeaux and Weir Quay (Figure 30).

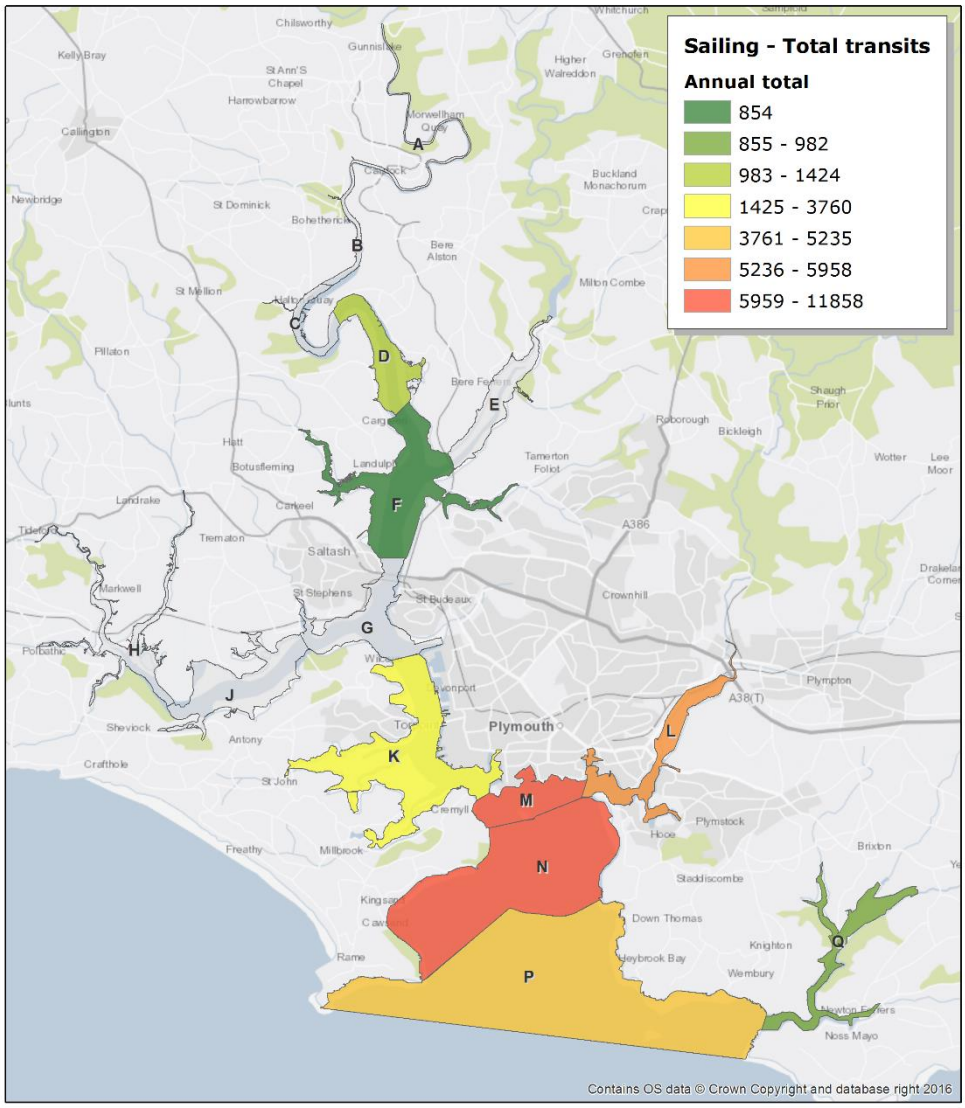
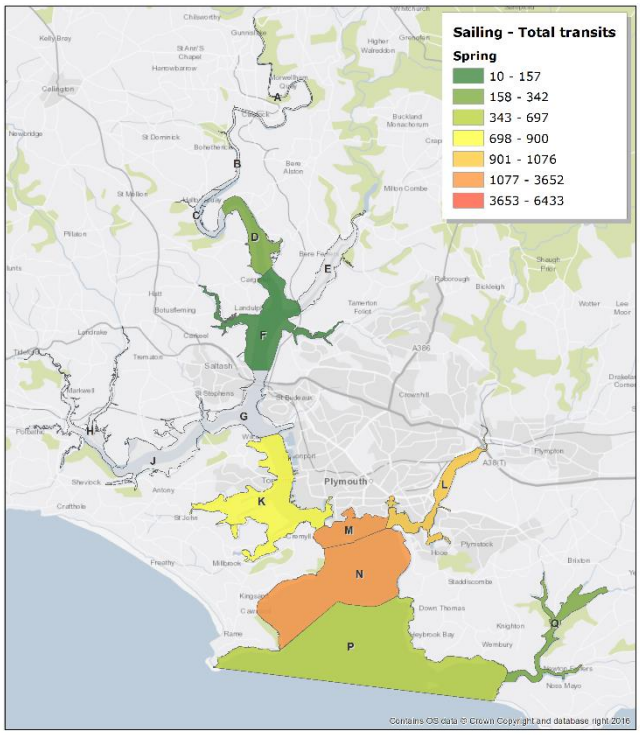


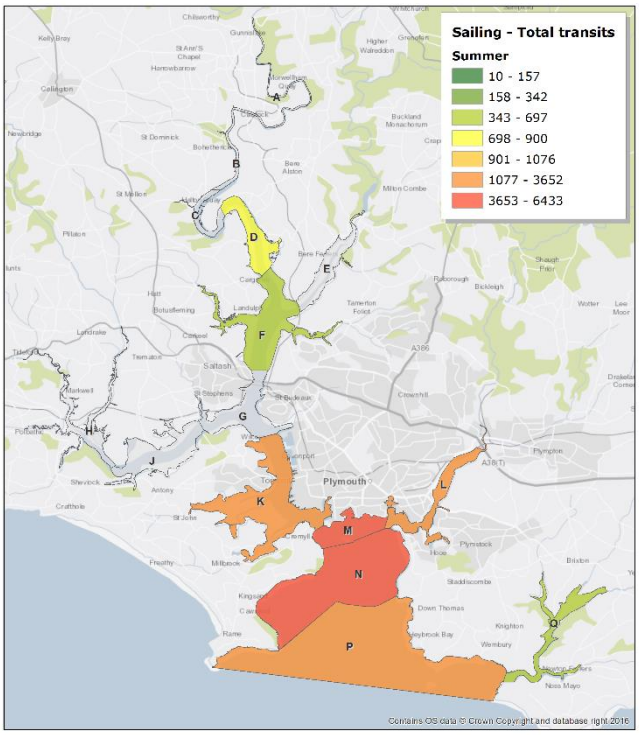
Figure 30 Sailing – number of transits per year (aggregated across all seasons) within the Plymouth Sound and Estuaries EMS

This pattern of sailing intensity was consistent when the data were disaggregated by season (Figure 31). However, a much greater number of transits were made in Summer compared with Winter, with Spring and Autumn falling between them.

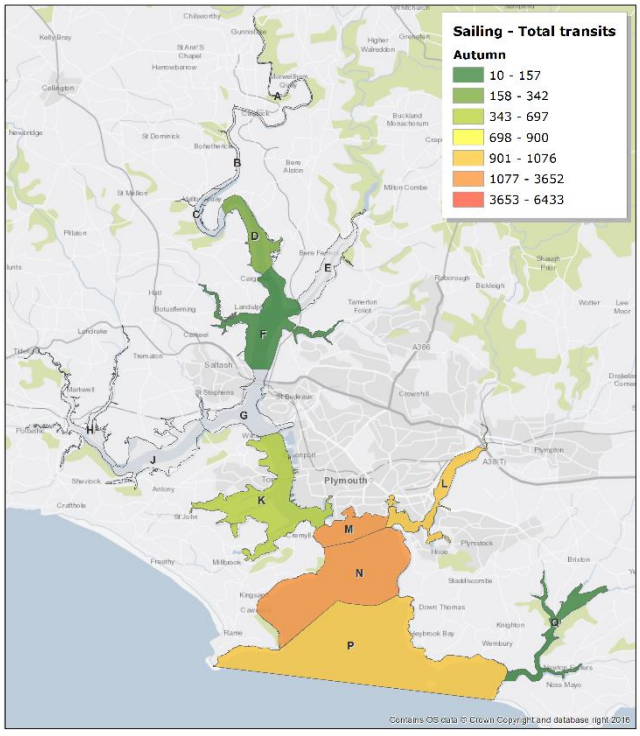
Spring



Summer



Autumn



Winter

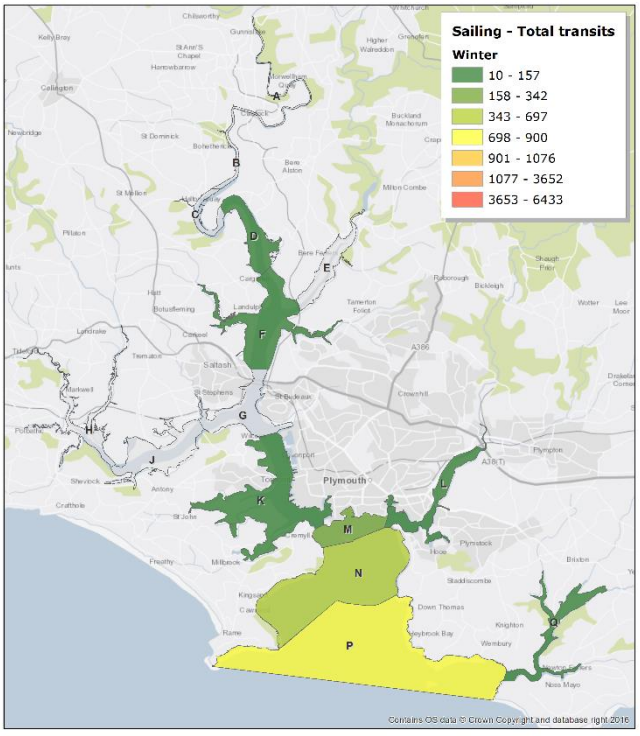


Figure 31 Seasonal patterns of sailing activity within the Plymouth Sound and Estuaries EMS

3.3.5 Sub-aqua diving

- **The most popular dive sites are off Penlee Point / Pier Cellars (near Rame Head), the Plymouth Breakwater and a wreck near Heybrook Bay, the '*Glen Strathallen*'.**
- **Important shore diving sites include Bovisand Bay, Firestone Bay and Devil's Point**
- **Most sub-aqua diving activity took pace in Spring and Summer**

Dive sites within the Plymouth Sound and Estuaries EMS used by recreational sub-aqua divers are given in Figure 32. The most popular sites are off Penlee Point / Pier Cellars (near Rame Head), behind the Plymouth Breakwater and a wreck near Heybrook Bay, the '*Glen Strathallen'*. The first two of these sites are weather refuges that are regularly used when wind conditions prohibit dive vessels from transiting to sites further afield. Less frequented by nonetheless important shore diving sites include Bovisand Bay, Firestone Bay and Devil's Point.

The seasonal pattern of diving activity shows most activity in Spring and Summer with less in Autumn and Winter. The sites dived do not change across the seasons and the most important three dive sites (Penlee Point, the Plymouth Breakwater and the '*Glen Strathallen*') are consistently the most dived areas in each season (Figure 33).

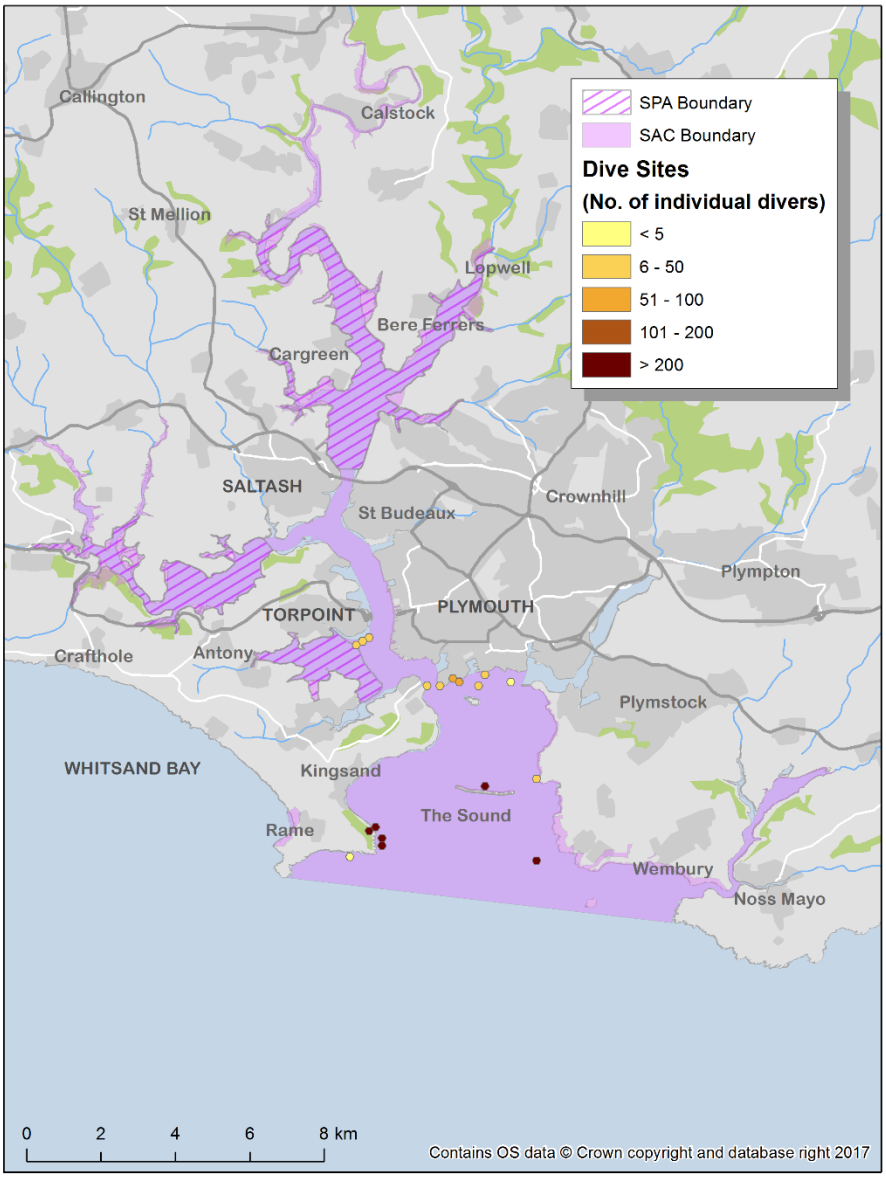
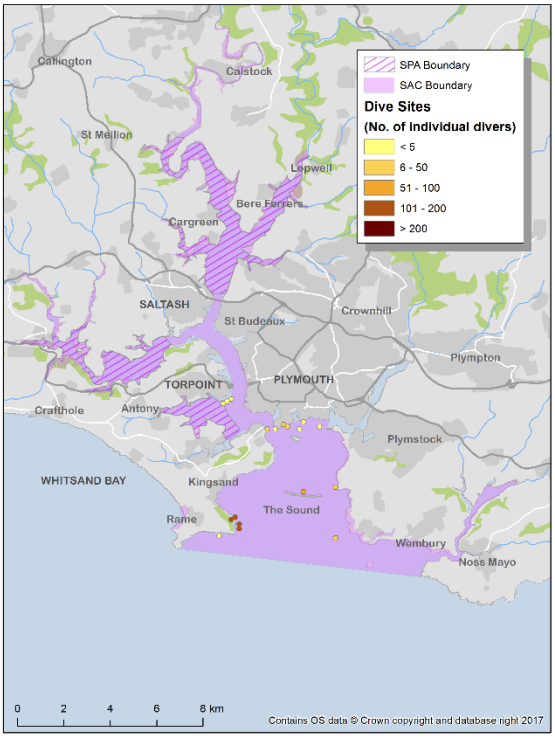
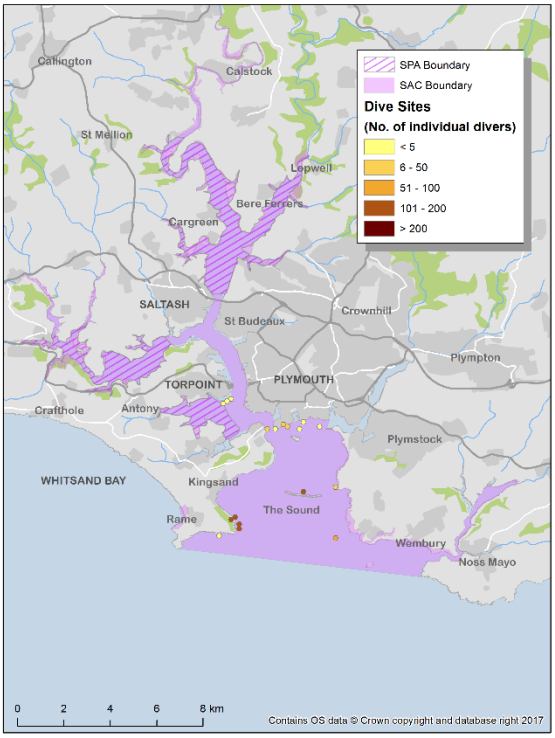


Figure 32 Dive sites identified by workshop attendees within the Plymouth Sound and Estuaries EMS (all seasons combined).

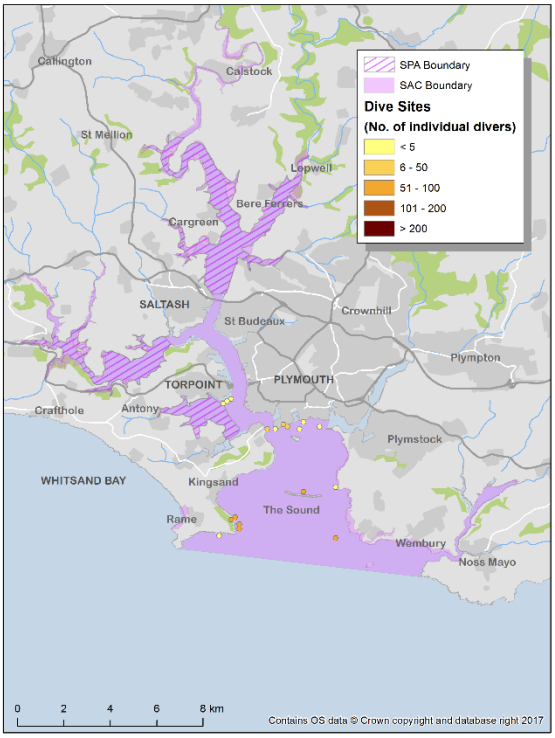
Spring



Summer



Autumn



Winter

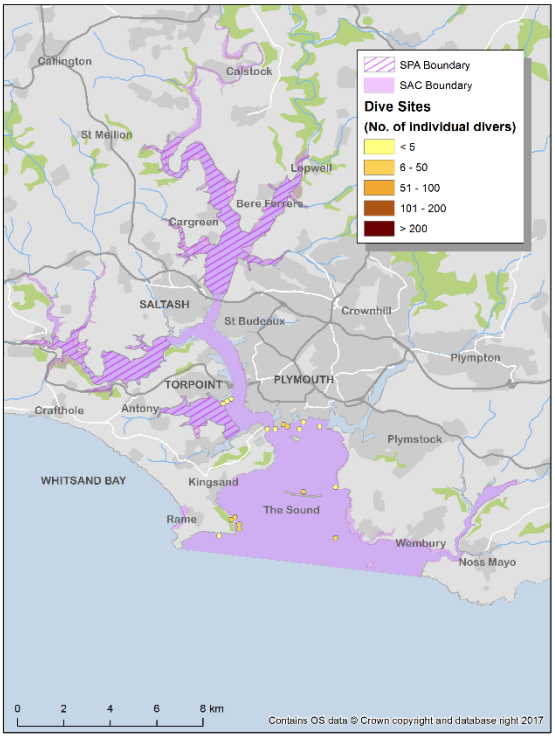


Figure 33 Dive sites (frequency of dives) within the Plymouth Sound and Estuaries EMS by season.

3.3.6 Paddle-sports

- **The most popular areas for paddle-sports were the three management areas in the Plymouth Sound**
- **Lower activity levels were reported in the Lynher, Upper Tamar and Tavy**
- **More paddle-sports activity takes place in Spring and Summer in the Plymouth Sound but the upper estuaries show similar intensity levels year round**

Attendees to the paddle-sports workshop included kayakers, canoeists, rowers and gig rowers plus stand-up paddle boarders.

Areas identified as high intensity for this class of recreational activity are management areas M (Outer Esturay), N (Sheltered Bay) and P (Open Coast) (Figure 34). Area K (Tamar (Torpoint)) and the Plym are less well used but still important. Much lower numbers of transits take place in the Lynher, Upper Tamar and Tavy.

