



Observations to action
Research to global campaign
Ghost gear surveys
in Cornwall





Photo Rob Wells: Wotsit with lobster pot; Entangled seals Sue Sayer



Entanglement affects grey seals

Highest entanglement rate for
any phocid seal species in world

All entangling material was
fisheries related bar one

Ghost gear recording

Quantify risk



Motivated volunteers

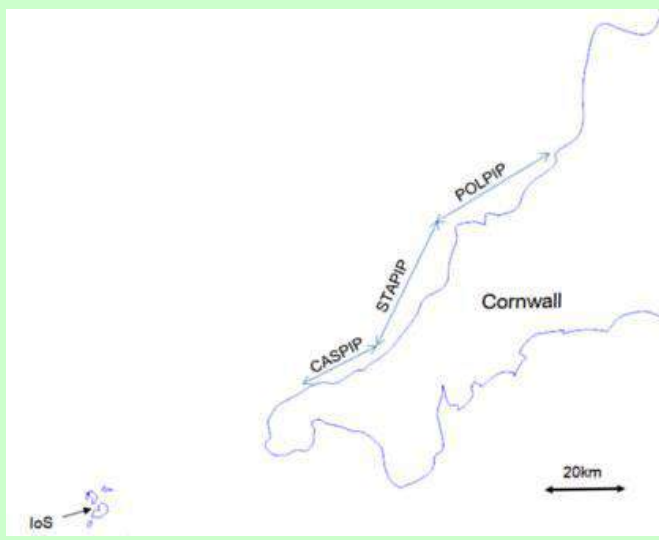
At last data wanted

Informing global campaign with actions

World Animal Protection
Sea Change Campaign

Global Ghost
Gear Initiative





Method



Systematic and opportunistic

All around the coast of Cornwall

Boat and land based surveys

Effort

Items

New items only

Volume

Type



Ghost gear in Cornwall, UK

2014 to 2015

(Final report November 2015)

Sue Sayer and Kate Williams



Juvenile grey seal entangled in ghost fishing gear on 25/01/15 (rescued by BDMLR) Photo: S Sayer

Report compiled November 2015



www.cornwallsealgroup.co.uk

Results



Boat surveys

26



Photo Sue Sayer

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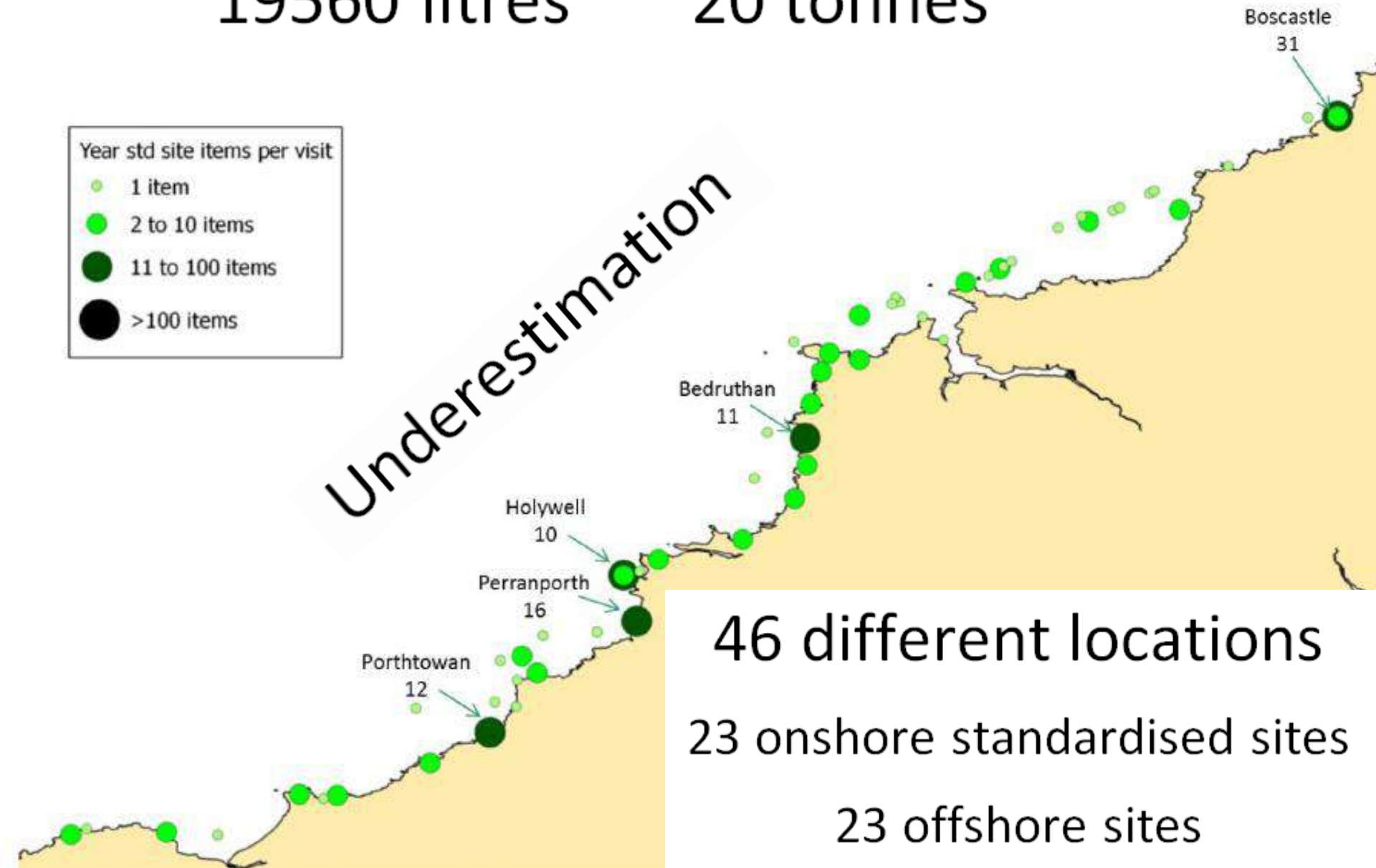
1398 new ghost gear items

