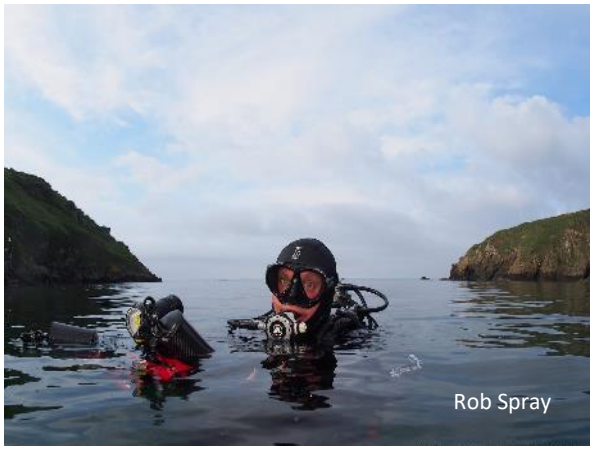
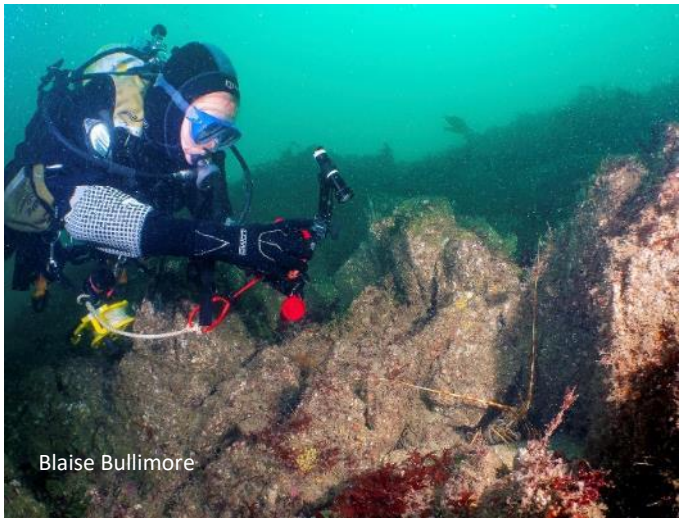
Seasearch
South and West Wales 2020
Summary Report

Report prepared by Kate Lock, South and West Wales Co-ordinator





Seasearch De a Gorllewin Cymru 2020

Cynllun gwirfoddol ar gyfer cynnal arolygon o gynefinoedd a rhywogaethau morol yw Seasearch i blymwyr a snorcelwyr hamdden ym Mhrydain ac Iwerddon. Fe'i cydlynir gan y Gymdeithas Cadwraeth Forol.

Mae'r adroddiad hwn yn crynhoi gweithgarwch Seasearch yn Ne a Gorllewin Cymru yn 2020. Mae'n cynnwys crynodebau o'r safleoedd a arolygwyd ac yn nodi rhywogaethau prin neu anarferol y daethpwyd ar eu traws. Mae'r rhain yn cynnwys nifer o gynefinoedd a rhywogaethau â blaenoriaeth yng Nghymru. Nid yw'r adroddiad hwn yn cynnwys yr holl ddata manwl gan fod hwn wedi'i nodi yng nghronfa ddata'r Cofnodwr Morol a'i gyflenwi i Cyfoeth Naturiol Cymru i'w ddefnyddio yn ei weithgareddau cadwraeth forol. Mae'r data ar rywogaethau hefyd ar gael ar-lein trwy'r Rhwydwaith Bioamrywiaeth Cenedlaethol.

Yn ystod 2020, gostyngwyd gweithgareddau Seasearch yng Nghymru yn sylweddol oherwydd cyfyngiadau COVID-19 ac mae'r data'n cynnwys cyfanswm o 12 ffurflen. Roedd plymiadau a snorcelu o'r lan yn cael eu gwneud yn lleol gan nifer fach o blymwyr. Archwiliwyd safleoedd trwy snorcelu ar hyd arfordir Gŵyr, gan ddarparu rhai cofnodion ar gyfer safleoedd nad oeddent wedi bod yn destun arolwg o'r blaen.

Mae gweithgareddau Seasearch yn Ne a Gorllewin Cymru yn 2020 wedi cael eu cyflawni gan gydlynydd rhanbarthol Seasearch, Kate Lock, ac mae'r ardal hon yn estyn o aber afon Hafren i Aberystwyth. Darperir arweiniad a chymorth cyffredinol gan Gydlynydd Cenedlaethol Seasearch, Charlotte Bolton.

