Seasearch in the LIFE EU Recreation ReMEDIES project - survey activities during 2021

A report by Charlotte Bolton, National Seasearch Coordinator, Marine Conservation Society.

The EU-funded LIFE Recreation ReMEDIES partnership project led by Natural England is focused on five Special Areas of Conservation (SAC) along the south and south-east coast of England: Isles of Scilly SAC, Fal & Helford SAC, Plymouth Sound & Estuaries SAC, Solent Maritime SAC and Essex Estuaries SAC. The project is focused upon the habitat feature "1110: Sandbanks which are slightly covered by sea water all the time" (https://sac.jncc.gov.uk/habitat/H1110/) with the specific sub-features of seagrass beds and maerl (a slow-growing coralline alga) and aims to reduce recreational pressures, restoring/protecting and raising awareness of these sensitive habitats. Seasearch have been involved in carrying out exploratory shore surveys, dives and snorkels to establish the location, extent and associated biodiversity of these important habitats.

Restoration of seagrass has taken place in Plymouth Sound and in the Solent, while in some places traditional block and chain moorings have been replaced by "advanced mooring systems" to reduce scouring in seagrass beds. Seasearch will be involved in surveying these sites in 2022 and beyond.

Visit www.saveourseabed.co.uk for more information about the project and to read our survey/expedition blogs.

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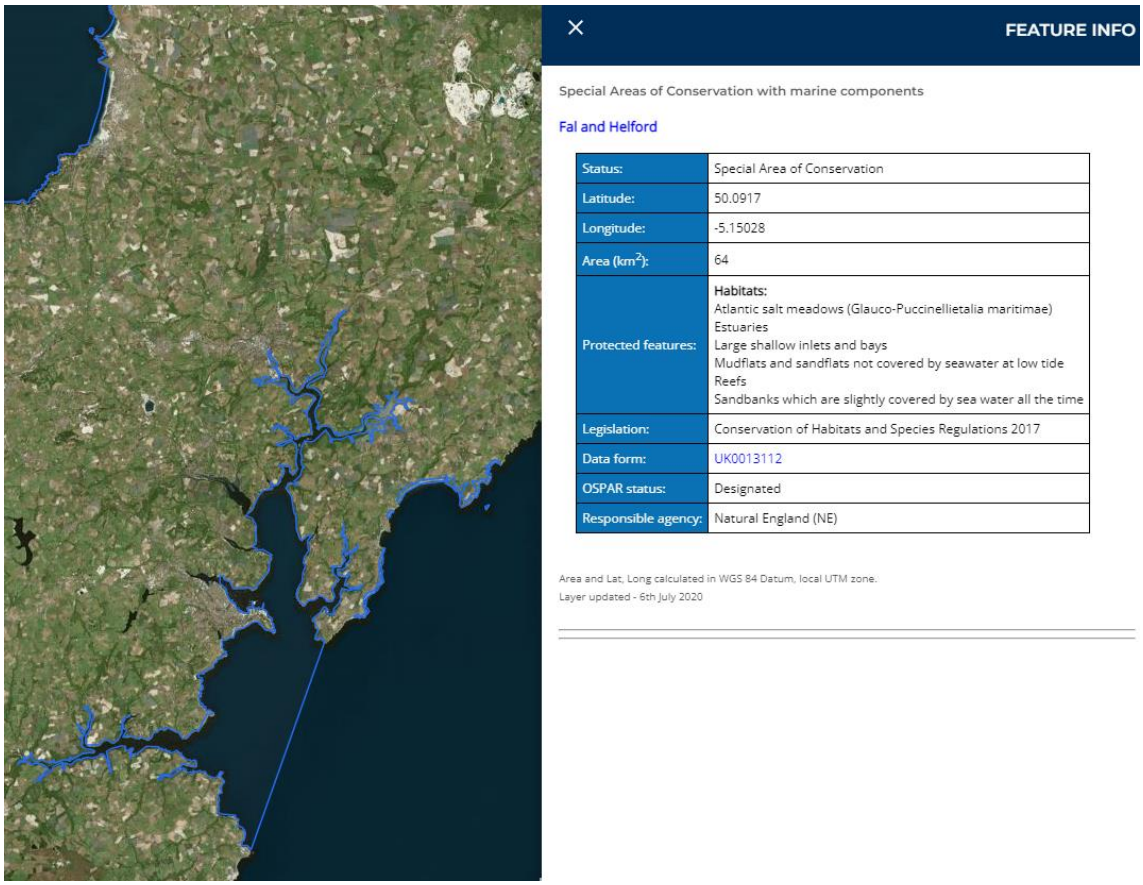
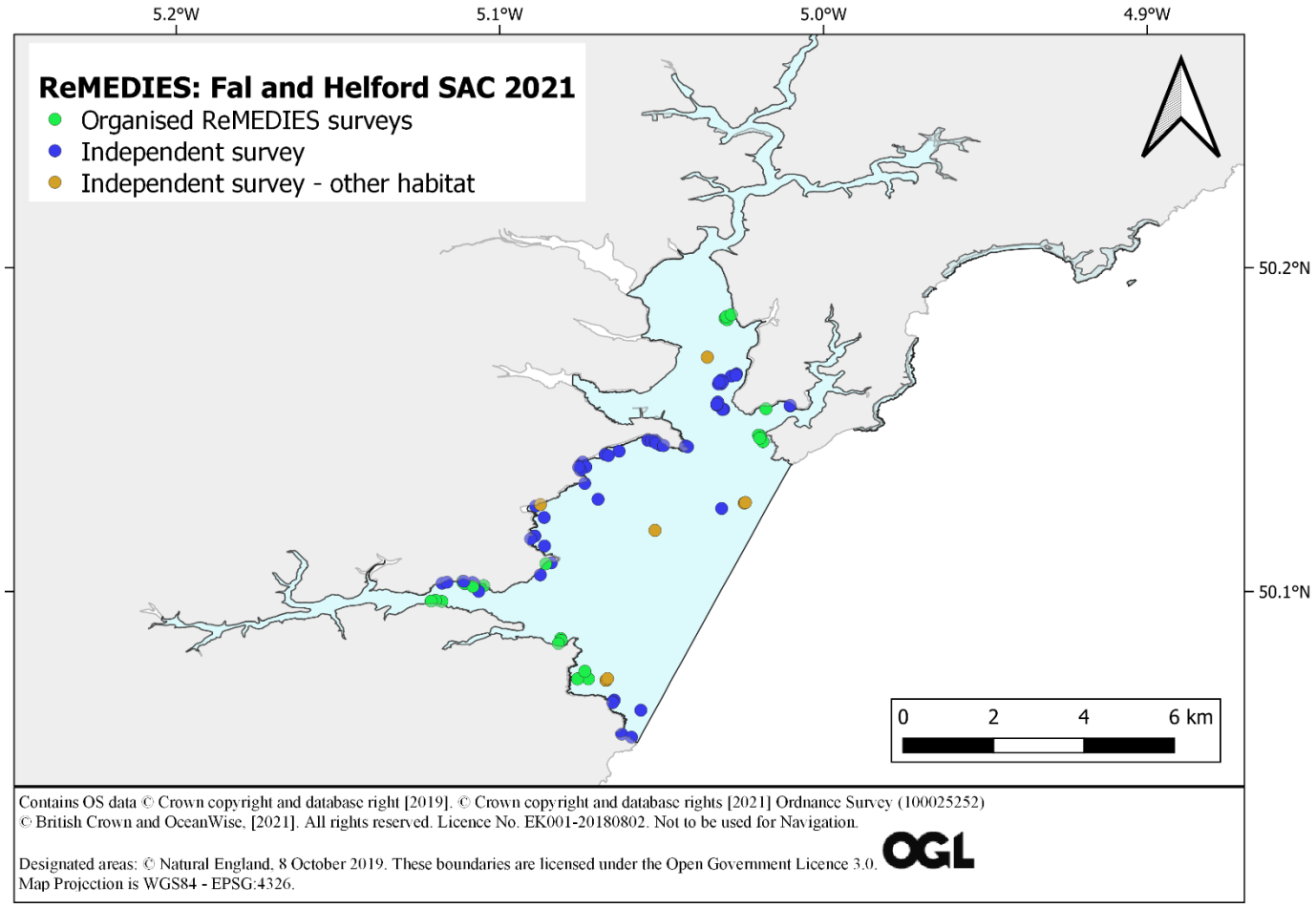
Isles of Scilly Complex SAC.