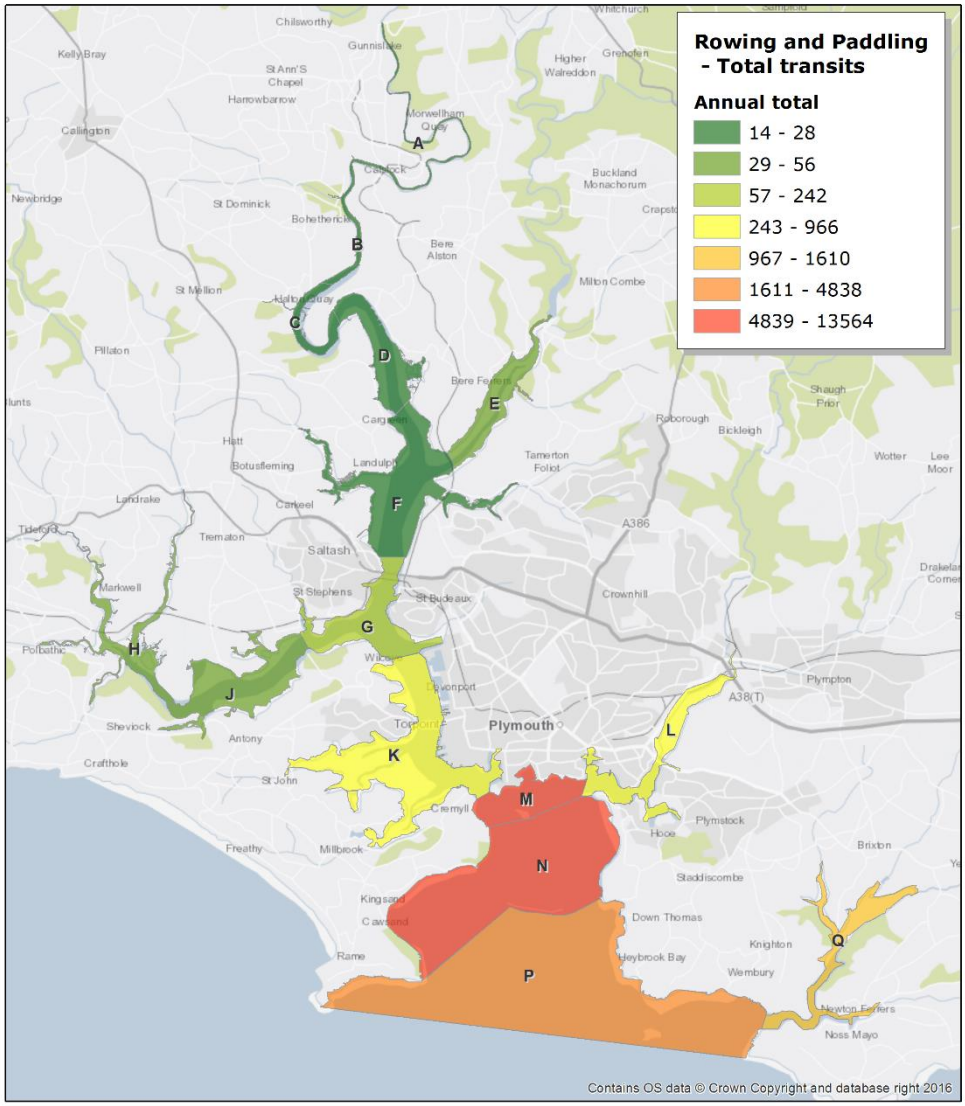
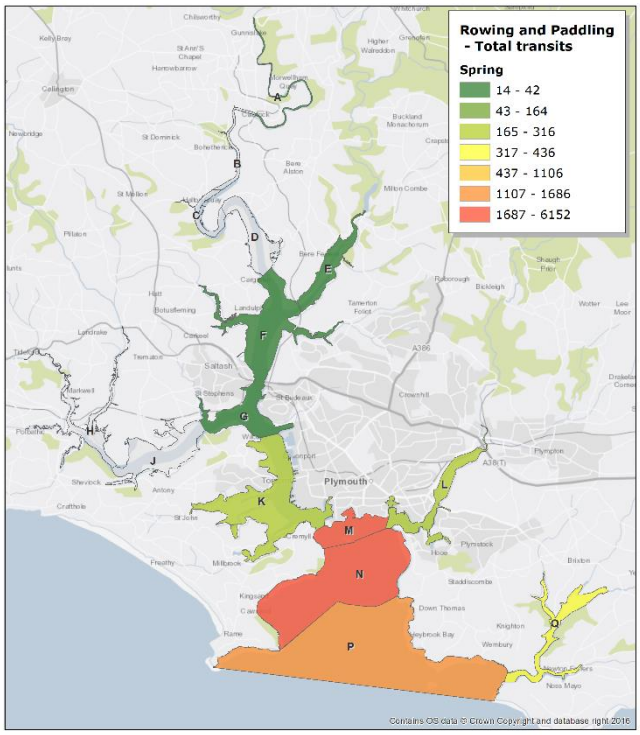


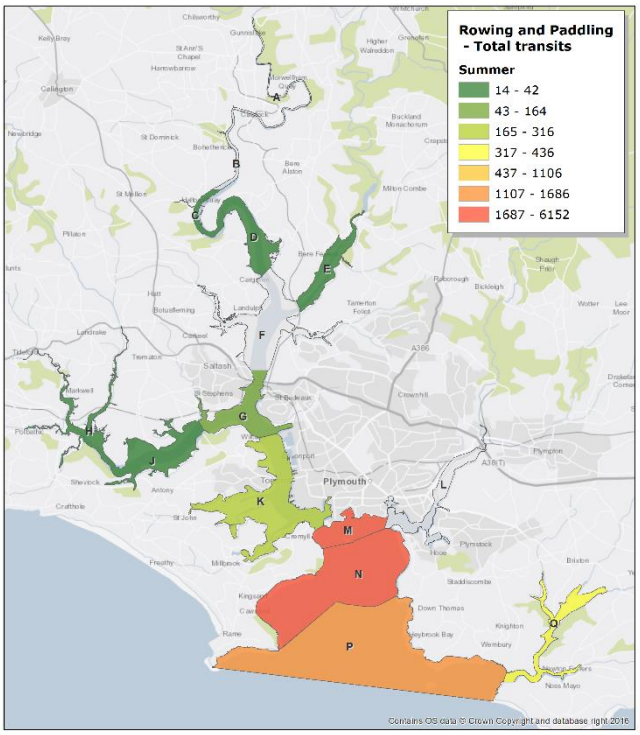
Figure 34 Paddle-sports activity in the Plymouth Sound and Estuaries EMS (aggregated for all seasons)

This pattern of use by paddle-sports enthusiasts is consistent across the seasons, with the highest frequency of transits in the three Plymouth Sound management zones (M, N, P). However the actual numbers of transits made is much lower in Autumn and Winter (Figure 35).

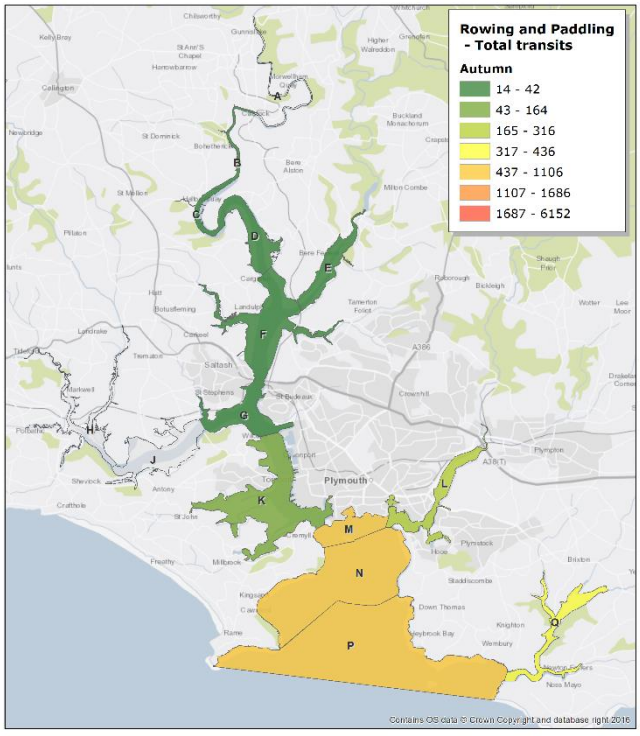
Spring



Summer



Autumn



Winter

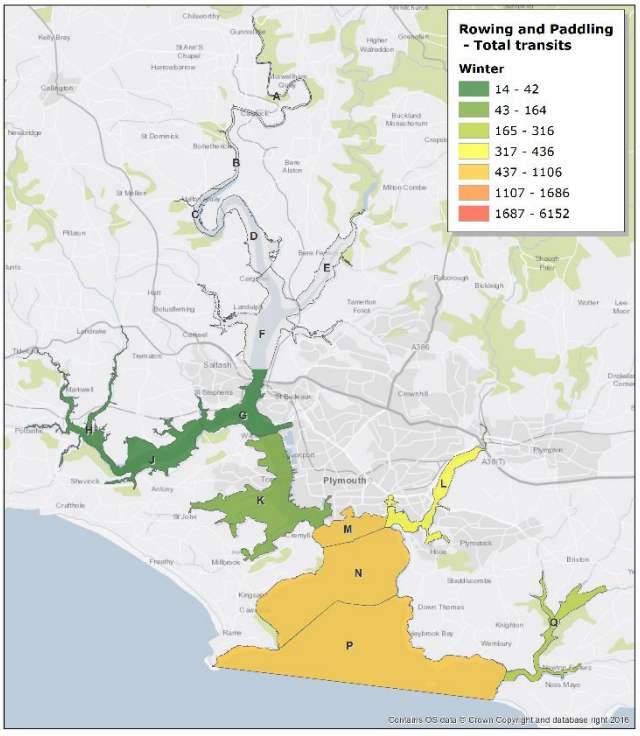


Figure 35 Paddle-sports activity in the Plymouth Sound and Estuaries EMS disaggregated by season.

4. Online questionnaire

4.1 Rationale

The on-site survey and targeted recreational activity workshop data gathering effort was complemented by a purpose built online survey. The aim of the survey was to capture information from visitors to the EMS locally and nationally. The reach of the survey was far greater than the local information gathering and was collected to supplement the survey and workshop data.

4.2 Methods

4.2.1 Survey Design

The survey was designed and hosted using 'survey monkey' an online survey development company. A copy of the questionnaire is presented in Appendix D. The survey provided a short introduction to the project and then guided respondents through five main sections regarding participation in the following activities.

- Fishing activities and bait collecting such as shore based angling, angling from boats or spear fishing;
- Land/shore-based activities such as walking, cycling, rock pooling etc (not fishing);
- Water based activities using small craft, (e.g. kayaking, canoeing, jet skis,RIBs, stand up paddleboards, surfboards, windsurfing or dinghy sailing);
- Water-based activities with large craft (larger powerboats and yachts);
- Swimming and diving.

If the respondent answered 'No' to taking part in an activity they would be forwarded to the next activity group. For each activity they took part in they were asked the following questions:

- Where in the EMS they participated in their activity (based on management area)
- How often they had visited in the past 12 month, and
- What time of year they tend to visit
- What is the main form of transport they used to arrive at the sites they visit
- What makes the locations they use attractive to them
- What features would be necessary to make other sites more attractive to them

Respondents were asked about their activities according to the management areas within the EMS, (see Figure 36). Maps showing the management areas were provided in each activity section to help respondents identify the areas they used.

The survey concluded by asking for information on the following:

- When they visited the site were they; local (resident in Devon and Cornwall) on a short trip, or, visiting as part of an organised activity, or whether they were on holiday, or visiting from outside the area on an organised activity;
- If they were on holiday they were asked to provide a postcode of the location where they were staying.
- To provide their home postcode or to provide the name of their town, village etc.

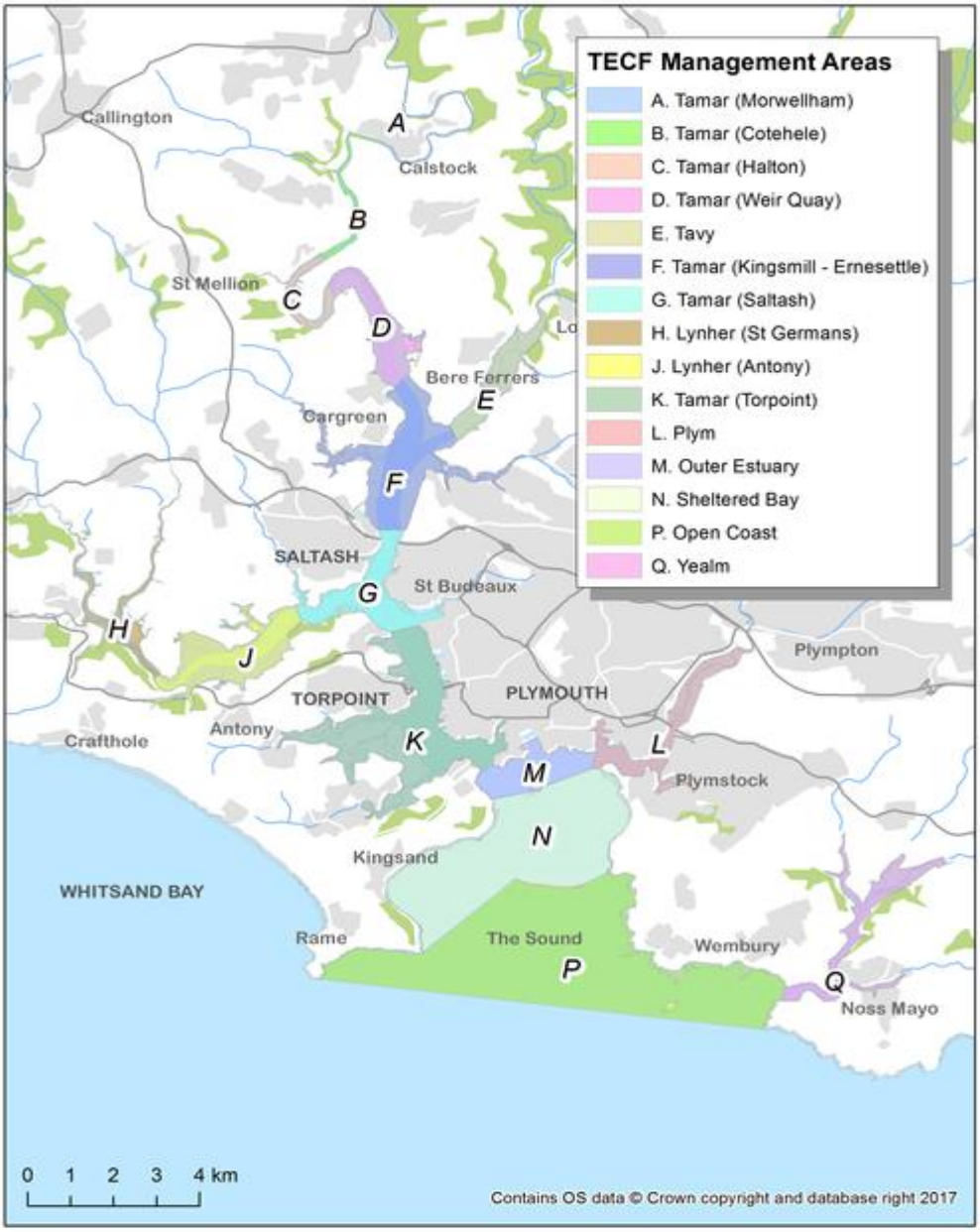


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Figure 36 Management Areas within the Plymouth Sound and Estuaries EMS

4.2.2 Promoting the Online Survey

The survey was promoted on social media, including the MBA website, MBA facebook pages and MBA twitter feed. The online survey invite and link was circulated around MBA staff and MBA members who were asked to promote this on their own networks. To our knowledge this resulted in the survey being sent to many of the local marinas and a number of environmental/citizen science volunteer networks among others. Information about the survey and a link was also sent out with the workshop invites to promote the survey to individuals and groups who couldn't attend the workshops.

An organisation list was also created of key groups to send an invite and survey link. Potentially relevant groups were identified based on internet searches and team member knowledge. Using the internet we searched for local and national groups relating to:

- Birdwatching/wildlife watching,
- Cycling, horse riding,
- Dog walking,
- Jogging/walking/power walking/Nordic walking,
- Canoeing/kayaking/,
- Kite flying,
- Fishing (angling/spear fishing),
- Jet skiing,
- Kite surfing/ stand up paddle boarding,/surfing,/windsurfing,
- Sub aqua diving,
- Swimming and rockpooling.

A total of 116 local and national groups were contacted with an invitation and survey link and were requested to circulate these to members.

4.2.3 Duration of survey and responses

The survey went online on the 18th November and was closed on the 3rd January 2017. The survey collected responses from 655 visitors to the EMS.

4.2.4 Survey result calculations

It should be noted that respondents had the option to skip questions and therefore the answers in the results section do not always sum to 655 as people chose not to answer some questions. All percentages are rounded up to 2 significant figures. In the results section percentages are based on the number of respondents that answered the question, not the total number of respondents.

For each activity respondents were asked how often they had visited each management area in the past year to participate in each activity, and were asked to choose from the list of options, shown below in Table 34. To estimate the number of visits for each management area we multiplied each response as shown below, based on the middle of the range. So, for example, if someone stated that they visited most days (>180 visits) their number of visits in a year was estimated to be 270 as this is the mid-point between 180 and 360.

Table 34. Visit frequency in the on-line survey and the estimated number of visits based on this response

Visit Frequency	Estimated number of visits in the past year
Most days (>180 visits)	270
A few times a week (60-180 visits)	120
Several times a month (20-60 visits)	40
About once a month (12-20 visits)	16
Less than once a month (2-12 visits)	7
Visited once	1

4.2.5 Activity intensity maps

Activity intensity maps were created showing activity intensity by management area, a number of scales were identified to show the results (depending on the underlying data) and the reader is asked to note these scale changes. These differ from the categories used in the on-site survey and workshop surveys as the spatial scale of the area considered has changed (to management area) and therefore the intensities have increased.

4.3 Results

4.3.1 Recreational activity participation by visitors

- 412 (63%) survey respondents identified whether they were local or visitors
- 400 (82%) respondents were local (living in Devon or Cornwall)
- 12 (3%) respondents resided outside of Devon or Cornwall and had visited the area
- 243 (37%) respondents did not answer this question

The majority of respondents (412) answered the question about whether they were resident in Devon or Cornwall or visiting from further afield. Of these, most respondents (400) were local and most were visiting on a day trip or short visit (336, 82%), rather than as part of an organised group (64, 16%). Twelve respondents (3%) visited the EMS either on holiday (6, 1.5%) or as part of an organised group (6, 1.5%). This question was not answered by 243 (37%) respondents. As the proportion of visitors was so small, we have not attempted to differentiate activity patterns between local residents and visitors.

4.3.2 Recreational visitor activities in the Plymouth Sound and Estuaries EMS

- 534 (85%) of survey respondents take part in land or shore based recreational activities
- 317 (60%) of survey respondents take part in water based activities using small craft e.g. kayaks and canoes
- 190 (39%)) of survey respondents take part in water based activities using large craft
- 183 (39%) of respondents swim or scuba dive

- 136 9215) take part in recreational fishing

Most people visiting the EMS were taking part in land or shore based activities (534, 85%) while water based activities using small craft e.g. kayaks and canoes were also popular with 317 (60%) respondents taking part. Fewer respondents took part in water based activities using large yachts or power boats (190, 39%), swimming or diving (183, 39%) or recreational fishing (136, 21%).Table 35, shows the number and proportion of respondents that took part in each of the main activity groups. Please note, respondents were allowed to select more than one activity type and so the number of responses is greater than the online surveys completed.

Visitor numbers for each activity type within each management area in the EMS are discussed in more detail in the results sections below.

Table 35. Number and proportion of online survey respondents indicating whether or not they take part in taking part in each activity type. Note percentages sum to 100% across rows (not columns). Respondents were able to select each activity type they participated in.

	Yes		No	
Activity Type	**Count**	**%**	**Count**	**%**
Fishing	136	21	519	79
Land/based shore activities	534	85	95	15
Water based activities using small craft	317	60	207	40
Water based activities using large craft	190	39	304	61
Swimming or diving	183	39	284	61

4.3.3 Online survey -Recreational fishing

- Most respondents taking part in recreational fishing visit the EMS to participate in angling (shore and boat based)
- 1,226 estimated visits to the EMS to participate in shore based angling
- 1,865 estimated visits to the EMS to participate in angling from boats
- Respondents made fewer visits to the EMS to collect bait or crabs (103 estimated visits)
- Only 44 estimated visits to the EMS to participate in spear fishing or collect cockles or other shellfish

Generally, only a small proportion (136, 21%) of respondents to the on-line survey fished within the EMS. Based on answers to the questions on management area visited and visit frequency the number of visits made to each management area for each activity was estimated. Table 36 (below) shows the estimated number of visits to each management area for each recreational fishing activity. Angling, either from the shore or from boats, was the most popular fishing activity carried out in the EMS and takes place throughout the EMS. In comparison few visits to the EMS were for bait collecting/crab tiling and cockling or collecting other shellfish were reported for fewer of the management area and are likely to reflect shore access and the muddier habitats that support targeted species. Similarly,

spear fishing was only reported from the lower part of the estuary. Sites suitable for spear fishing will be those with shore access, availability of targeted species, good visibility and safety, the more tidal parts of the estuary are likely to be unsuitable.

Figure 37(below) shows the total numbers of visits associated all angling activities, shore based angling and boat based angling. Due to the low number of respondents indicating that they took part in spear fishing, bait collecting/crab tiling and cockling these activities were not shown separately. Figure 37 and Table 36 suggest that the more marine parts of the EMS are more popular for angling (shore and boat based). This is likely to reflect suitability of sites based on fish distribution and probably the influence of tidal cycles as well, as sites higher in the estuary will only be suitable for fishing during and either side of high tide. For anglers, weather and tidal conditions and the presence of good fishing spots are key factors influence locations visited (see section 4.5.5)

Table 36. Estimated number of visits to participate in each recreational fishing activity by management area throughout the year.