19560 litres

20 tonnes



Underestimation



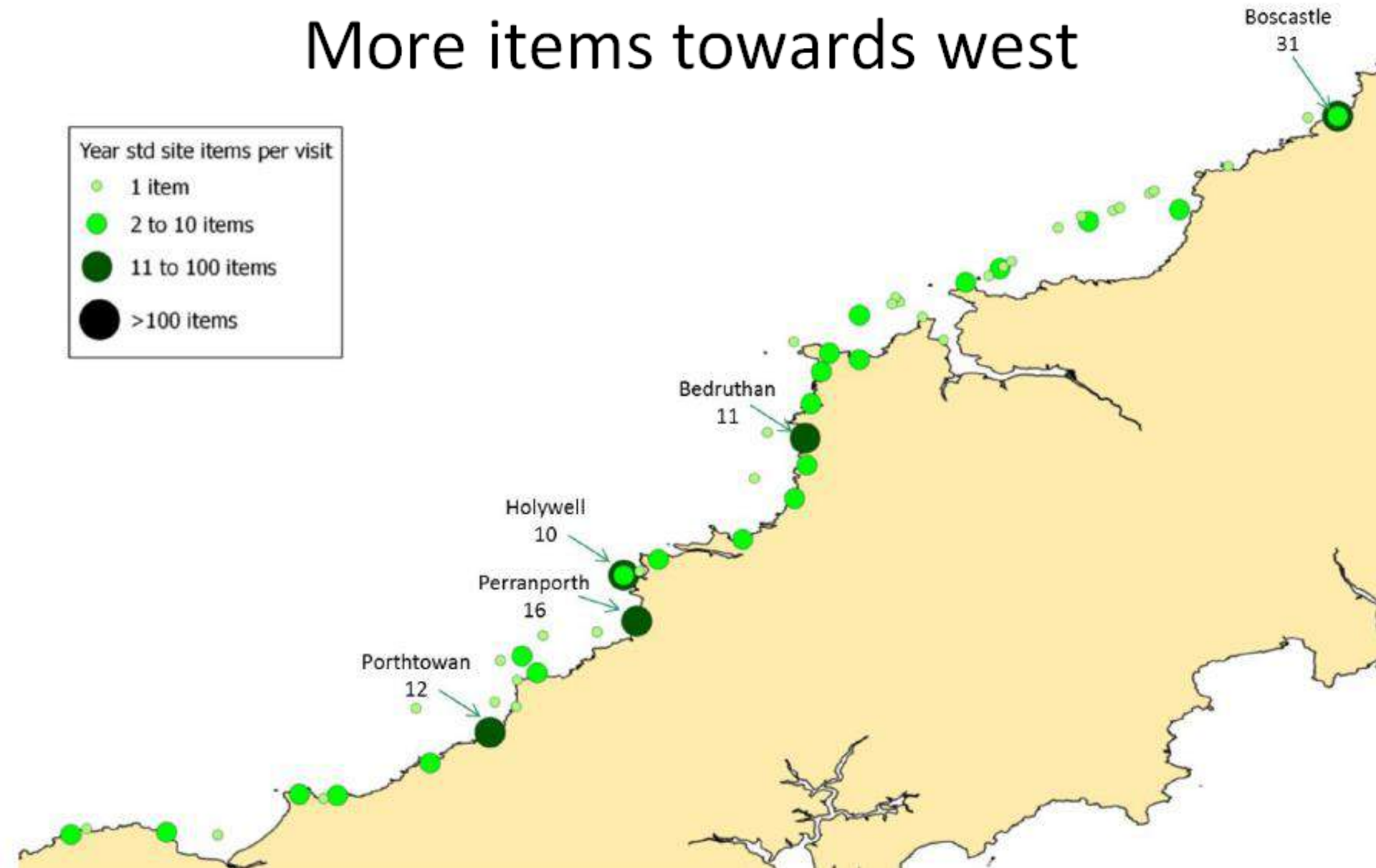
46 different locations

23 onshore standardised sites

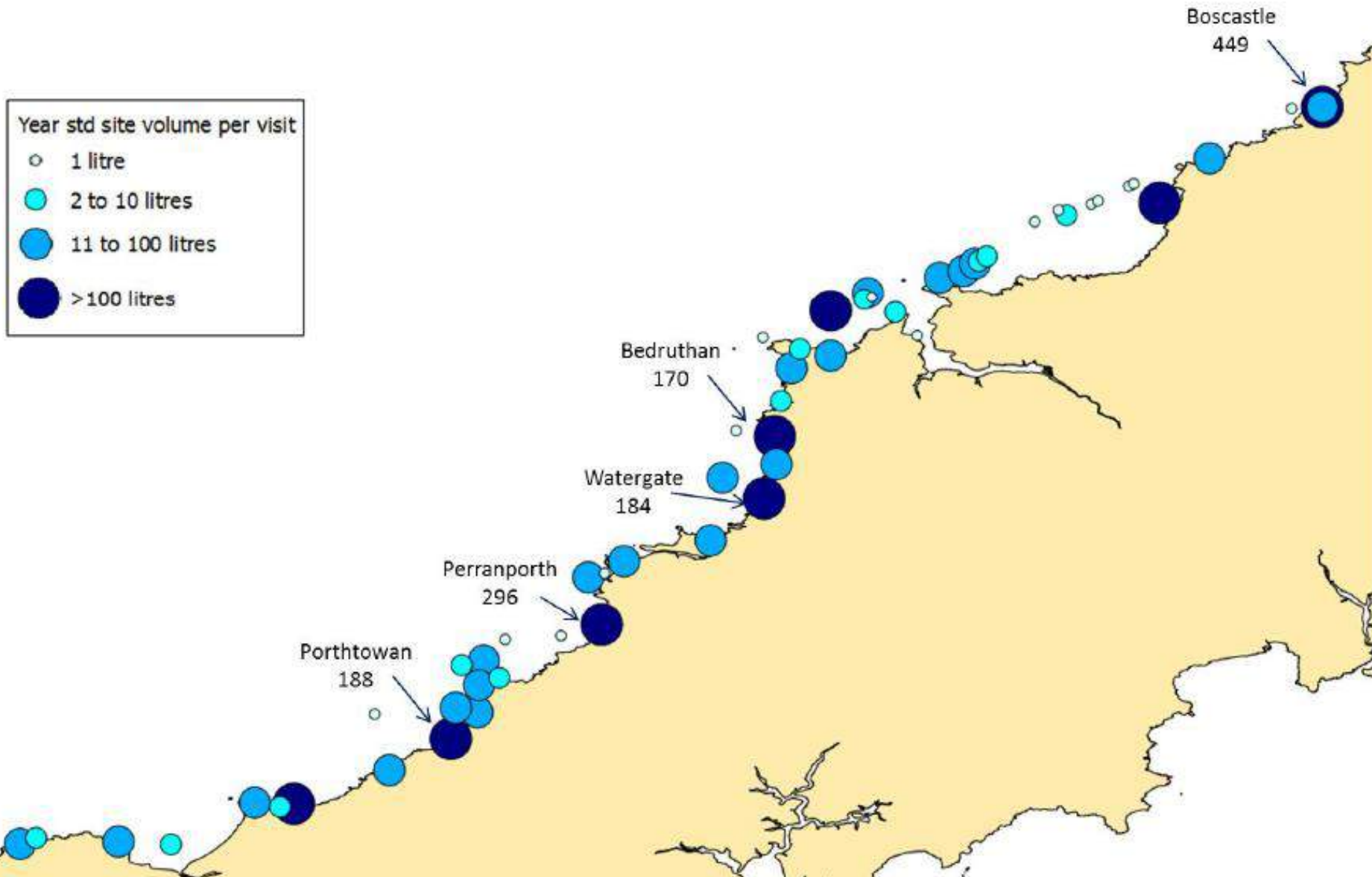
23 offshore sites

NW facing beaches

More items towards west



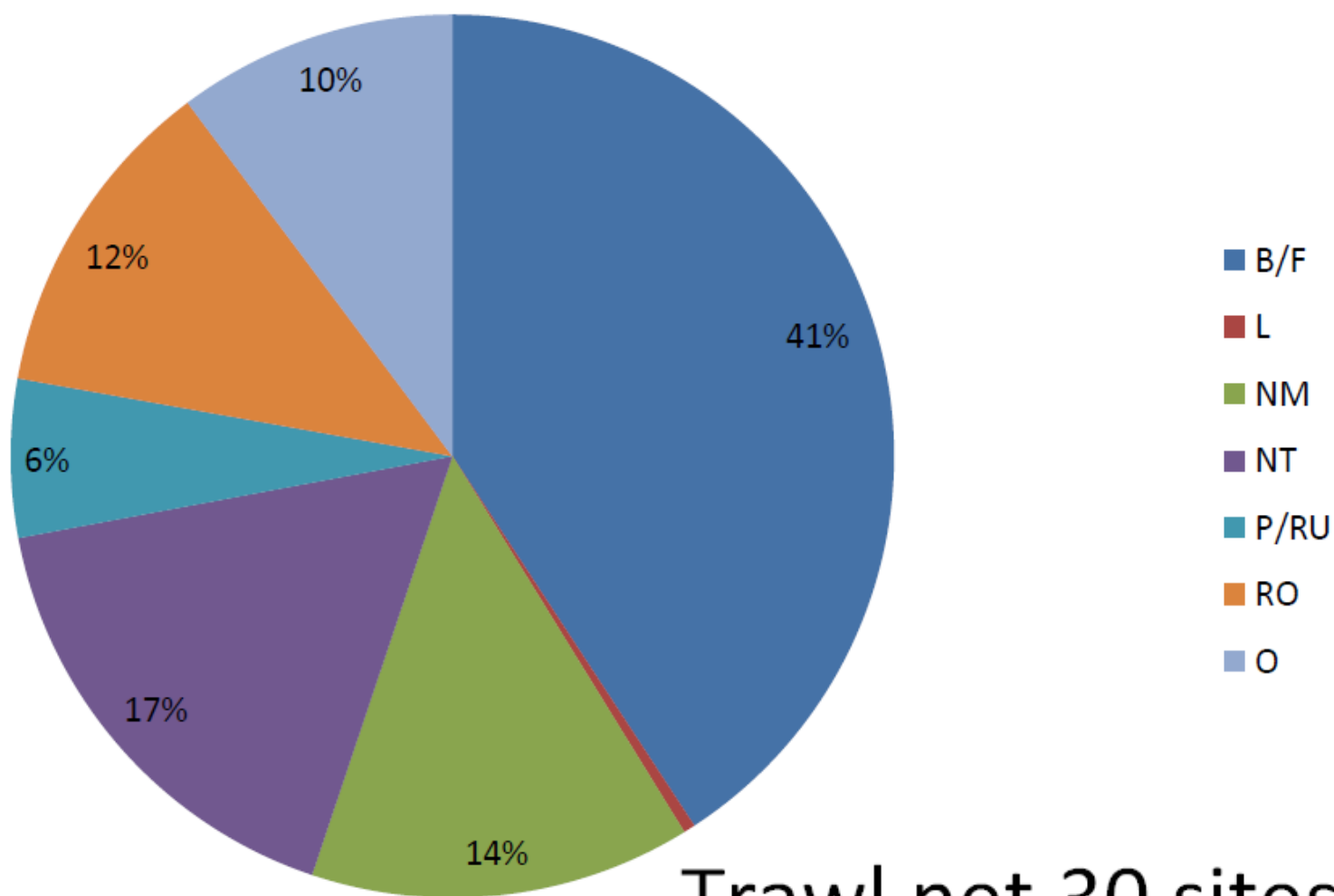
Greater volumes centre & east



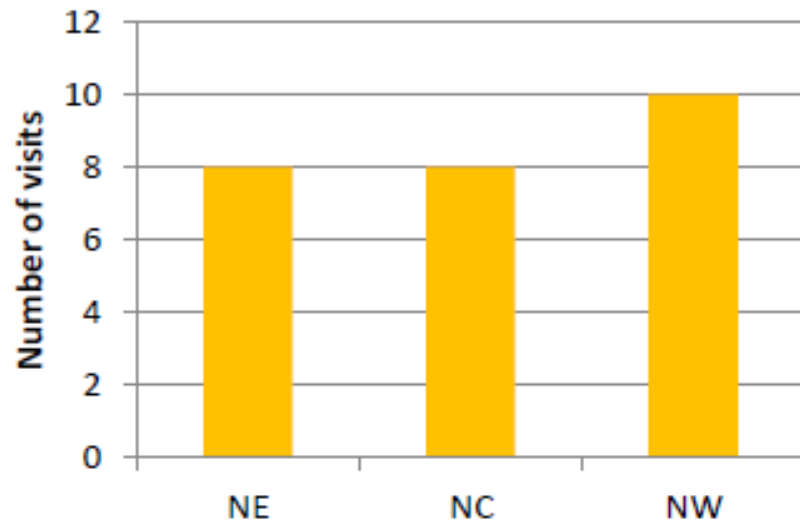
Rope 36 sites

Monofilament net 25 sites

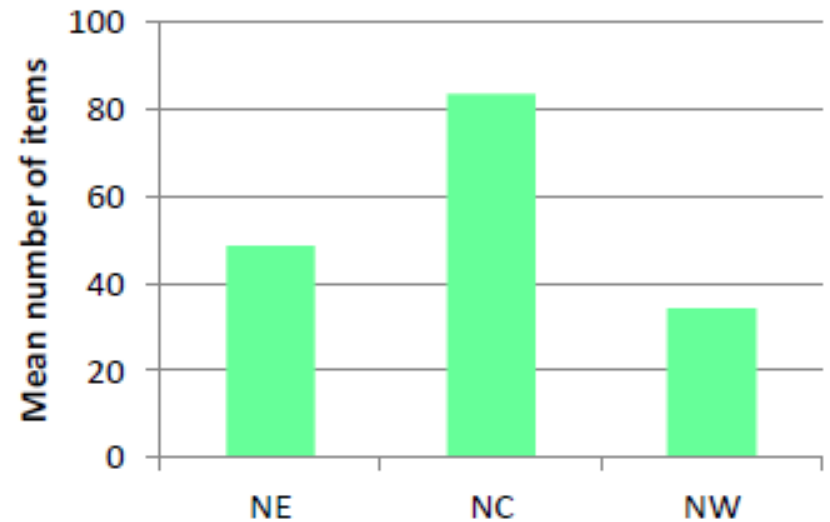
Year items per type



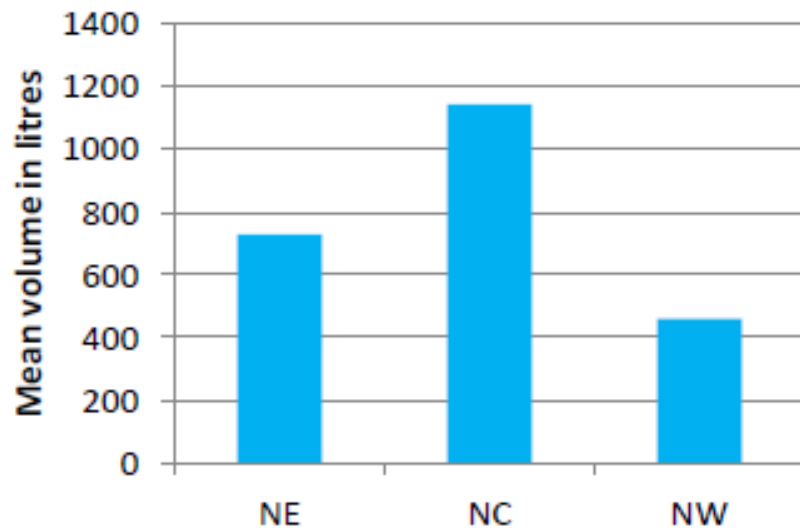
Area visits



Area items per visit



Area volume per visit



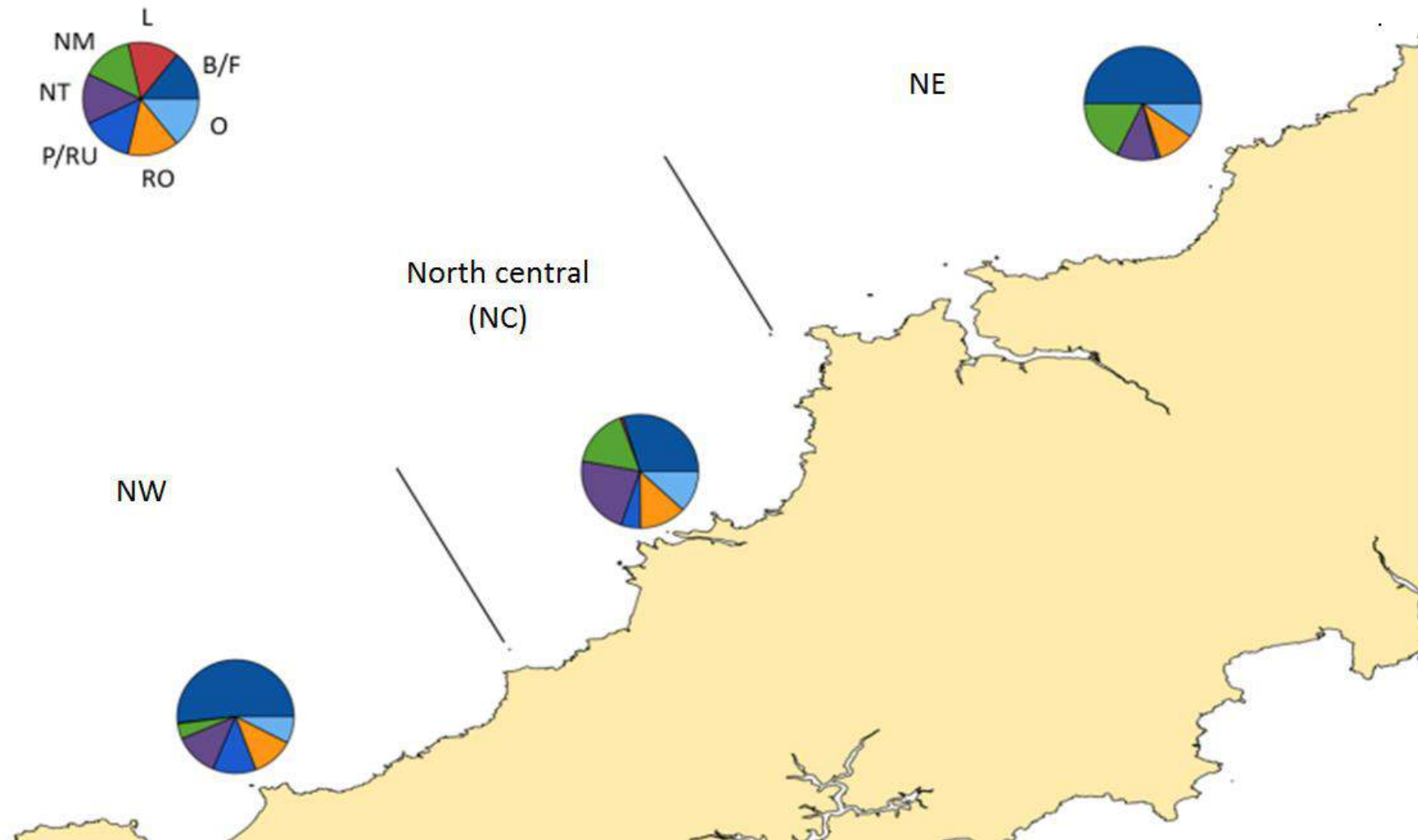
NC

Most items

Greatest volume

Mostly buoys/floats

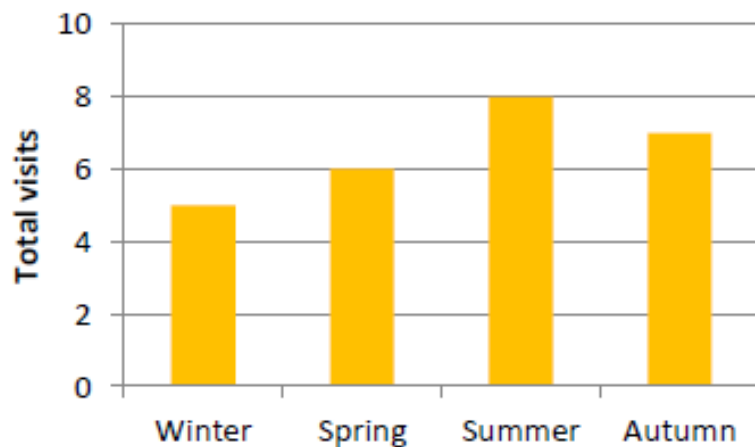
Pots NW