Seasearch South and West Wales 2020

Seasearch is a volunteer marine habitat and species surveying scheme for recreational divers and snorkellers in Britain and Ireland. It is coordinated by the Marine Conservation Society.

This report summarises the Seasearch activity in South and West Wales in 2020. It includes summaries of the sites surveyed and identifies rare or unusual species and habitat encountered. These include a number of priority habitat and species in Wales. This report does not include all of the detailed data as this has been entered into the Marine Recorder database and supplied to Natural Resources Wales for use in its marine conservation activities. The species data is also available online through the National Biodiversity Network.

During 2020, Seasearch activities in Wales were reduced significantly due to the Covid-19 restriction and data comprises a total of 12 forms. Shore dives and snorkels done locally by a small number of divers. Sites were explored by snorkel along the Gower coast providing some records for sites not previously surveyed.

Seasearch in South and West Wales in 2020 has been delivered by Seasearch regional co-ordinator Kate Lock, this area extends from the Severn estuary to Aberystwyth. Overall guidance and support are provided by the National Seasearch Co-ordinator, Charlotte Bolton.

MAE CYFOETH NATURIOL CYMRU A'R GYMDEITHAS CADWRAETH MOROL YN ARIANNU SEASEARCH CYMRU.

Contents

1. Seasearch and Sustainable Management of Natural Resources

The Environment (Wales) Act and the Wellbeing of Future Generations (Wales) Act provide the framework for NRW's work to pursue the sustainable management of natural resources as defined in the former, while maximising our contribution to the well-being goals set out in the latter.

Sustainable management of natural resources follows nine main principles. The planning and delivery of Seasearch and the application of its outputs all support the delivery of these principles:

Adaptive management – the selection of survey sites for Seasearch incorporates a prioritisation process (for example, focus on priority feature, gap filling or targeting potential priority habitat) which results in a suite of possible survey locations that can be dived according to weather conditions and any other considerations on the day. The data collected through Seasearch contributes to improving the evidence base for Welsh marine habitats and species and helps to inform all types of marine management decision-making.

Scale – Marine habitat data is required from around the whole of the Welsh coast. The delivery structure for Seasearch with two regional co-ordinators (one based in south-west Wales and the other in north Wales) enables Seasearch to operate effectively throughout the whole of this area. Working collaboratively with others, Seasearch can develop and deliver specific projects appropriate to a local or regional scale as required.

Collaboration and engagement – The annual programme of Seasearch activity in Wales is developed through collaborative discussions with Natural Resources Wales, Special Area of Conservation officers and regional biodiversity officers to ensure integration with local projects and other relevant initiatives such as projects relating to Section 7 species and habitats (Environment (Wales) Act 2016).

Partnering with marine centres, Wildlife Trusts, local authorities and others enables Seasearch to bring the subtidal world to non-divers and engage with them to show them what is on their doorstep. Seasearch uses public events (on the beach as well as indoor talks/displays) to highlight this and connect people to their local marine environment. Seasearch also works with local dive clubs and dive centres to promote Seasearch recording.

Seasearch engages with academic institutions to identify possible projects or areas of work where Seasearch can provide vocational training and/or data. Engaging people at an early stage of their life and career makes them into lifelong ambassadors with a high level of 'ocean literacy' and excellent job prospects.

Public participation –Volunteer involvement is at the heart of Seasearch, enthusing a particular community of individuals to take part in a specialised citizen science project and make records of seabed habitats and associated wildlife. Volunteers can take part through organised events but are also encouraged and supported to undertake the recording on their own independent dives and/or with their dive clubs. Public participation engendered by Seasearch is wider than the community of scuba divers - the public and collaborative events that Seasearch is involved with establish connection with a much wider audience base and enthuse individuals to support Seasearch in other ways if they are not in a position to take part in the diving survey, or to become involved in other citizen science or environmental initiatives. The information collected by Seasearch is publicly available through the NBN Atlas thereby benefiting a much wider audience than those directly involved in the project.

Evidence – Seasearch provides data to help support marine management in Wales. To ensure high quality data the QA process has been reviewed and relies on robust training and ongoing mentoring of volunteers and subsequent multi-level validation of the submitted data. In 2018 training materials were revised and a regional recorder development workshop was held in Wales to support volunteers

maximise the value and accuracy of the data collected. Updates to training materials and methods of delivery are ongoing, particularly utilising online technology to continue to reach and train volunteers despite Covid-19 restrictions. Quality as well as quantity of data is absolutely critical to reach robust decisions capable of withstanding challenge.