No formal Seasearch activities took place in the SAC (Seasearch does not have a coordinator dedicated to the Isles of Scilly region).

Fal & Helford SAC.

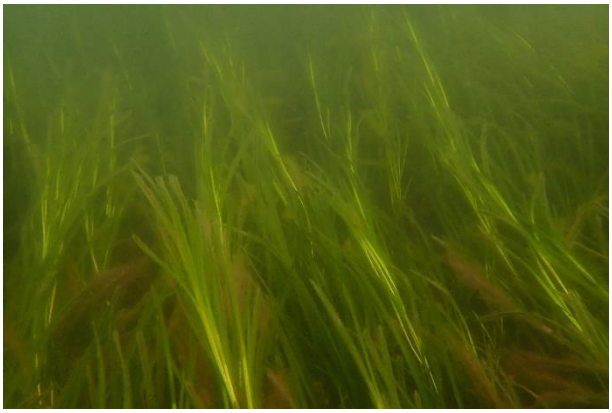


Screenshot from the interactive JNCC MPA mapper website (https://jncc.gov.uk/mpa-mapper/) showing the location and details of the Fal and Helford SAC site.



Map showing the locations of various dives and snorkels (from both organised and independent surveys) in 2021.

Cornwall Seasearch (local coordinator Matt Slater of Cornwall Wildlife Trust) organised 4 days of surveys in this area last summer, surveying maerl as well as seagrass beds (the Fal Estuary has unarguably the densest maerl aggregations in England). Surveys out of Porthkerris in June targeted sites in and south of the Helford River, while the September surveys from Mylor were confined to the Fal estuary by strong SE winds. Nonetheless they checked out sites on the edges of known seagrass and maerl beds to establish condition and record any impacts.

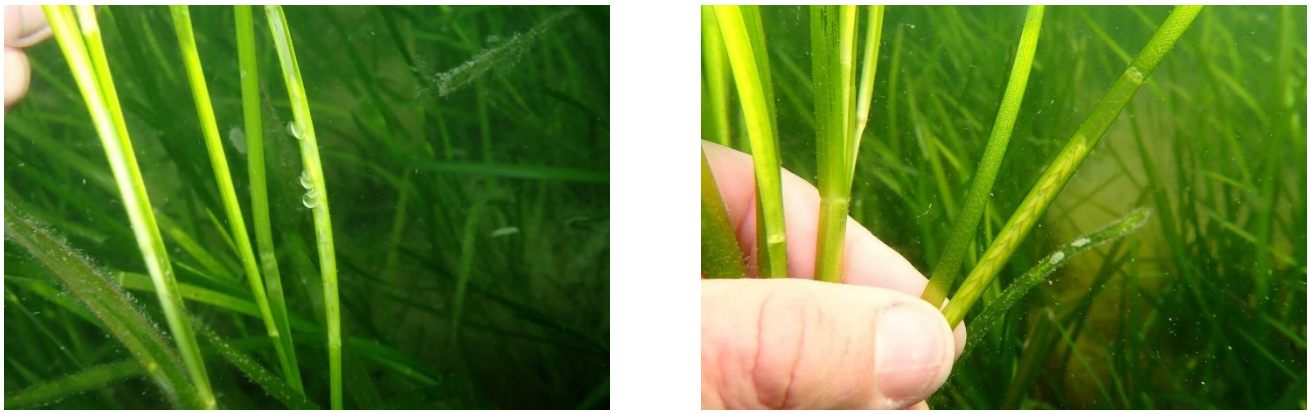


Both dense seagrass (left) and live maerl (right) were recorded in the Helford River. Both images © Matt Slater.

Porthallow Bay was targeted as the southernmost-known extent of seagrass in the Fal and Helford SAC. A large mussel farm is also located within the bay. The divers dropped towards the northern end of the known seagrass bed area found that it extended further into the shallow water to the west than previously

recorded; other surveys further north did not record seagrass. Associated biodiversity was recorded with interesting finds including cuttlefish (*Sepia officinalis*), burrowing anemones *Peachia cylindrica* and necklace shells *Euspira* sp.) – shallow sandy sediment is generally an under-recorded habitat as not the main target for most divers!

Just west of Nare Point is a small bay with moorings for small boats (not yachts – it is too shallow). Small areas of seagrass were found although not in any great quantities, but appeared healthy (with seeds and flowers – see pictures below) and with no damage apparent from the light chains of the moorings.



Flowers and seeds were recorded on the seagrass bed at Parbean Cove in June. . Both images © Matt Slater.