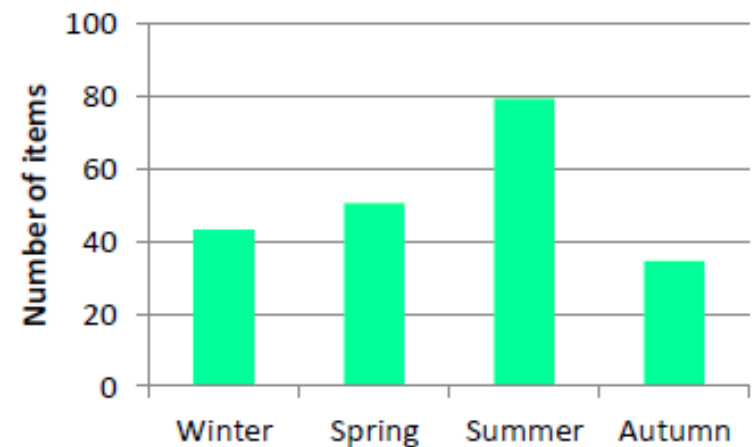
Monofilament NC & NE

Summer: more items/volume and spread out over twice as many sites

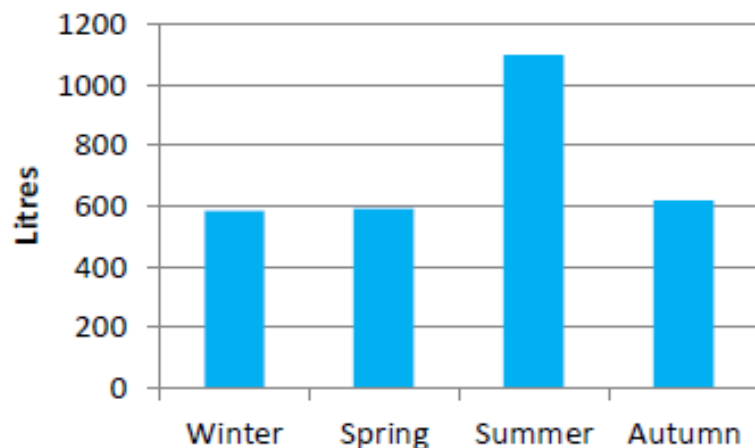
Quarterly visits



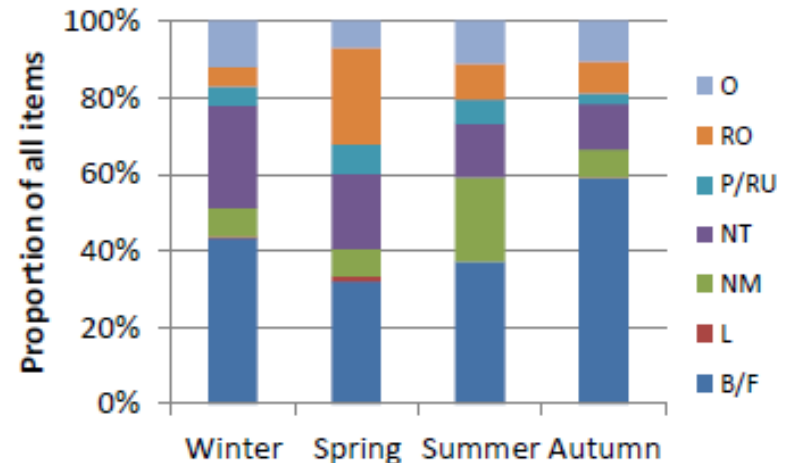
Quarterly items per visit



Quarterly volume per visit



Quarterly number of items per type

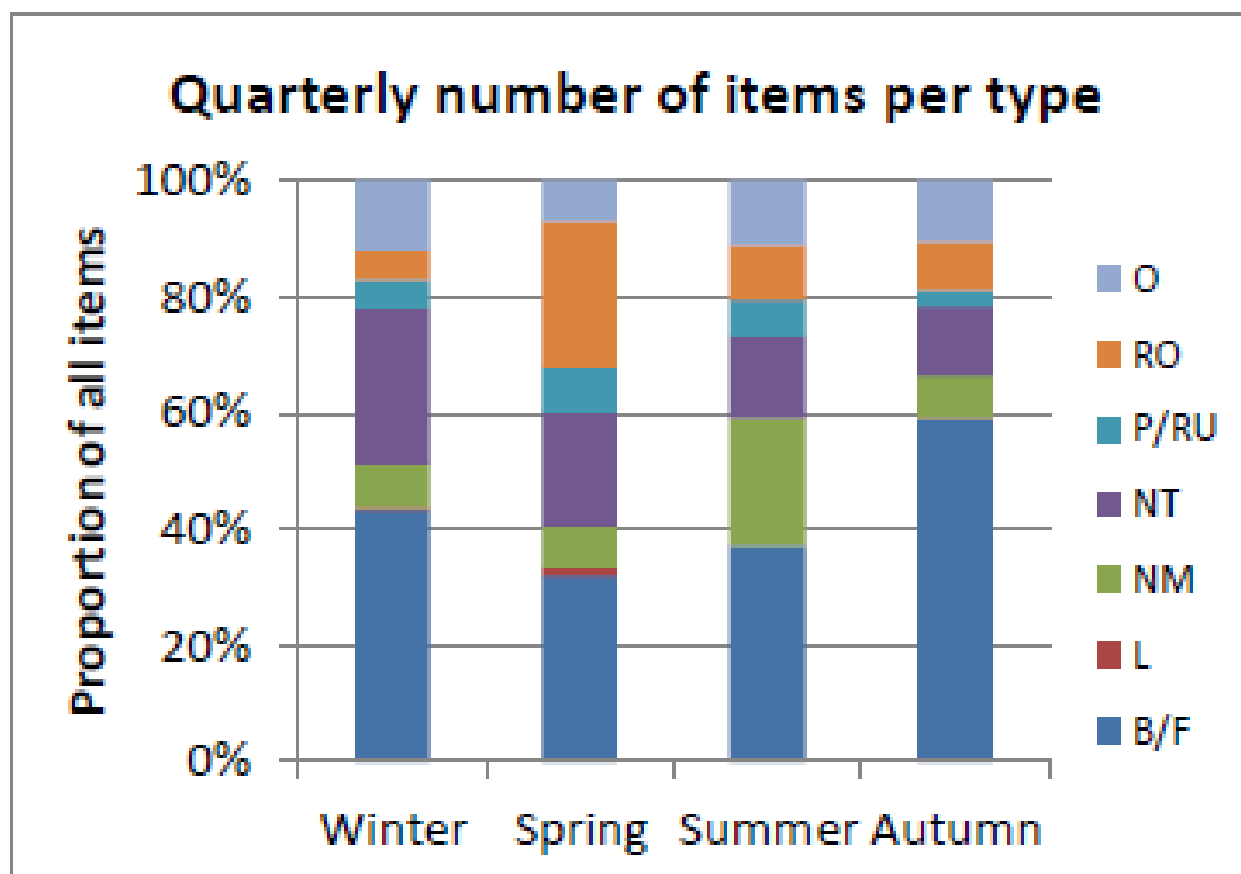


Buoys/floats in autumn/winter

Trawl net in winter

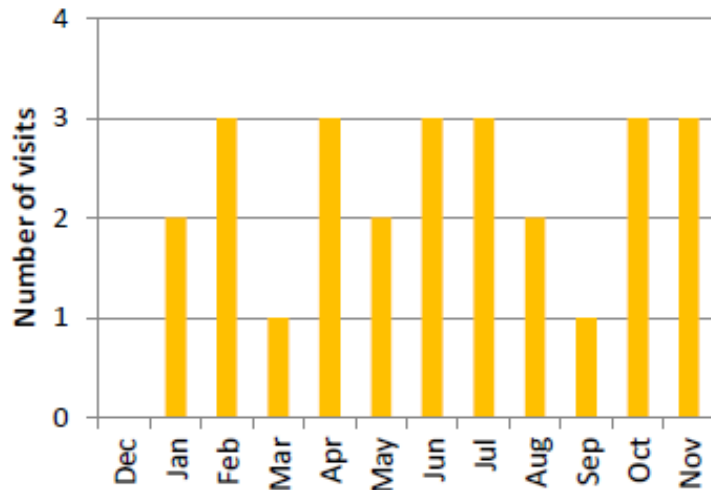
Rope in spring

Monofilament in summer

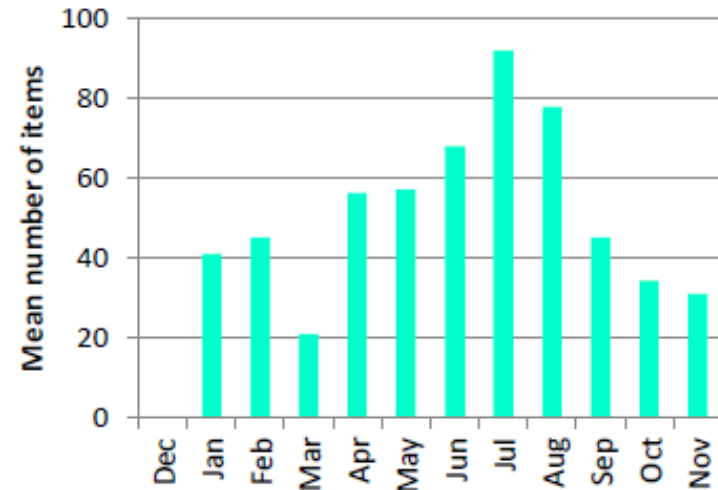


Pattern not monthly condition

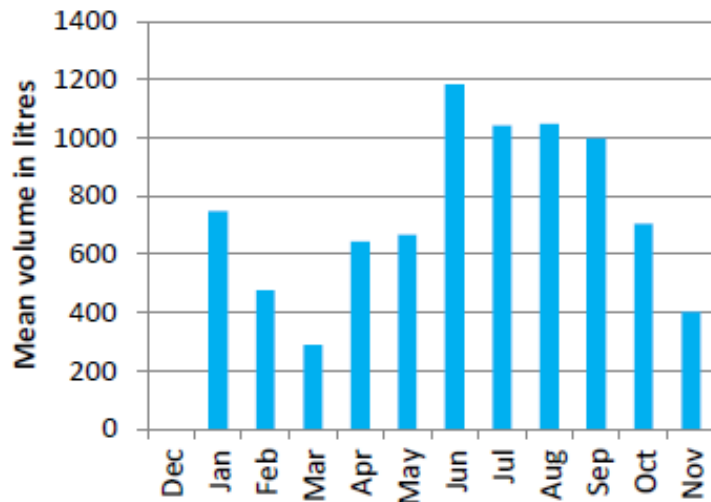
Monthly visits



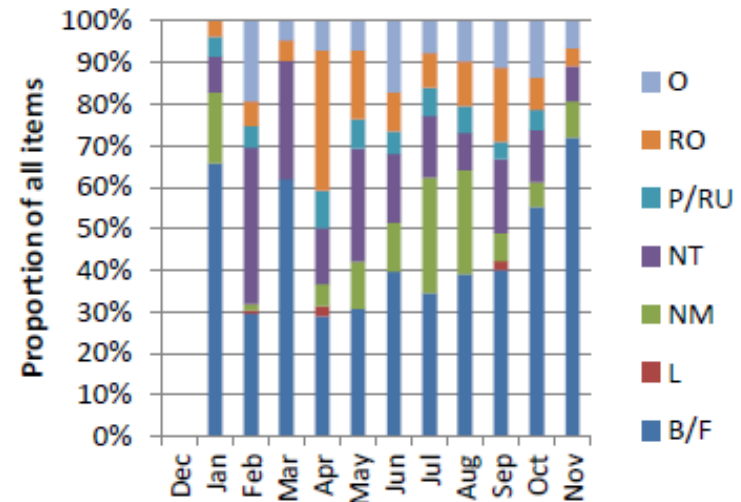
Monthly items per visit