Management Area	Angling (shore)	Angling (boat based)	Spear fishing	Bait collecting /crab tiling	Cockling/ other shellfish
A	17	0	0	0	0
B	0	16	0	0	0
C	1	23	0	0	0
D	9	30	0	0	0
E	7	16	0	0	0
F	7	16	0	40	0
G	44	48	0	0	0
H	0	23	0	40	0
J	47	49	0	0	7
K	96	25	0	0	7
L	152	2		7	7
M	227	225	0	0	1
N	115	418	7	16	0
P	325	779	7	0	1
Q	179	195	7	0	0
Total	**1226**	**1865**	**21**	**103**	**23**

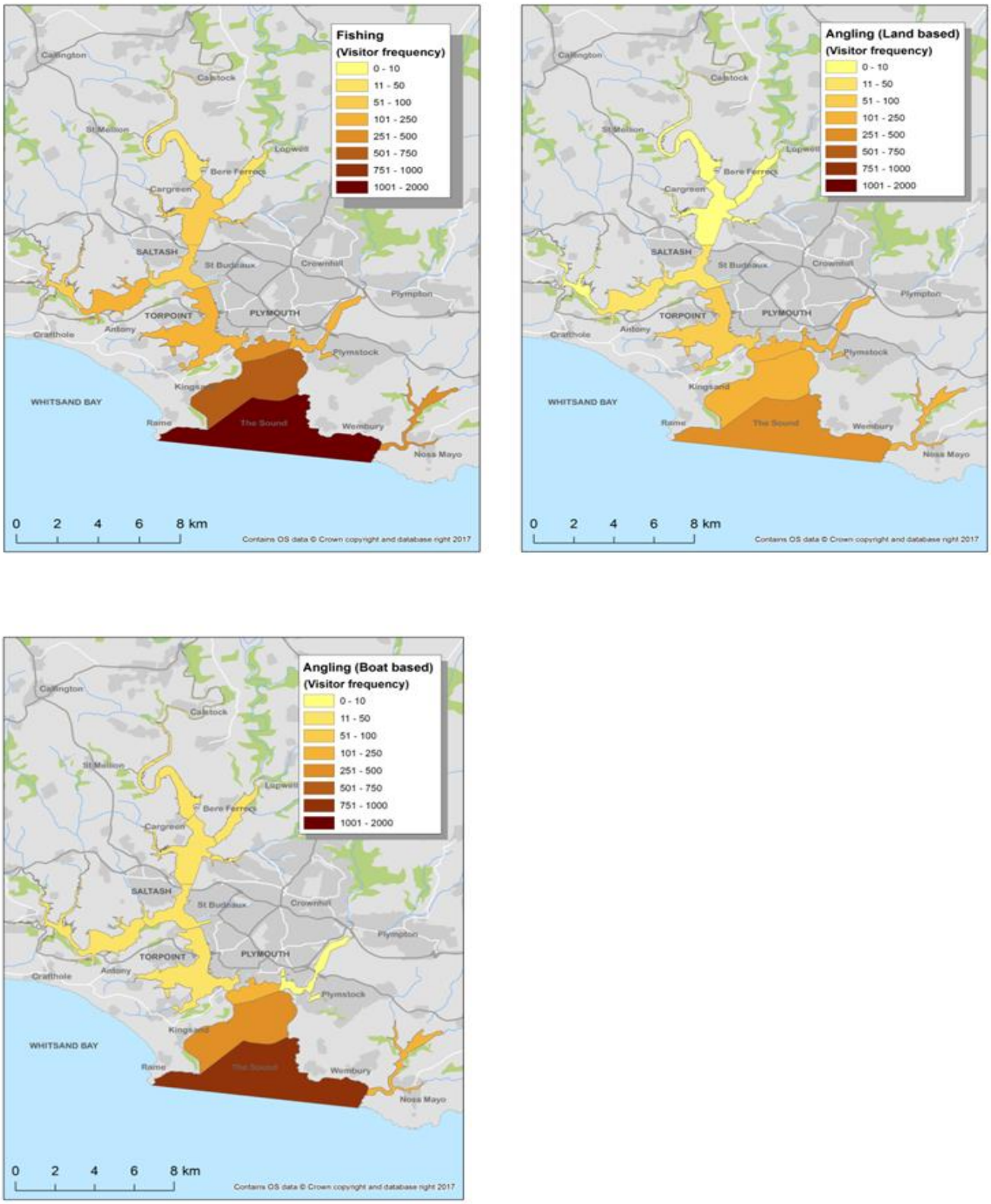


Figure 37. Distribution and intensity of recreational fishing activities by management area from on-line survey information for the Plymouth Sound and Estuaries EMS.

4.3.4 Land/Shore based activities

- Most survey respondents take part in shore/land based recreational activities
- An estimated 42,261 visits were made to the EMS to take part in this activity type
- Visiting the EMS to walk or jog was the most popular activity (15,188 visits), followed by dogwalking (9,711 visits) and birdlife/wildlife watching (3,341).
- Cycling trips and outings with family/children and cycling were also popular (4,721 and 2,036 visits respectively).
- Fewer respondents took part in rockpooling (1,310 visits), kite flying (7 visits) and horseriding (7 visits).
- Land/based recreational activities occur throughout the EMS but more visits are made to the lower, seaward parts of the EMS

The majority of the online survey respondents (534, 85%), took part in land/shore based recreational activities. We asked respondents about their participation in each of nine main activity types in each of the management areas in the EMS, See Table 37 (below) for the estimated number of visits associated with each of the activity types.

Visiting the EMS to walk or jog was the most popular activity (15,188 visits), followed by dog walking (9,711 visits) and birdlife/wildlife watching (3,341). Cycling trips and outings with family/children and cycling were also popular (4,721 and 2,036 visits respectively). Fewer people took part in rock-pooling (1,310 visits), kite flying (7 visits) and horseriding (7 visits) as the main reason for their visit. Ninety-two respondents took part in 'other' activities (detail not provided).

Figure 38 shows the total estimated number of visits associated with all land-based recreational activities throughout the EMS. Separate visitor intensity maps are shown for bird/wildlife watching cycling, Dogwalking and walking/jogging (Figure 39). Due to the low number of respondents indicating that they took part in horse riding, kite/flying/drone flying and rockpooling these activities were not shown separately.

The figures and table totals indicate that the most visited parts of the EMS are the lower (seaward) parts, these regions are larger with a greater proportion of coastline easily accessible from Plymouth and Saltash (Management areas G: Tamar (Saltash), M: Outer estuary, P: Sheltered bay and P: Open coast). Such areas also have more developed infrastructure such as carparks, cycle routes and pathways.

Some key points noted were that:

- Dog walking occurs throughout the EMS.
- Bird and wildlife watching occur at similar levels throughout the EMS with the management areas K: Tamar (Torpoint) and L: The Plym were the most frequently visited.
- Cycling-occurs throughout the EMS but the Plym (Management Area L) was the most visited area based on respondents.

Table 37. Number of visits to participate in each land-based activity by management area throughout year.

Management Area	Bird/wildlife watching	Cycling	Dog walking	Horse riding	Kite flying/drone flying	Other	Outing with family/children	Rockpooling	Walking/Jogging	Totals
A	92	29	749	7	0	57	132	0	843	1909
B	182	300	664	0	0	331	237	0	818	2532
C	278	38	285	0	0	291	8	0	281	1181
D	122	7	663	0	0	362	54	0	1518	2726
E	168	93	762	0	0	62	38	0	648	1771
F	361	77	439	0	0	555	0	0	421	1853
G	153	303	1137	0	0	602	109	0	1302	3606
H	76	65	298	0	0	52	148	7	177	823
J	210	95	88	0	0	301	29	1	386	1110
K	355	642	212	0	7	668	91	0	534	2509
L	623	1579	1440	0	0	289	127	0	0	4058
M	205	814	816	0	0	676	296	344	3115	6266
N	224	443	372	0	0	661	401	193	1522	3816
P	247	197	991	0	0	797	366	694	1800	5092
Q	45	39	795	0	0	236	0	71	1823	3009
Total	**3341**	**4721**	**9711**	**7**	**7**	**5940**	**2036**	**1310**	**15188**	**42,261**

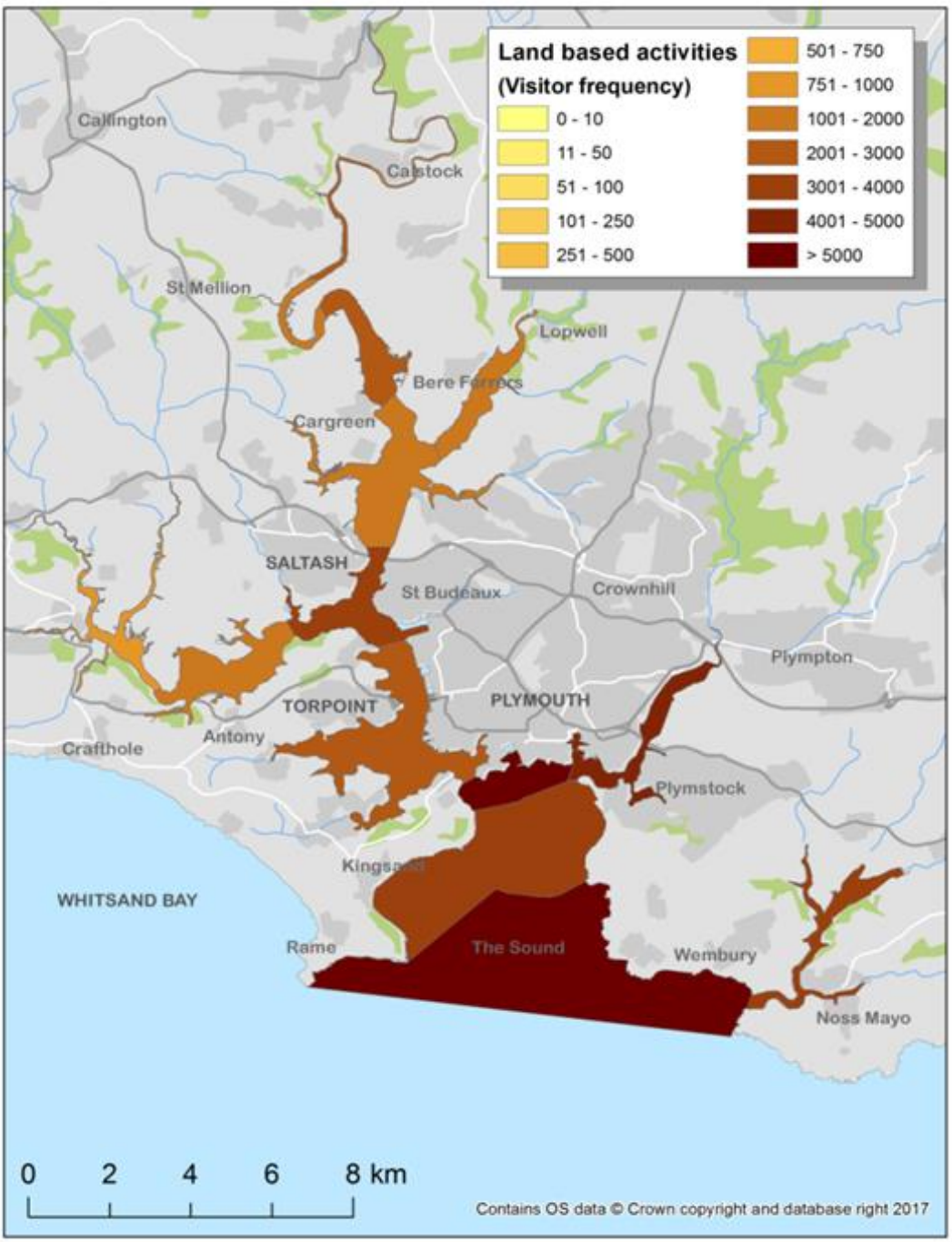
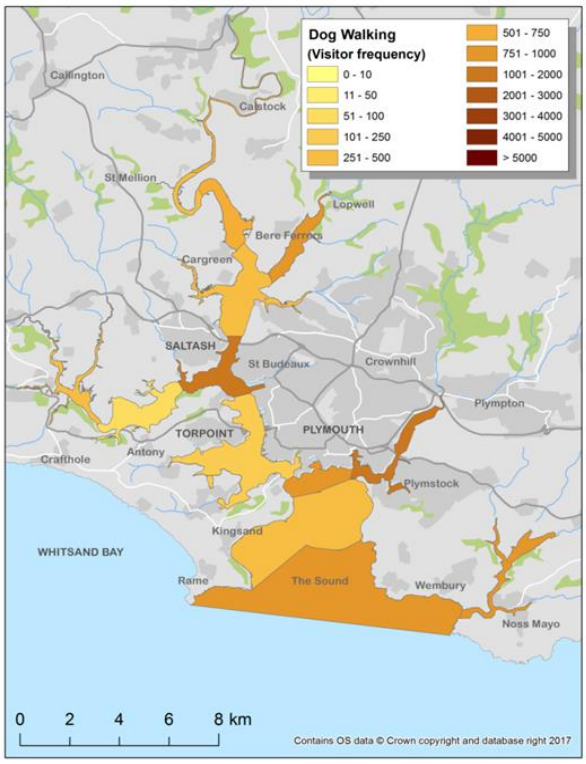
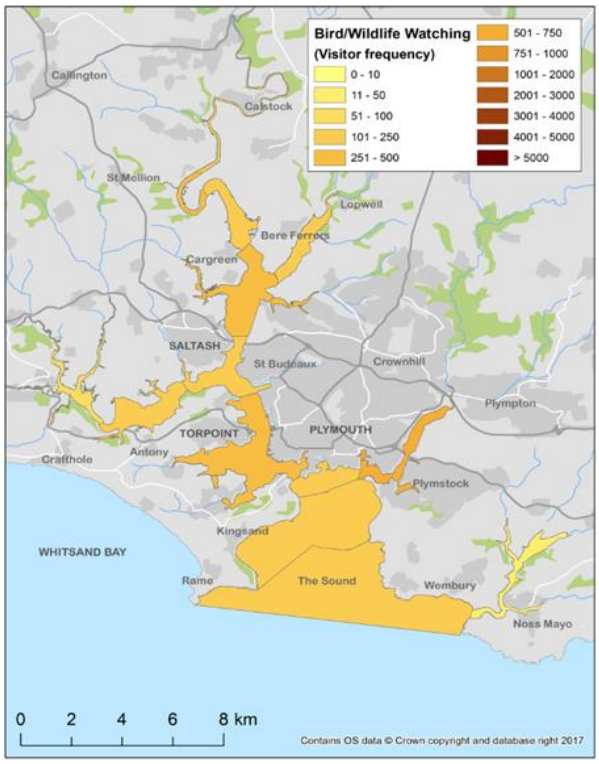


Figure 38. Distribution and intensity of all estimated recreational visits associated with land/shore activities by management area from on-line survey information for the Plymouth Sound and Estuaries EMS.

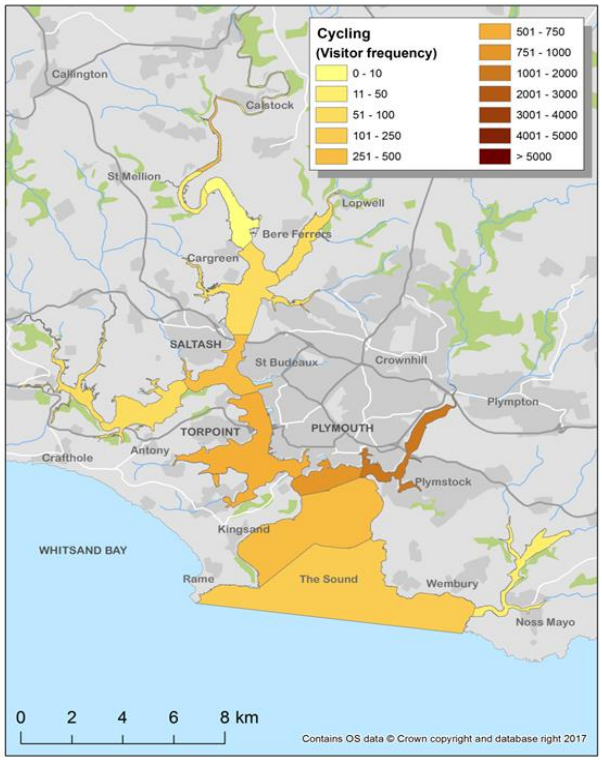
Dog walking



Bird/Wildlife watching



Cycling



Walking/jogging

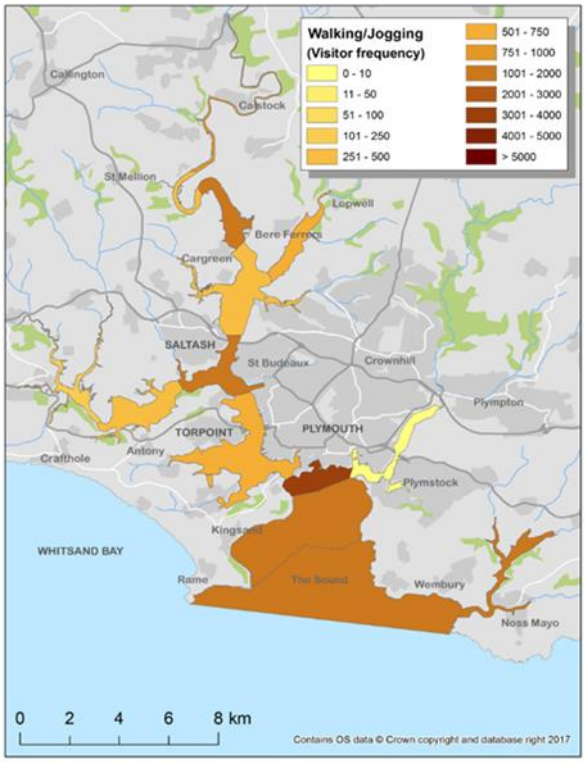


Figure 39. . Distribution and intensity of all land based activities by management area from on-line survey information for the Plymouth Sound and Estuaries EMS.

4.3.5 Water based activities using small craft

- **Water based activities using small craft are popular with317 (60%) of respondents answering the question indicating that they took part in this activity type**
- **The most popular activities were sailing using small craft (7,839), kayaking/canoeing (6,443 visits), powerboating (5,099) and rowing (3,499 visits)**
- **Small water craft are used throughout the EMS, although the lower more seaward parts of the estuary are the most frequently visited**
- **Management area L was the most frequently visited site the Plym (management area L) and was used particularly by small sailing craft and rowers**

Respondents were asked if they took part in recreational activities using small water craft. This was a popular activity type with 317 (60%) of respondents answering the question indicating that they took part in this activity type. The most popular activities (based on estimated number of visits, Table 38) were sailing using small craft (7,839), kayaking/canoeing (6,443 visits), powerboating (5,099) and rowing (3,499 visits). People visiting the EMS for diving used RIBs and hard boats, these were associated with an estimated 1168 visits and the areas visited correspond with the diver responses in Section 3.3.5 (lower, seaward parts of the EMS). Few people answering the survey were jet skiers (81 visits), or took part in windsurfing (16 visits).

Figure 40 shows visitor frequency associated with all small water craft activities. Small water craft are used throughout the EMS, with the lower more seaward parts of the estuary most heavily used. Management area L was the most frequently visited site the Plym (management area L) and was used particularly by small sailing craft (Figure 41). Kayaking and canoeing visits are relatively evenly dispersed throughout the EMS, with a slight preference for the lower, seaward EMS regions.

Divers (Figure 41), surfers and wind surfers tend to visit the lower, seaward parts of the estuary, where condition (dive sites, wave and wind exposure are more suitable for their activities. As few visits are associated with surfers and wind surfers these activities have not been mapped.

It seems likely that jet ski users are under-represented in this survey.

Table 38.Number of visits to participate in each water-based activity using small craft by management area throughout the year.

