



Seasearch North Wales 2021 Summary Report



**Report prepared by
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Seasearch Gogledd Cymru 2021

Mae Seasearch yn gynllun lle mae deifwyr a snorcelwyr hamdden gwirfoddol yn arolygu cynefinoedd a rhywogaethau morol ym Mhrydain ac Iwerddon. Caiff ei arwain gan y Gymdeithas Cadwraeth Forol a'i gyflwyno mewn partneriaeth â sefydliadau eraill gan gynnwys Ymddiriedolaethau Natur Lleol.

Mae'r adroddiad hwn yn crynhoi gweithgarwch Seasearch yng Ngogledd Cymru yn ystod 2021. Roedd hon, heb os, yn flwyddyn eithriadol, o ystyried y sefyllfa newidiol a'r rheoliadau oedd ar waith oherwydd pandemig y Coronafeirws. Effeithiodd y pethau hyn yn fawr ar weithgareddau Seasearch ac o ganlyniad, nid oedd modd trefnu cynifer o arolygon Seasearch ffurfiol ag a fyddai wedi digwydd fel arfer. Fodd bynnag, trefnwyd nifer o ddigwyddiadau ar gychod a'r glannau, gyda chyfyngiad ar nifer y deifwyr ar gychod. Hefyd, cynhaliodd deifwyr Seasearch arolygon deifio a snorcelio annibynnol mewn amryw leoliadau o gwmpas Gogledd Cymru. Mae'r holl weithgarwch hwn wedi golygu y gellid parhau i gasglu data ar gynefinoedd a rhywogaethau morol i gyfrannu at y gronfa wybodaeth genedlaethol. Oherwydd gofynion ymbellhau cymdeithasol a diffyg cychod siarter gweithredol, cynhaliwyd yr holl arolygon annibynnol fel deifiau o'r lan neu arolygon snorcelio.

Roedd cynnydd yn nifer yr arolygon Seasearch a ddigwyddodd drwy snorcelio eleni, ac arolygwyd rhai safleoedd newydd na fyddai'n debyg o gael eu harolygu drwy ddeifio. Mae hyn hefyd wedi denu cyfranogwyr newydd na fyddai wedi ymuno â gwaith Seasearch fel arall.

Mae'r adroddiad hwn yn cynnwys crynodebau o'r safleoedd a arolygwyd ac yn nodi unrhyw rywogaethau a chynefinoedd prin neu anarferol a ganfuwyd ac unrhyw gynefinoedd a rhywogaethau morol sydd â blaenoriaeth yng Nghymru. Nid yw'r adroddiad hwn yn cynnwys yr holl ddata manwl gan fod hyn wedi ei roi yng nghronfa ddata Marine Recorder ac wedi ei ddarparu i Cyfoeth Naturiol Cymru i'w ddefnyddio yn ei weithgareddau cadwraeth forol. Mae'r data ar gyfer rhywogaethau hefyd ar gael ar-lein drwy Atlas y Rhwydwaith Bioamrywiaeth Cenedlaethol.

Mae'r data o Gogledd Cymru yn 2021 yn cynnwys cyfanswm o 12 ffurflen arolygu a 34 ffurflen arsylwi, sef cyfanswm o 46 ffurflen. Er bod hyn yn llawer llai na'r nifer a fyddai wedi eu cwblhau mewn blwyddyn arferol, rhaid diolch i ddeifwyr a snorcelwyr annibynnol Seasearch gan i'w brwdfrydedd ein galluogi i barhau â gweithgareddau casglu data yn ystod y flwyddyn.

Mae rhanbarth Seasearch yng Ngogledd Cymru'n ymestyn o Aberystwyth at Afon Dyfrdwy. Cydlynir Seasearch yng Ngogledd Cymru gan gydlynnydd rhanbarthol Seasearch Gogledd Cymru, Holly Date. Mewnbynodd Lucy Kay y data i Marine Recorder. Darperir y cymorth a'r arweiniad cyffredinol gan Gydlynnydd Cenedlaethol Seasearch, Charlotte Bolton.

MAE SEASEARCH CYMRU YN CAEL EI ARIANNU GAN CYFOETH NATURIOL CYMRU A'R GYMDEITHAS CADWRAETH FOROL



Seasearch North Wales 2021

Seasearch is a volunteer marine habitat and species surveying scheme for recreational divers and snorkellers in Britain and Ireland. It is led by the Marine Conservation Society and delivered in partnership with other organisations including local Wildlife Trusts.

This report summarises the Seasearch activity that took place in North Wales in 2021. This was anything but a typical year, given the changing situation and regulations in force as a result of the Coronavirus pandemic. These had significant implications for Seasearch activities and meant that it was not possible to organise as many formal Seasearch surveys as would have normally taken place. However, a number of organised boat and shore events did take place, with diver numbers on boats restricted. Seasearch divers also undertook independent dive and snorkel surveys at various locations around North Wales. Collectively all this activity has continued the collection of marine habitat and species data to contribute to the national knowledge base. Because of the issues of social distancing and a lack of charter boats operating, the independent surveys were all undertaken as shore dives or snorkel surveys.