Monthly volume per visit

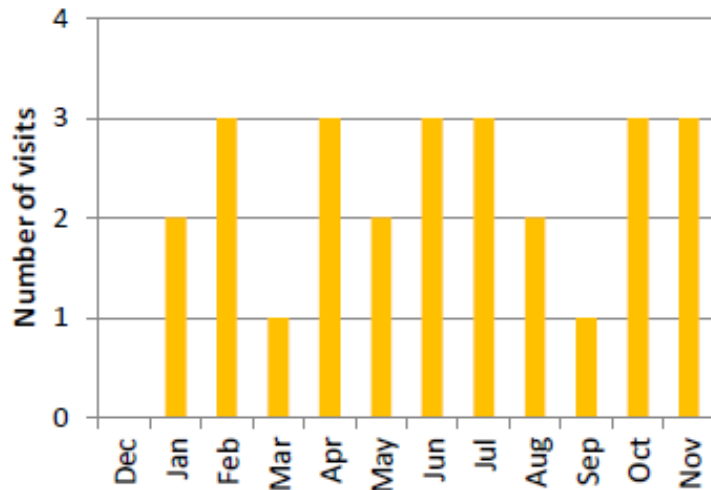


Monthly number of items per type

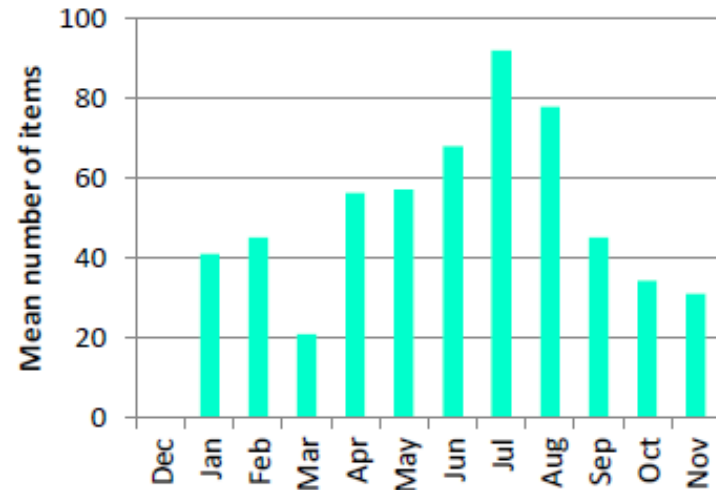


Rise/fall around July peak

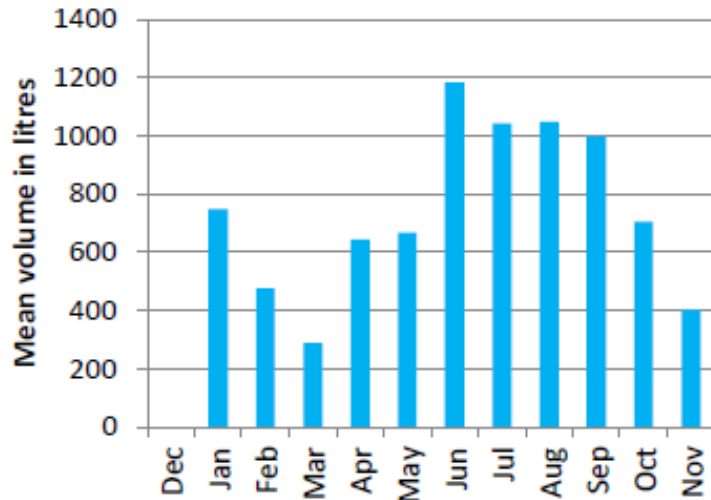
Monthly visits



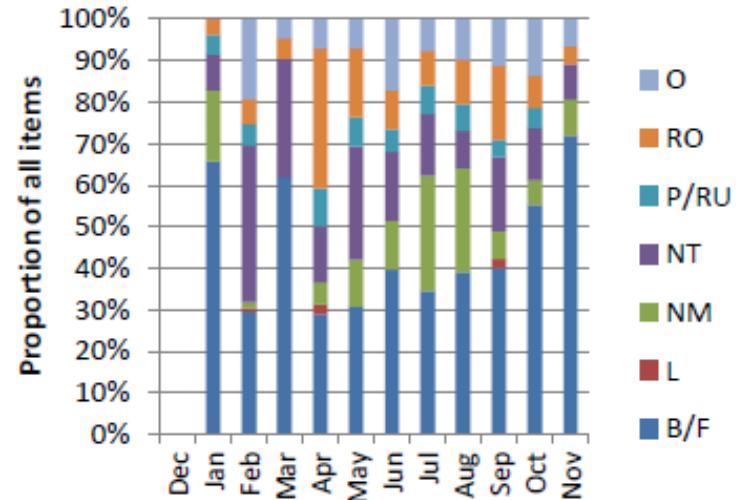
Monthly items per visit



Monthly volume per visit



Monthly number of items per type



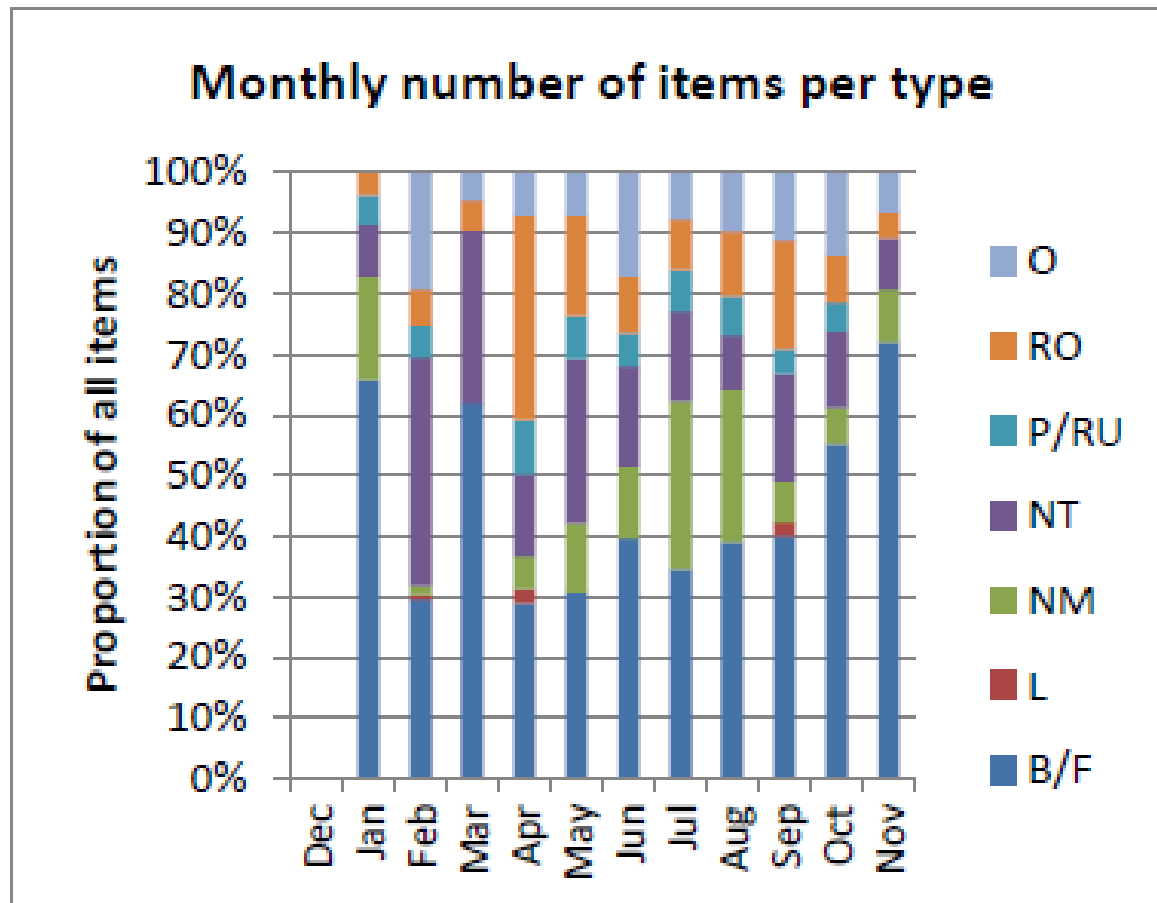
Buoys/float increased

July to November

Monofilament net increased

between March to August

Trawl net February and March



Results

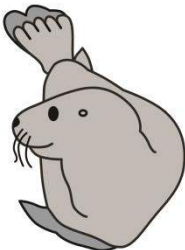


Land surveys



Photo Mike Stephens

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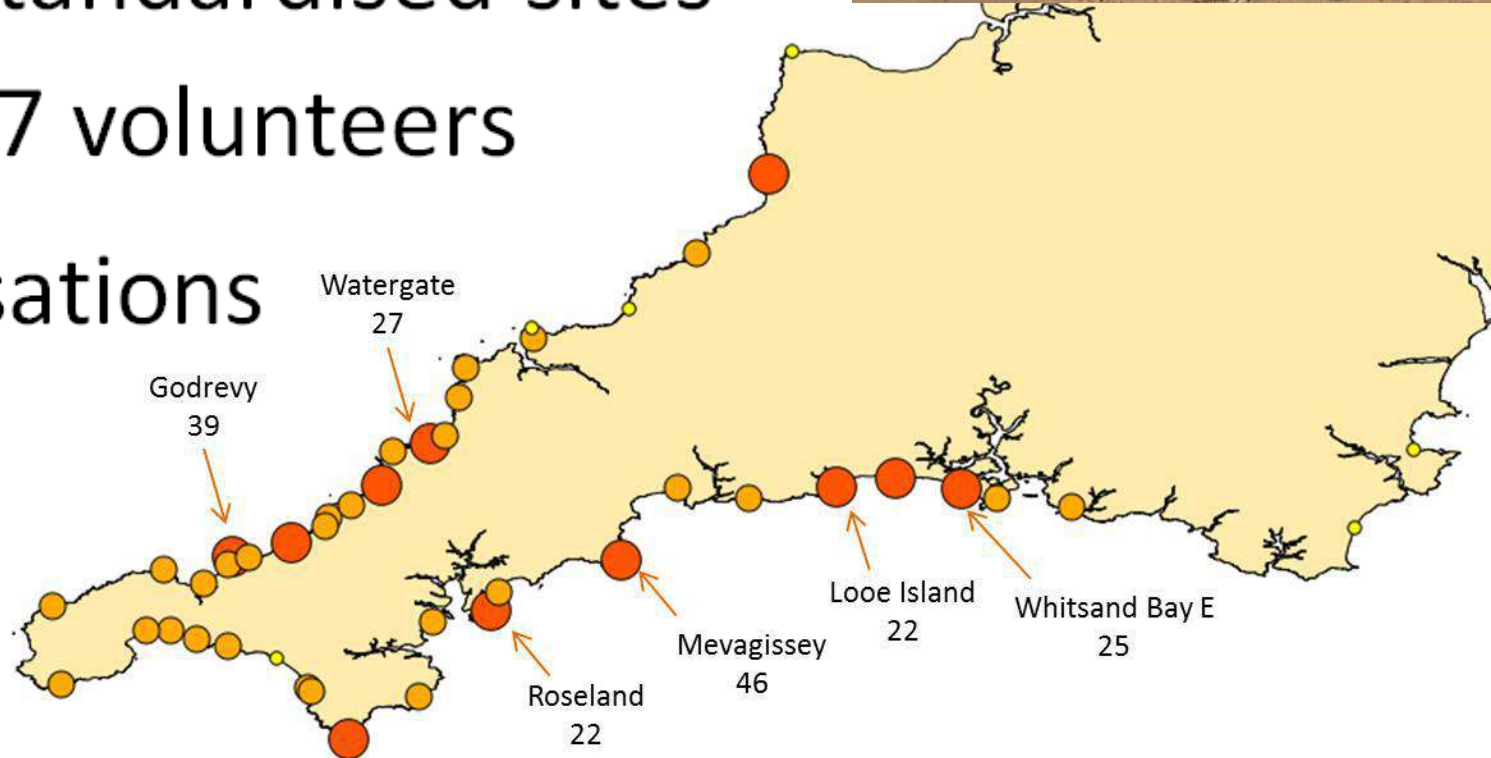
360 surveys