Management Area	Diving (RIB/h ardboat)	Jet skiing	Kayaking/canoeing	Rowing	Small power boat	Small sailing craft	Stand up paddle board	Surfing	Wind surfing	Totals
A	1	0	295	21	154	44	1	0	0	516
B	0	0	293	1	141	79	0	0	0	514
C	0	0	211	16	284	65	40	0	0	616
D	0	0	314	120	305	595	0	0	0	1334
E	0	0	420	1	25	28	0	0	0	474
F	0	41	632	24	171	423	0	0	0	1291
G	7	40	490	316	412	856	0	0	0	2121
H	7	0	266	136	340	57	7	0	0	813
J	7	0	287	129	411	272	21	0	0	1127
K	24	0	281	159	438	508	0	0	0	1498
L	30	0	640	1832	309	1080	208	0	0	4099
M	252	0	760	73	570	1256	71	0	0	2982
N	291	0	783	356	585	1154	78	1	0	3248
P	372	0	591	21	774	904	40	278	16	2996
Q	177	0	170	294	180	518	140	120	0	1599
Total	**1168**	**81**	**6433**	**3499**	**5099**	**7839**	**606**	**487**	**16**	

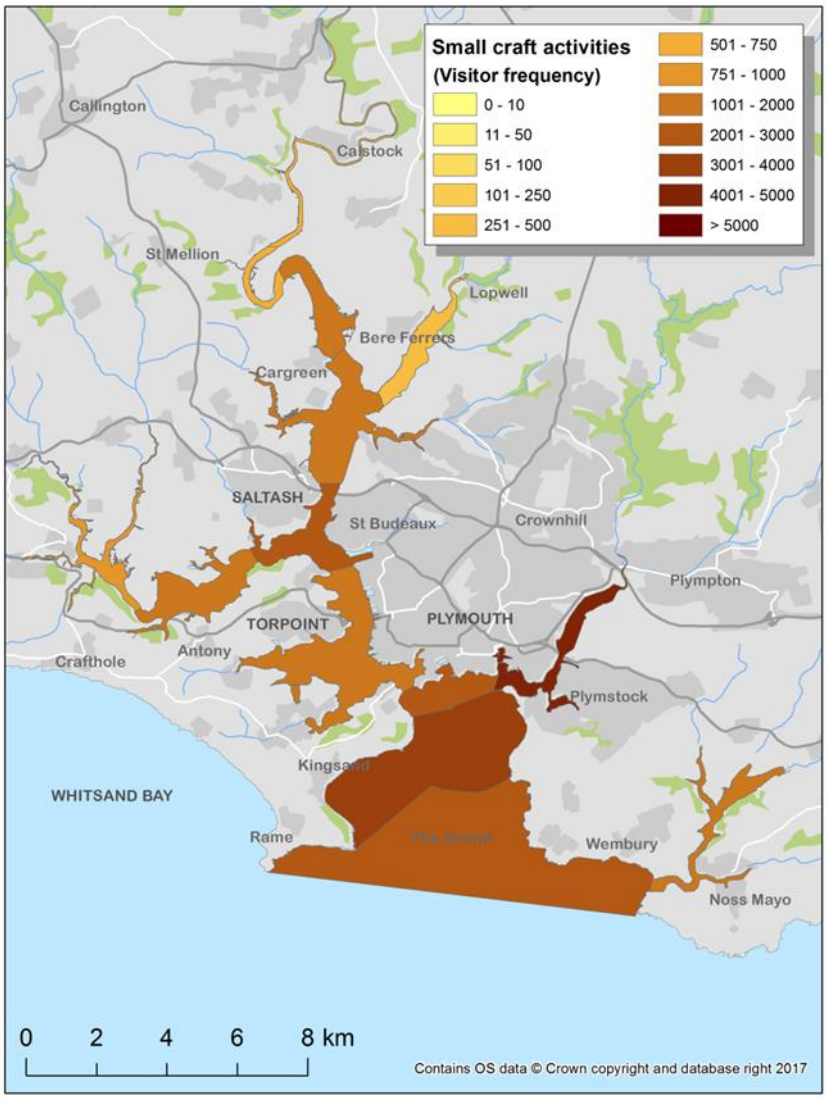
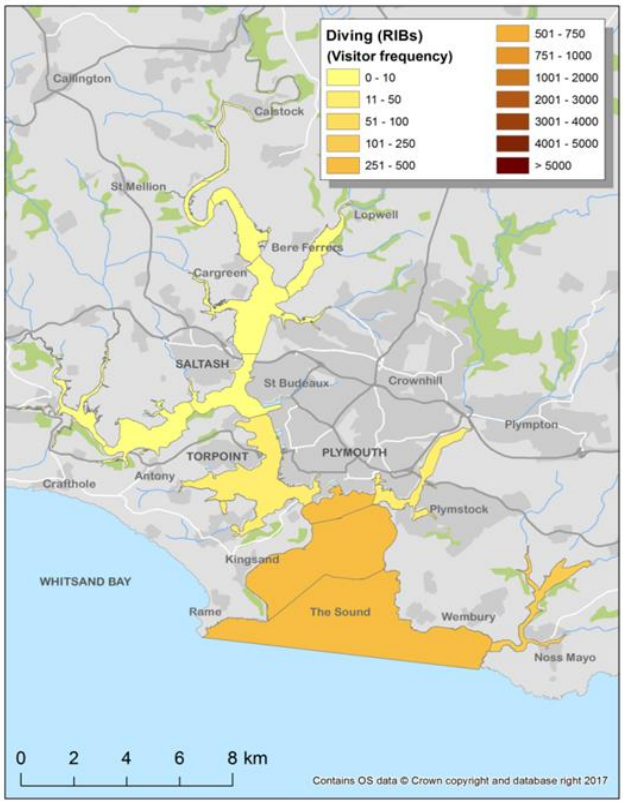
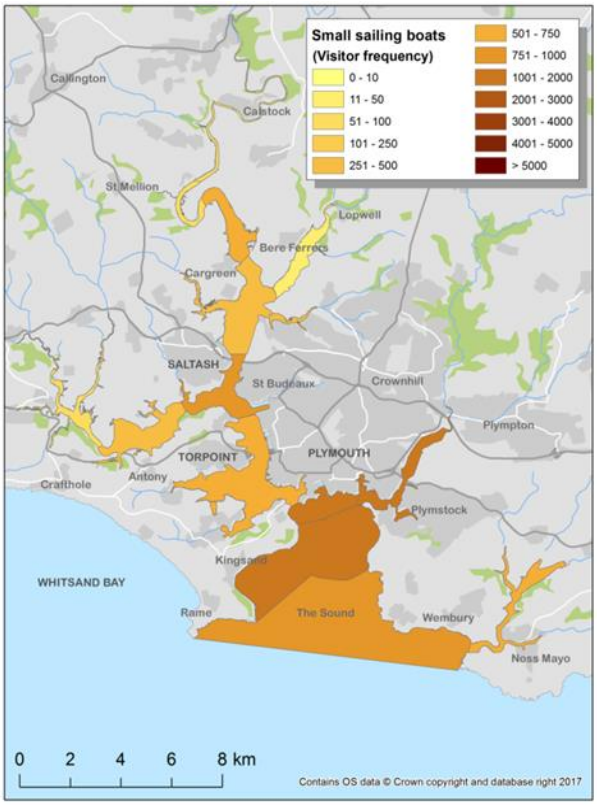


Figure 40. Distribution and intensity of all water based activities using small craft, based on estimated number of visits by management area from on-line survey information for the Plymouth Sound and Estuaries EMS.

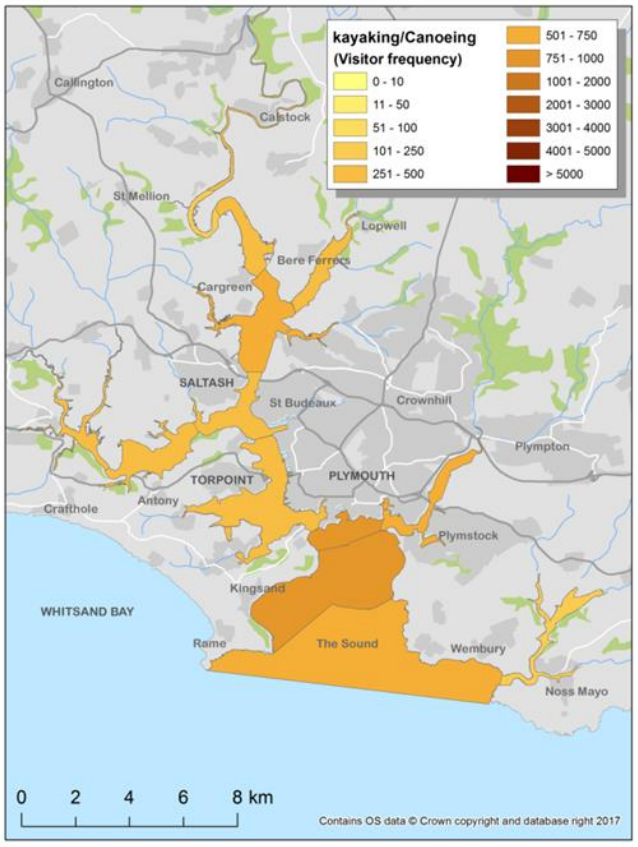
Diving boats



Small sailing boats



Kayaking/canoeing



Rowing

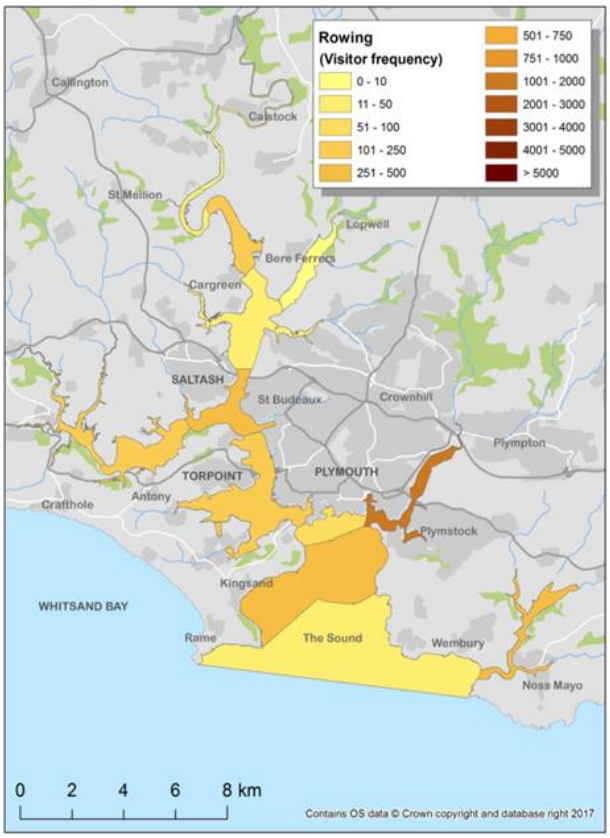


Figure 41. Distribution and intensity of small craft activity by type, based on estimated number of visits by management area from on-line survey information for the Plymouth Sound and Estuaries EMS

Small power boats

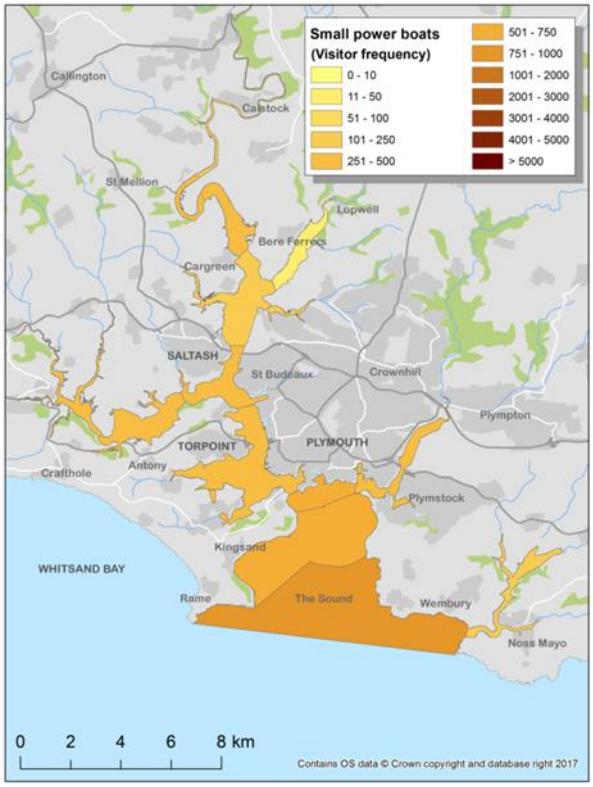


Figure 42. Distribution and intensity of small power boats, based on estimated number of visits by management area from on-line survey information for the Plymouth Sound and Estuaries EMS

4.3.6 Water based activities using large craft+

- 190 (39%) of survey respondents take part in water based activities using large craft
- 18,753 estimated visits to the EMS were associated with yachts
- 5,629 visits were made to take part in recreational powerboating
- Moorings in the Plymouth Sound and Estuary EMS were the most popular place to keep boats (78 respondents, 52%)
- 56 (37%) of respondents keep their boats at pontoons in the Plymouth Sound and Estuaries EMS.
- Just over 10% of respondents used trailers or marinas or mooring outside of the EMS

Respondents to the on-line survey were were asked if they took part in recreational activities using large water craft (larger power boats and yachts), 190 (39%) respondents took part. Yachting was

particularly popular with 18,753 estimated visits to the EMS associated with this activity. Powerboating was associated with 5,629 visits. Both activities occur throughout the EMS (Figure 43). Key areas for yachting were Management Area G (Tamar (Saltash)) and the lower seaward parts of the EMS. This pattern in activity intensity is similar to powerboating visits with Management Area G and the seaward parts of the estuary popular (Figure 43).

Survey respondents were asked where they kept their boat and were asked to select one option from those in Table 39. Most respondents who took part in this activity (150, 88%) answered this question. Most respondents kept their boats at moorings (52%) and marine pontoons (37%), inside the Plymouth and Sound Estuaries area). Seven of the other responses also referred to marinas or moorings.

Table 39. On-line survey responses to the question 'where do you keep your boat'

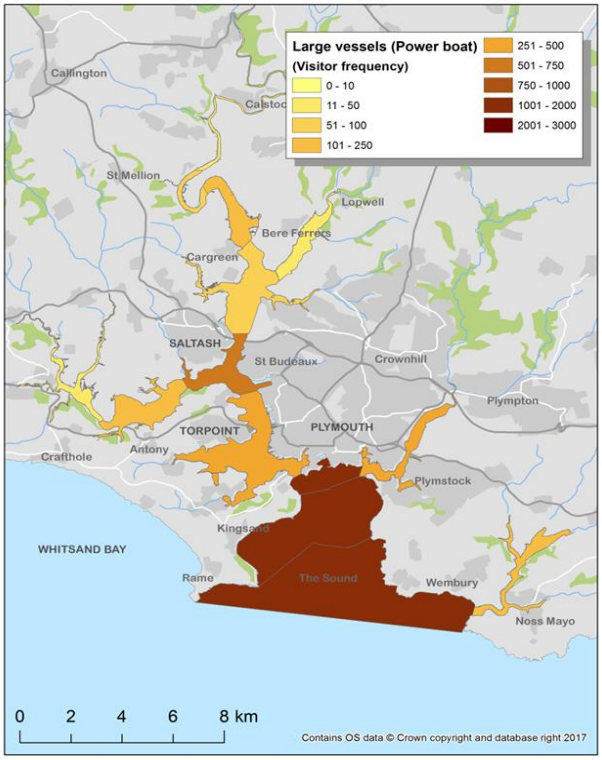
Options	No. of respondents	% Respondents
Marine/pontoon (in the Plymouth Sound and Estuaries area)	56	37
Marine/pontoon (outside of the Plymouth Sound and Estuaries area)	1	0.7
Mooring (in the Plymouth Sound and Estuaries area)	78	52
Mooring (outside of the Plymouth Sound and Estuaries area)	9	6
Trailer/hard standing or similar, water accessed via slipway for visits	6	4
Other (please specify)	17	

Table 40. Number of visits to participate in powerboating and yachting by management area throughout year.

Management Area	Power boat	Yacht	Total
A	44	87	**131**
B	44	133	**177**
C	63	200	**263**
D	124	659	**783**
E	30	81	**111**
F	61	901	**962**
G	664	1986	**2650**
H	39	481	**520**
J	174	725	**899**
K	441	1566	**2007**
L	359	1937	**2296**
M	1214	2883	**4097**
N	1102	2881	**3983**
P	1152	2963	**4115**

Q	118	1270	**1388**
Total	**5629**	**18753**	**24382**

Large vessels (power boats)



Large vessels (yachts)

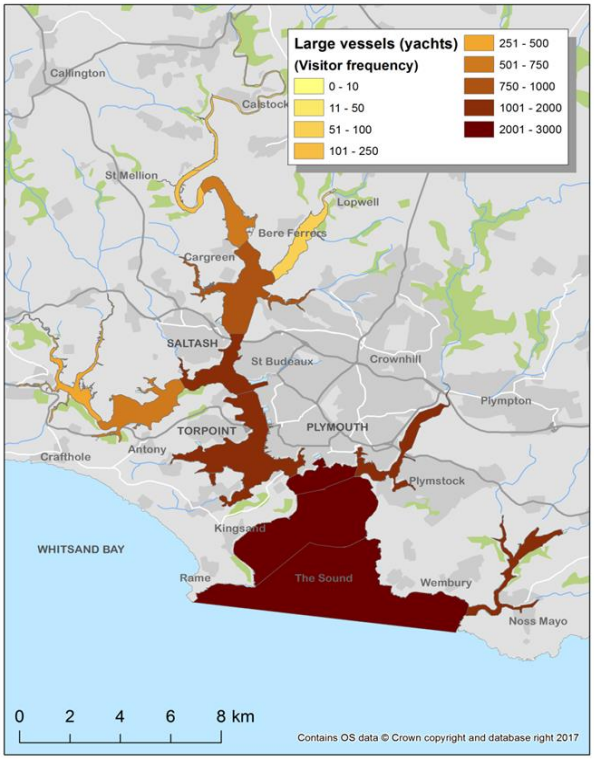


Figure 43.Distribution and intensity of powerboat and yacht visits by management area from on-line survey information for the Plymouth Sound and Estuaries EMS.

4.3.7 Swimming and scuba diving

- **183 (39%) of on-line survey respondents took part in swimming or diving in the EMS**
- **An estimated 5,616 visits for swimming were made by survey respondents.**
- **People swim throughout the EMS but the lower reaches of the estuary and the sound are more popular.**
- **An estimated 1,935 diving trips were made to the EMS by survey respondents, scuba diving occurs largely in the lower, more seaward parts of the EMS**

Swimming and scuba diving was the final activity type that respondents were asked about. 183 (39%) of on-line survey respondents took part in these activities in the EMS. Based on survey responses, the number of visits associated with each activity in the EMS were estimated (see Table 41).

The pattern of visits was similar to that observed for other recreational activities, with Management Area G (Tamar (Saltash) and the lower, seaward parts of the EMS receiving more visits. Respondents do not scuba dive in the upper parts of the estuary as conditions are unsuitable (due to tides and poor visibility levels). Swimming, however, occurs throughout the EMS but there are less visits reported to the upper estuary areas.

Table 41. Number of visits to participate in swimming or scuba diving by management area throughout the year.

Management Area	Scuba diving	Swimming	Total
A	0	7	**7**
B	0	7	**7**
C	0	47	**47**
D	0	54	**54**
E	0	15	**15**
F	0	79	**79**
G	48	45	**93**
H	0	41	**41**
J	0	23	**23**
K	49	16	**65**
L	40	669	**709**
M	465	2261	**2726**
N	416	1112	**1528**
P	710	1229	**1939**
Q	207	220	**427**
Total	**1935**	**5616**	**7551**

Swimming **Scuba diving**

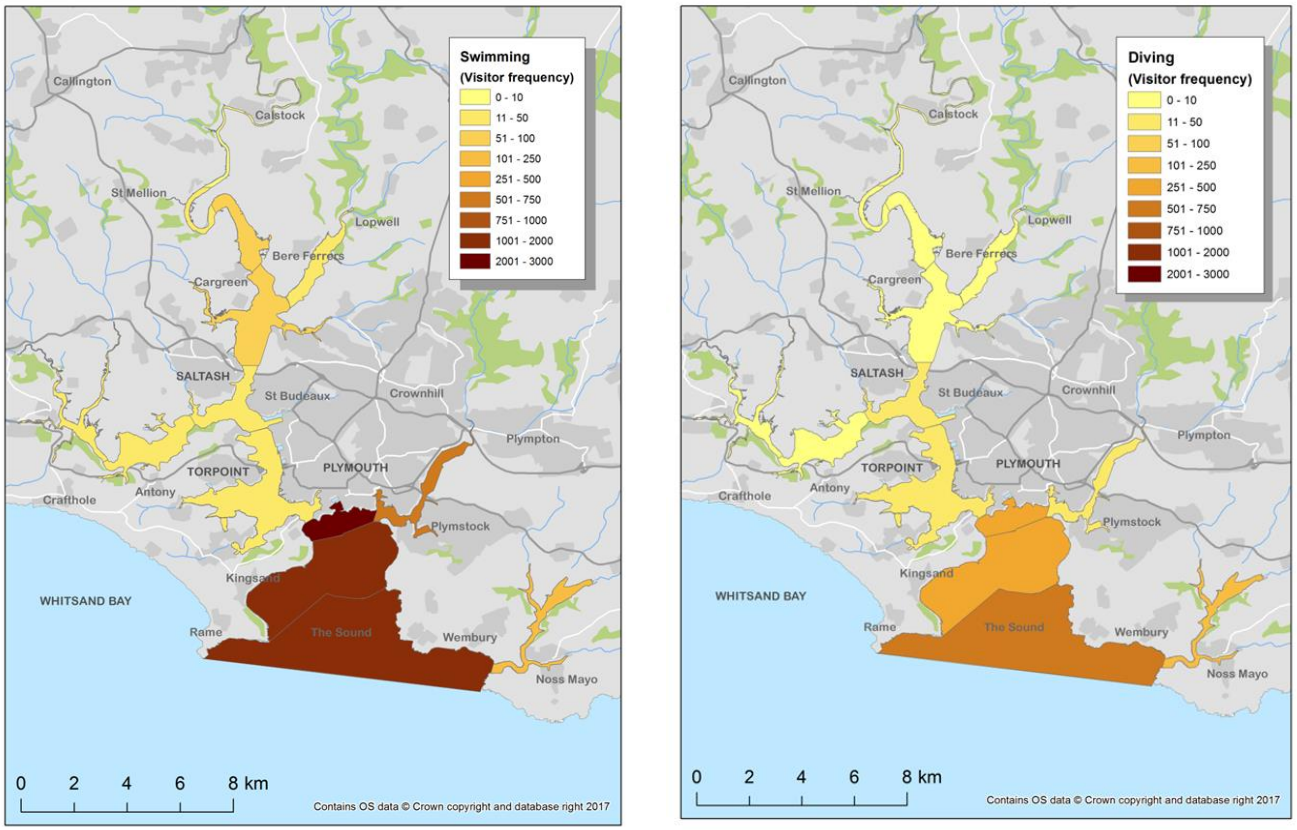


Figure 44. Distribution and intensity of swimming and scuba diving by management area from on-line survey information for the Plymouth Sound and Estuaries EMS.