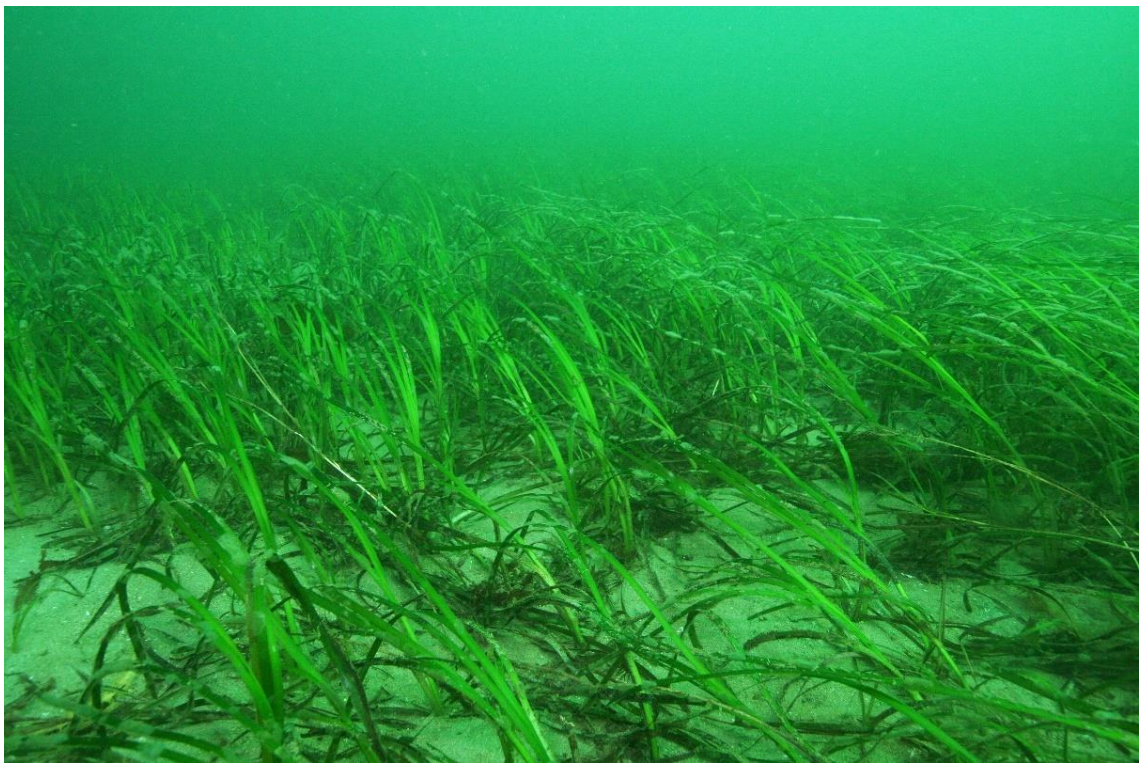
Within the long-established (since 2012?) VNAZ (voluntary no anchoring zone) at Durgan within the Helford River, dense and healthy seagrass was recorded which is a good indication that the zone is working. South of the VNAZ, anchoring and associated damage can take place and was witnessed during the survey dives.

Anchor chain being dragged across a sandy seabed with peacock worms (*Sabella pavonina*) near Grebe in the Helford River. Image © Shannon Moran.

South of the Helford Narrows both seagrass and maerl beds (small but healthy in both cases) were recorded.

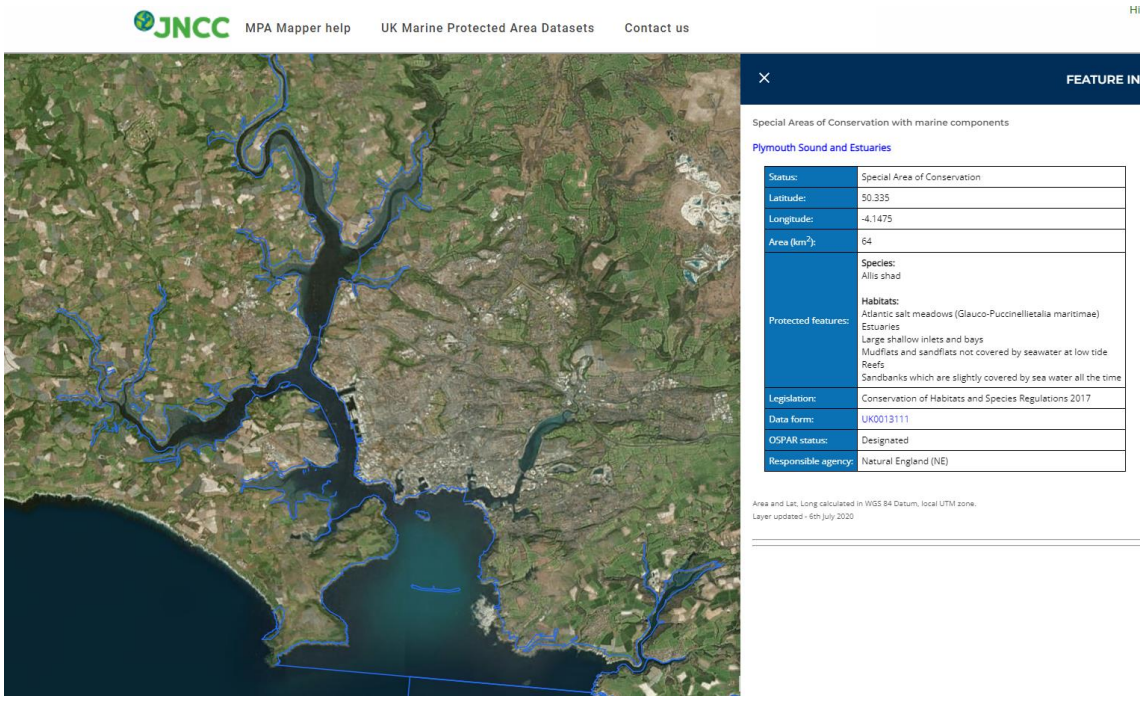
September dives off Carricknath Point were targeting both under-explored seagrass beds and possible maerl beds just outside St Mawes harbour previously investigated by Natural England. All divers recorded seagrass which was dense with very long fronds in some places and patchy in others. No maerl beds of any size were recorded although some small patches were seen. No sign of human impacts or activities were recorded.

Dives further up the estuary north of St Mawes on less-recorded sites on the maerl beds (and one area known as the St Just oyster beds near Messack Point – part of the unique Fal oyster hand-worked fishery) gave some interesting results – generally very healthy maerl at close to 100% cover (small areas of dead maerl possibly indicate raised nutrient levels within the estuary). No seagrass was found despite there being some suggestion that the sites may prove a suitable habitat.