147 raw sites

46 standardised sites

67 volunteers

7 organisations



4 photo project ID teams

All around Cornish coast



2828 new items



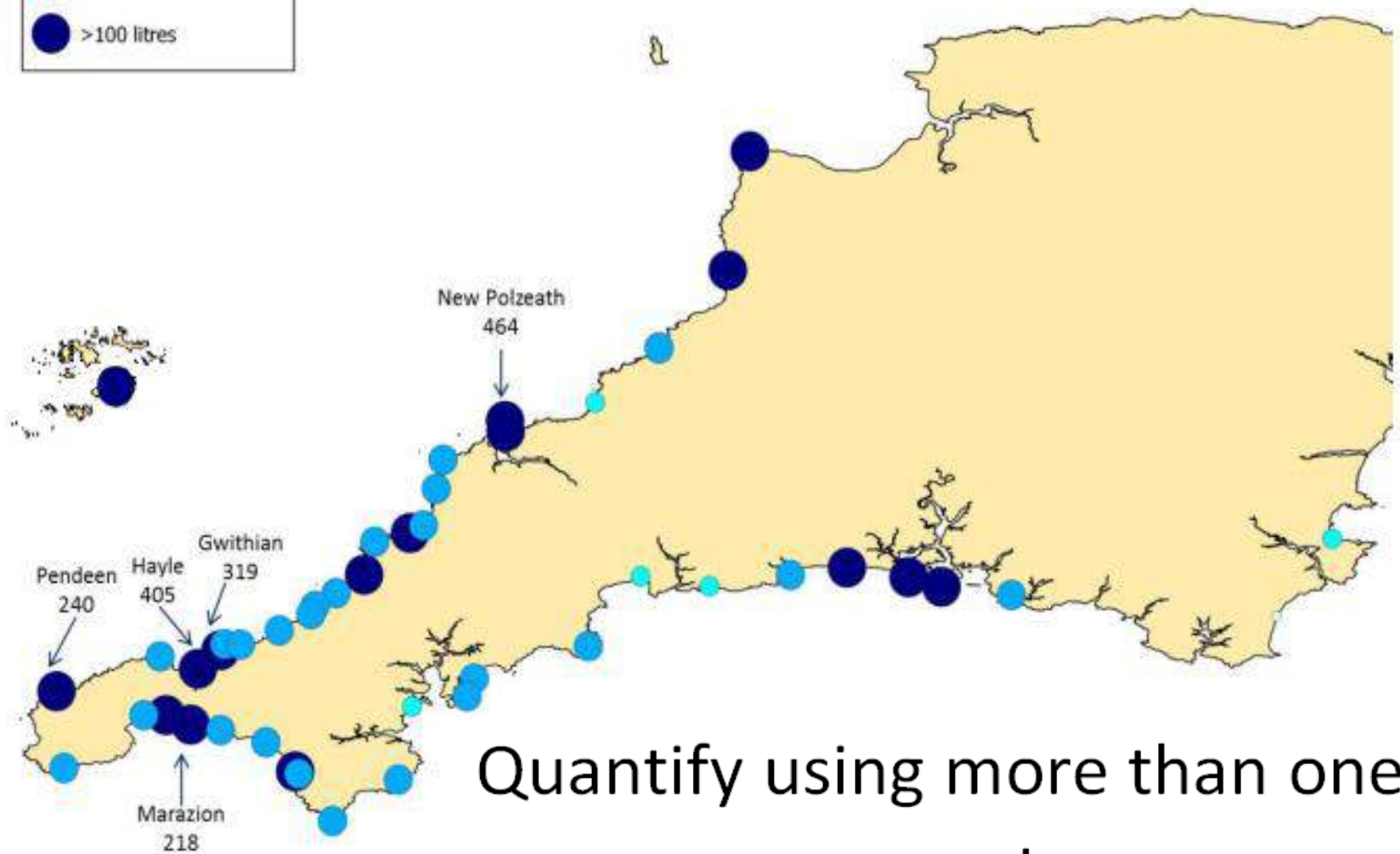
30,352 litres

30 tonnes

Year std site volume per visit

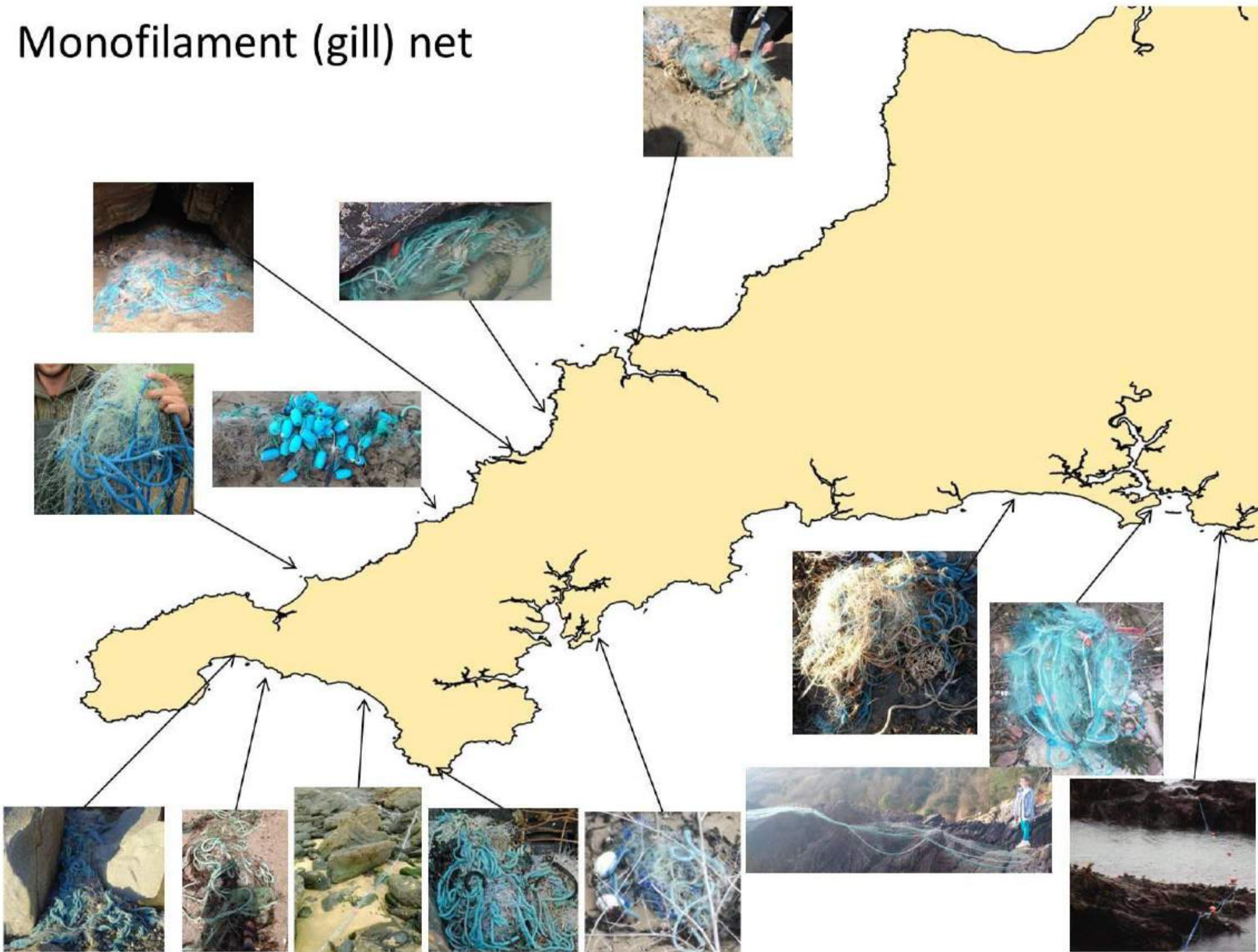
- 1 litre
- 2 to 10 litres
- 11 to 100 litres
- >100 litres

West facing – wind?

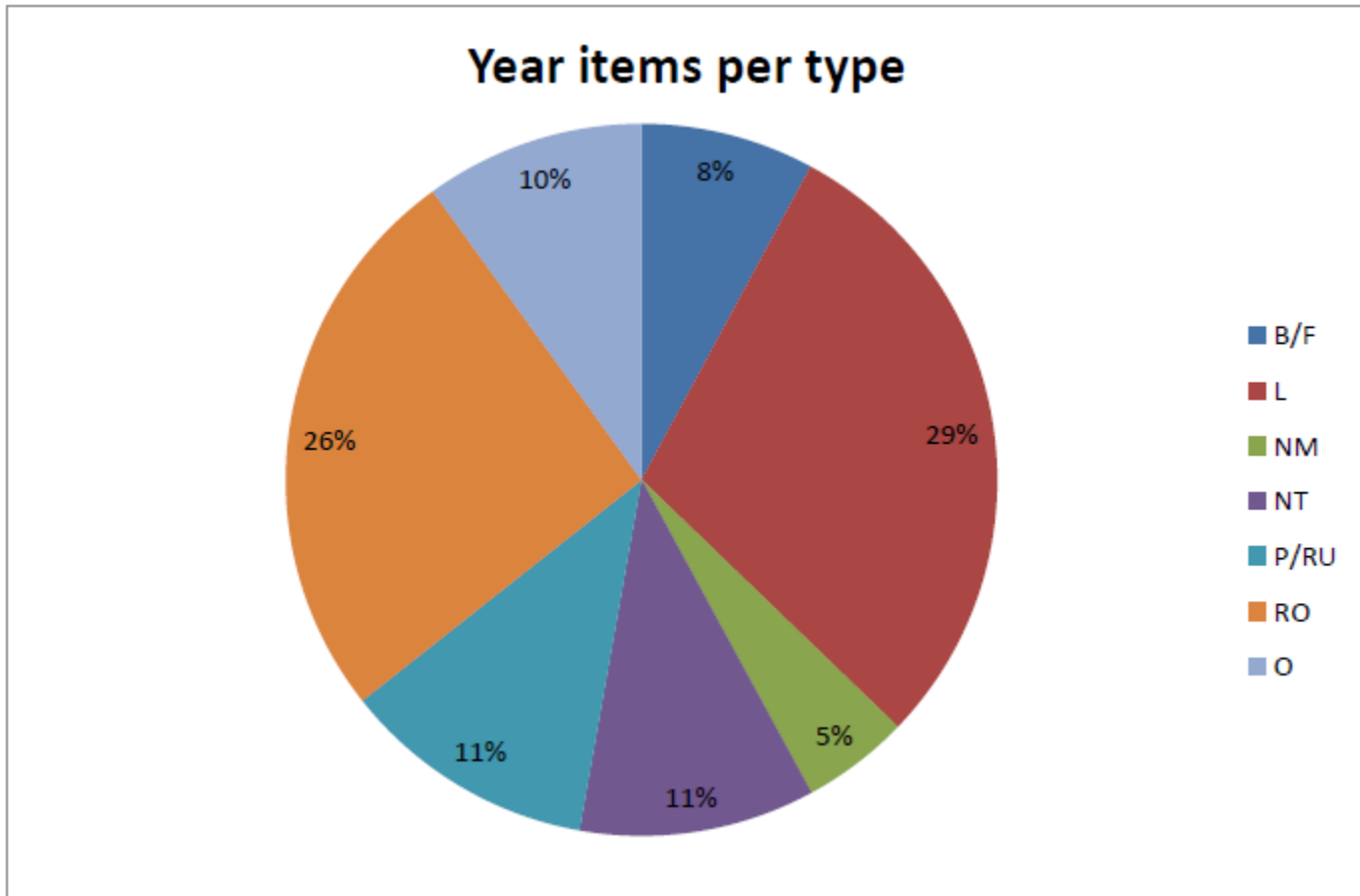


Quantify using more than one parameter

Monofilament (gill) net



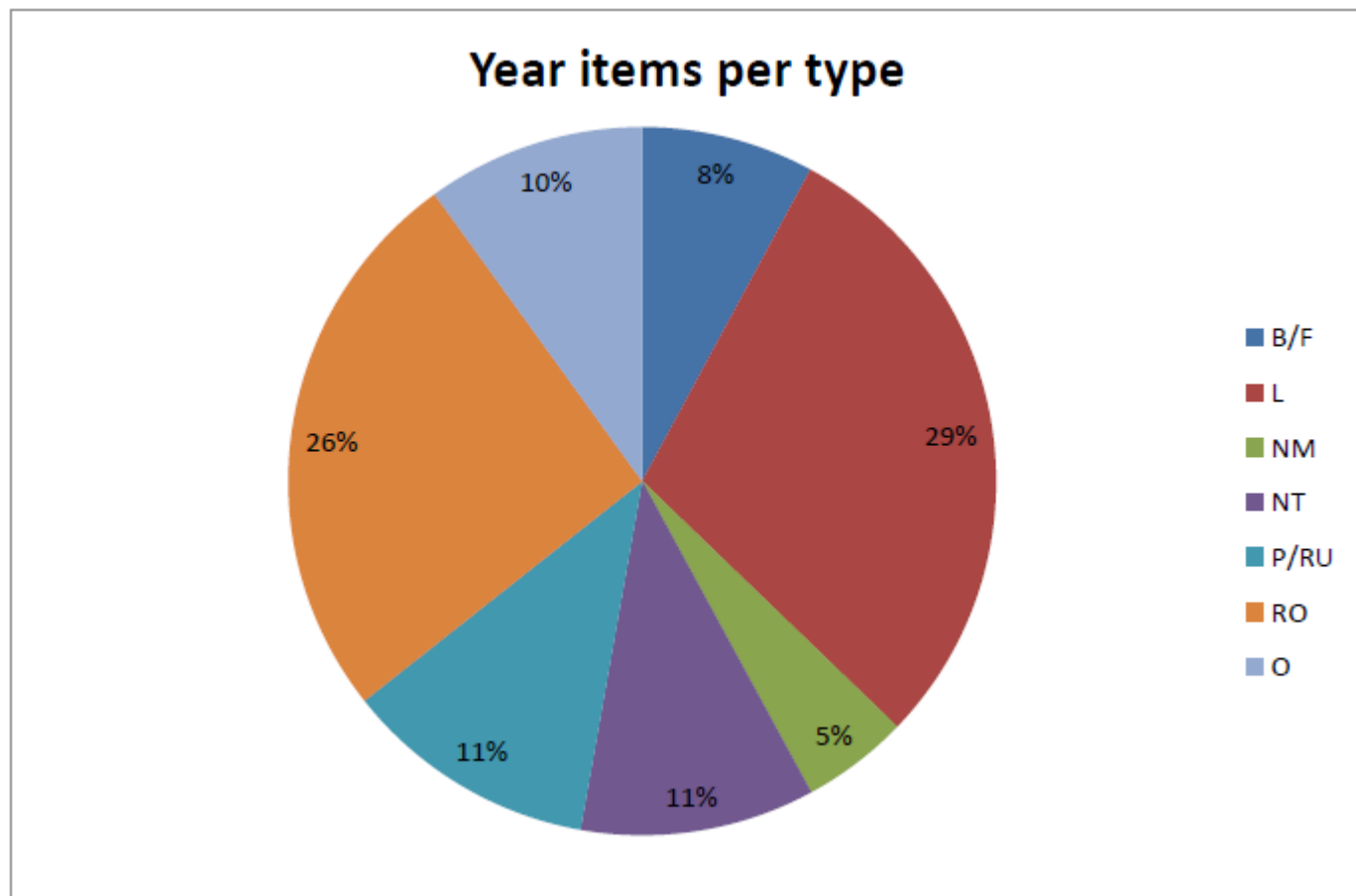
Monofilament line



Rope

Rope 40 sites
Pots 33 sites

Trawl net 38 sites
Buoys and floats 28 sites



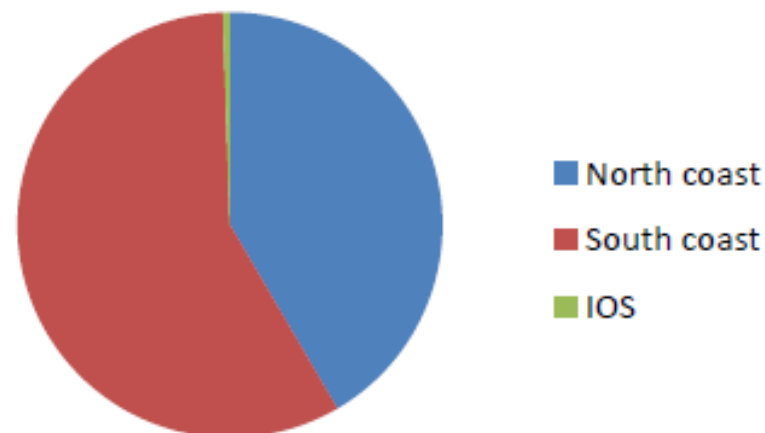
Other 27 sites

Monofilament net 26 sites

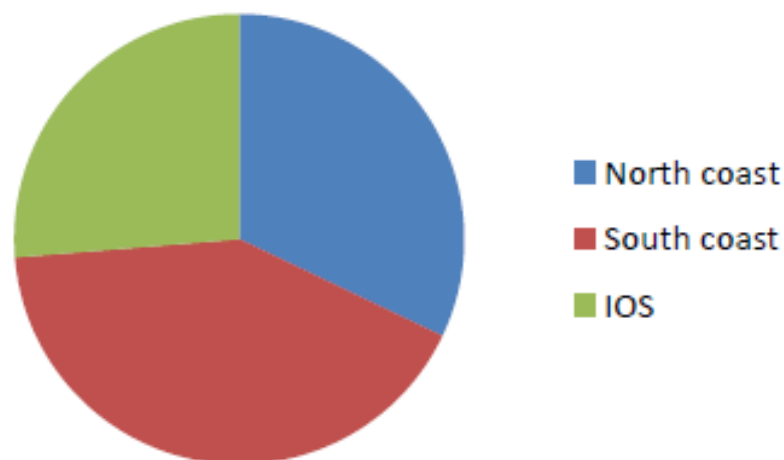
Line 22 sites

Similar effort
More items south
More volume north
IOS (small sample)
Accessible south
Aspect north