4.3.8 Regions visited –summary

- **Data from each main activity type shows a similar trend for the number of respondents that visit each management area**
- **Larger areas of the estuary, where there is more coastline, infrastructure such as slipways and car parks and that are also closer to the larger population centres of Plymouth, Plymstock and Saltash are visited by more people than smaller areas of the estuary.**

In general the data from each main activity type shows a similar trend for the number of respondents that visit each management area. The larger areas of the estuary, where there is more coastline, infrastructure such as slipways and car parks and that are also closer to the larger population centres of Plymouth, Plymstock and Saltash are visited by more people than smaller areas of the estuary. Management area G (Figure 45).

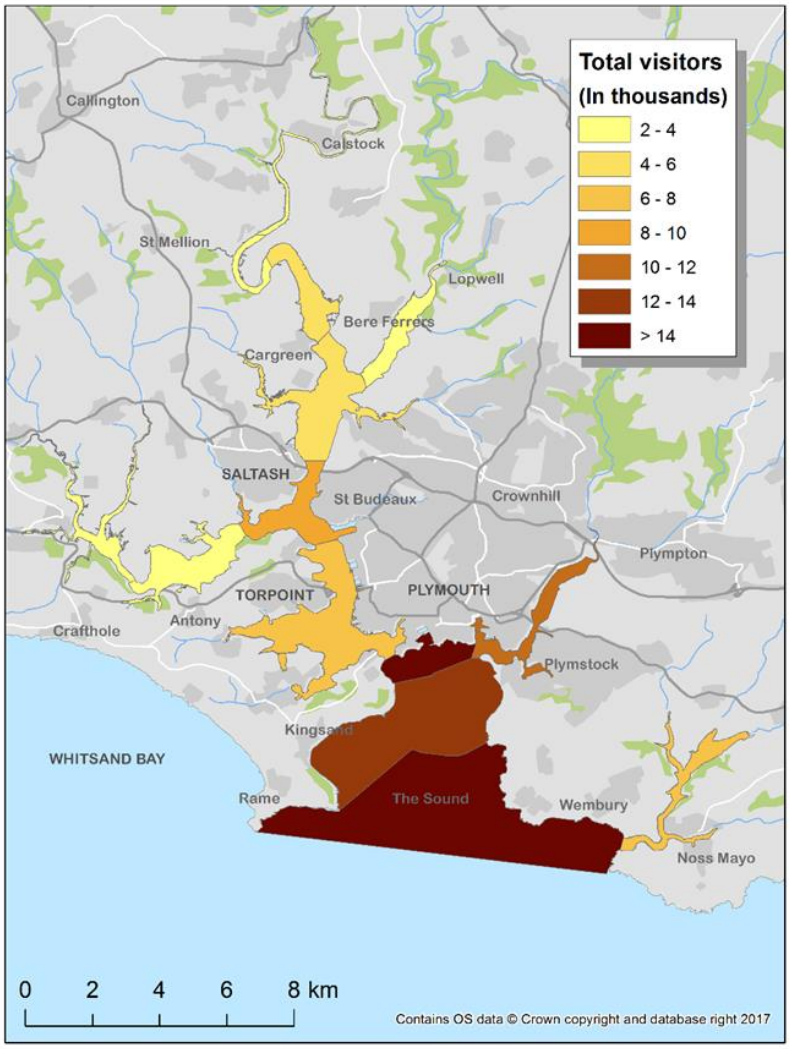


Figure 45. Distribution and intensity of all visits by management area from on-line survey information for the Plymouth Sound and Estuaries EMS.

4.3.9 Season of visit

- **For all activity types the main seasons for visiting the site were spring/summer**
- **For land/shore based recreational activities more respondents (70%) visited at the same frequency throughout the year than for water based activities**

Respondents were asked to provide information on the main season they carried out their activity in each management area. Respondents could select one choice from 'spring', 'summer', 'autumn' 'winter', 'spring and summer' and 'autumn and winter' and the 'same all year'. These choices were compiled into Spring/Summer and Autumn/Winter.

For all activities most respondents tend to visit the EMS in the spring and summer (see Table 42below). Respondents that took part in land/shore based activities were most likely to visit throughout the year (897, 70% of respondents). Dog walking was a popular activity and owners will take their pets out for exercise throughout the year. Other visitors who took part in activities on, or in, the water would be more affected by cold water temperatures and respondents tend to take part in their activity in the warmer months. Winter months are also associated with shorter days, wetter and stormier conditions reducing the amount of time that is available to take part in activities in suitable conditions.

Table 42. Seasonality within recreation activities based on on-line survey responses (No. is the sum of respondents answering the question for each management area).

Activity Type	Spring/Summer		Autumn/Winter		Same all Year	
	Count	%	Count	%	Count	%
Fishing	123	69	19	11	35	20
Land/based shore activities	279	22	112	9	897	70
Water based activities using small craft	491	61	22	3	295	36
Water based activities using large craft	478	69	22	3	190	27
Swimming or diving	164	66	6	2	78	31

4.3.10 Why visitors choose locations

- Respondents were asked why they chose to visit locations
- For all activities the suitability for the activity undertaken, attractive scenery and views and proximity to home were important factors in site choice

Respondents were asked for each activity type what made the locations they use attractive to them to visit (respondents were allowed to choose more than one option). For all activities the suitability for the activity undertaken, attractive scenery and views and proximity to home were important factors in site choice (see Table 43). Some patterns in location choice were noted between activity groups. Unsurprisingly, the availability and condition of launching facilities was important for people undertaking water based activities.

- Wildlife interest was more important to people doing land/shore based activities
- In general refreshments/toilets don't influence location choice
- For fishermen the suitability of locations for fishing and suitability given weather conditions are important considerations- (as well as proximity to home and attractive scenery/views.

Table 43. Summarised responses to the question 'what makes the locations you use attractive to you' for each activity type.

	Fishing	Land/based shore activities	Water based activities using small craft	Water based activities using large craft	Swimming/ scuba diving	Total	%
Don't know	1	3	2	4	1	11	0.3
Close to home	58	252	127	76	82	595	15.0
Others in party/club choose	4	29	58	34	20	145	3.7
Good/easy parking	25	107	77	50	40	299	7.6
Feel safe here	21	93	66	28	59	267	6.8
Refreshments	4	38	16	11	17	86	2.2
Toilets	11	44	34	20	28	137	3.5
Attractive scenery/views	45	341	132	70	81	669	16.9
Right place for activity (e.g. good fishing)	67	137	178	63	123	568	14.4
Particular wildlife interest	14	118	49	19	45	245	6.2
Suitability given weather conditions	43	95	121	69	61	389	9.8
Ability to let dog off lead	5	84		51	6	267	6.8
Particular launching facilities	12	34	121	85	16	218	5.5
Condition of launching facilities	7	15	71	29	8	59	1.5

4.3.11 What factors would lead to other locations being chosen

- **Respondents were asked might lead them to change the locations they visited**
- **Better paths surfaces and routes available at other sites may induce people taking part in land/shore based activities to change locations**
- **Better launching/access to water would influence respondents taking part in water based activities**
- **Better easier/car parking and cheaper car parking would be a factor when choosing alternate locations (22% of respondents)**
- **For 15% of respondents no factors would make another location more preferable, suggesting overall satisfaction with sites chosen**

The online survey respondents were asked : 'what features would be necessary to make other locations attractive for you to use instead of those you most frequently visit'. For 15% of respondents no features would make them visit other locations which suggests a high level of satisfaction with the site used (see Table 44).

For all activity types better launching and access to water was highlighted as a feature that may make other locations more attractive. But this feature was of particular importance for the activities that directly require access to the water. Better mooring/pontoon facilities would be a draw for those taking part in powerboating and yachting.

Better paths and surfacing were an important location feature for people taking part in land/shore based activities.

Car parking was an important feature with 22% of respondetns citing better/easier parking or cheaper/free parking as important to them.

As section 4.3.10 indicated many people chose sites based on attractiveness and proximity to their home and these features were also cited as influencing location choice. If there were locations closer to home that were as attractive or more people would be likely to choose these in preference.

Overall facilities did not appear to be of major interest to site users with less than 10% of respondents citing toilets, refreshments and better information/maps or boards indicating that these would entice them to visit other locations in preference to the sites they used.

Table 44. Summarised responses to the question 'what would make another location more attractive to you to visit for each activity type.

	Fishing	Land/ based shore activities	Water based activities using small craft	Water based activities using large craft	Swimming/ scuba diving	Total	%
No features/ nothing	36	88	75	53	49	**301**	**15**
More dog friendly	5	50	N/A	5	7	**67**	**3**
Better launching/ access to water	27	53	117	31	30	**258**	**13**
Better mooring/ pontoon facilities	-	-	-	48	-	**86**	**4**
Better path surfacing/routing	7	65	15	5	18	**110**	**6**
Refreshments (e.g. cafe)	3	41	23	14	13	**94**	**5**
Better information/ maps /boards	5	66	19	5	12	**107**	**5**
Measures to control other users	12	27	23	9	18	**89**	**5**
Toilets	9	58	30	13	25	**135**	**7**
Better/easier parking facilities	15	70	63	21	28	**197**	**10**
Cheaper/free parking	21	111	57	23	25	**237**	**12**
Closer to home	11	47	29	10	19	**116**	**6**
Attractive scenery	18	88	36	9	18	**169**	**9**

4.3.12 Transport

Respondents were asked what form of transport they mainly used to arrive at the sites they visited, for each activity type (respondents could select one option only). Car/motorcycle was the dominant form of transport used for all activities (see Table 45).

Transport on foot was the second most popular transport form for land-based activities (92 respondents, 225) and was the main form of transport for 41 (24%) of swimmers/divers Water transport was the second most popular for fishing (37, 34% of respondents) and small water craft users (49 respondents, 17%) and may refer to arriving in management areas by water from other entry points.

Few people used public transport (passenger ferries, buses or trains) to get to the locations they visited, with only 1.4%, 1.8 and 0.4% of respondents, respectively using these as their main form of transport.

Table 45. The type of transport used by respondents within each activity group to arrive at the site. Note the percentages in the main body of the table refer to the activity group responses NOT the overall number of responses from all activity groups. Percentages therefore sum to a hundred or close (depending on rounding) across rows but not down columns. The final % shown at the bottom of the table refer to the total number of responses.

	Bicycle		Bus		Car/motorcycle		On foot		Other by water (e.g. canoe, sail boat, motor boat etc)		Passenger ferry		Train	
Activity Type	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Fishing	1	0.9	0	0	59	54	11	10	37	34	1	0.92	0	0.0
Land/based shore activities	31	7.3	10	2.3	263	62	92	22	19	4	6	1.42	3	0.7
Water based activities using small craft	9	3.2	4	1.4	186	66	26	9	49	17	7	2.47	2	0.7
Water based activities using large craft	3	1.9	0	0	118	75	27	17	9	6	1	0.63	0	0.0
Swimming or diving	9	5.3	7	0	92	54	41	24	20	12	1	0.59	0	0.0
Total No.	**53**	**-**	**21**	**-**	**718**	**-**	**197**	**-**	**134**	**-**	**16**	**-**	**5**	
%	**-**	**4.6**	**-**	**1.8**	**-**	**63**	**-**	**17**	**-**	**12**	**-**	**1.4**	**-**	**0.4**

4.3.13 Respondent comments

Respondents were asked if they had any comments about features that made the locations they used attractive or for comments on why they may use other locations.

A range of comments were received and it was clear that some issues affect certain activity groups only, while others are more general. Some respondents used the opportunity to make suggestions about management or other ideas.

Access to the EMS was a key concern for respondents from all activity types. The lack of shore access in Plymouth was noted. An angler commented that redevelopment of the waterfront was squeezing out anglers and that public access points that were still available were falling into disrepair. A similar comment was also noted by a respondent who flagged up that provision for shore access in Plymouth was limited and that access roads were in poor condition at Mountbatten. Respondents noted concerns about access, litter and safety on the Hoe foreshore, with concerns about anti-social behaviour, theft and broken glass.

Some respondents would like to see better access by bus or other forms of public transport. Better beach access by the water was suggested to put off road transport and the need for more car parks. While others would like 'non-greedy' car parking fees and more/improved parking at some sites such as at Newton Ferrers, Mountbatten and Eastern Kings/Devils Point.

Concern was also raised about the lack of visitor moorings and facilities and that this would put visitors off. Some respondents commented on the lack of facilities such as showers, secure changing facilities.

The balance between facilities and peacefulness is a key one. A respondent highlighted that the EMS is a 'precious place' and noted the need to balance between protection from development while ensuring good facilities for locals and visitors. A few users commented on the peacefulness or naturalness of the site and commented that they value the tranquillity and quiet of the site and the chance to get away from other people or organised activities. One user noted that they prefer 'no facilities at all'. Provision of more facilities would please some people but would be viewed as detrimental by others.

Other comments referred to activity management and the need for balancing access between users. Suggested management changes included demarcated swimming areas, signage to indicate swimming areas and designated naturist areas. Some respondents noted that other users impacted on them, such as the respondent who noted that jet skis did not conform to speed limits outside of designated ski areas. One respondent wanted to see a code of practice to stop their activity being given a bad name while another suggested a code of practice between all users.

A number of users positively commented on the EMS and services within such as catering and launch services. One respondent noted 'travel 200 miles each way, basically speaks for itself, a great place to visit'. Others highlighted particular factors that were relevant to their activities, with a diver noting

the ‘spectacular’ reefs and wrecks around Plymouth. A swimmer noted that one spot in the EMS was ‘one of the best spots in Cornwall for regular sea swimming’. Others noted clean water as an attraction (although it should be noted that other swimmers were concerned about water quality).

4.3.14 Awareness of the European Marine site

The on-line survey respondents were asked if they were aware that the waters of Plymouth Sound and the Tamar Estuaries are designated as a "European Marine Site" and are legally protected because of the species and habitats found there. A large proportion of respondents (67%) answered the question and 343 (78%) indicated that they were aware of the protection. This suggests that at least half (52%) of the 655 survey respondents were aware of the site protection.

5. Discussion

The Plymouth Sound and Estuaries EMS is widely used for recreational activities, and this study reveals a complex pattern of recreational activities being undertaken throughout the site. The three approaches that were applied in this study all revealed different aspects of the recreational use and users of the Plymouth Sound and Estuaries EMS.

The on-site survey provided detailed information on the visitor groups interviewed, the activities they were undertaking and routes through the site. It also yielded in depth of information on the patterns of visits (frequency, duration, time of day, seasonality) and insights into why visitors chose to visit the site and how changes to the site may affect their future visiting patterns.

The targeted workshops gathering high resolution information on areas within the site used by anglers, sailing and motor vessels, sub-aqua divers and paddle-sports and the intensity of this use. This was accompanied by seasonal patterns of use, and the key areas where pressures on intertidal and subtidal species and habitats may be located from activities such as anchoring and launching. The participants of these workshops were local, although many were club representatives with a wider pool of constituents.

The online surveys provided an opportunity to widen the participation to more non-local recreational users, to capture this important component that was likely to be missed by on-site surveys. The data gathered reinforced the distribution and intensities of recreational use by activity type and provided more information on the numbers of visitors to the site.

What emerged from these three approaches combined was that predominantly recreational users are local to Devon and Cornwall (87% of visitor groups in the on-site survey and 82% on online survey respondents). This is comparable with the findings of the Penhale study (in prep) (also 87% of visitors were reported as local residents). There were seasonal trends in the data with more non-local visitors in summer as would be expected with tourists visiting the area from further afield.

Terrestrial activities (such as walking, dog walking and outing with family) accounted for 2/3 of the visitors surveyed in the on-site surveys. Responses from the online surveys also indicated a large proportion of users undertaking terrestrial activities (85%). There were clear preferred locations that emerged from the on-site surveys within the EMS (upper Tamar (Calstock-Cotehele area), the Tavy (Lopwell Dam – Bere Ferrers area), Hoe (Devil's Point to Barbican) and the coast path between Mount Batten and Wembury. The online survey indicated that the Outer Estuary (management zone M) and the Open Coast (zone P) were most used, with much lower patterns of use in the upper Tamar and Tavy. This likely reflects the main access points to the EMS and proximity to the main population centre of Plymouth.

The most popular marine-based recreational activities were canoeing/kayaking, angling, sailing and swimming. This was consistent between both the on-site and on-line surveys, although the latter revealed the proportional representation of small craft users to large craft users as 60:39. The on-site survey identified the main areas for these activities varied by type.

The upper parts of the estuaries (Tamar, Tavy, Yealm) were most important for paddle-sports. This pattern was not consistent with the on-line survey results or the Workshop results for kayaking/canoeing, which found little differences in intensity of use by across the site, and predominant use of the seaward three management zones respectively. Given the conflicting patterns of use in this specific case, most confidence would be place in the results of the targeted workshop on paddle-sports which was likely most representative of the activity.

Areas within the site used by sailing vessels (yachts and dinghies) were highly consistent between the three approaches and indicate the importance of the outermost three management zones to this activity.

The online survey indicated these outermost management zones were also most important for sub-aqua diving, and maps derived from the targeted workshop revealed specific dive sites within these zones, and the seasonal pattern of their use.

Recreational angling has an overall pattern of increased intensity with proximity to the open coast (online survey), but these data represent both shore-based and vessel based fishermen. Vessel based fishermen clearly use the Open Coast (zone P) the most, and the maps that emerged from the targeted angling workshop reinforce this, and provide fine detail on the specific locations for vessel based angling around the Plymouth Breakwater, Cawsand Bay, reefs outside of the Breakwater and Penlee Point. Shore based angling was found to be slightly different in pattern between the different survey approaches; the online survey suggested that the Open Coast (zone P) was marginally more important than the Sheltered Bay (N) and Outer Estuary (M), while the workshops indicated that shore based angling activity was focussed in zone N, and further up the Tamar in zones K (Tamar Torpoint) and G (Tamar Saltash). The latter has more concordance with the on-site survey results which show the highest densities of anglers at Mount Batten Breakwater (within management zone N) and St Budeaux (management zone K). This may be a reflection of different user groups being sampled by the different survey methods, and the on-line survey reaching a more widely distributed group of fishermen who prefer the open coast.

Swimming was found to be strongly centred in the Outer Estuary (M), Sheltered Bay (N) and Open Coast (P) from the responses to the online survey. This is where the beaches are located within the EMS and is what would be expected. The on-site survey results support this with high intensities of use at Wembury, Cawsand/Kingsand, Bovisand, Batten Bay and Firestone Bay which are all popular and accessible beaches within the EMS. Interestingly though, swimming and rockpooling was also reported from sites that would not automatically be associated with these activities further up the estuaries, such as Lopwell Dam and Bere Ferrers on the Tavy and Wacker Quay on the Lynher, from the on-site survey.

As well as providing a picture of what activities are distributed at which locations in the EMS and their seasonality and intensity, an indication on what makes the site attractive to visitors was gained. ‘Attractive scenery’ and ‘Close to home’ were consistently the highest scoring responses in both the on-site (26% and 23% of responses) and online surveys (17% and 15%), indicating the strong association for the site by local residents. This was also consistent for SPA sites as well as the wider EMS. This insight into site preferences is also supported by the responses to the question about what

factors would lead to an alternative site being chosen. In the on-site survey, 17% of local resident visitor groups stated that no features of another site would make it more attractive to visit over the EMS, and 15% of responses in the online survey, suggesting again, the strong relationship that local visitors have with the EMS. This is comparable to the findings from the Penhale survey which determined that 28% of responses would visit the site regardless of features of alternative sites. Responses to speculative changes to the site yielded a similar finding in that 54% of local residents stating that none of the suggested changes would alter the amount of time they spent at the site (on-site survey). Again this reiterates the value of the EMS to local users, and their strong site fidelity.

The Zone of Influence that was derived from the core visitor group (12.3km and 12.1km for the SAC and SPA respectively) is comparable with the 19km Zone of Influence around the Penhale site (in prep), but somewhat larger than the Zone of Influence identified for Thanet (7.2km and 9.8km defined using slightly different techniques) (Fearnley et al. 2014). This is similar in extent to the Zone of Influence definted for the Exe Estuary sites (ref?) of 7.8km for Exe Estuary Zone, 6.9km for Pebblebed Zone and 10km for Dawlish Warren Zone. However a standard methodology for identify Zones of Influence has yet to be defined, with these other studies using slightly different approaches to mark a boundary that is representative of patterns of site visitors.