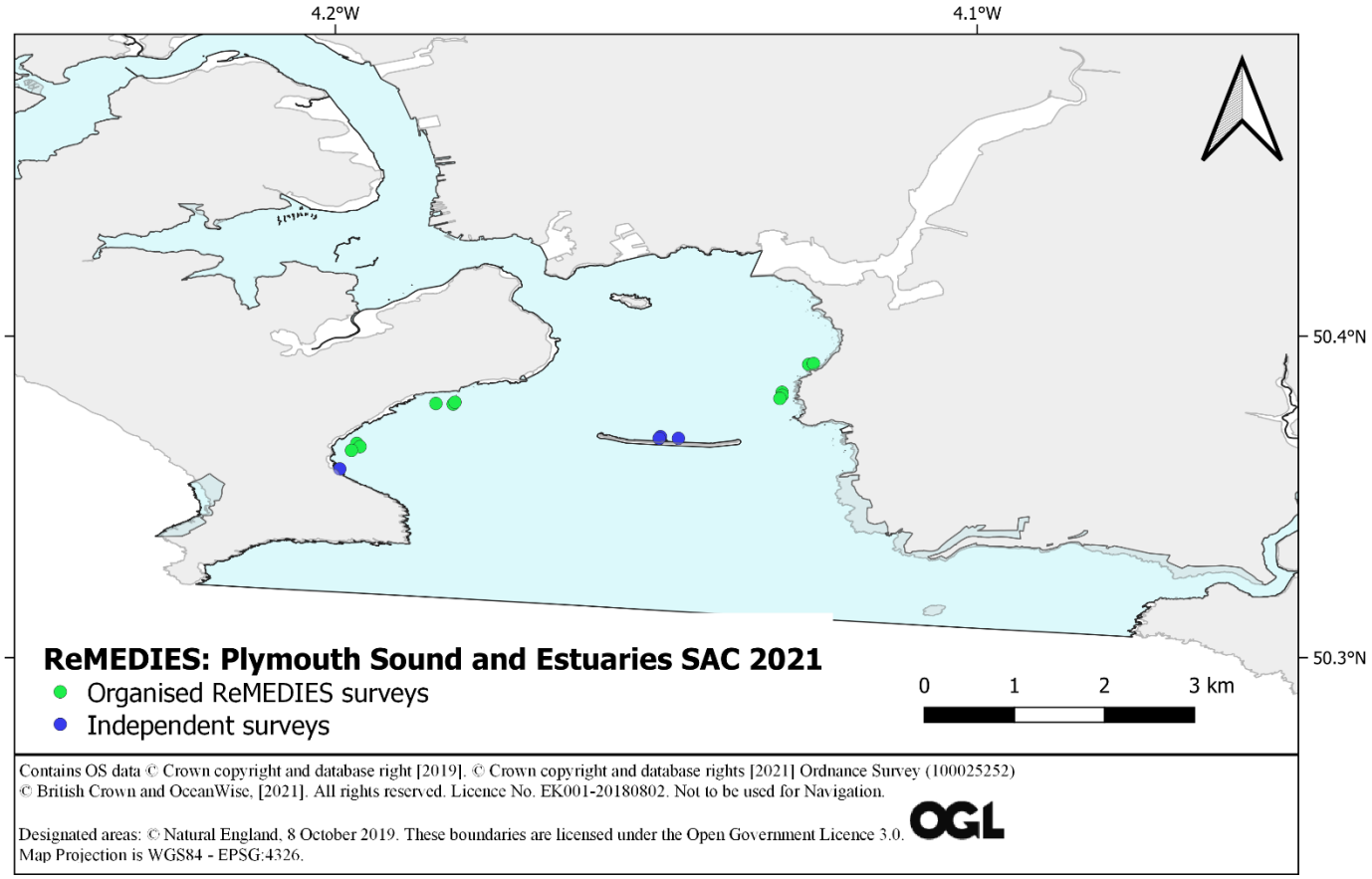


Carricknath Point seagrass bed just outside St Mawes Harbour. Image © Keith Hiscock.

Plymouth Sound & Estuaries SAC.



Screenshot from the interactive JNCC MPA mapper website (https://jncc.gov.uk/mpa-mapper/) showing the location and details of the Plymouth Sound and Estuaries SAC site.

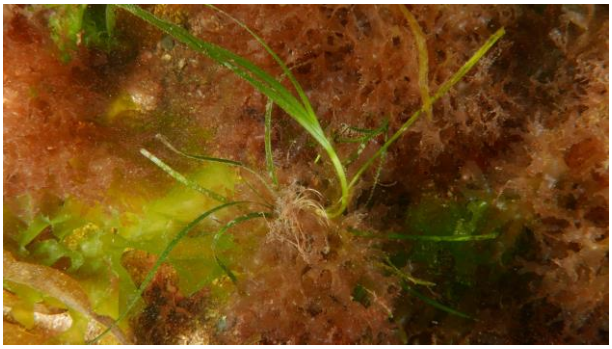


Map showing the locations of various dives and snorkels (from both organised and independent surveys) in 2021.

A total of 3 days of surveys were carried out in this SAC in 2021, organised by Matt Slater (Seasearch Cornwall coordinator) and Chris Webb (Devon Seasearch coordinator) (the SAC spans both counties).

Dives in the north of Cawsand Bay (western/Cornwall side of the Sound) and Leekbed Bay (eastern/Devon side) established good cover and condition of seagrass in known locations with plenty of interesting associated marine life (*e.g.* small fish, heart urchins, peacock worms and cuttlefish eggs, image below) including a non-native filamentous red alga, *Antithamnionella turnifolia.*

Cawsand Bay is well known as having extensive seagrass beds particularly in the south of the bay but there was very little Seasearch data further north away from the main beds. University of Exeter studies have indicated that the north end of the bay has plenty of habitat suitable for the restoration/creation of seagrass beds so baseline data was required. The site is more exposed to southerly and south-easterly storms and it was revealed to contain rocky reef as well as patches of sand which may prove to be suitable for seagrass.



Small seagrass plants in North Cawsand Bay – unattached (left) and rooted/growing (right). Both images © Becky Gill.

The main area of seagrass further south in Cawsand Bay and a site just south of the restoration area at Jennycliff Bay completed the Seasearch targets in this SAC in 2021.

Dives on the Jennycliff restoration site found small areas of seagrass (much overgrown with algae) and some of the propagation bags with little sign of germination from the latter (images below).

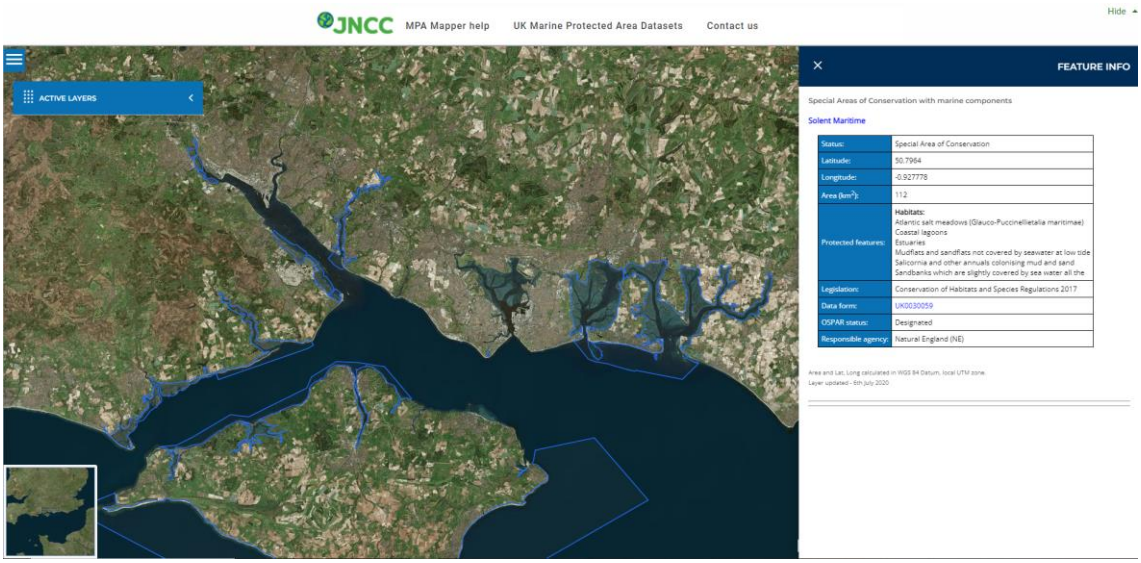
Small areas of seagrass overgrown with algae (left) and an intact hessian propagation bag (right) in Jennycliff Bay. Both images © Matt Slater.