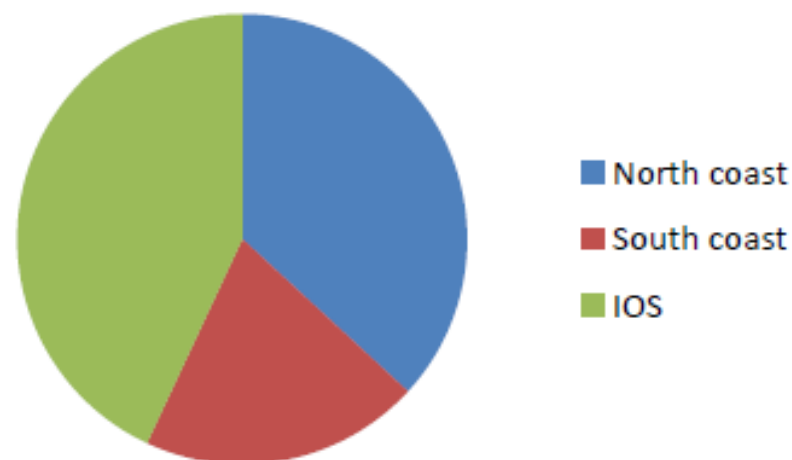
Coast visits



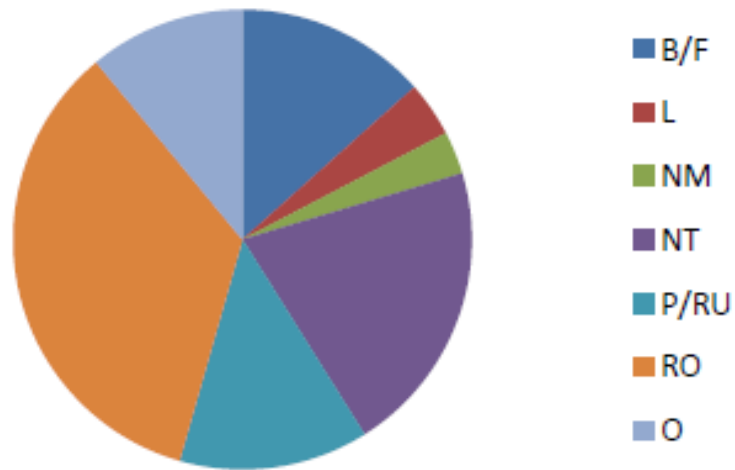
Coast items per visit



Coast volume per visit

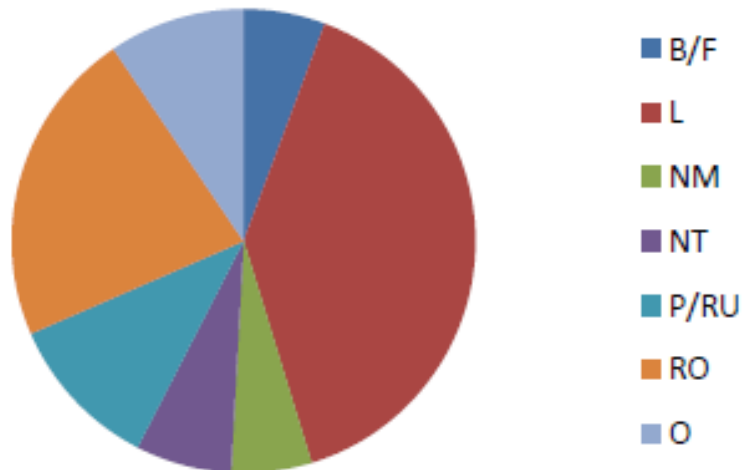


North coast items per type



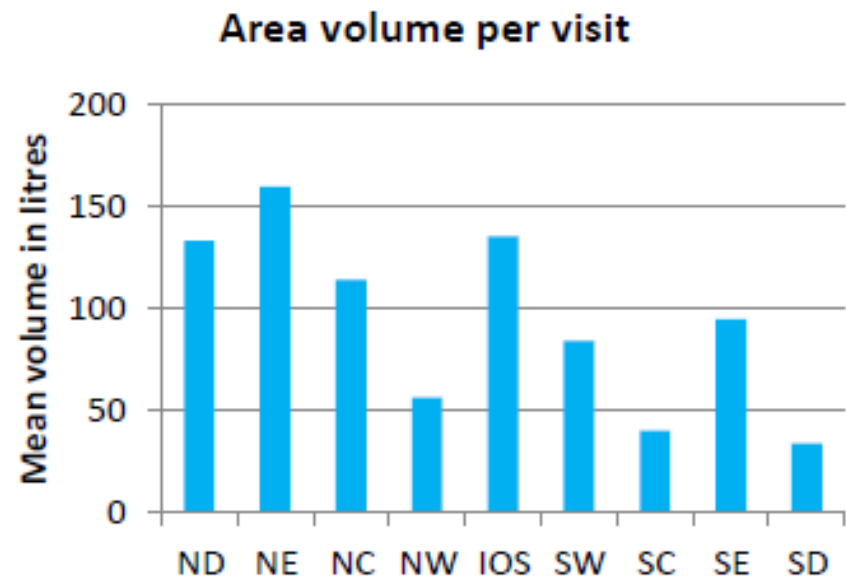
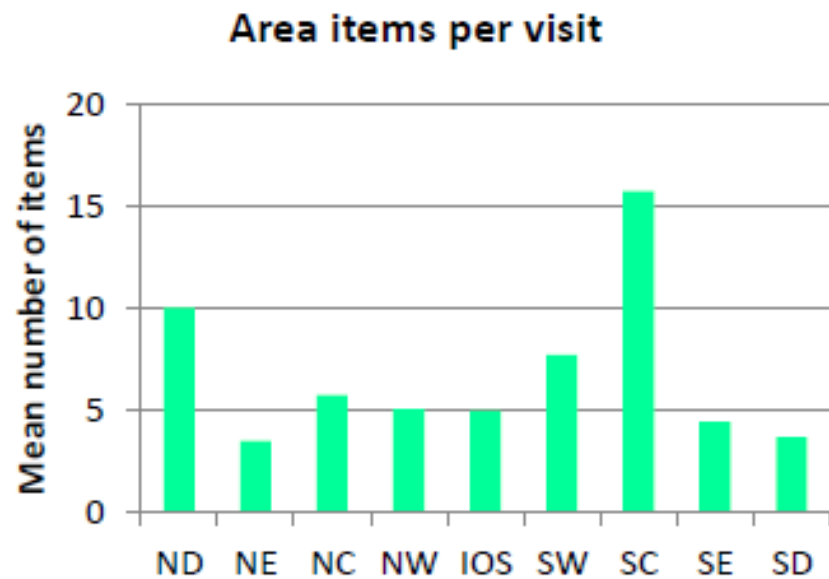
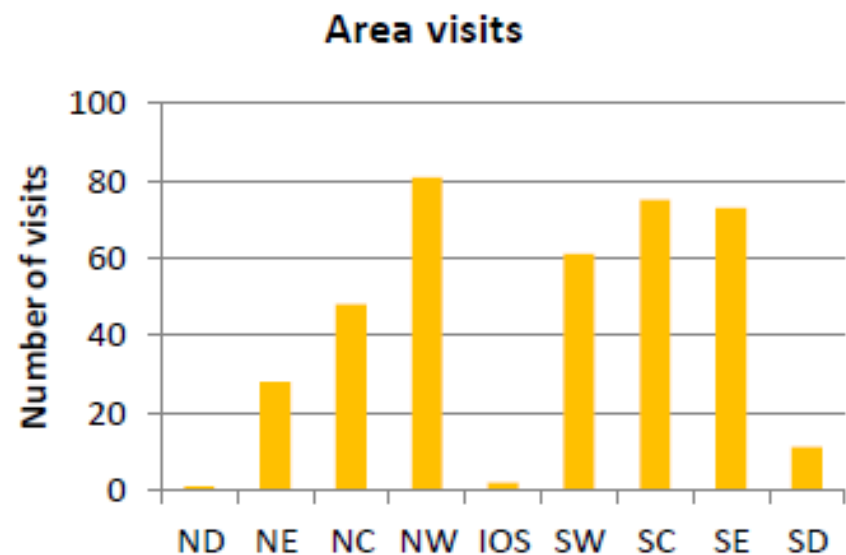
More rope &
trawl net north

South coast items per type



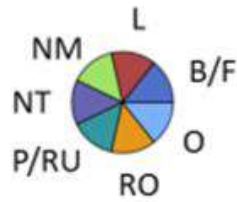
More line south

Items: consistent
except ND & SC
ND Small sample
SC Lots & small



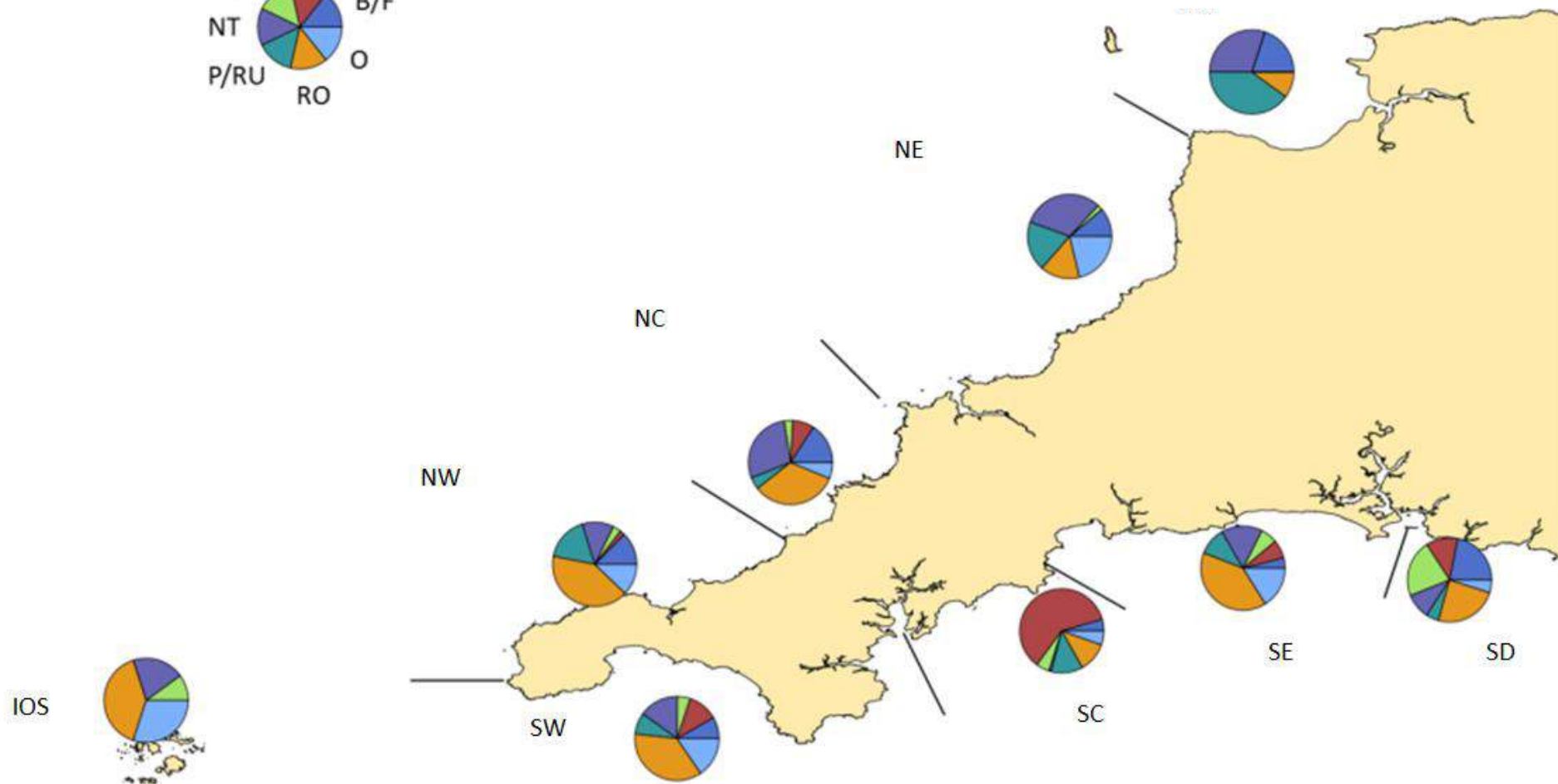
SC Monofilament line

Rob?