This study provides a snapshot of the patterns of recreational use of the EMS. Three approaches were used in combination to ensure that the most comprehensive picture of recreational use was obtained, each method contributing a different aspect to the overall picture. However there are limitations to the study as a whole:

1) The on-site surveys were conducted by trained volunteer surveyors. On occasion, they did not complete the work or lost the survey forms which led to gaps in the overall coverage of the on-site surveys. Wherever possible, these were in-filled by MBA staff, but a few gaps still remain. This is a risk associated with using volunteers over paid staff to conduct surveys.

2) Sampling effort was not even across all the on-site surveys sites and seasons, and surveys took place at different times of day (this was due to the fact that some sites are only used at certain states of the tide plus volunteer availability).

3) Other factors strongly determine the intensity of activities such as weather, tides and holidays, and while efforts were focussed at times of predicted high use, we do not know if we achieved this fully.

4) Some sites were not well defined, with different activities occurring in different parts of them e.g. Mount Batten which as a busy slipway used for launching small vessels plus a break water that is a popular shore angling mark. Surveyors moved between the different parts of the site, but splitting into two sites would have allowed more consistent tallying of visitors at the site.

5) The fact that three approaches were undertaken alongside each other introduces the risk of double counting; some respondents may have contributed to more than one approach e.g. attending a workshops plus completing an online survey which may have biased results.

6) As with the on-site surveys and workshops, the online survey can provide only a snapshot of activities within the EMS. Activity patterns and intensity can only be estimated. Although we

publicised the survey as widely as possible, only a proportion of users can be reached and those choosing to take the survey are a self-selecting group.

7) Some activities are more associated with clubs than others within the online surveys. Activities where people take part without club membership, such as fishing and jet skiing, may be particularly under represented as we were unable to promote the survey to these groups.

However, those taking part in land/shore based activities may not be part of clubs the large numbers of people taking part in these activities in the EMS mean that these groups are still well represented.

Despite these limitations, the project results are considered to reflect the underlying activity patterns within the Plymouth and Sound EMS. The on-site surveys, workshops and on-line survey results are largely in agreement with regard to where activities take place and where activity intensities are greatest.

Notwithstanding these limitations, this study comprises the most comprehensive survey of recreational use of the Plymouth Sound and Estuaries EMS to date and has provided detailed information about recreational activities and recreational users of the site. Future work that needs to be done in order to build on this understanding and identify where management needs to be focussed in relation to the conservation objectives of the site would comprise the sensitivity assessment of the site features against the pressures that arise from the distribution and intensity of recreational activities shown here.

This study has also provided an important opportunity to engage with recreational users, initiate a dialogue about site management and raise awareness of the conservation importance of the site features.From our discussions and engagement with people that use the EMS for recreation it was clear that the local community really value the site and access to it. Many people and their families have a long-term interest in the site and its protection and conservation and ongoing access. A clear example of this were the concerns of anglers that we spoke to about illegal fishing and over fishing. This group also highlighted the actions that clubs and responsible participants take to care for stocks and sites. At least one fishing club has a policy that members bring back not only their own rubbish but also additional litter from sites they visit.

Overall, we recognise that there was an openness to both sharing the site between users, and measures to protect the conservation features. We have passed on responses about management and other comments from the workshops to the project commissioners. We also noted concerns in some instances that development should not lead to activities being excluded or that activities should not negatively impact on other users. There was a clear concern that the site received investment and was sustainably managed, while its overall character was maintained and protected from overuse.

References

Fearnley, H, Liley, D and Floyd L. (2014). Thanet Coast and Sandwich Bay SPA Visitor Survey. Unpublished report for Canterbury City Council.

Fearnley, H., Liley, D. & Cruickshanks, K. (2012). Results of the recreational visitor surveys across the Humber Estuary. Footprint Ecology, unpublished report for Humber Management Scheme.

Griffiths, C; Arnold, M and Butler, J. (2016) EMS Recreation Study Document 01. A brief investigation into the possible interaction and sensitivity of priority species and habitats to recreational activity within the Tamar Estuaries Management Plan area. A report for Plymouth City Council.

Ordnance Survey (2016) https://www.ordnancesurvey.co.uk/opendatadownload/products.htm accessed - 7/7/16

Appendix A

A1 On-Site Visitor Questionnaire

Questionnaire to be used for visitor surveys

Date:		Time:	
Location:		Surveyor:	
Survey Number:			

"Good morning/afternoon. Please could you spare between 5 and 10 minutes to take part in a survey about your visit today? Plymouth City Council are undertaking this survey to assess how people use this area for recreation."

Q1. What is the purpose of your visit today? *Read list, tick single closest answer only.*		
1		Living in Devon/Cornwall on a day trip or short visit
2		Living outside of Devon/Cornwall on holiday in the area
3		Living in Devon/Cornwall visiting as part of an organised activity on the site
4		Living outside Devon/Cornwall visiting as part of an organised activity on the site
5		Other (please add further detail)

Q2.What activities will you be doing while you are here today? *No prompt, multiple answer.*		
	Terrestrial	
1		Birdwatching/ wildlife watching
2		Cycling
3		Dog walking
4		Horse riding
5		Jogging/power walking/Nordic walking
6		Kite Flying
7		Outing with children/family
8		Walking
	Marine	
9		Bait digging/cockling/crab tiling
10		Canoeing/kayaking
11		Fishing - Angling
12		Fishing – Spear Fishing
13		Jet ski
14		Kite surfing
15		Motor Yacht
16		Sailing Yacht
17		Small sailing craft (Dingy etc.)
18		Stand up paddle board
19		Surfing
20		Windsurfing
21		Sub Aqua Diving
22		Swimming
23		Rockpooling

24		Other

Q3.Do you visit this particular location for other activities? *No prompt, multiple answers ok, tick as appropriate.*		
	Terrestrial	
1		Birdwatching/ wildlife watching
2		Cycling
3		Dog walking
4		Horse riding
5		Jogging/power walking/Nordic walking
6		Kite Flying
7		Outing with children/family
8		Walking
	Marine	
9		Bait digging/cockling/crab tiling
10		Canoeing/kayaking
11		Fishing - Angling
12		Fishing – Spear Fishing
13		Jet ski
14		Kite surfing
15		Motor Yacht
16		Sailing Yacht
17		Small sailing craft (Dingy etc.)
18		Stand up paddle board
19		Surfing
20		Windsurfing
21		Sub Aqua Diving
22		Swimming
23		Rockpooling
24		Other

Q4.How long have you spent/will you spend at this site today? *Read list, tick single closest answer only.*		
1		Less than 1 hour
2		1-2 hours
3		2-3 hours
4		More than 3 hours

Q5. Over the past year, roughly how often have you visited this particular location for recreational purposes? *Tick closest answer, probe if interviewee struggles. Single answer only.*		
1		Most days (>180 visits)
2		A few times a week (60-180 visits)
3		Several times a month (20-60 visits)
4		About once a month (12-20 visits)
5		Less than once a month (2-12 visits)
6		Don’t know
7		First time
		Any further specific detail provided:

Q6. Do you tend to visit this particular location at a certain time of day? *Tick closest answer, multiple answers ok.*		
1		Before 9am
2		Between 9am and 12
3		Between 12 and 3pm
4		Between 3pm and 5pm
5		After 5pm
6		Dependant on tide times
7		Dependant on weather/sea conditions
8		First visit
		Any further specific detail provided:

Q7. Do you tend to visit this site more during a particular season? *Multiple answers ok.*		
1		Spring
2		Summer
3		Autumn
4		Winter
5		First visit
6		Don't know
7		Same all year

Q8. Only ask Q8 if Q3 was answered: Do you do those different activities you told me about at different times of year? *Multiple answers ok.(Write activities next to season)*		
1		Spring
2		Summer
3		Autumn
4		Winter
5		First visit
6		Don't know
7		Same all year

Q9. What form of transport did you use to get here today? *Single answer only. Add if necessary; Do not prompt, categorise if appropriate.*		
1		Car/motorcycle
2		On foot
3		Bus
4		Train
5		Horse
6		Bicycle
7		By water (e.g. boat, canoe etc.)
		Free text/other detail

10. Do you visit any other places for similar purposes as you visited here today? *If yes;* which two or three do you use most often? *Multiple answers ok. Do not prompt. Record locations. Leave blank if no other locations named.*
1.
2.
3.
Additional details/sites/specific location.

Q11. What makes you come here, specifically, rather than another local site? *Multiple answers ok. Do not prompt. Tick closest answers as appropriate. Use free text box for reasons that didn't fit with categories and for extra detail.*					
1		Don't know	8		Attractive scenery/views
2		Close to home	9		Right place for activity (e.g. Kite surfing/fishing/good for kids)
3		Others in party chose	10		Particular wildlife interest
4		Good/easy parking	11		Suitability given weather conditions
5		Feel safe here	12		Ability to let dog off lead
6		Refreshments	13		Particular launching facilities
7		Toilets	14		Condition of launching facilities
Free text: other reasons/detail. Draw out site specific features and note details here.					

Survey continues on next page:

11.a) Route around the site today

Now I'd like to ask you about the route you've taken / will take around this location today. Could you tell me where you have / will start and finish your route and what you will be doing along the way?

Probe to ensure route accurately documented. Write a full description of the route and note any of the relevant points given below (P, E, X etc). If relevant add tide.
P = parking
E = start point
X = exit
S = a planned/taken stop, e.g. picnic/ lunch/ swim/ dive
B = pulling up onto a beach
DS = dive shot
F = fishing
A = anchor dropped
M = mooring
MO = mooring overnight
C = overnight camping

Route Description

Q12. For the activity you are undertaking today is/was your route a typical length for you when you visit this location?
Tick single closest answer only, do not prompt, code as appropriate.

1		Yes, normal
2		Longer than normal
3		Shorter than normal
4		First visit/visit erratically/no typical visit
5		Not sure

Q13. What (if anything) influenced your choice of route around the site today?
Multiple answers ok. Do not prompt. Tick closest answers as appropriate. Use free text box for reasons that didn't fit with categories and for extra detail.

1		Rainfall	7		Muddy tracks/paths
2		Daylight	8		Wind
3		Temperature	9		Tide
4		Visibility (above and below water)	10		Wave height
5		Other users	11		Activity undertaken (e.g. presence of dog)
6		Time available	12		Particular members of group (e.g. kids)

Free text: other reasons/detail:

Q14. And in terms of this location, if the following changes were made, would you spend more, less or the same amount of time here?
Tick single closest answer only, do not prompt, code as appropriate.

	More (1)	Less (2)	Same (3)	Don't know (4)	Comment
Site became busier with more people					
Better path surfacing/routing					
Parking charges introduced or increased					
Dogs required to be on leads					
Provision of dog waste bins					
Presence of warden/beach manager					
Part of shore closed in areas sensitive for wildlife					

Q15. What features would be necessary to make another site attractive for you to use instead of here?
Do not prompt, categorise as appropriate.

1		No features/nothing	7		Measures to control other users
2		More dog friendly	8		Toilets
3		Better launching/access to water	9		Better/easier parking facilities
4		Better path surfacing/routing	10		Cheaper/free parking
5		Refreshments (e.g. cafe)	11		Closer to home
6		Better information/maps/boards	12		Attractive scenery

Free text: other reasons/detail:

Q16. Do you have any other comments about this area?

Q17. How many people are in your party today?

Finally, so that we can check whether we have a representative sample, please answer the following questions. This information will not be used for any other purpose.

Q18. What is your full home postcode?
If unable/refuse to give postcode: What is the name of the nearest village/town or if in city the nearest district/suburb? *Enter as much detail as possible to allow the location to be mapped.*

Q19a. *Ask question if respondents are visiting from outside the area and staying locally.* If visiting the area please provide the postcode / name of the accommodation you are staying in.

Q19b. What type of accommodation are you staying in? *Do not prompt, categorise as appropriate. Tick one only.*

1		Hotel	7		Glamping
2		B&B / Guest houses	8		Farms
3		Self-catering	9		Holiday parks
4		Cottages	10		Self Catering Agency
5		Caravan	11		Inns / pubs
6		Camping	12		Holiday village

Visitor survey tally

Tally sheet to be used for recording visitor numbers

Location			
Date		Recorder	
Day of week		Site Number	
Time of high tide		Time of low tide	

Time Period (tick one)		
1	07.00 - 09.00	
2	09.00 - 11.00	
3	11.00 - 13.00	
4	13.00 - 15.00	
5	15.00 - 17.00	
6	17.00 - 19.00	

No. refusals during 2 hr period		Total no. interviews during 2 hrs	
No. already interviewed		Start no. for questionnaire nos.	

Weather

Rainfall (tick one)			% Cloud cover in middle of period	
1	None		Temperature (tick those that apply)	
2	Yes, less than ¼ of the 2 hour period		1	Cold
3	Yes, ¼ to ½ of the 2 hour time period		2	Mild
4	Yes, ½ to ¾ of the 2 hour period		3	Warm
5	Yes, more than ¾ of the 2 hour period		4	Hot

Give any further descriptions of weather conditions (especially if likely to influence visitor numbers- e.g. ice/snow, rain (light/moderate/heavy), thunder storm or high winds). Also any tide details if relevant to access.

Tally: record people passing or within predefined count area (use notes box to describe how tally completed if no clear entrance/exit.

Entering Site			Leaving Site		
No. people	No. groups	No. dogs	No. people	No. groups	No. dogs

Activity	No. of people/groups
Terrestrial	
Birdwatching/ wildlife watching	
Cycling	
Dog walking	
Horse riding	
Jogging/power walking/Nordic walking	
Kite Flying	
Outing with children/family	
Walking	
Marine	
Bait digging/cockling/crab tiling	
Canoeing/kayaking	
Fishing - Angling	
Fishing – Spear Fishing	
Jet ski	
Kite surfing	
Motor Yacht	
Sailing Yacht	
Small sailing craft (Dingy/ etc)	
Stand up paddle board	
Surfing	
Windsurfing	
Sub Aqua Diving	
Swimming	
Rockpooling	
Other	

Notes: record any incidents, unusual activities, unusual types of access and also any reasons for unusual numbers of visitors.

A2. Comments provided by interviewed groups

General Positive Comments
Nice to walk next to river
Relaxing place to walk (next to the river)
Beautiful & Relaxing. Heavily used by church group.
Lucky to live near water
Keep as is
good that survey is being done
Beautiful scenery and wide assortment of marine life in rockpools
Lovely area and hard to beat, great for activities
Great as is, keep protected.
Lovely in the sunshine can't beat it
Improved. Like the many coloured flowers.
Beautiful
well accommodated always park here
Pretty Clean
like easy access, easy to walk
well maintained small beach away from any roads, easy access from campsite
Lovely pleasent beach, a hidden beach, compared to Barry island beach,which has been commercialised, this is a lovely area i hope it stays like this, nice, the paths are natural
first visit nothing to judeg it by
not really rather nice down here
clean beaches, appreciate pollution warning, water quality notice board, well maintained paths.
a surprise lovely
havent visited the site properly but seems lovely
only just arrived like the location seems peaceful and quiet
really nice
picturesque part of the world, nice visitors
beautiful area come rain or shine
beautiful. Nice to watch shipping area compared to n wales
lovely area, tidy and organised, dramatic coastline and scenery
not too busy, interesting, accessible
nothing, sand. clean. Like coming here
lovely place. Lots of happy memories
good as is
its fine
closed still for a couple of years overall nice
cleanliness of the sea
nice to get the kids out of the house, exercise
Nice to look at river and fresh air
relaxing scenery
Ver nice, clean beach; good for children;would prefer it if there were more places with shade
Nice sceneric spot, althoug the beach isn't very sandy, unlike other beaches
It's lovely and unspoilt
Leave it as it is. Don't fuss with , lovely as it is
Pleasant
Not, it's fine. People should take advantage of it.

General Positive Comments
Peaceful, Pleasant
No, attractive area, nice café
Peaceful
nice with a cafe to bring in more people
beautiful keep unchanged as people
love it, perfect
stunning
lovely
Beautiful sign for toilet
Kept well
Lovely, peaceful area. Will be coming back next year.
Likes the view (sea, boats in harbour etc.)
Nice views
good that toilets were redone. Also good that access was improved. Diverse site in terms of people who use it. Good that Amer way was reopened to the royal william yard. Would be good if childrens pool cleaned and maintained more regularly.
Keep it lovely, don't build a marina
Cotehele is one of my favourite places to visit and I don't think there needs to be any changes
Clean, tidy, good contrast to the consumerism, good balance
Good view, good to walk, fresh air, clean
Come again, fishing
Good scenery
Hidden gem, no more car parks, keep the grass, good resevoir, lower parking of RWY
Good that its not commercialised, good ferry watching sites, good industrial and millitery aspects, good view, good historical building
It's great
Beautiful, waterfront won't alter, good assisted housing, good for outing, it is nice as it is- don't change it
It looks lovely
The reason we came here was because it was so close
Lovely area
Site well run/ Bovisand very quiet area
Beautiful
Lovely local area with beautiful scenery brilliant for the dog
Lovely scenery with plenty to do with the family
Don't change anything, keep it friendly and open as 15
Don't spoil it, ferries are good
Lovely
Lovely
Lovely
Wonderful
Nice area- love coming here
So far exceeding expectations- yet to undertake activitites today. Appears to have good level of rural facilities, wouldn't want it to be too commercialised
Enjoying visiting regularly
Great stopping point
Great natural area, dogs can be off putting if owners not responsible.
Beautiful light,, as keen photograph
Well kept
Very pleasant to walk in

General Positive Comments
Very beautiful
Lovely
Nice
Pretty, multiprpose, Human and dog recreation should be seperate
Nice area, peaceful
Nice
Very nice. Litter can be a problem. Don't like the Edinburgh Woollen Mill - out of keeping with the area. Bus facilities - better bus routes into Barbican.
Love it here. Very attractive, good for shops (not a high street)
Busy in Summer
Happy as it is, but improvements can only be a good thing.
Waterfront tidied up.
We like to see the changing of the seasons
It is lovely. I do not like the new road layout to Cotehele house
I simply love it as it is
Beautiful!
Stunning scenery, peaceful surroundings and tranquil setting
Fun place to go, nice day out, not overcrowded
Lovely in Summer
Useful site for Capturing our Coast project as there is access to toilets and food from the local pub
Has stayed the same since he was young and would not want to see it changed
Beautiful
No, it's stunning, really beautiful
Perfect. Dam was broken for a time which affected the business
It's lovely, I should come more often. Nice and quiet, lots to offer - good parking
Unspoilt, unregulated, free
I love it. Café is great.
Very pretty
Brilliant place to live. Better public transport would be good.
It is nice to come to.
Really enjoy the local walking.
Don't mess with it unless in context of conservation.
Exploring on recommendation
Exactly the same as when I was 8, so unchanged.
It's quite quiet. Wish there was more surf.
A good place to live.
I like it, been coming here for about 10 years.
A lovely place to live.
Beautiful
Lived in the 'Plymouth travel to work' area for 35 years and has always valued the River Tamar as it has been and would definitely not like to see it developed.
Nice view
Loves it & Drakes Island should be explored
Unspoilt, love it
Very clean
Keep it unspoilt & natural including coastal erosion - no artifical structures
Leave it as it is, very enjoyable. Fill pot holes in car park.
Love the area, it's very nice.