Associated biodiversity on the site included large spiny spider crabs (*Maja brachydactyla*), peacock worms (*Sabella pavonina*) and cuttlefish (*Sepia officinalis*).

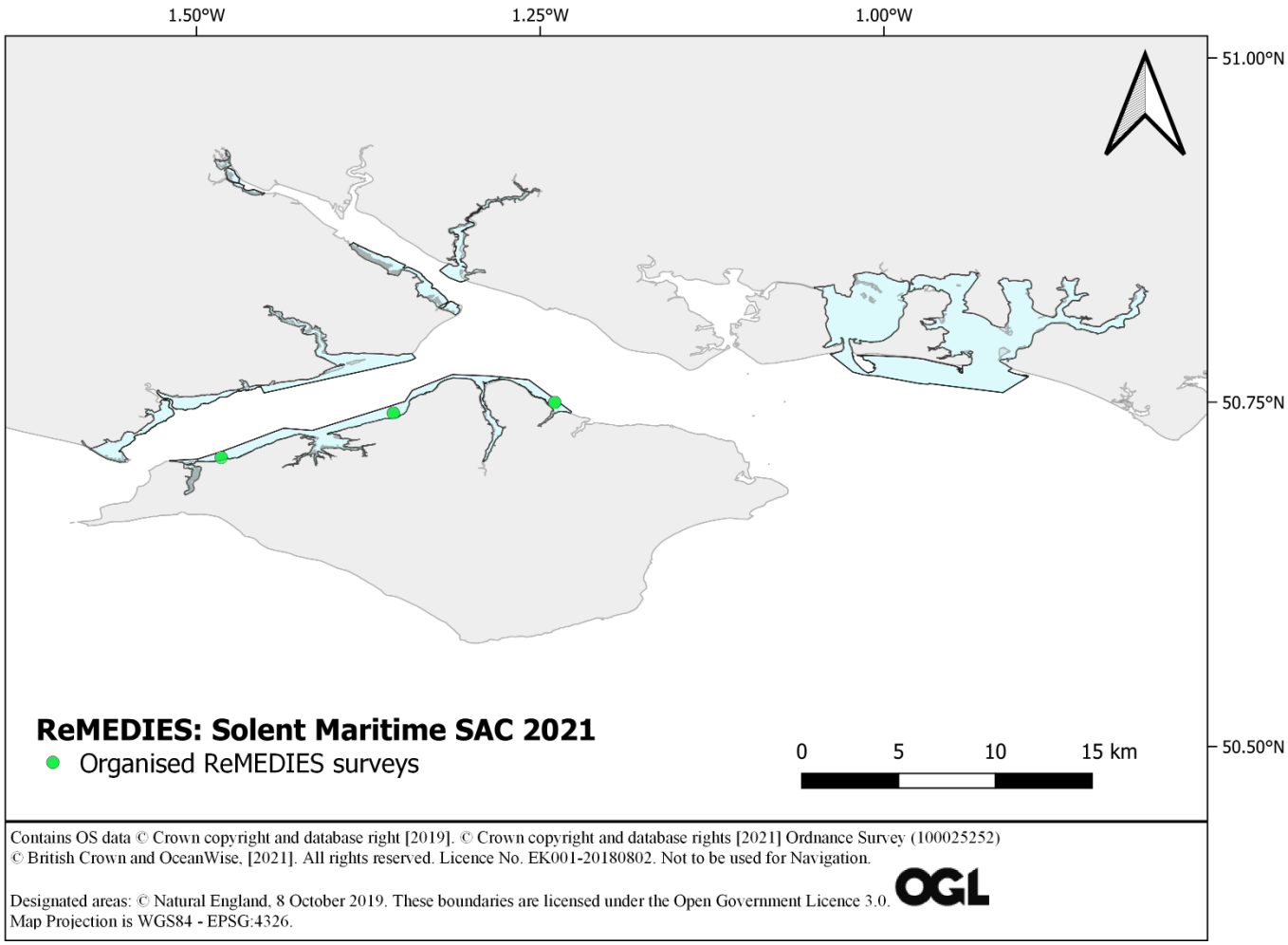
Cuttlefish (*Sepia officinalis*) eggs in Leekbed Bay. Image © Chris Webb.

Seagrass and associated life in Cawsand Bay. Image © Chris Webb.

Solent Maritime SAC:



Screenshot from the interactive JNCC MPA mapper website (https://jncc.gov.uk/mpa-mapper/) showing the location and details of the Solent Maritime SAC site.



Map showing the locations of various dives and snorkels (from both organised and independent surveys) in 2021.

Searching for slack(ish) water in the Solent on spring tides is always a challenge but we managed the happy confluence of good weather, slack water and interesting sites on three occasions in 2021: just east

of Yarmouth (NW IOW) at the end of June, the heavily-used Osborne Bay (NE IOW) in July and a fabulous gentle drift down Thorness Bay (NNW IOW) at the start of September – see map above. These dives were organised by Hampshire Seasearch (Mike Rushworth, with additional input/information from regional coordinator Lin Baldock).

Despite the forecast NE winds it proved possible to survey the seagrass bed just to the east of Yarmouth IOW at the start of June, with reasonable visibility (for the Solent – 2m) and a workable west-going ebb tide. Eight divers were deployed into ca. 3m-deep water and recorded a dense seagrass bed on a veneer of fine, muddy sand up to about 5cm deep over very soft, piddock-bored mudstone with a sparse understory of mixed seaweeds on occasional cobbles and *Crepidula* chains. The underlying mudstone was broken up into pebbles in places - possibly caused by anchor damage? *Zostera* rhizomes were recorded running along the interface between fine sand and mudstone, also penetrating down fissures and piddock bores in the mudstone. Approximately 5% of the seagrass blades showed blackened tips to older leaves (a sign of infection by the protist *Labyrinthula zosterae*?), and were overall sparsely colonised by hydroids and thin bryozoan crusts. Both seeds and flowers were recorded.

Flowers, seeds, exposed rhizomes and the possible damage to the underlying mudstone are shown in these images from east of Yarmouth. All images © Charlotte Bolton.

Favourable conditions made for pleasant conditions to dive the extensive seagrass bed in the shallow waters of Osborne Bay on the north-east shore of the Isle of Wight. The bay is a very popular area for anchoring by day boats, but to date there are few if any permanent moorings. Four diver pairs radiated out from the shot, dense seagrass was recorded with areas of bare sediment in places. Seeds, flowers and seedlings of *Zostera marina* were recorded at the site and about 15% of the *Zostera* shoots had blackened tips. Tall robust leaves of *Zostera* were heavily epiphytised by the hydroid *Laomedea angulata*. This was not the case when the area was surveyed by Natural England about a month earlier.

Dense colonisation of *Zostera* leaves by the hydroid *Laomedea angulata*. Note also blackened leaves and leaf tips. Image ©Lin Baldock.