Multiple benefits – Collaborative partnerships will maximise the benefits to us all - more data, more engagement, more people having a purpose to dive in Wales. Welsh diving is exceedingly popular with divers from outside Wales who will travel very large distances to enjoy it - visitors who spend money on accommodation, subsistence and socialising, thus increasing the socio-economic benefits to the local area.

Seasearch is expanding its series of photo-identification guidebooks to marine life in Britain and Ireland which provide a key national (UK) resource for identification of underwater species aimed at a general diving audience. A much expanded and fully revised Guide to Marine Life was published in 2018 along with a brand-new guide to Sea Squirts and Sponges. Plans for new guides on other common taxa (crustaceans, fish and echinoderms) are in the early stages. These are invaluable aids for both learning and engagement and they fill a gap between very basic and limited marine life guides and more technically complex taxonomic field guides, with the considerable benefit of providing *in situ* photographs of the animals and plants. Seasearch plays an important educational role in terms of providing opportunities for aspiring or qualified marine biologists to volunteer and gain valuable underwater survey skills by taking part in the marine recording. Few universities provide such opportunities and so for people with appropriate diving qualifications and experience, Seasearch enables them to develop and maintain practical surveying skills.

Long term – Information collected by Seasearch has helped inform decision making about one-off development applications as well as contributing to the body of knowledge being used for marine planning in Wales. Seasearch is able to contribute to monitoring of underwater habitats and wildlife to better understand the current status of particular species populations or to look at the consequences of human activities on marine habitats and improve understanding about impacts on seabed habitats and wildlife. Seasearch can collect data that helps monitor medium to long-term change in the marine environment in response to environmental changes and/or management decisions. Collaboration with the Angel Shark project, the crawfish surveys and previous surveys on seafans, native oysters, eelgrass beds and fan shells are examples of this.

Preventative action – The information collected by Seasearch contributes to collective understanding of the marine environment of Wales, helping identify the distribution and abundance of particular habitats and species. This information is essential to help inform sound decision making to avoid damage and degradation to Welsh seas and wildlife. The observation of seabed habitats, which are otherwise out of sight to most, can also help to highlight issues concerning marine wildlife and habitats that might otherwise be unknown and, if left, would lead to detrimental impacts on Wales' natural resources.

Building resilience – Data on marine habitats and species such as that collected by Seasearch is an essential component to help improve understanding of marine ecosystems and their functioning. It is only by continually developing this knowledge base alongside other information that it will be possible to gain some appreciation of the complexity and inter-connections of marine ecosystems that can be then used to inform sound decision making. It is vital that sound environmental principles are applied to ensure that (amongst other things) the diversity, abundance, connectivity and functioning of ecosystems are not degraded in order to contribute to building marine ecosystem resilience in the face of anthropogenic change.

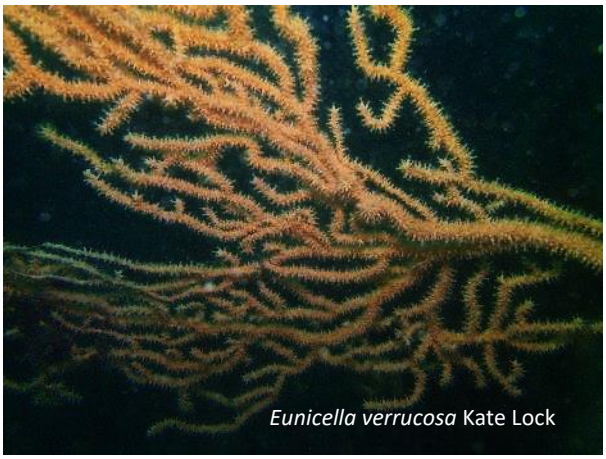
2. South and West Wales Summary 2020

An unusual year in 2020 due to the Covid-19 restrictions, all organised dive boat-based weekends were cancelled, and training courses postponed. From late June some travel restrictions were lifted which allowed for some local independent exploring from the shore to happen, but only a small number took to the waters. Many of the Seasearch regulars to this region travel from other areas of Wales and England and there was a reluctance to do this.

In Pembrokeshire, the two main shore diving sites are St Brides Haven and Martins Haven, these sites are close to parking and the shores are easily accessible to divers. A small number of local divers independently dived at these sites and completed Seasearch forms. Gelliswick eelgrass bed was also dived in Milford Haven, accessed using a small inflatable boat by the author and her son.

On the Gower one Seasearch diver switched to snorkelling to explore some of his local sites, using videos managed to complete Seasearch forms for Limeslade Bay, Langland Bay, Oxwich Bay, Caswell Bay and Coopers Reef.