General Positive Comments
Keep it how it is.
It's lovely, peaceful, love the sound of water.
Area improved. Well looked after. Dog mess reduced.
Love it. Lucky to have it.
No changes? Rest of comment is illegible
Has been greatly improved over the years. Don't touch it! Never really busy.
Beautiful
Grateful pool still kept clean. Peaceful, no traffic. Not commercial. No noise.
Lovely
Very good job of the paths & everyone.
Really nice place for a walk.
Don't spoil it! Less houses, more green space.
It is well kept. A lot of dog mess.
love as is
Love it as it is. Love wildlife - owls calling in Summer. Toilets not open (public).
quiet, easy access
Close and easy to get to - always wildlife to see (swans)
very nice + quiet
Gravel surface improved
Leave it alone, perfect as it is.
All positive feedback, nothing negative to say.
Beautiful & unspoilt: Would not like to see any changes made.
Lovely and unspoilt
Pool sorted out
Its lovely, apart from the fish & chips at Saltash, which were horrible
Very beautiful and tranquil, come here for 24 years
Wonderful place, camp also once a year at quay
Nice views, nice to sit on the grass with the kids
Nice views, pleasant to come to
Dogs enjoy walking on the beach (low tide), feel safe here (was elderly lady with 2 big dogs)
Find it calming to look at the river
Beautiful quiet place
like it the way it is because feels local community makes good use of it
lovely place that changes with the seasons
Nice place to rest
take scenery for granted
love it, visits the area weekly to see his wifes ahes and speaks with her, favourite place in the world
we like to feed the swans and look at the river
lovely, quiet probably because inaccessible to most people without a car
lovely, off beaten track, hidden
keep it as it is, don't change it, dont charge parking
beatiful, very nice, peaceful
used to come here as a child, nice and quiet, peaceful, scenic
road is terrible on the way in, too narrow, passing places for the narrow road, but lovely views and nice walks
very pleasant
nice area, lovely
shame about the bridge, lovely area, natural beauty, swans & birds, relaxing, peace of mind

General Positive Comments
nice place to walk
doing a good job, well done, this is free
tranquil, different place to explore
really good first impression, striking view - many deciduous trees
like it here because it's secluded, not well known, and not many people use it, a beautiful setting, unregulated
free - dont pay to launch
very good - don't change anything
its nice but no so much today, a little crowded
good view
fantastic area, NT very good to us, would like better toilet facilities
lovely, put in use other slipway - just needs clearing of mud, this one here is kept clean by Canoe Tamar, nearer carpark for canoe and not need to negotiate visitors
love it here
very beautiful, dont want it spoilt & use it for lots of different recreational activities, wildlife, clear river debris & dangerous protruding trees, harbourmaster duty to clear & is not done - makes it difficult dangerous for navigating
very pretty
thank you nat. Trust for keeping it accessible
lovely area, nice view
very beautiful, hope it doesn't get developed
great place to live, convenient, 2 minute car journey
no commute
it's very beautiful
nice walk, scenic, great place to walk the dog off the lead
should take more interest in the area
it's beautiful
fabulous, peaceful
just like it, beautiful unspoilt
love it
enjoy coming to an unspoilt area, good facilities, cafe, toilets, parking, close to home
choose to live here
nice area to walk, pleasant to walk next to the sea
relaxing and enjoyable, great for children, seaview is important
good beach, however litter issues are slightly offputting
love the view over the sound, would be nice to have a less expensive boat into Plymouth
as marine conservation students, like how remote and untouched it is
Dogs – positive comments
The dogs love it! Nice to live near area
Dog enjoys river
Lovely local area with beautiful scenery brilliant for the dog
Dog friendly
Area improved. Well looked after. Dog mess reduced.
Dogs enjoy walking on the beach (low tide), feel safe here (was elderly lady with 2 big dogs)
nice walk, scenic, great place to walk the dog off the lead
beautiful place to bring dogs & children
Dogs – negative comments
more neforcement of dog messing and owners not cleaning up after their pets
needs a dog wardena dn general policing to alleviate unwanted roughs, encourage water activities like fishing and kayaking, more parking but keep free so locals can continue to use the site, clean pool more regularly

General Positive Comments
Aren't any dog bins up on carpark
Dog fouling an issue bins need to be cleaned out more regularly
Would like dogs on lead, nice and quiet
Great natural area, dogs can be off putting if owners not responsible.
Bins and dog waste bins would be nice
Parking very expensive. Cheaper 30 minute tickets? Dog waste bins and bins need to be emptied on Bank Holidays/after events etc. Favourably more dog bins
Spoilt by dog mess
It is well kept. A lot of dog mess.
Dog mess. Bins are there, but people don't care. Easy access.
Slipways very busy summer; Pomphlett Road - Parking terrible, -litter - need more bins / street cleaners; need to empty dog bins
Swimming – positive comments
Fabulous for swimming
Grateful pool still kept clean. Peaceful, no traffic. Not commercial. No noise.
weekdays better for swim; -weekends in summer gets very busy - eg. Jetskis; boating well monitored; slipway kept clean – powerwash
Swimming – negative comments
I have lived here for 30years and have noticed the quality of water detionate. I would not encourage my children to swim here like I used to do. Used to snorkel here, but now is disappointing with wildlife now, visibility now very poor. Snorkeling not great here, but better previously- though to be due to sediment from whitsand bay? Like the fact that cafe is open year round. Better access for launching boats for recreational use, providing bins, monitoring fly-tipping, cleaning up area used for swimming
Boating – positive comments
Good sailing club, safe place to sail, reasonable mooring fees
Wonderful area for sailing. Annoying is speed boat users. Not respecting speed limits.
weekdays better for swim; -weekends in summer gets very busy - eg. Jetskis; boating well monitored; slipway kept clean - powerwash free - dont pay to launch
Boating – negative comments
Wonderful area for sailing. Annoying is speed boat users. Not respecting speed limits.
Slipways very busy summer; Pomphlett Road - Parking terrible, -litter - need more bins / street cleaners; need to empty dog bins Better access for launching boats for recreational use, providing bins, monitoring fly-tipping, cleaning up area used for swimming Launching somewhere nice along the estuaries
I would like a tide barrier so that we could use river whatever the tide, dont think it should be dredged though
Fishing issues comments
Restrictions on recreational bass fishing too strict compared to commercial operations. Stocks of bass improved/ Mackerel stocks deteriorated pontoon to fish off, bigger wider space
nice as it is, seabass illegal to fish for off a boat, but allowed when fishing on the shore - enough (reasonable) conservation methods in place
Good for children comments
Children enjoy grass area and sandy park
Child loves the sand digger in the park
Kids love the place especially the digger in the sand playpark
nice here for kids for an hour or so
relaxing and enjoyable, great for children, seaview is important
beautiful place to bring dogs & children

General Positive Comments
Access issues comments
Implementation of one-way system for cars
Better bus access to weir quay
Ferry between Oreston and Turnchapel would be good. More access by road , bridge etc.
Remember it from living here young. Would have come a different way if right of way through holiday park was open
Very nice. Litter can be a problem. Don't like the Edinburgh Woollen Mill - out of keeping with the area. Bus facilities - better bus routes into Barbican.
Good access, car park can get busy.
It is lovely. I do not like the new road layout to Cotehele house
Widening of the road as parking can be disruptive. Cars speed through village.
Brilliant place to live. Better public transport would be good.
Improve bus access i.e. Seasonal at the moment.
Hope it doesn't change too much. Water transport would be useful.
Bridge to Hooe - Walking Bridge; more police - Hooe crime; stop building here; + so much traffic with one way
Would be great to have more access to the Liney
lovely, quiet probably because inaccessible to most people without a car
lovely area but dam needs to be repaired - it's a real shame we cannot access the scenic walk, Plymouth Council should sort this out
road is terrible on the way in, too narrow, passing places for the narrow road, but lovely views and nice walks
tide affects time of access & accessibility - due to broken dam and overgrown paths, poorly marked paths
more signage would help to find house, more passing points on road
would be good access points
love the view over the sound, would be nice to have a less expensive boat into Plymouth
Maintenance issues
Paint railings and fencing, improve pot holes on path for walking
Conscious of schedule slipway repairs and impact it could have. -Beautiful scenery. Limited Survey time due to launching of vessel.
New mud banks have caused inconvenience to boats, JCB caused a kink in the lanuching channel, path to playing field needs repair work due to tide and agriculture use
Issue regarding the digger that got stuck near the launching point, as the path is now inaccessible, due to layer of mud, asks for potencial to have mud scraped off.
Would appreciate handrail across walk way and for potholes to be plugged to aid walking across dam (safely)
Public footpath towards lopwell (from Bere Ferrers) eroding away. Repairs necessary
Weir quay slipway could do with lighting for night time launching
Potholes a problem around this area. Prefer it to be left unspoilt by further work. Measures to control water sport users.
Bigger kids playing area, and also some maintenance on existing facilities. Note: visiting for bike rally
Jennycliff- path repair, overgrown foot path
Leave it as it is, very enjoyable. Fill pot holes in car park.
When Plymouth corporation worked after it ws very well maintained. Grass cutting. Doesn't know who looks after it now but it looks alright.
Dam walkway needs repairing, SWN & others arguing who owns it and responsibility for upkeep, walking route ways either side of rivers are restricted - paths need clearing
dam is taking a long time to be repaired but the coffee is good
lovely area but dam needs to be repaired - it's a real shame we cannot access the scenic walk, Plymouth Council should sort this out
shame about the bridge, lovely area, natural beauty, swans & birds, relaxing, peace of mind
tide affects time of access & accessibility - due to broken dam and overgrown paths, poorly marked paths
lovely, put in use other slipway - just needs clearing of mud, this one here is kept clean by Canoe Tamar, nearer carpark for canoe and not need to negotiate visitors
very beautiful, dont want it spoilt & use it for lots of different recreational activities, wildlife, clear river debris & dangerous protruding trees, harbourmaster duty to clear & is not done - makes it difficult dangerous for navigating
Recreational facilities – positive comments

General Positive Comments
Good facilities - Union Inn pub (Saltash) does good beer.
Good local facilities + Not too busy in summertime
One of the best places to kayak
Beautiful place great for kayaks
Fantastic place. Nearest thing to a beach. Kids love it. Would like more information on area - eg. River Tavy
Mt. Batten water sports centre excellent for the kids, very pleased with it.
Recreational facilities – negative comments
Encourage use of pub and picnic tables, more toilet facilities, kayaking /canoeing rentals
Provide dedicated fire pits to avoid damage on ground
Marine Activities (paddle board etc.) rental. Tours/ beachwalks
Seating would be good
better signposting indications to get to the beach
more picnic tables would be nice
more education info
Would like a map to show you - where you can go, bird life, wild life
needs a dog wardena dn general policing to alleviate unwanted roughs, encourage water activities like fishing and kayaking, more parking but keep free so locals can continue to use the site, clean pool more regularly
Fantastic place. Nearest thing to a beach. Kids love it. Would like more information on area - eg. River Tavy
Mt. Batten water sports centre excellent for the kids, very pleased with it.
No clear signage about tide times - ie. People get stuck one side of dam if unaware of tides and walkway being covered.
more signage would help to find house, more passing points on road
Litter issues comments
More rubbish bins would be useful
more public bins
Lack of provisional waste bins. Clearer litter picking sign. Otherwise great beach.
Introduction of water fountains and more waste bins
happy w/ beautiful. Litter bin by side would be good
Bins along edges not enough atm
great live it. Rubbish is a problem especially in busy periods
beach clean,seaweeds removed occasionally, bins?
It would be nice to see more waste bins. People don't take their litter home. Great for children.
More bins general waste
Bins and dog waste bins would be nice
Litter and seaweed on beach after storm, was cleared after council was informed
Very nice. Litter can be a problem. Don't like the Edinburgh Woollen Mill - out of keeping with the area. Bus facilities - better bus routes into Barbican.
A bit of litter in Summer. Council doesn't help much with this, lots of litter on road. Bins are way too small for summer and get burned down by BBQ - need to be bigger, sturdier and more frequent collection.
Slipways very busy summer; Pomphlett Road - Parking terrible, -litter - need more bins / street cleaners; need to empty dog bins
Rubbish bin would be useful
Needs bins
Better access for launching boats for recreational use, providing bins, monitoring fly-tipping, cleaning up area used for swimming
would like people to pick up own litter
good beach, however litter issues are slightly offputting
Parking issues comments
Beautiful area, easy to launch rib, though parking can be an issue, especially with large trailers
Cafe is really good. Carparking may need improving

General Positive Comments
Building limitations; constant for 10 years, building vehicles issues blocking road. Lack of parking: lift of parking restrictions for locals or permits (or 4 hour limit instead of 45 minutes). Weight restrictions sign for large vehicles long term parking, no barrier and no height restrictions, kayak etc
I think the parking fee is a little high, or free parking for cafe users
needs a dog wardena dn general policing to alleviate unwanted roughs, encourage water activities like fishing and kayaking, more parking but keep free so locals can continue to use the site, clean pool more regularly Hidden gem, no more car parks, keep the grass, good resevoir, lower parking of RWY
Parking being used by RWY staff
Good access, car park can get busy.
Parking very expensive. Cheaper 30 minute tickets? Dog waste bins and bins need to be emptied on Bank Holidays/after events etc. Parking in the area could be more. - restricted to times.
Slipways very busy summer; Pomphlett Road - Parking terrible, -litter - need more bins / street cleaners; need to empty dog bins car parking limits you to a time if you pay for a certain time
keep it as it is, don't change it, dont charge parking
stop people parking on slipway
lovely, put in use other slipway - just needs clearing of mud, this one here is kept clean by Canoe Tamar, nearer carpark for canoe and not need to negotiate visitors
Pylon issues
Pylons affecting aesthetics, underwater cables would be better. Closure of post office and general store. Please reintroduce these amenities. Pylons are eyesore- undersea cables desired
Toilet facilities issues
Introduction of public toilets would be useful. Survey rushed due to launching of canoes and children
Need some toilets close by!
Would be good to re-think closing the public toilet over the winter months.
Love it as it is. Love wildlife - owls calling in Summer. Toilets not open (public).
Toilets closed between Nov-Feb - not good. Lives in the area - Noss Mayo.
improve public toilets
toilets are terrible
fantastic area, NT very good to us, would like better toilet facilities
Wildlife comments
Used to be more swans and geese in the area. Great area.
Used to see more swans in the area
Info board with wildlife info in ther are- what to look for
Would like a map to show you - where you can go, bird life, wild life
Emphasis on wildlife conservation: More conservation methods should be introduced.
Distressed by increasing amount of pheasant shooting which must disrupt wildlife.
Since the floods, wildlife doesn't seem to be as present, put something in place to stop people using site as a houshold dumping ground
Fly-tipping issues comments
Problem with flytipping
Better access for launching boats for recreational use, providing bins, monitoring fly-tipping, cleaning up area used for swimming Since the floods, wildlife doesn't seem to be as present, put something in place to stop people using site as a houshold dumping ground
Cafe facilities comments
I love it. Café is great.
nice with a cafe to bring in more people
No, attractive area, nice café

General Positive Comments
Owners of Cliff Edge Café have become friends, and I see other people I know. From Bristol but father now has to have 24h care. When he is with other people - I keep my sanity by walking this local coastline & socialising at the café.
Cafe is really good. Carparking may need improving
dam is taking a long time to be repaired but the coffee is good
enjoy coming to an unspoilt area, good facilities, cafe, toilets, parking, close to home
Tourists/holiday home issues comments
would prefer a less busy beach. Lovely peice of coastline, lived in the village for 28 years, beach hasnt changed too much.
Claims there are 62% holiday homes locally and restrictions (such as a cap on number of holiday homes) show be enforced/ increase council tax
Community is very important & community spirit is declining, as so many second homes now and locals cant afford to be residents. Strong community spirit.
Getting too built up. Getting too packed, too many cars and people.
Lives in Noss Mayo - happy. Less holiday - makers preferably
pretty place to live but quite expensive to buy
its nice but not so much today, a little crowded
Planning/development issues comments
concerned about sutton harbour future of the quay
an area of outstanding beauty. Private chalets ruin the aesthetic of the coastal path
Bridge to Hooe - Walking Bridge; more police - Hooe crime; stop building here; + so much traffic with one way
Love Tamar Valley but they are building too much on it. ADNB & Nat. Parks need more control, and needs to come from Gov. regarding housing
Vitally important that local councils respect the value of the rural aspects - serios concern of impact of urban influence
Miscellaneous
better policy at night
Look at Torpoint Plan, which is a community group working on making Torpoint mine attractive and well known for recreation. Visit website for more info torpointplan.org.uk
3000 kids a year get to go out on bell boats that he organises
Should be open more of the year e.g. Winter
do bring picnic sometimes
used to come all the time from Tamerton Foliate

Appendix B Workshop promotion and attendees

B1 Key organisations targeted

Organisation	Activity	Type
Aces High	Angling	Charter boat
Fish N Trips	Angling	Charter boat
Mirage	Angling	Charter boat
Plymouth Angling Centre	Angling	Bait & Tackle Shop
Sea Angling Plymouth	Angling	Charter boat
Deepsea	Angling	Charter boat
Plymouth boat fishing	Angling	Charter boat
Plymouth Boat trips	Angling	Charter boat
QM Quality Service	Angling	Bait & Tackle Shop
Rob's Bait & Tackle Supplies	Angling	Bait & Tackle Shop
Size Matters	Angling	Charter boat
South West Sea Baits	Angling	Bait & Tackle Shop
The Tackle Barn	Angling	Bait & Tackle Shop
Aquanauts	Diving	Dive school
Discovery divers	Diving	Dive school
In Deep Dive Centre	Diving	Dive school
Plymouth Diving Centre	Diving	Dive school
Plymouth Sound BSAC	Diving	Dive school
Sandford & Down	Diving	Dive shop
Sound Diving	Diving	Dive Shop
Tamar Trails Centre	Canoeing	Tours
Tamar Canoe Association	Canoeing	Club
British Canoeing	Canoeing	National Association
Freelance outdoor education instructor	Canoeing, kayaking, and other	freelance
UPSU Canoe Club	Canoeing	Club
Mount Batten Centre	Canoeing / Kayaking / SUP / sailing / windsurfing / power boating / coasteering	Watersports Activity Centre
Cattewater Pilot Gig Club	Rowing / Kayaking	Club
Cotehele Quay gig club	Rowing / Kayaking	Club
Mayflower offshore rowing club	Rowing / Kayaking	Club
Plymouth Amature Rowing Club	Rowing / Kayaking	Club
Port of Plymouth Canoe Association	Rowing / Kayaking	Club
Rame Gig Rowing Club	Rowing / Kayaking	Club
Tamar & Tavy Gig Club	Rowing / Kayaking	Club
University of Plymouth rowing club	Rowing / Kayaking	Club
Yealm Pilot Gig Rowing club	Rowing / Kayaking	Club
Plymouth Marine Center	Sailing/Boating	Center
Cargreen yacht club	Sailing	Club
Cattedown Harbour Authority	Sailing	Harbour authority
Cattewater Cruising Club	Sailing	Club
Cawsand Bay Sailing Club	Sailing	Club
Cremyl Sailing / The Island trust	Sailing	Sailing school / outreach
Hooe Point sailing club	Sailing	Club
Mayflower Sailing Club	Sailing	Club
Morvaugh Sailing Project	Sailing	Sailing school / outreach
Plym yacht club	Sailing	Club
Plymouth and Devon Schools Sailing Association	Sailing	Sailing school / outreach
Plymouth Sailing School	Sailing	Sailing school / outreach
Plymouth Students Union Sailing Club / Yacht Club / Sailing and Powerboat Club	Sailing	Club
Plymouth Yacht Haven	Sailing	Club
Port of Plymouth Sailing Association	Sailing	Association
Quay Sailing Club	Sailing	Club
Queen Anne Battery	Sailing	Harbour authority

Organisation	Activity	Type
Queens Harbour Master	Sailing	Harbour authority
River Yealm Harbour Authority	Sailing	Harbour authority
Royal Plymouth Corinthian Yacht Club	Sailing	Club
Royal Western yacht club of England	Sailing	Club
Saltash Sailing Club	Sailing	Club
Southdown Marina	Sailing	Boat services
Sutton Harbour Authority	Sailing	Harbour authority
Tamar River Sailing Club	Sailing	Club
The Yealm yacht club	Sailing	Club
Top Cat Cruising School	Sailing	Sailing school / outreach
Torpoint mosquito sailing club	Sailing	Club
Torpoint yacht club	Sailing	Club
Weir Quay Boatyard	Sailing	Boat services
Weir Quay Sailing Club	Sailing	Club
West Hoe Sailing Club	Sailing	Club
Kayaks for Hire	Canoeing	Kayak hire
Plymouth Marine Centre	boating/jetski	centre
Plymouth Jet ski training	jet ski	training centre

B2 Flyers and social media promoting workshops

The Chandlers
Jolly Jacks
Queen Annes battery marina office
Queen Annes Battery- Royal Western yacht club
Queen Annes Battery- Sound bites
Queen Annes Battery- Chandlery
Osborne and Gragg Fishing shop
Peter's Fishing and Sport Shop
Go Outdoors
Plymouth University
Plymouth City library
Plymouth Marine Centre
Millets
Fish N' Trips
Marine Bazaar Plymouth
Gould's Outdoor
Cargreen slipways (x2)
Landulph memorial hall -Cargreen (x2)
Cotehele house (reception) x2
Cotehele House, Mt Edgcumbe arms (for approval) x3
Calstock Slipway noticeboard(x1)
Calstock Village notice board(x1)
Calstock social club (x1)
Calstock _Tamar Inn (x1)
Bere ferers-Slipway (x1)
Bere Ferrers -The Plough
Devils point car park and fishing areas (x 3)
Aladdin's Cave embankment Road
Mountbatten Centre x 2, pub and fishers nose (x2)
Radio Plymouth- announcements and on the Events Page, angling, sailing and paddler workshops advertised
Marine Biological Association events page
MBA twitter
MBA staff- invited all staff and asking to publicise
Fishing facebook
Ben Holt- CoCoast sent round their volunteers
Local MBA members emailed
Southwest Sea fishing (messaged on facebook)
Yumping (jet ski) Facebook message, will pass info on
Liam faisey (local angling and kayaking co-ordinator)
Plymouth Yacht Haven-sending round their social network
UPSU Canoe club, sent message on facebook
Port of plymouth canoe association, post on facebook
Kayaks and Paddles, post message on facebook
Plymouth Angling Centre Facebook page
Plymouth Environment action- sent round their network
Alix Harvey- MBA staff member-sent round social media network
Jack Sewell-MBA member, sent round his network
http://heyevent.uk/event/vnr4pegzhunnqa/free-recreational-angling-workshop
Tom Rahder- local sailor; shared around his network

Appendix C Targeted workshop workbooks

C1 Angling Workshop Outline

Note taker Name:

Please hand in this outline at the end of your workshop, please make sure all maps and workbooks and other material that you have used have your initials.

Question 1) Where do you fish? (Add marks to map- use coloured dots and/or draw on outlines as needed)

- Write quick outline below of people in your groups activities

- For boat fishermen, add launch sites, pontoons, marinas to map, Ask if they ever anchor while fishing, add each of these to map and annotate as needed.