Young shoots of *Zostera marina* growing from short lateral rhizomes in Osborne Bay. Image © Lin Baldock.

The final successful seagrass survey in the Solent Maritime SAC occurred at the start of September with a gentle south-south-westerly drift in about 3m of water across Thorness Bay on the north-west shore of the Isle of Wight between Cowes and the Newtown River. Underwater visibility was about 2m and the water temperature a balmy 18ºC. Four dive teams found a dense seagrass bed of *Zostera marina* throughout their hour-long dives covering distances of up to 1km from the approximate start point of a Seasearch record for seagrass made in 2011. The seagrass was growing in a layer of very soft, muddy sediment 6-15cm deep over a soft mudstone bedrock, typical of several seagrass sites around the Isle of Wight. Sparse mixed seaweeds were recorded within the seagrass canopy.

Seagrass leaves were densely covered in silty epiphytes which obscured large lengths of blackened leaf blades on virtually all plants and there was a thick mat of black, fragmented dead leaves beneath the live leaf canopy. Interestingly no seeds or flowers were recorded by any of the divers in Thorness Bay though our surveys earlier in the year near Yarmouth and in Osborne Bay had done so. Divers reported only relatively small areas of bare sediment along their dive tracks, in places fragments of the soft mudstone bedrock appeared on the surface suggesting possible damage from anchoring.

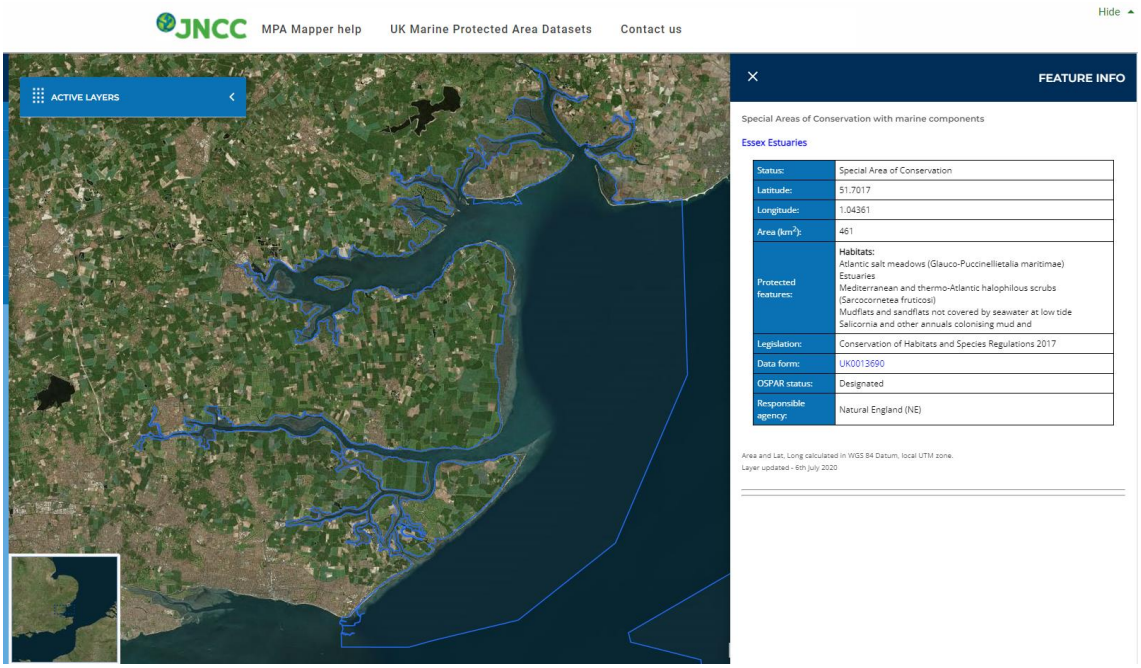
Human Impacts: the bay is a popular area for anchoring by day boats, but to date there are few if any permanent moorings. No litter was reported by any of the dive teams.

Unexpectedly long and dense seagrass in Thorness Bay. Image © Charlotte Bolton.

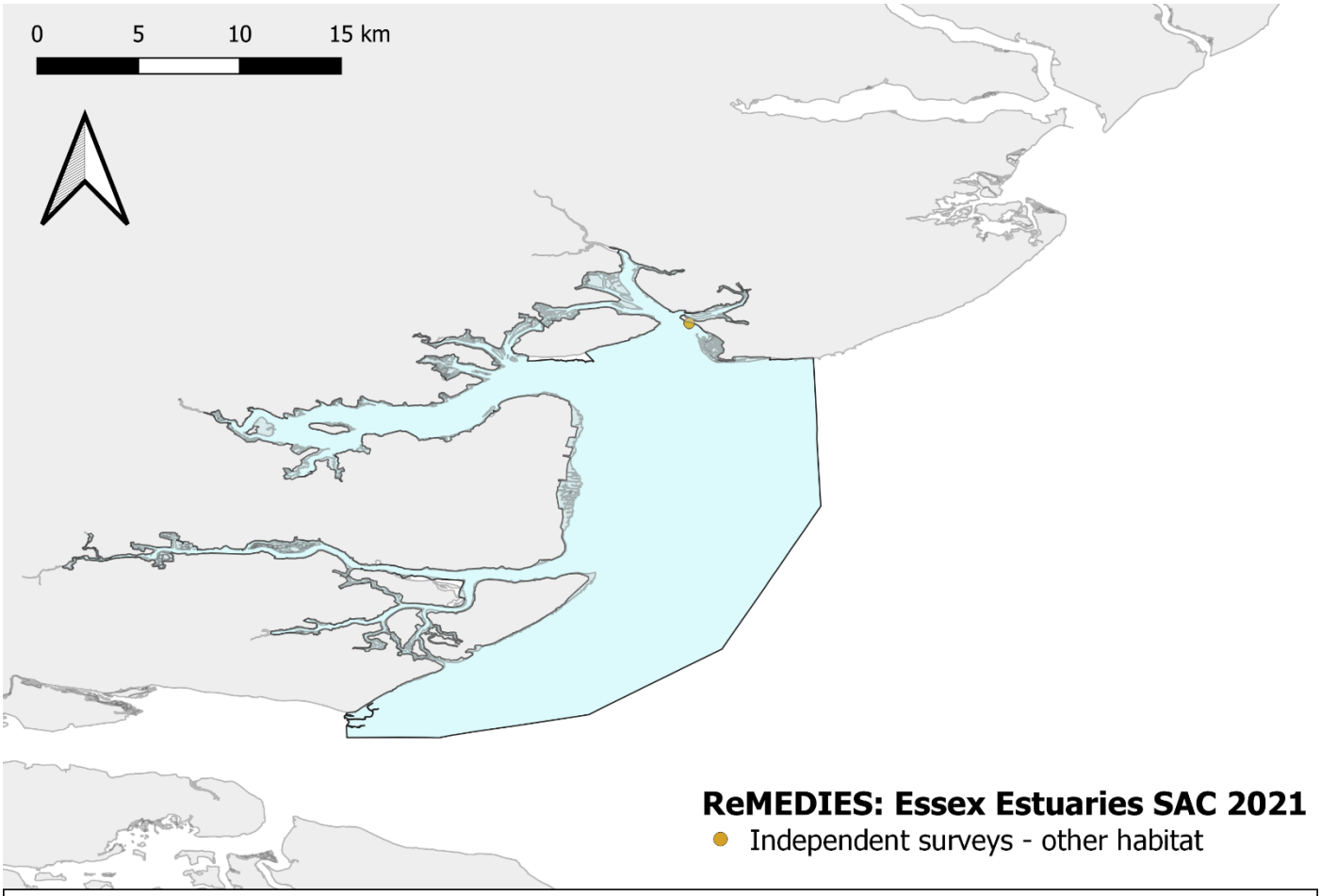
Typical appearance of end of season growth of seagrass (*Zostera marina*) in Thorness Bay with a thick mat of loose, fragmented, dead leaves below the canopy of heavily overgrown live leaves. Image © Lin Baldock.