Highlights include nationally important species listed on Section 7, Environment Act (Wales) 2016: Crawfish, *Palinurus elephas* and Pink sea fan, *Eunicella verrucosa* both recorded at Martins Haven.


Eunicella verrucosa Kate Lock


Palinurus elephas Kate Lock

3. Dive site descriptions

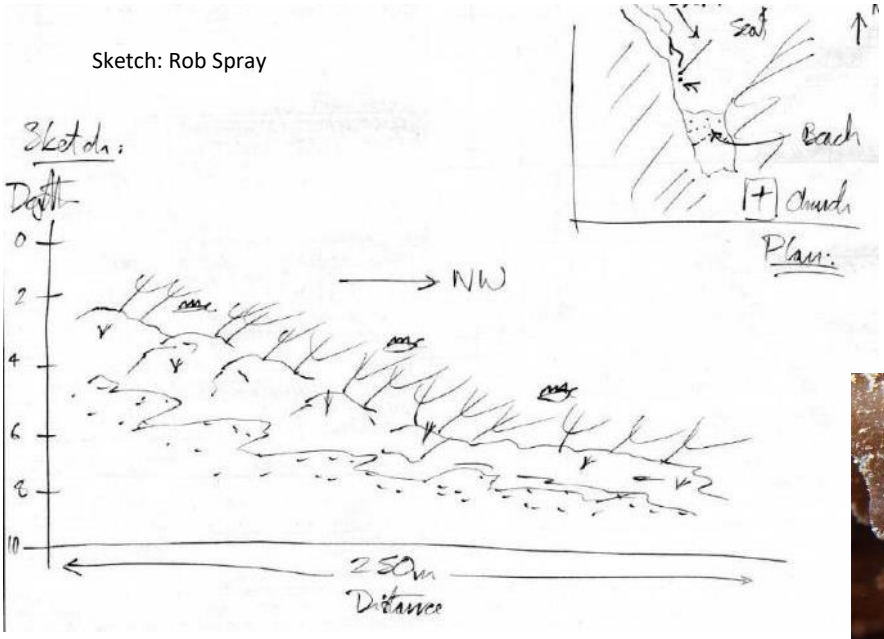
3.1 St Brides Bay

St Brides Bay is a large bay with Ramsey island marking the northern end and Skomer island the south. Red sandstone cliffs and headlands, small islands and islets, offshore reefs and mixed sediment plains are all features of the bay.

St Brides Haven

This site is located on the southern side of St Brides Bay and is a popular shore diving site used as sheltered dive training site. The centre of the bay is a sandy seafloor with rocky reefs either side thickly covered in kelp, it is a shallow site allowing long dives and plenty of time to explore.

The west side of the bay was surveyed following along the edge of the reef – sediment interface. The rocky reef was from 2m to 8m depth covered in kelp made up of forest kelp *Laminaria hyperborea* and diverse mixed algae. The most frequently recorded red algae were *Heterosiphonia plumosa*, eyelash weed *Calliblepharis ciliata*, *Cryptopleura ramosa* and red rags *Dilsea carnosa*. A high diversity of animal species was recorded but all in low numbers, in particular animals attached to the algae. Examples are snakelocks anemone *Anemonia viridis*, star seasquirt *Botryllus schlosseri* and snow seasquirt *Didemnum maculosum*. Sea-mats were encrusted on the algae, frosted sea-mat *Electra pilosa* with nudibranch *Limacia clavigera* and sea-mat *Membranipora membranacea* with *Polycera norvegica* feeding on it. Additional nudibranchs recorded were *Eubranchus farrani* and *Favorinus brachialis*.