Removed

All along south



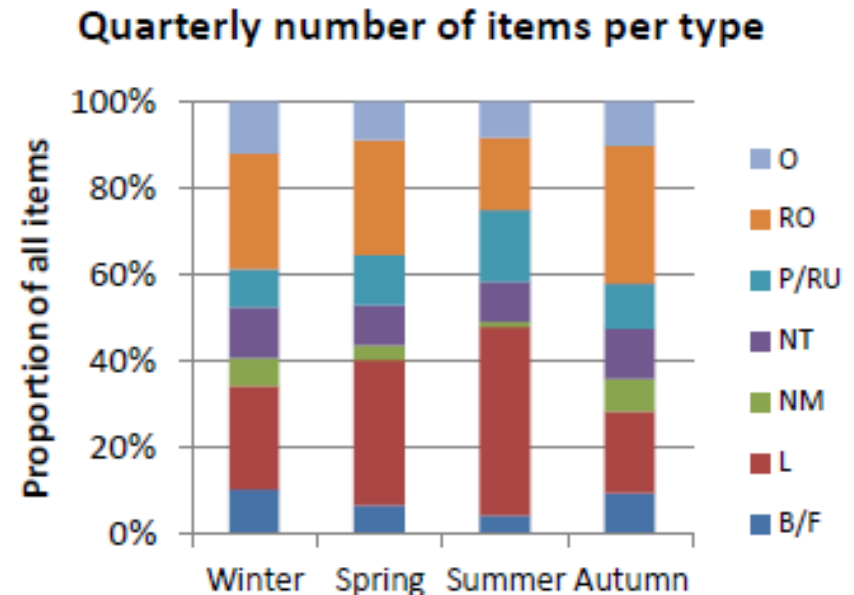
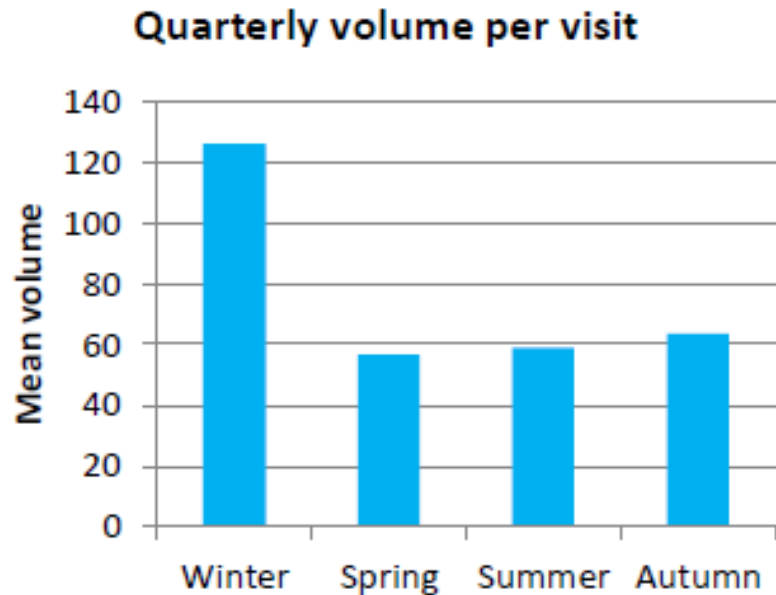
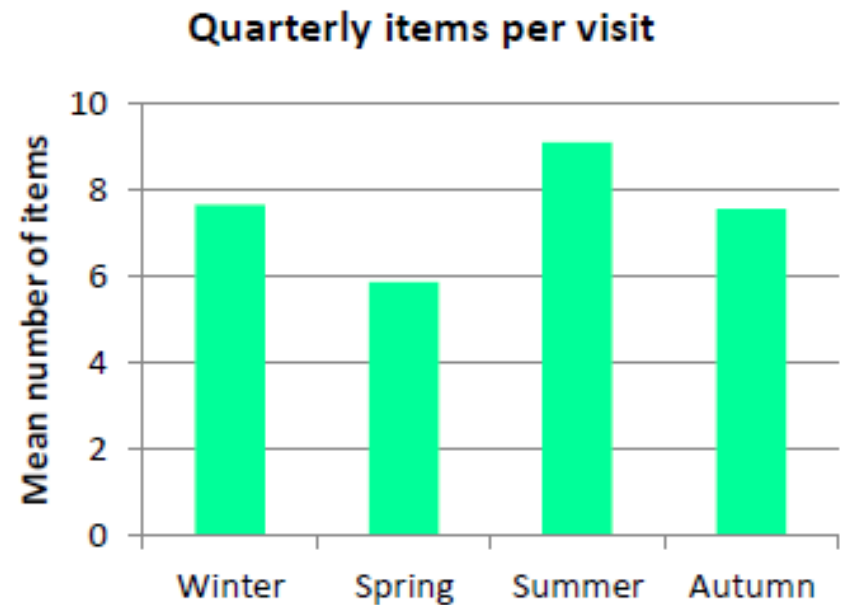
Rope: all areas

& most items in 6

Pots: all & most north

(except IOS & NC)

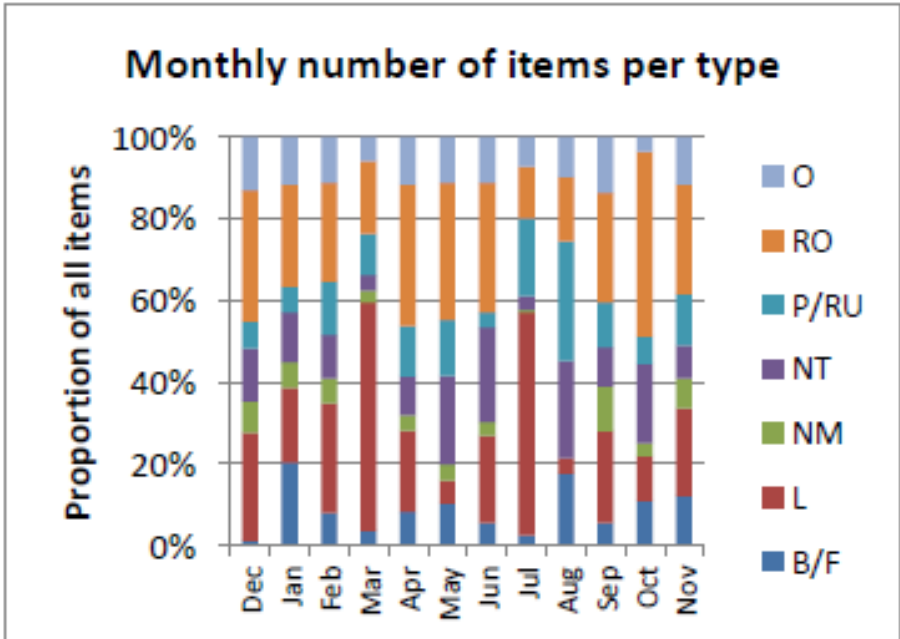
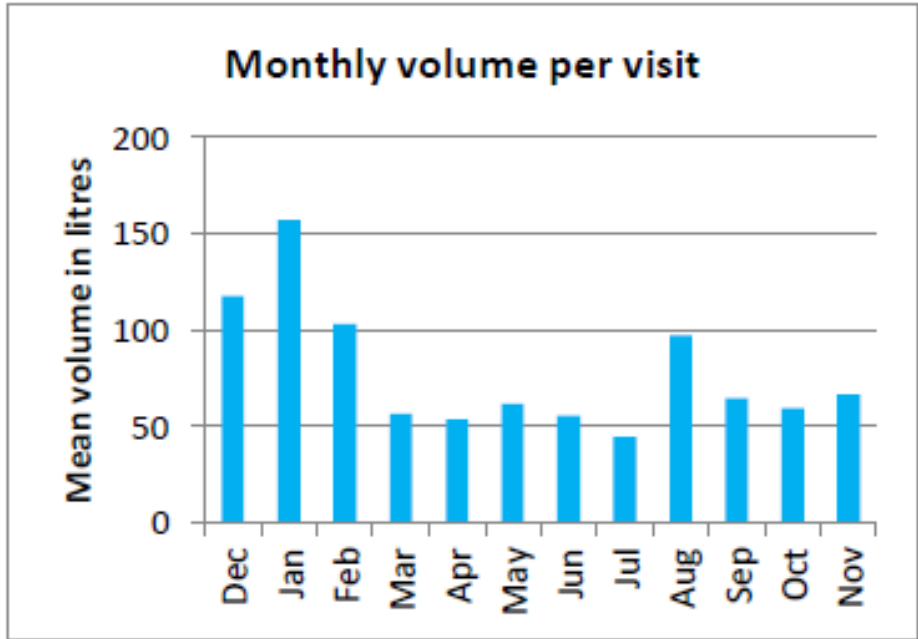
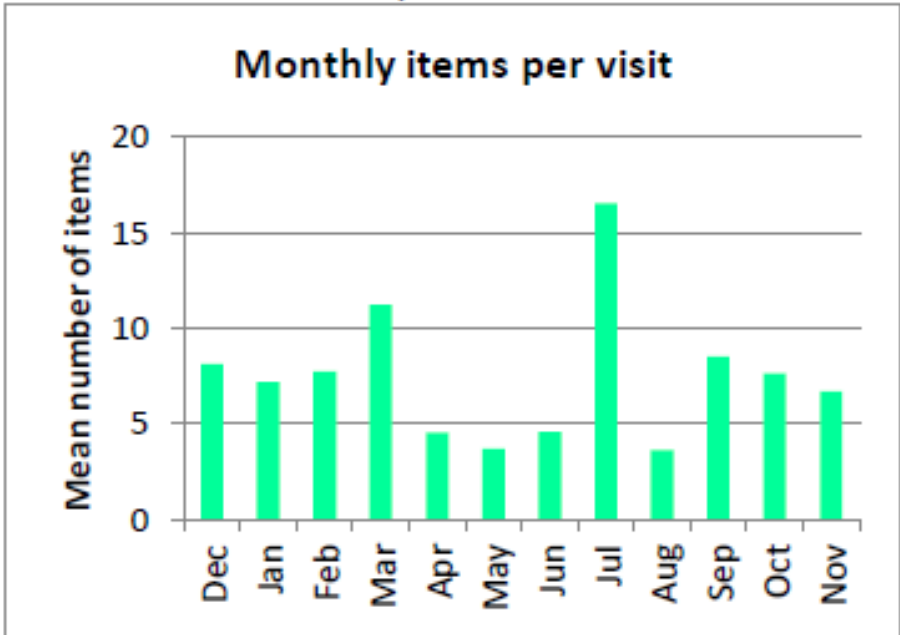
Items similar
all year (summer?)
More volume winter
All types all seasons



Similar across seasons

Summer items – July

Rob Kath
August volume
Kate Dave Rob
Widemouth Taskforce
Carbis Bay Crew



Cliff backed

Beach

Dune

Results



Land and boat based surveys

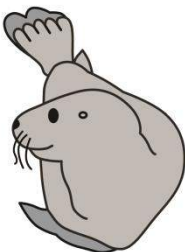
Offshore

Estuarine



Photo Rob Wells

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Boat and Land
inversely proportional
Items, volumes types

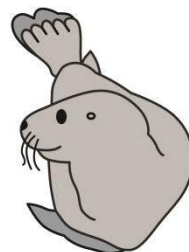
Marine & coastal
combined & delay



Important to survey sea & land



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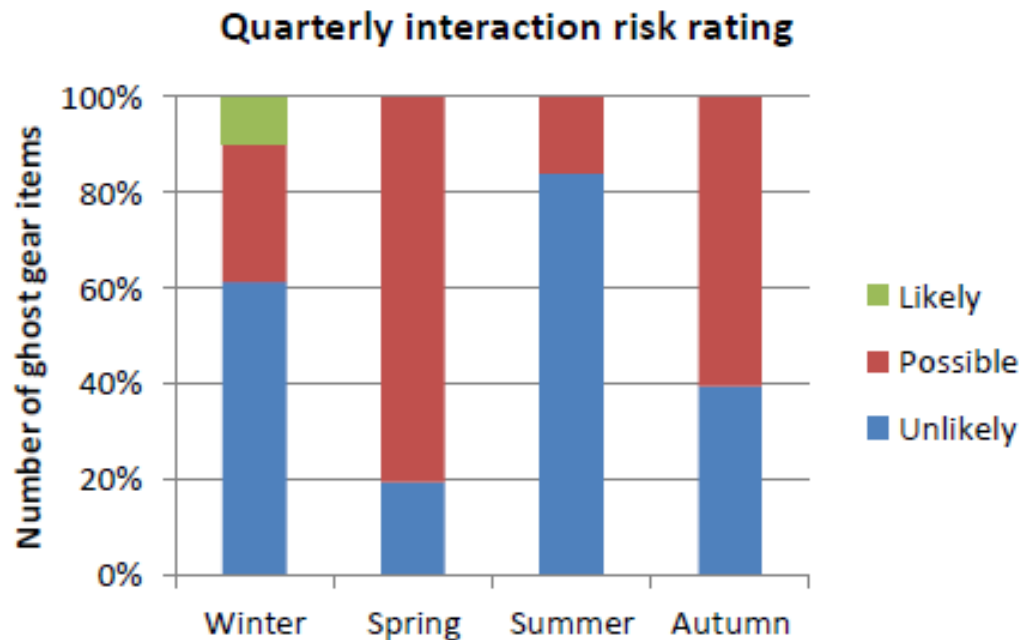
Risks