The Seasearch surveys were timed to complement the Natural England statutory monitoring dives; the former recorded details about the substrate and associated biodiversity while the latter focuses on condition (density, measuring shoot length etc.).

Essex Estuaries SAC.



Screenshot from the interactive JNCC MPA mapper website (https://jncc.gov.uk/mpa-mapper/) showing the location and details of the Essex Estuaries SAC site.



Map showing the location of the intertidal survey in 2021.

There are no commercial dive boats available in the Essex Estuaries SAC so Seasearch East coordinator Dawn Watson and a small team of volunteers carried out an intertidal survey instead, with the aim of reconnoitring the previously-known sites of seagrass for return visits. Most of the existing records of seagrass within the Essex Estuaries SAC refer to intertidal *Zostera noltei*.

A combination of Covid regulations and local flooding had closed the approach to Ray Creek from the local nature reserve, so it was decided to walk up from the Point Clear car park at low tide, surveying the shore on the way. Unfortunately, a fence had been erected across the beach and out into the very soft mud soon after the open end of Ray Creek, so the surveyors were not able to survey beyond that point.

VERY soft mud characterised the intertidal Point Clear survey site making for challenging conditions! Image © Dawn Watson.

The green cover is not *Zostera noltei* but green algae (*Ulva* spp.) Both images © Dawn Watson.

No *Zostera noltei* was seen during the survey, but non-native/invasive species such as *Hemigrapsus takanoi*, *Styela clava* and *Sargassum muticum* were recorded. Other rarely-seen species included the algae *Dumontia contorta* and *Scytosiphon lomentaria*.


Non-native crab *Hemigrapsus takanoi* (left) and rarely-recorded alga *Dumontia contorta* (right). Both images © Dawn Watson.

A very large deep pool found at the end of the survey will be surveyed with snorkeling gear in 2022.

Acknowledgements

The Seasearch regional coordinators for organising the surveys (Lin Baldock, Mike Rushworth, Matt Slater, Dawn Watson & Chris Webb) and the volunteers who gave their time and expertise to collect the data:

Abby Masterson, Angela Gall, Becky Gill, Benjamin Penfold, Charlotte Bolton, Chris Moakes, Chris Webb, Christian McKenna, Claude Love, Colin Knight, Dawn Watson, Derek Hutchins, Edward Rollins, Elspeth Stevenson, Emily Dixon, Fiona Crouch, Francesca Waters, Freja Azzopardi, Hazel Selley, Hugh Waite, Jack Whiteley, James Gregory, Jane Hutchins, Janet Dallimore, Jean-Luc Solandt, Jed Lewis, Jeremy Roberts, John Campbell, John Yarrow, Josh Symes, Jules Agate, Kat Gerasimova, Katherine O'Brien, Keith Hiscock, Kevan Cooke ,Lin Baldock, Mark Card, Mark Harrison, Mark Pritchard, Mary Ledlie, Matt Slater, Mike Rushworth, Morwenna Smart, Nick Owen, Nick Reed, Paul Aldersley, Paul Chapman, Pete Atkins, Pippa Hardisty, Rhys Walsh, Rob Spray, Roly White, Sarah Snow, Scott Lewis, Sean Dixon, Shannon Moran, Simon Macrae, Stephen Mawer, Tanya Venture, Thomas Daguerre, Tom Shelley. Trudy Russell, Vicki Spooner. **Apologies to any volunteer whose name has been inadvertently omitted.**

Grateful thanks to those volunteers who provided images for this report – copyright remains with the original photographer.

Boat skippers who facilitated the organised hard-boat surveys: Dave Brown & Mike Anselmi (Porthkerris Divers), Danny Daniels (Discovery Divers), Mark Milburn (Atlantic Scuba), Dave Wendes (Wight Spirit), Ben Kellett (In Deep)

Funding: EU LIFE Recreation ReMEDIES (for Fal & Helford, Plymouth Sound and Estuaries, Solent Maritime and Essex Estuaries surveys). Cornwall Seasearch is delivered in partnership with Cornwall Wildlife Trust in that county. The other regional activities reported here, along with the overall coordination, administration and data management are funded by the Marine Conservation Society.

This report was compiled by Charlotte Bolton with input from the regional coordinators (named above) without whose trip reports and images I would have nothing to write about. Angus Jackson (Seasearch Data Officer) produced the maps. Their assistance is greatly appreciated.

MARINE CONSERVATION SOCIETY

Cornwall Wildlife Trust

LIFE Recreation ReMEDIES (LIFE18 NAT/UK/000039)
Reducing and Mitigating Erosion and Disturbance Impacts affEcting the Seabed
www.gov.uk/government/publications/life-recreation-remedies-project

Appendix 1: Survey details

N. B. *SAC: F&H = Fal and Helford, PS&E = Plymouth Sound and Estuaries, SM = Solent Maritime, EE = Essex Estuaries

Event Date	Event Reference	Event Name	Position (WGS84)	Recorders	SAC*
02-May-21	CW21/124	Grebe Beach, Helford River	50° 06.192'N 005° 06.687'W	Chris Moakes Trudy Russell	F&H
02-May-21	CW21/032	Grebe Beach, Helford River	50° 06.15'N 005° 06.65'W	Jack Whiteley Jed Lewis Sarah Snow Scott Lewis	F&H
02-May-21	CW21/010	Grebe Beach, Helford River	50° 06.206'N 005° 06.692'W	Matt Slater	F&H
02-May-21	CW21/030	Grebe Beach, Helford River	50° 06.15'N 005° 06.65'W	Chris Moakes Jack Whiteley Jed Lewis Sarah Snow Scott Lewis	F&H
05-May-21	EA21/020	Point Clear Intertidal near St Osyth	51 48.055'N 001° 01.023'E	Dawn Watson Kat Gerasimova Rob Spray	EE
05-Jun-21	CW21/048	Prisk Cove, Rosemullion Head	50° 06.31'N 005° 05.25'W	Abby Masterson Benjamin Penfold Elspeth Stevenson Jeremy Roberts Josh Symes Jules Agate Katherine O'Brien Mary Ledlie Morwenna Smart Tanya Venture Vicki Spooner	F&H
05-Jun-21	CW21/049	Porth Saxon	50° 06.11'N 005° 06.30'W	Elspeth Stevenson Jules Agate Mary Ledlie Morwenna Smart Vicki Spooner	F&H
10-Jun-21	CW21/028	Tavern Beach, St Mawes	50° 09.388'N 005° 01.069'W	Matt Slater	F&H
14-Jun-21	CW21/025	Maenporth	50° 06.516'N 005° 05.149'W	Matt Slater	F&H
17-Jun-21	CW21/076	Parbean Cove, Nare Point	50° 05.094'N 005° 04.898'W	Matt Slater	F&H