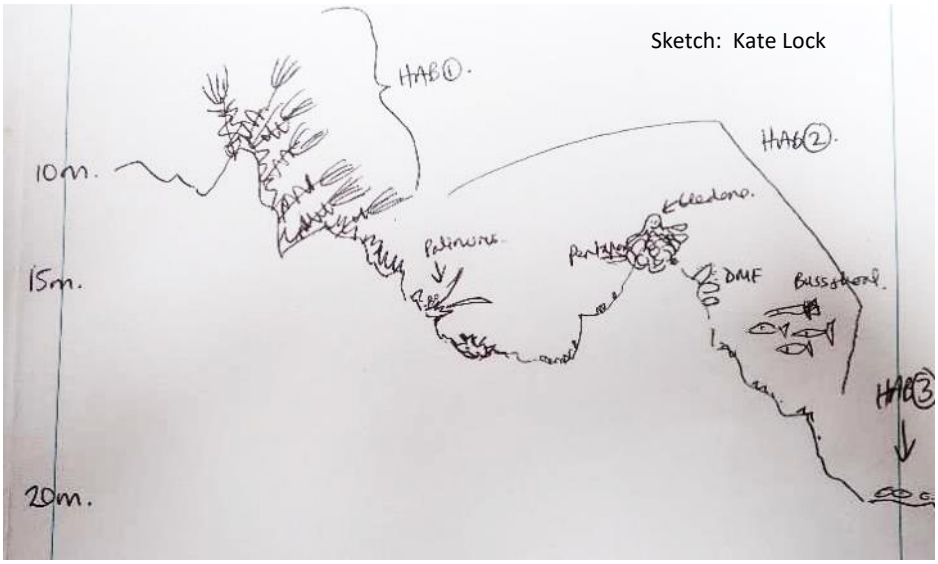


Mobile animals were seen across the sediments including high numbers of netted dog whelk *Tritia reticulata*. Notable were the high numbers of fish species both in the kelp and across the sediments. These included the transparent goby *Aphia minuta*, painted goby *Pomatoschistus pictus* and two-spot goby *Gobiusculus flavescens*. Pollack *Pollachius pollachius* were recorded as Frequent and sand eels, *Ammodytes sp*. passed in large shoals.

Martins Haven

Martins Haven is located within the Skomer Marine Conservation Zone. It is a regular shore dive that provides many interesting records as it has a variety of habitats down to 20m depth including rocky reef and boulders along with mixed sediments.

The west side of the bay was surveyed dropping into the start of the dive on the west corner. Kelp forest of forest kelp *Laminaria hyperborea* dominated mixed with furbelows *Saccorhiza polyschides* and sugar kelp *Saccharina latissima*, the shallow rocks from 4 to 12m depth with a dense red algae understory, this area was not surveyed. Below 12m depth red algae cover was found with 25 species recorded and below 15m the rocks were heavily encrusted in barnacles and bryozoan turf. The reef was rugged with gullies, boulders and steep faces with crevices and fissures down to a mixed muddy sediment seabed which ranged from 15m to 20m in depth moving further offshore. A high number of animal turf species were recorded, bryozoan turf was varied with spiral bryozoan *Crisularia plumosa*, white clawed sea moss *Crisia spp*. and twiggy bryozoa *Cellaria spp*, *Securiflustra securifrons* and some large colonies of potato crisp bryozoan *Pentapora foliacea*. Antenna hydroids *Nemertesia antennina*, deadmans fingers *Alcyonium digitatum* were prominent on the ridge tops and Devonshire cup corals *Caryophyllia smithii* were abundant many of which had attached the barnacle *Adna anglica*, Jewel anemones *Corynactis viridis* could also be found but in low numbers.




Pentapora foliacea Blaise Bullimore

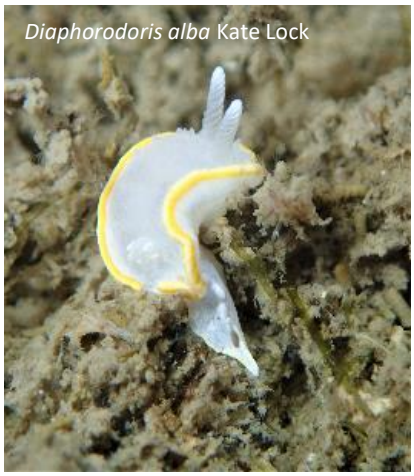

Maja brachydactyla Blaise Bullimore

A single pink seafan *Eunicella verrucosa* was recorded and sightings of the curled octopus *Eledone cirrhosa*. Crustacean species were varied with crawfish *Palinurus elephas*, European lobster *Homarus gammarus*, edible crab *Cancer pagurus* and velvet swimming crab *Necora puber* all present along with the more unusual sponge crab *Dromia personata*. A notable record in July was a massive aggregation of spiny spider crabs *Maja brachydactyla* of 100 plus animals congregated for moulting. Smaller crustacea were also common with spindly spider crab *Macropodia spp*. and *Inachus spp.* both found along with the reef-building amphipod *Jassa falcata* and skeleton shrimp *Caprellid spp*.