- Annotate Maps A for anchoring, ON for overnight. P for pelagic fishing only- no contact with seabed, S for sinker weights. Annotate, mooring, slipway, pontoon just on map- no abbreviation

- For shore fishermen ask where they go to fish, use a dot to add this onto map, if more than one goes to same place just use same area but record frequencies separately (see tables below). **Add P to dot for pelagic fishing only, S for sinkers, S/P for mixed. Use dots with name codes if needed: use key at the back to record.**

- Ask them what time of day they usually fish and add code to table cell. When do they generally fish- **N -night, M-morning- A- Afternoon**

- Ask them to estimate fishing frequency: record each persons results in the tables below – see separate sheets for spares. Add simple confidence after each score: *, **,***

TABLE 1. AMOUNT OF TIMES THEY VISIT EACH OF THEIR SITES DURING A YEAR. FOR VESSELS ADD NUMBER IN BOAT IN BRACKETS, ADD TIME OF DAY AND CONFIDENCE

Time period (all 2016)	No of times at each location (use a code			
Dec-Jan-Feb				
March-April-May				
June-July-Aug				
Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate				

. TABLE 1. AMOUNT OF TIMES THEY VISIT EACH OF THEIR SITES DURING A YEAR. FOR VESSELS ADD NUMBER IN BOAT IN BRACKETS, ADD TIME OF DAY AND CONFIDENCE

Time period (all 2016)	No of times at each location (use a code			
Dec-Jan-Feb				
March-April-May				
June-July-Aug				
Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate				

Question 2) Where do you see others fishing and other activities (same map)

Add to map locations where they see other people fishing (not their own spots) use a different colour pen or dot. Fill in table below for general estimate (with confidence of other people fishing) at their own and other sites.

Using space at end of workbook record at their sites what also happens other water users or terrestrial users, very close by.

TABLE 2. AMOUNT OF OTHER PEOPLE/VESSELS THEY SEE AT THEIR OWN AND OTHER SITES DURING A YEAR. FOR VESSELS ADD NUMBER IN THEIR BOAT IN BRACKETS, ADD TIME OF DAY AND CONFIDENCE

Time period (all 2016)	No of times at each location (use a code			
Dec-Jan-Feb				
March-April-May				
June-July-Aug				
Sept-Oct-Nov				

TABLE 2. AMOUNT OF OTHER PEOPLE/VESSELS THEY SEE AT THEIR OWN AND OTHER SITES DURING A YEAR. FOR VESSELS ADD NUMBER IN THEIR BOAT IN BRACKETS, ADD TIME OF DAY AND CONFIDENCE

Time period (all 2016)	No of times at each location (use a code			
Dec-Jan-Feb				
March-April-May				
June-July-Aug				
Sept-Oct-Nov				

3) General questions: Record Answers on blank sheets at back of books!

Litter

Do you ever see litter from fishing at sites you visit?

What do delegates think would help to manage this, litter bins?

Record general comments below at the end of the workbook- for litter identify worst sites by name. If not enough space use extra sheets and staple together at the end of the workshop

Bait collecting

What bait do you use, shop bought, caught e.g. fish or worms and crabs that you capture dig for yourselves.

- If they bait dig ask them to add a B to the map for areas used and fill a table on frequency
- If you collect peelers please add a Cr to the map and fill a table on frequency and number of tiles they have in brackets.

Bait answers: what do people in your group use? If not enough space below use extra sheets and staple together at the end of the workshop. If they use crab tiles how many and how often do they visit.

Table 3. Bait digging Bait digging *(B), Crab tiling

Time period (all 2016)	**No of times at each location (use a code**			
Dec-Jan-Feb				
March-April-May				
June-July-Aug				
Sept-Oct-Nov				

4) General Fish spotting-Shad and smelt, ask them to put gold stars on the Allis shad map and silver stars on the smelt map

These maps are on separate boards

Map key

Table: Identify what you've called your map e.g. HT:, detail any annotations or colours you have used on map, any site codes etc.

Name:	**Map name:**

Question 2. Other water users at the sites that they use. Give details and approximate number of events, is that all year round.

Question 3. Is there anything they'd like to raise as a concern/issue.

Name (optional) …….

1 C2 Recreational Sailing Workbook for Individuals

Question 1. How do you access the water?

1A) From a tender out to a swing moorings? Yes /No or trot moorings Yes /No (please circle)

Number of swing moorings you own/use……..

For swing moorings can you give average diameter of mooring

block?.....Don't know

Approximate length of chain on seabed……..

Do you move your moorings monthly / annually/ every 2 years / every 5 years/ never (please circle)

1B) From marina pontoons? Yes/No (please circle)

If yes, if the pontoons are serviced with electricity, are there lights on at night. Yes/No……

1C) From trailers/dry storage via slipways? Yes / No

Are slipways accessed through the year? Yes / No

1D) Other methods…….Please give details……

Mapping: On the large map on your table could you please draw on and label the following:

1A) Any swing mooring areas and **mark with SM**

1 B) Any trot moorings and **mark with TM**

1C) Any pontoons and **mark with PN**

1D) Any slipways used **mark with SW**

Question 2 Description of sailing activities

2A) Do you undertake racing activities? Yes / No (please circle).

If yes could you give approximate numbers of race events during the week (PLEASE INDICATE NUMBER OF PEOPLE TAKING PART IN BRACKETS). If you need more tables, spare sheets are available.

Time period (all 2016)	**No of times at each location per week (please add number of vessels in brackets)**			
Dec-Jan-Feb				
March-April-May				
June-July-Aug				
Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate				

Time period (all 2016)	No of times at each location per week (please add number of vessels in brackets)			
Dec-Jan-Feb				
March-April-May				
June-July-Aug				
Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate				

If you use marker buoys that are consistently placed in the same spot can you please add these to the map using the fluorescent green stickers.

2B) Do you undertake training activities? Yes / No, (please circle).

If yes, could you please provide approximate number of training events during the week for each season.

Time period (all 2016)	No of times at each location (per week)			
Dec-Jan-Feb				
March-April-May				
June-July-Aug				
Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate				

Time period (all 2016)	No of times at each location per week (please add number of vessels in brackets)			
Dec-Jan-Feb				
March-April-May				
June-July-Aug				
Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate				

2C) Do you undertake recreational trips within or through the Plymouth Sound and Estuaries site? Yes / No, (please circle).

If yes could you please provide approximate numbers of times during the week

Time period (all 2016)	No of times at each location per week (please add number of vessels in brackets)			
Dec-Jan-Feb				
March-April-May				
June-July-Aug				
Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate				

Time period (all 2016)		No of times at each location (per week)			
Winter	Dec-Jan-Feb				
Spring	March-April-May				
Summer	June-July-Aug				
Autumn	Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate					

Mapping: On your large maps could you draw on the following

2A) Racing areas- if these vary seasonally, could you mark with W, for winter, Sp, for Spring, Su for summer and Au for Autumn.

2B) Training areas- if these vary seasonally, could you mark with W, for winter, Sp, for Spring, Su for summer and Au for Autumn.

2C) Recreational trips –could you show tracks or areas used; if these vary seasonally, could you mark with W, for winter, Sp, for Spring, Su for summer and Au for Autumn.

3) Anchoring and mooring.

Do you/your members typically anchor or moor during trips (not permanent moorings as this is addressed in question 1)

3A) Do you or club members prefer to anchor / moor /mix of anchoring and mooring/ Don't know…….(please circle)

Mapping: On your maps could you please draw on anchoring and mooring areas and label A for anchoring, SM (swing mooring) or TM (trot mooring) for moorings and HO for pulling up tenders on shore. Can you please add an ON to the area if you anchor or moor there overnight.

<u>Question 3 General questions on practice.</u>

We'd like to ask for your input on some examples of environmental best practice below. We are interested in learning if there any issues such as cost, lack of information or anything else that you think prevents adoption? If you need more space to answer any questions please use the back of the booklet and ask for spare sheets if needed.

1) **Have you heard about the RYA Green Blue initiative?** Yes/ No (Please circle)

2) **Are you aware of the presence and impacts of invasive species that can colonise marinas and pontoons and other hard surfaces?** Yes / No / (Please circle)

3) **Have you attended a RYA Green Blue workshop?** Yes / No / (Please circle)

4) **Do you know about the European Marine Site?** Yes / No / (Please circle)

5) **Do you know where eelgrass beds are located ?** Yes / No / (Please circle)

6) **If you use a swing or trot mooring would you consider changing to an eco-friendly mooring?** Yes/ No / Don't use moorings (please circle)

7) **Do you think there are there any barriers to switching to ecomoorings, such as cost, insurance or lack of proven technologies (please write in space below)**

8) **What would you think about paying to anchor on eco-friendly moorings?**

9) **Do you have a sea toilet on board?** Yes / No / (please circle)

10) **Do you have a holding tank fitted** Yes / No / (please circle)

If no, would you consider getting one fitted Yes / No / Don't know (please circle)

What are the main issues if no (please write below):

11) **Do you eco-friendly cleaning products?** Yes / No / Don't know (please circle)

12) **How often do you or club members tend to scrub down / antifoul? How do you protect the environment when you do this? Do you have access to any advice or special equipment?**

C3 Recreational Sailing Workbook for clubs

Name (optional) …….

Club (optional)…….

Approximate number of sailors that you represent……..

Question 1. How do your members access the water?

1A) From tenders out to swing moorings? Yes /No or trot moorings Yes /No (please circle)

Number of swing moorings used by club ……..

Number of mooring risers/buoys if trot moorings……

If swing moorings are these a standard size, can you give average diameter of mooring block?.....Don't know/ Size varies

Approximate length of chain on seabed……..

Do you move moorings monthly / annually/ every 2 years / every 5 years/ never (please circle)

1B) From marina pontoons? Yes/No (please circle)

If yes, Please identify approximate number of boats……if the pontoons are serviced with electricity, are there lights on at night. Yes/No……

1C) From trailers/dry storage via slipways? Yes / No

Are slipways accessed through the year? Yes / No

1D) Other methods…….Please give details……

Mapping: On the large map on your table could you please draw on and label the following:

1A) Any swing mooring areas and **mark with SM**

1 B) Any trot moorings and **mark with TM**

1C) Any pontoons and **mark with PN**

1D) Any slipways used **mark with SW**

Question 2 Description of sailing activities

2A) Do your members undertake racing activities? Yes / No (please circle).

If yes could you give approximate numbers of race events during the week (PLEASE INDICATE NUMBER OF PEOPLE TAKING PART IN BRACKETS). If you need more tables, spare sheets are available.

Time period (all 2016)	**No of times at each location per week (please add number of vessels in brackets)**			
Dec-Jan-Feb				
March-April-May				
June-July-Aug				
Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate				

Time period (all 2016)	No of times at each location per week (please add number of vessels in brackets)			
Dec-Jan-Feb				
March-April-May				
June-July-Aug				
Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate				

If you use marker buoys that are consistently placed in the same spot can you please add these to the map using the fluorescent green stickers. Can you write next to these how often they are lifted.

2B) Do your members undertake training activities? Yes / No, (please circle).

If yes, could you please provide approximate numbers of training events during the week for each season and numbers taking part in the table below (PLEASE INDICATE NUMBER OF PEOPLE TAKING PART IN BRACKETS).

Time period (all 2016)	No of times at each location (per week)			
Dec-Jan-Feb				
March-April-May				
June-July-Aug				
Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate				

Time period (all 2016)	No of times at each location per week (please add number of vessels in brackets)			
Dec-Jan-Feb				
March-April-May				
June-July-Aug				
Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate				

2C) Do your members undertake recreational trips within or through the Plymouth Sound and Estuaries site? Yes / No, (please circle).

If yes could you please provide approximate numbers of recreational events during the week (PLEASE INDICATE NUMBER OF PEOPLE TAKING PART IN BRACKETS).

Time period (all 2016)		No of times at each location (per week)			
Winter	Dec-Jan-Feb				
Spring	March-April-May				
Summer	June-July-Aug				
Autumn	Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate					

Time period (all 2016)	No of times at each location per week (please add number of vessels in brackets)			
Dec-Jan-Feb				
March-April-May				
June-July-Aug				
Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate				

Mapping: On your large maps could you draw on the following

2A) Racing areas- if these vary seasonally, could you mark with W, for winter, Sp, for Spring, Su for summer and Au for Autumn.

2B) Training areas- if these vary seasonally, could you mark with W, for winter, Sp, for Spring, Su for summer and Au for Autumn.

2C) Recreational trips –could you show tracks or areas used; if these vary seasonally, could you mark with W, for winter, Sp, for Spring, Su for summer and Au for Autumn.

3) Anchoring and mooring.

Do you/your members typically anchor or moor during trips (not permanent moorings as this is addressed in question 1)

3A) Do you or club members prefer to anchor / moor /mix of anchoring and mooring/ Don't know…….(please circle)

Mapping: On your maps could you please draw on anchoring and mooring areas and label A for anchoring, SM (swing mooring) or TM (trot mooring) for moorings and HO for pulling up tenders on shore. Can you please add an ON to the area if you anchor or moor there overnight.

Question 3 General questions on practice.

We'd like to ask for your input on some examples of environmental best practice below. We are interested in learning if there any issues such as cost, lack of information or anything else that you think prevents adoption? If you need more space to answer any questions please use the back of the booklet and ask for spare sheets if needed.

1) **Has your club heard about the RYA Green Blue initiative?**

Yes/ No / Some members likely to be aware but not all (Please circle)

2) **Are you as a club aware of the presence and impacts of invasive species that can colonise marinas and pontoons and other hard surfaces? Yes / No / Some members likely to be aware but not all (Please circle)**

3) **Has your club hosted a RYA Green Blue workshop? Yes/No / Don't know (Please circle)**

Would you be interested in holding one Yes/No (if yes please provide contact details, email or telephone in the space below)

4) **Do club members know about the European Marine Site? Yes / No / Some members likely to be aware but not all / Don't know (please circle)**

5) **Do club members know where eelgrass beds are located ? 1) Yes / No / A little/ Don't know (please circle)**

6) **If the club uses swing or trot moorings would you consider changing to an eco-friendly mooring? Yes/ No / Don't use moorings (please circle)**

7) **Do you think there are there any barriers to switching to ecomoorings, such as cost, insurance or lack of proven technologies (please write in space below)**

8) **What are club members thoughts, do you think, around paying to anchor on eco-friendly moorings?**

9) **Do club members generally have a sea toilet on board? Yes / No / Don't know (please circle)**

10) **Do club members generally have a holding tank fitted Yes / No / Don't know (please circle)**

If no, in your opinion would members consider getting one fitted Yes / No / Don't know (please circle)

What are the main issues if no (please write below):

11) **Do club members consider using eco-friendly cleaning products? Yes / No / Don't know (please circle)**

12) **How often do you or club members tend to scrub down / antifoul? How do you protect the environment when they do this? Does the club offer any advice, special equipment?**

C4 Recreational Powerboat Workbook for Individuals

Name/Club name (optional) …….

Activity type:

Question 1. How do you access the water?

1A) From a tender out to a swing or trot mooring? Yes /No or trot moorings Yes /No (please circle)

Number of swing moorings you own/use……..

For swing moorings can you give average diameter of mooring

block?.....Don't know

Approximate length of chain on seabed……..

Do you move your moorings monthly / annually/ every 2 years / every 5 years/ never (please circle)

1B) From marina pontoons? Yes/No (please circle)

If yes, if the pontoons are serviced with electricity, are there lights on at night. Yes/No……

1C) From trailers/dry storage via slipways? Yes / No

Are slipways accessed through the year? Yes / No

1D) Other methods…….Please give details……

Mapping: On the large map on your table could you please draw on and label the following:

1A) Any swing mooring areas and **mark with SM**

1 B) Any trot moorings and **mark with TM**

1C) Any pontoons and **mark with PN**

1D) Any slipways used **mark with SW**

Question 2 Description of activities

Could you please provide approximate numbers of times during the week you undertake your activity at different locations/sites) (could you indicate in brackets how many people usually take part). Can you please annotate the map to identify what activity you are undertaking, e.g. jet ski, dive site, motor-boating etc.

Time period (all 2016)		**No of times at each location (per week)**			
Season					
Winter	Dec-Jan-Feb				
Spring	March-April-May				
Summer	June-July-Aug				
Autumn	Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate					
Time period (all 2016)		**No of times at each location (per week)**			
Season					
Winter	Dec-Jan-Feb				
Spring	March-April-May				
Summer	June-July-Aug				
Autumn	Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate					

Time period (all 2016)		No of times at each location (per week)			
Season					
Winter	Dec-Jan-Feb				
Spring	March-April-May				
Summer	June-July-Aug				
Autumn	Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate					

Mapping: On your large maps could you draw on the following

Tracks or areas used; if these vary seasonally, could you mark with W, for winter, Sp, for Spring, Su for summer and Au for Autumn. Can you either add a brief description to map e.g. add dive sites, areas you visit.

3) Anchoring and mooring and shot lines

Do you/your members typically anchor or moor during trips or deploy shot lines on the seabed?

Mapping: On your maps could you please draw on anchoring and mooring areas and label A for anchoring, SM (swing mooring) or TM (trot mooring) for moorings and HO for pulling up tender, RIBs or other vessels on shore. If you place a shot line can you add SL to the map. Can you please add an ON to show night moorings, anchorages and sites.

4) Gathering shellfish (e.g. crab, lobster, scallops)

Do you/your members typically gather shellfish to take home and eat?

Mapping: On your maps could you please identify areas that you collect shellfish from and annotate what types of shellfish you are gathering.

Question 3 General questions on practice.

We'd like to ask for your input on some examples of environmental best practice below. We are interested in learning if there any issues such as cost, lack of information or anything else that you think prevents adoption? If you need more space to answer any questions please use the back of the booklet and ask for spare sheets if needed.

1) **Have you heard about the RYA Green Blue initiative?** Yes/ No (Please circle)

2) **Are you aware of the presence and impacts of invasive species that can colonise marinas and pontoons and other hard surfaces?** Yes / No / (Please circle)

3) **Have you attended a RYA Green Blue workshop?** Yes / No / (Please circle)

4) **Do you know about the European Marine Site?** Yes / No / (Please circle)

5) **Do you know where eelgrass beds are located ?** Yes / No / (Please circle)

6) **If you use a swing or trot mooring would you consider changing to an eco-friendly mooring?** Yes/ No / Don't use moorings (please circle)

7) **Do you think there are there any barriers to switching to ecomoorings, such as cost, insurance or lack of proven technologies (please write in space below)**

8) **What would you think about paying to use eco-friendly moorings?**

9) **Do you have a sea toilet on board?** Yes / No / (please circle)

10) **Do you have a holding tank fitted** Yes / No / (please circle)

If no, would you consider getting one fitted Yes / No / Don't know (please circle)

What are the main issues if no (please write below):

11) **Do you eco-friendly cleaning products?** Yes / No / Don't know (please circle)

12) **How often do you or club members tend to scrub down / antifoul? How do you protect the environment when you do this? Do you have access to any advice or special equipment?**

C5 Recreational paddle-sports/rowing workbook for clubs and individuals

Name (optional) …….

Club (optional)…….

Approximate number of people that you represent……..

Question 1. How do you or club members access the water?

Mapping: On the large map on your table could you please draw on and label the following:

- Any shores where you access the water (**mark with Shore access)**
- Any pontoons and (**mark with Pontoon)**
- Any slipways used (**mark with Slipway)**
- Any shore areas where you land during trips (**please mark as Haulout)**
- Other ? please mark on the map and annotate.

Question 2: Where do you carry out your activity in the Plymouth Sound and Estuaries Area?

On the maps could you draw on the tracks or show the areas used; if these vary seasonally, could you mark with W, for winter, Sp, for Spring, Su for summer and Au for Autumn.

Could you please provide approximate number of times you are out during the week at different times of the year. (PLEASE ESTIMATE NUMBER OF PEOPLE TAKING PART IN BRACKETS IF YOU ARE REPRESENTING A CLUB).

We need to relate the areas that you've draw on the maps to the number of times you are using them, you can number your areas on the map and just add those numbers to the tables below in the top row. We have spare tables if you need more, just ask.

Time period (all 2016)		**No of times at each location (per week)**			
Winter	Dec-Jan-Feb				
Spring	March-April-May				
Summer	June-July-Aug				
Autumn	Sept-Oct-Nov				

Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate

Time period (all 2016)	**No of times at each location per week (please add number of vessels in brackets)**			
Dec-Jan-Feb				
March-April-May				
June-July-Aug				
Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate				

Question 3. Using a different colour pen could you please mark on the maps any areas that you know are popular with other people doing the same activity.

Could you please add an estimate of the number of people you think use the areas you've added during the week.

Time period (all 2016)		**No of times at each location (per week)**			
Winter	Dec-Jan-Feb				
Spring	March-April-May				
Summer	June-July-Aug				
Autumn	Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate					

Time period (all 2016)		No of times at each location (per week)			
Winter	Dec-Jan-Feb				
Spring	March-April-May				
Summer	June-July-Aug				
Autumn	Sept-Oct-Nov				
Confidence * Low, very uncertain ** Medium, pretty good guess *** High, confident it's a good estimate					

Question 4. Couple of questions on awareness of European Marine Site

We'd like to ask for your input on some examples of environmental awareness below. We are interested in learning if there any issues such as cost, lack of information or anything else that you think prevents adoption? If you need more space to answer any questions please use the back of the booklet and ask for spare sheets if needed.

13) Had you or club members heard about the European Marine Site designations (SAC and SPA for the Plymouth Sound and Estuaries area?)

Yes / No / Some members likely to be aware but not all / Don't know (please circle)

14) Do you or club members know where eelgrass (seagrass) beds are located in the area ?

Yes / No / A little/ Don't know (please circle)

Question 5. If you have ever seen/caught shad or smelt in the Plymouth Sound and Estuaries please add to the maps at the back of the room.

Appendix D Online questionnaire