Event Date	Event Reference	Event Name	Position (WGS84)	Recorders	SAC*
17-Jun-21	CW21/077	Parbean Cove, Nare Point	50° 05.094'N 005° 04.863'W	Francesca Waters John Yarrow	F&H
17-Jun-21	CW21/099	Parbean Cove, Nare Point	50° 05.038'N 005° 04.916'W	Rhys Walsh	F&H
18-Jun-21	CW21/047	Porth Saxon West	50° 06.148'N 005° 06.478'W	Francesca Waters Mark Pritchard	F&H
18-Jun-21	CW21/085	Grebe Beach East	50° 06.096'N 005° 06.470'W	Jean-Luc Solandt Shannon Moran Tom Shelley	F&H
18-Jun-21	CW21/089	Helford Narrows	50° 05.796'N 005° 07.115'W	Hazel Selley Scott Lewis	F&H
18-Jun-21	CW21/091	Helford Narrows	50° 05.801'N 005° 07.238'W	Angela Gall Jed Lewis	F&H
18-Jun-21	CW21/088	Helford Narrows	50° 05.804'N 005° 07.385'W	Matt Slater Sean Dixon	F&H
27-Jun-21	HT21/015	East Yarmouth seagrass	50° 42.586'N 001° 28.922'W	Charlotte Bolton Edward Rollins Hugh Waite Lin Baldock Mike Rushworth Paul Chapman Pippa Hardisty Stephen Mawer	SM
01-Jul-21	CW21/105	Hooe Lake Point, North Cawsand Bay	50° 20.395'N 004° 10.904'W	Becky Gill	PS&E
01-Jul-21	CW21/108	Hooe Lake Point, North Cawsand Bay	50° 20.393'N 004° 10.836'W	John Campbell Matt Slater	PS&E
01-Jul-21	CW21/106	Hooe Lake Point, North Cawsand Bay	50° 20.350'N 004° 11.158'W	Jed Lewis Scott Lewis	PS&E
02-Jul-21	CW21/115	Jennycliff Bay South	50° 20.737'N 004° 07.566'W	Matt Slater	PS&E
02-Jul-21	CW21/116	Jennycliff Bay South	50° 20.737'N 004° 07.566'W	Mark Harrison Tom Shelley	PS&E
02-Jul-21	CW21/117	Jennycliff Bay South	50° 20.737'N 004° 07.566'W	John Campbell Mark Card Trudy Russell	PS&E

Event Date	Event Reference	Event Name	Position (WGS84)	Recorders	SAC*
11-Jul-21	HT21/032	Osbourne Bay	50° 44.995'N 001° 14.370'W	Charlotte Bolton Freja Azzopardi Hugh Waite Lin Baldock Nick Owen	SM
05-Sep-21	HT21/021	Thorness Bay Seagrass	50° 44.590'N 001° 21.295'W	Charlotte Bolton Lin Baldock Nick Owen Stephen Mawer	SM
16-Sep-21	CW21/158	St Mawes Bank	50° 09.916'N 005° 01.969'W	Keith Hiscock	F&H
16-Sep-21	CW21/239	St Mawes Bank	50° 09.900'N 005° 01.969'W	Mark Pritchard Nick Reed	F&H
16-Sep-21	CW21/219	St Mawes Bank	50° 09.926'N 005° 01.967'W	Hazel Selley	F&H
16-Sep-21	CW21/159	St Mawes Bank	50° 09.886'N 005° 01.969'W	Jed Lewis Roly White	F&H
16-Sep-21	CW21/161	St Mawes Bank	50° 09.876'N 005° 01.969'W	Matt Slater Thomas Daguerre	F&H
16-Sep-21	CW21/151	Carricknath Point	50° 08.869'N 005° 01.226'W	Janet Dallimore Keith Hiscock	F&H
16-Sep-21	CW21/155	Carricknath Point	50° 08.831'N 005° 01.226'W	Mark Pritchard Nick Reed	F&H
16-Sep-21	CW21/153	Carricknath Point	50° 08.847'N 005° 01.226'W	Jed Lewis Roly White	F&H
16-Sep-21	CW21/152	Carricknath Point	50° 08.811'N 005° 01.226'W	Matt Slater Thomas Daguerre	F&H
17-Sep-21	CW21/218	WaterSki Zone, St Mawes Bank	50° 10.032'N 005° 01.614'W	Hazel Selley	F&H
17-Sep-21	CW21/221	WaterSki Zone, St Mawes Bank	50° 10.006'N 005° 01.625'W	Mark Pritchard	F&H
17-Sep-21	CW21/220	Messack Point, St Just Shore	50° 11.131'N 005° 01.709'W	Hazel Selley	F&H

Event Date	Event Reference	Event Name	Position (WGS84)	Recorders	SAC*
17-Sep-21	CW21/170	WaterSki Zone, St Mawes Bank	50° 09.990'N 005° 01.713'W	Matt Slater Roly White	F&H
17-Sep-21	CW21/169	Messack Point, St Just Shore	50° 11.064'N 005° 01.825'W	Matt Slater Roly White	F&H
17-Sep-21	CW21/164	Messack Point, St Just Shore	50° 11.037'N 005° 01.787'W	Mark Pritchard Nick Reed	F&H
17-Sep-21	CW21/166	Messack Point, St Just Shore	50° 11.094'N 005° 01.80'W	Thomas Daguerre	F&H
21-Sep-21	DV21/068	Cawsand Bay 1	50° 20.00'N 004° 11.80'W	Chris Webb Paul Aldersley	PS&E
21-Sep-21	DV21/069	Cawsand Bay 2	50° 19.970'N 004° 11.770'W	Nick Owen	PS&E
21-Sep-21	DV21/070	Cawsand Bay 3	50° 19.930'N 004° 11.800'W	Mark Harrison	PS&E
21-Sep-21	DV21/071	Leekbed Bay 2, south of Ramscliff Point	50° 20.477'N 004° 07.825'W	Chris Webb Paul Aldersley	PS&E
21-Sep-21	DV21/072	Leekbed Bay 3, south of Ramscliff Point	50° 20.460'N 004° 07.860'W	Keith Hiscock	PS&E
21-Sep-21	DV21/073	Leekbed Bay 4, south of Ramscliff Point	50° 20.420'N 004° 07.845'W	Fiona Crouch	PS&E