Caryophyllia smithii and *Adna anglica* Kate Lock


Eledone cirrhosa Rob Spray

In June high numbers of sea hare *Aplysia punctata* were found amongst the red seaweed, a good range of nudibranch species were found, including *Diaphorodoris alba*, *Ancula gibbosa* and *Rostanga rubra*. Reef fish were regularly found including ballan wrasse *Labrus bergylta*, corkwing wrasse *Symphodus melops* and goldsinny wrasse *Ctenolabrus rupestris*, long spine scorpion fish *Taurulus bubalis*, greater pipefish *Syngnathus acus* and leopard-spotted goby *Thorogobius ephippiatus* are examples of those found in the seaweed or crevices. Notable during July was a large shoal of bass *Dicentrarchus labrax* staying close to edges of the reef. The mixed sediment seabed was rich in animal life in particular the burrowing anemone *Cerianthus lloydii*, *Sagartia troglodytes* and daisy anemone *Cereus pedunculatus*, burrowing worms *Acromegalomma vesiculosum*, sand mason worm *Lanice conchilega* and peacock worm *Sabella pavonina*. Healthy scallop beds of *Pecten maximus* were recorded.


Diaphorodoris alba Kate Lock

3.2 Milford Haven Waterway

The Milford Haven waterway is a very active area with both commercial and recreation interest. Seasearch has completed many dives in the area looking at habitats and species of national importance: tidal rapid reefs, eelgrass *Zostera marina* beds and the native oyster *Ostrea edulis*. There are also high numbers of non-native species like the invasive slipper limpet *Crepidula fornicata*.

Gelliswick Eelgrass Bed

The eelgrass *Zostera marina* bed is located between Gelliswick bay and the Milford Haven Port Authority jetty, it is an extensive and well documented eelgrass bed

A flat sandy and muddy seabed with shell gravel interspersed with patches of eelgrass *Zostera marina* and foliose red algae attached to broken shells and pebbles. The non-native seaweed *Sargassum muticum* was recorded. Daisy anemone *Cereus pedunculatus* were abundant and both *Acromegalomma vesiculosum* worms and peacock worms Sabella pavonina were recorded as Frequent, other worm species included sand mason *Lanice conchilega* and eyelash worm *Myxicola infundibulum.* King scallop *Pecten maximus* were found heavily encrusted in algae and animal species.

Crustacean species were found hiding in the eelgrass and weed with hermit crabs *Pagurus bernhardus*, large edible crabs *Cancer pagurus* and velvet swimming crab *Necora puber.* Crawling on the eelgrass were nudibranch *Eubranchus tricolor*, *Facelina auriculata* and 3 colour variations of *Amphorina andra*.


Amphorina andra Kate Lock


Amphorina andra Kate Lock


Amphorina andra Kate Lock

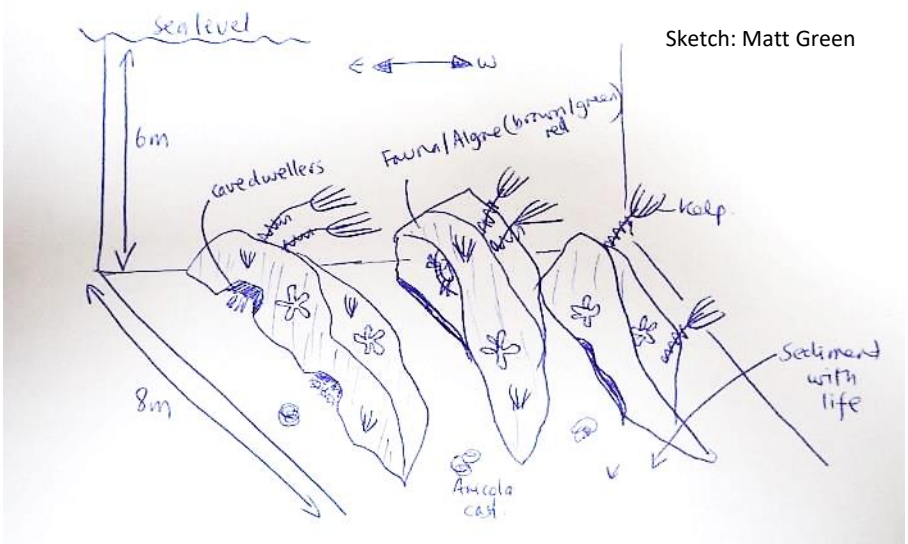
3.3 Gower

The south coast of Gower consists of Carboniferous limestone cliffs with caves, sheltered inlets and huge expanses of flat sand. Seasearch completed extensive dives in the area in 1995, since then only a few survey dives have been completed and it is an area identified to revisit to get updated data.