Interaction P+

40% items (82% seal sites)

15% volume (50% seal sites)

Greater spring/autumn



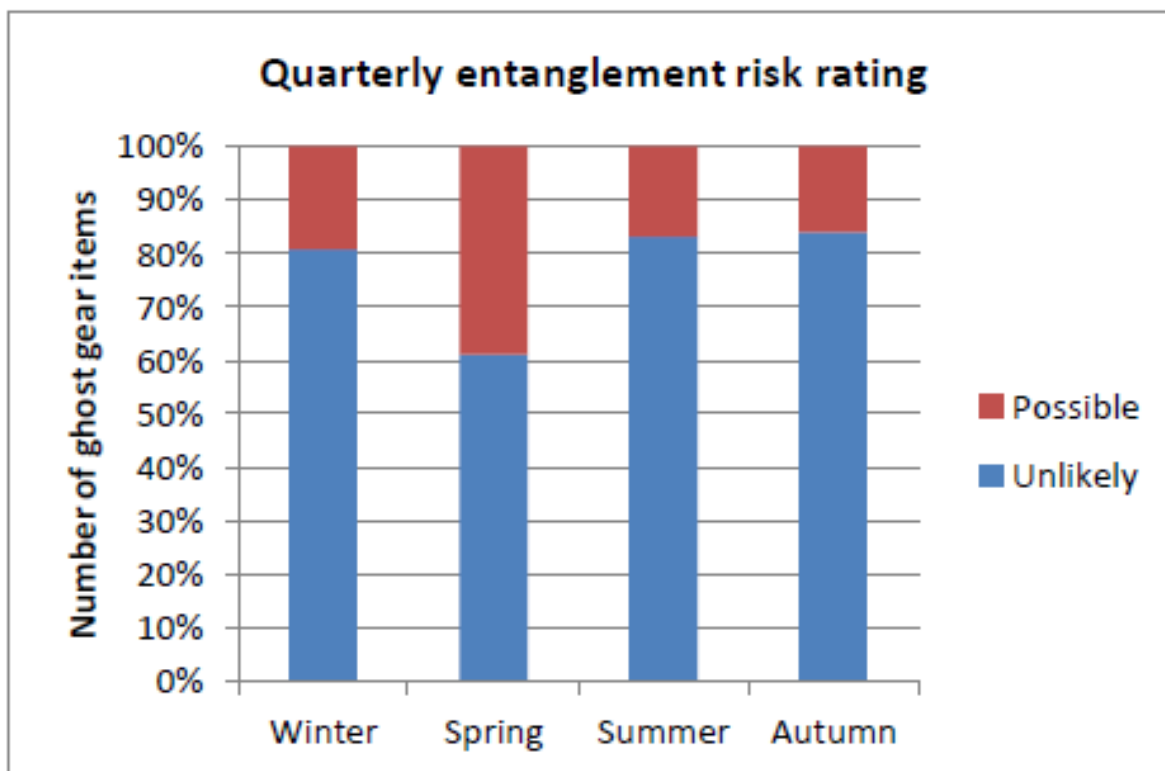
Risks

Entanglement P+

58% items (54% seal sites)

73% volume (49% seal sites)

Greater spring





Risk I/E PP+



26% items (47% seal sites)

11% volume (30% seal sites)



Third to half at seal sites





Seals



Birds



Crabs



Fish



Mussels

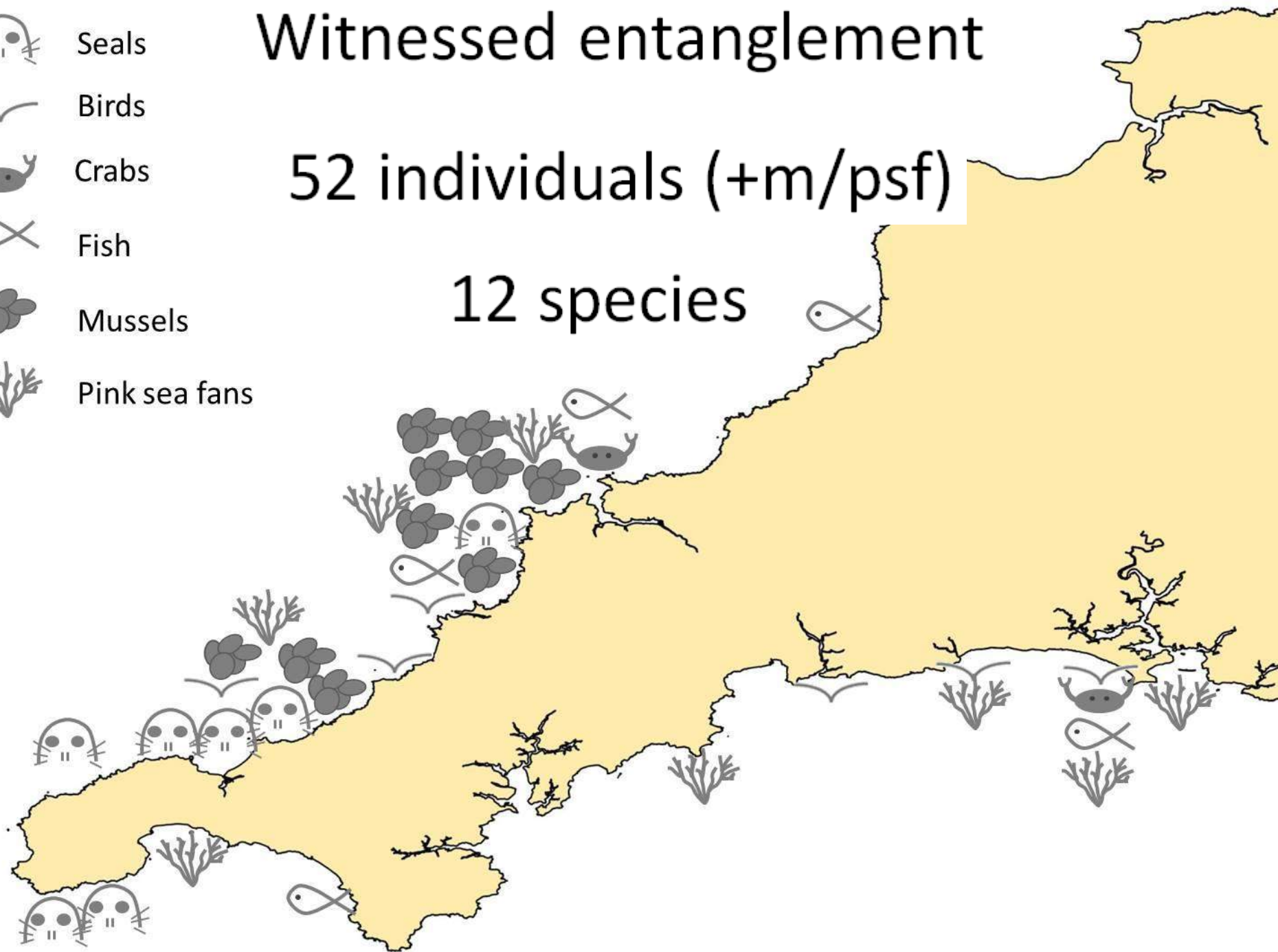


Pink sea fans

Witnessed entanglement

52 individuals (+m/psf)

12 species



7 sites

15 live seals

8 rescued (138 days)

Dave Jarvis

Barry Williams

Mostly juveniles

5 big volumes

Mostly monofilament

60% deeply cut

Plus 2 dead seals

3% W Cornwall

11 at one time

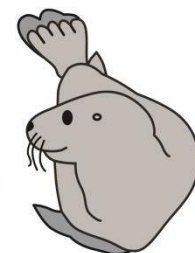
Becky Gerrity



Removed 27%
1855 items
14 tonnes



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Reduced risk
All sites 26% to 18% (items)
Seal sites 47% to 24% (items)

Positive difference

Photos Newquay Sea Safaris, Terry Hocking, Fairygirl and Mike Stephens,





Buoys,
goose
barnacles
and
columbus
crabs



A JOURNEY OF 3041 MILES

Christine Spooner, Fowey in December. Thanks to Cathy Fetterman at the Dept. of Marine Resources in Augusta for finding out that the number was registered to Edward Hutchins who fishes out of Cape Porpoise, Maine, USA.



Conclusion

USP – risk / impact on marine life

What gear:

is where

poses biggest risk

Gear gets:

moved /stuck

buried / uncovered

Effort people make to find, record,
remove, dispose of and recycle

A volunteer network makes a difference

The Watergate Bay Rope Monster

17th January – on the beach but too heavy to remove.

28th January – washed up on the rocks.

19th June – trapped in the rocks.

13th October – appears to have been released from the rocks.

Was it removed?





Effective – large scale/long time

Spatial variation

Temporal variation

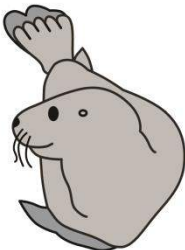
Species affected


14/51 tonnes removed (27%)

Baseline



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Current CSGRT
fundraising campaign
for coastal marine life,
human activity and
ghost gear boat surveys!



Acknowledgements

Volunteers eagerly joined a rapidly expanding network of 'ghost gear recorders' enabling land based survey coverage of most of Cornwall's 700km of coastline. Hardy souls also volunteered to brave long days at sea especially during the winter months to record ghost gear! Without them, this project would not have been possible.

Rebecca Allen, Annie, Rob Arnold, Kelly Astley, Louise Austin, Tim Bain, Catherine Barry, Eliane Bastos, Gemma Beckett, Lynda Bolding, Ian Boreham, Mike Boyse, Steve Brodawel, Danielle Bussell, Lindsey Butterfield, Pippa Burrows, Caitlin, Michaela Channings, Chrissie, Christine, Claire, Liz Clark, Niki Clear, Sandie Coombes, Amy Copping, Chrissie Corbett, Zoe Courchene, Abby Crosby, Ann Davies, Sarah Deere-Jones, Lauren Delacy, Christina Dixon, Simon Dolphin, Katie Drake, Paula Evans, Alec Farr, Enid Farr, Mike Fletcher, Geoff Gamble, Margaret Gardner, Gabi Gilkes, Jasmina Goodair, Mark Grantham, Tony Greenbank, Laura Guy, Elliot Hall, Earnest Hall, Vic Hall, Mary Hallett, Joanne Harris, Paul Harry, Julie Hatcher, Neil Hembrow, Jes Hirons, Kate Hockley, John Hepburn, Charles Hood, Gus Horsley, Rebecca Hughes, Edd Hurst, Ian Illingworth, Nigel Ingram, Elise Neve, Dan Jarvis, Dave Jarvis, Lesley Jarvis, Annie Jenkin, Amy Jones, Julie, Lyn Kent, Jonathan Kersley, Kyle, Adrian Langdon, Cat Lee, Claire Lewis, Annabelle Lowe, Ben Lowe, Chris Lowe, Jan Loveridge, Jeff Loveridge, Abigail Maiden, Anne Matthews, Pat May, John Meakin, Dave McBride, Libby McBride, Malcolm McKenzie, Kev Metcalfe, Matt Mitchell, Taliesyn Mitchell, Richard Morton, Sue Morton, Jocelyn Murgatroyd, Mark Nason, Bob Nicholls, Ellie Nuthall, Nigel, Andrea O'Shaughnessy, Annette Petersson, Nick Pickles, Jane Pickles, Sarah Pilgrim, Pippa, Paul Pocock, Emma Porter, Zillah Robertson, Rory, Ross, Anne Rundle, Becky Sandelson, Lynda Small, Wendy Sargeant, Christine Spooner, Mike Stephens, Terry Thirlaway, Dave Thomas, Steve Trehella, Alice Trevail, Jen Tyler, Shan Uglow, Nick Upton, Mo Usher, Caz Waddell, Claire Wallerstein, Rob Wells, Peter Welsh, Heidi Westbrook, Kath Wherry, Justin Whitehouse, Faye Whitman, Tracey Williams, Joanne Wilson, Kyle Wingfield, Jane Wiltshire, Steve Woods, Laura Workman and Inge Wusterhausen.

Atlantic Diving / Newquay Sea Safaris – for providing boats at a heavily subsidised rate and at short notice to make the most of short weather and sea condition windows!

Rebecca Allen and Mike Taylor – STAPIP coordinators

Sarah Millward and Tina Robinson – POLPIP coordinators

Martin Gregory and Derek Spooner – LISPIP coordinators

Dave Williams for providing expertise and recording bird life

Carbis Bay Crew, Cornwall Wildlife Trust, Friends of Fowey Estuary, Friends of Par Beach, Friends of Portheras, Helford Marine Conservation Group, Looe Marine Conservation Group, Newquay Beachcombing, Newquay Marine Group, Polzeath Marine Conservation Group, Rame Peninsula Beach Care, St Agnes Marine Conservation Group, Wembury Marine Centre, Widemouth Task Force

Cornwall College for subsidizing some of the STAPIP surveys

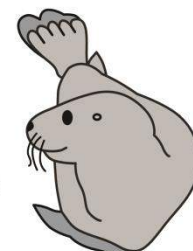
Wave Hub for funding most of the CASPIP surveys

Special thanks to World Animal Protection for core funding all of the STAPIP and POLPIP surveys and some CASPIP surveys and for commissioning this report

Huge thanks to everyone who contributed to this project whether listed above or not. You have helped to make our coastline cleaner and safer for marine life.



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