Limeslade Bay West

The west side of Limeslade Bay was explored by snorkel and video. Fingers of rocky reef were found from 3 to 6m depth with sandy gullies between. The sediment sand seabed was not surveyed but lug worm *Arenicola marina* casts could be seen. The rock ridges lay in a north – south direction, kelp park of forest kelp *Laminaria hyperborea* was found at the tops of the ridges with a mix of green, brown and red algae. Common starfish *Asterias rubens* were common on the reef and there was evidence of blue mussel spat *Mytilus edulis*. A notable feature of the site was the number of small caves with crustacean and fish hiding including edible crab *Cancer pagurus*, common lobster *Homarus gammarus* and large numbers of prawns *Palaemon serratus*. Fish included leopard spotted goby *Thorogobius ephippiatus* and bib *Trisopterus luscus*.


Cancer pagarus and *Mytilus edulis* Matt Green



Sketch: Matt Green


Asterias rubens Matt Green

Langland Bay West

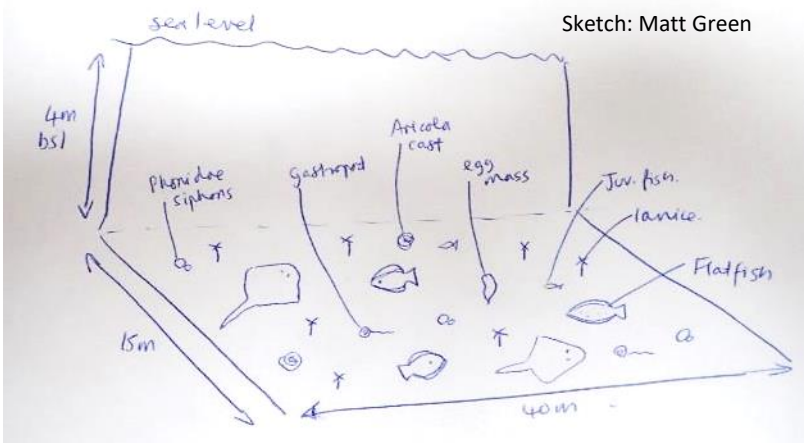
The west side of the bay was surveyed, snorkelling across limestone reef ridges lying in a north to south direction from 2m to 12m depth. Kelp park of forest kelp *Laminaria hyperborea* was found at the tops of the ridges with a mix of green, brown and red algae along with small mounds of the honeycomb worm *Sabellaria* spp. Amongst the algae were lesser spotted catshark *Scyliorhinus canicula*, greater pipefish *Syngnathus acus*, corkwing wrasse *Symphodus melops* and spiny spider crab *Maja brachydactyla*. The most notable feature on the reef was the super abundance of common starfish *Asterias rubens* feeding on blue mussel spat *Mytilus edulis*. Hiding in crevices were tompot blenny *Parablennius gattorugine* and velvet swimming crab *Necora puber*. A large elephant hide sponge *Pachymatisma johnstonia* was recorded along with patches of lightbulb sea squirt *Clavelina lepadiformis* and horseshoe worm *Phoronis hippocrepia* and a colourful range of dahlia anemone *Urticina felina*.

Sabellaria sp. Matt Green

Syngnathus acus. Matt Green

Oxwich Bay

This a large sheltered sandy bay, the west side was surveyed as a night snorkel. The muddy-sand seabed sloped from 2m down to 7m but the survey was mainly completed in less than 4m depth. The highlight was the variety of fish species found, in particular 10 small eyed ray *Raja microcellata*. Flat fish included plaice *Pleuronectes platessa*, brill *Scophthalmus rhombus* and sand sole *Pegusa lascaris* and a small grey gurnard *Eutrigla gurnardus* was spotted. Life was evident in the sediments with lug worm *Arenicola marina* casts, sandmason worm *Lanice conchilega* and spiny cockle *Acanthocardia aculeata*, notable too were some jelly egg sacs which have been identified from the lobe snail *Philine quadripartita*. Other animals seen were the masked crab *Corystes cassivelaunus,* netted dogwhelk *Tritia reticulata*, necklace shell *Euspira catena* and little cuttlefish *Sepiola atlantica*.



Sketch: Matt Green

Sepiola atlantica. Matt Green


Eutrigla gurnardus Adam Cooper


Raja microocellata Matt Green

Caswell Bay

The middle reef and sandflats were surveyed as a night snorkel. Fingers of limestone reef ridges extended out from 2 to 6m depth with sandy in the gullies between. Kelp park of forest kelp *Laminaria hyperborea* was found at the tops of the ridges with a mix of green, brown and red algae along with a mix of hydroids and bryozoan turf on the vertical faces. Large numbers of common starfish *Asterias rubens* feeding on blue mussel spat *Mytilus edulis* were found all over the reef along with some colourful dahlia anemone *Urticina felina*. Crustaceans included hermit crabs *Pagurus bernhardus*, edible crab *Cancer pagurus* and spiny spider crab *Maja brachydactyla.* On the sandy seafloor Plaice *Pleuronectes platessa* and little cuttlefish *Sepiola atlantica* were found along with a single small eyed ray *Raja microocellata*. In the water column Barrel jellyfish *Rhizostoma plumo* and lion's mane jellyfish *Cyanea capillata* were seen along with numerous comb jellyfish *Pleurobranchia pileus.* A highlight was finding several squid *Alloteuthis subulata.*


Urticina felina Matt Green

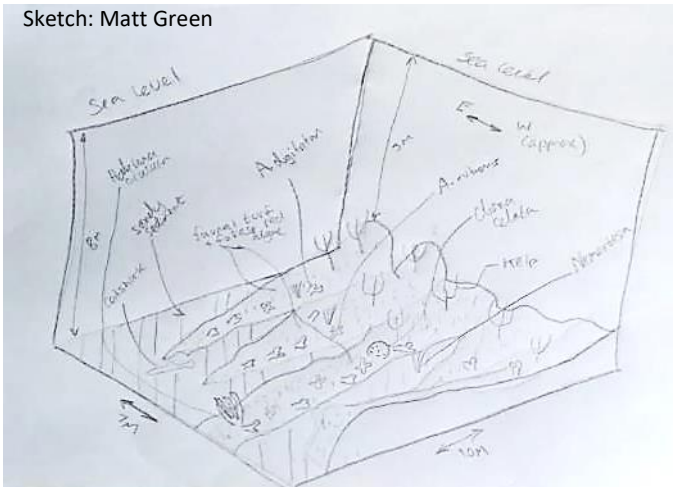

Pagarus bernhardus Matt Green


Rhizostoma plumo Adam Cooper


Cancer pagarus Matt Green

Coopers Reef

This is a reef located west of Brandy Cove, it was snorkelled at low water (10m tidal range) so that species normally found in deeper waters could be found. Limestone rocky reef extended out from the coast in low lying ridges from 3 to 8m below sea level, sandy areas were found in the gullies between the rocks. Kelp park of forest kelp *Laminaria hyperborea* was found at the tops of the ridges with a mix of green, brown and red algae along with small mounds of the honeycomb worm *Sabellaria spp*. On the sides of the ridges deadman's fingers *Alcyonium digitatum*, antenna hydroids *Nemertesia antennina*, *Aglophenia spp,* spiral bryozoans *Bugulinidae* and horseshoe worm *Phoronis hippocrepia* could be found. Sponges were present including *Suberites ficus*, boring sponge *Cliona celata* and some large mermaids glove sponge *Haliclona oculata*. Crustaceans were found amongst the seaweed and in crevices, velvet swimming crab *Necora puber*, spindly spider crab *Macropodia sp*., common lobster *Homarus gammarus* and edible crab *Cancer pagurus*. A highlight was spotting several crystal nudibranch *Antiopella cristata* along with *Gonidoris nodosa*, *Facelina auriculata* and a sea lemon *Doris pseudoargus*. Fish action included small spotted catshark *Scyliorhinus canicula*, bib *Trisopterus luscus* and bass *Dicentrarchus labrax*.



Sketch: Matt Green


Homarus gammarus Adam Cooper


Haliclona oculata Matt Green


Antiopella cristata Matt Green


Phoronis hippocrepia Matt Green

4. Training and data

4.1 Training

An Observer course was planned to run in April 2020; following Covid-19 restrictions all participants were contacted and the course postponed. The course is being planned for April 2021.

4.2 Forms

In 2020 12 forms (5 Observation forms and 7 Survey forms) were completed in South and West Wales, 6 forms from dives and 6 forms from snorkels.

All data has been entered onto Marine Recorder and is available on the JNCC National Biodiversity Network Atlas. Crawfish data is entered onto Marine Recorder but is tagged as sensitive data following Natural Resources Wales' guidelines; access to this data is therefore restricted.

5. Acknowledgements

Many thanks to the small number of Seasearch volunteers that entered the water during 2020 and completed forms. These are: Matt Green snorkelling with Adam Cooper, Rob Spray diving with Chris James, Kate Lock diving with Aran Lock and Blaise Bullimore.

Thanks are due to Jen Jones for Seasearch data support and National co-ordinator Charlotte Bolton for support throughout the year and proof-reading the text.

Photo and Sketch credits

Rob Spray, Blaise Bullimore, Kate Lock, Matt Green and Adam Cooper.

Scyliorhinus canicula Adam Cooper