There was an increase in the amount of Seasearch snorkel surveys taking place this year, with some new sites surveyed that would not likely be surveyed by dive surveys. This has also opened up Seasearch to new participants who would otherwise have not taken part.

This report includes summaries of the sites surveyed and identifies any rare or unusual species and habitats that were encountered and any Welsh priority marine habitats and species. 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 Atlas.

Data from North Wales in 2021 comprises a total of 12 Survey forms and 34 Observation forms, a total of 46 forms. While this is much less than would have been undertaken in a more normal year, it is thanks to the enthusiasm of the independent Seasearch divers and snorkellers that data collection activities were continued during the year.

North Wales Seasearch region extends from Aberystwyth to the Dee. Seasearch in North Wales is coordinated by the Seasearch North Wales regional coordinator Holly Date. Lucy Kay entered the data into Marine Recorder. Overall guidance and support are provided by the National Seasearch Coordinator, Charlotte Bolton.

SEASEARCH WALES IS FUNDED BY NATURAL RESOURCES WALES AND THE MARINE CONSERVATION SOCIETY



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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. Recorder development training events are run to provide additional support to volunteers and maximise the value and accuracy of the data collected. 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. Following on from the publication of a much expanded and fully revised Guide to Marine Life and a brand-new guide to Sea Squirts and Sponges in 2018, plans for new guides on other common taxa (crustaceans, fish and echinoderms)

are in the development. 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 sea fans, 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. North Wales summary 2021

2021 continued to present challenges for Seasearch in North Wales with ongoing and changing restrictions and regulations as a result of the Coronavirus pandemic. Despite this, a number of organised Seasearch activities took place, including organised boat and shore-based surveys.

Eight separate organised events took place during the year between June – October 2021 with a ninth, a boat-based dive weekend, being cancelled by the boat skipper due to the weather. Four of the organised events focussed on shore-based surveys at sites on Anglesey (Porth Dafarch 19th June, Ravenspoint/Porth Castell 20th June, Rhoscolyn/Traeth Borth Wen 3rd July) and north Llŷn coast (Porthysgaden 18th/19th September). A mix of dive and snorkel surveys were completed and also a shore survey at Porthysgaden.

The aim of the 2021 boat-based surveys was to investigate sites where fragile sponge habitats had been recorded previously and investigate other locations around Anglesey where they may occur, along with addressing gaps in existing seabed habitat and marine life data. For the fragile sponge surveys a handout with description of the type of habitat and the local fragile sponge species



they may encounter was circulated to participants prior to dives. The sites visited were The Skerries (north-west Anglesey) on 4th July, the area around South Stack (north-west Holy Isle) on 4th September and North Stack and Namarch Bay (north-west and north Holy Isle) on 16th October. These sites are exposed to prevailing weather and often efforts to survey them have been hampered by weather conditions on the day of the survey.

North Wales Seasearchers were involved in a further boat-based survey on 31st June in association with researchers from the University of Bangor to trial a scallop survey methodology in the area south of Pwllheli off the south Llŷn coast. Although the selected location for the trial did not result in any scallops, this excursion provided a useful opportunity to test the survey methodologies including, boat positioning, tape laying and ROV deployment sequence.

In addition to the organised survey events Seasearch divers and snorkellers also independently took to the water to undertake shore dives and snorkel surveys at various locations around the north-west and west coast of Anglesey and the north and south coasts of the Llŷn Peninsula. 2021 saw the trialling of kelp snorkel surveys as a joint initiative between Seasearch North Wales and North Wales Wildlife Trust. Feedback from participants in these surveys will inform the survey methods with the intention for further surveys to be undertaken in 2022.



Seasearch volunteers were invited to Invasive Non Native Species (INNS) training through a workshop run by NRW on the Llŷn Peninsula; it was unclear how many attended as Seasearch North Wales just acted to promote the event and although Seasearchers were interested it is known that many were unable to attend due to the short notice of the event. There are plans for a further INNS event next year at Holyhead Marina.

An online Observer course was run with Kate Lock South Wales Seasearch Coordinator acting

as the lead tutor together with Holly Date North Wales Seasearch Coordinator. This was a very successful event with 19 people taking part, including several staff and volunteers from the North Wales Wildlife Trust.

A total of 46 survey forms were completed comprising 12 Surveyor forms (2 qualification forms) and 34 Observation forms (20 qualification forms). There continued to be a good level of interest and participation in snorkel surveys which attracted additional people who might not otherwise become involved Seasearch. Fifteen of the Observation forms were from snorkel surveys and of these 12 were qualification forms.

A total of 30 people (including dive and snorkel buddies) took part in Seasearch surveys in 2021 with 9 of them completing Observation forms (4 divers and 5 snorkellers) and one person completed two of their qualification Surveyor forms. One Observation form was completed for a shore survey.

In 2021 Seasearch surveys were undertaken at 20 different sites in the following areas around North Wales:

- North and north-west Anglesey (14 sites)
- Menai Strait (1 site)
- North Llŷn Coast (2 sites)
- South Llŷn Coast (3 sites)

The records from 2021 include habitats and species listed on Section 7 of the Environment (Wales) Act 2016 and species considered rare, scarce or unusual records as described below.

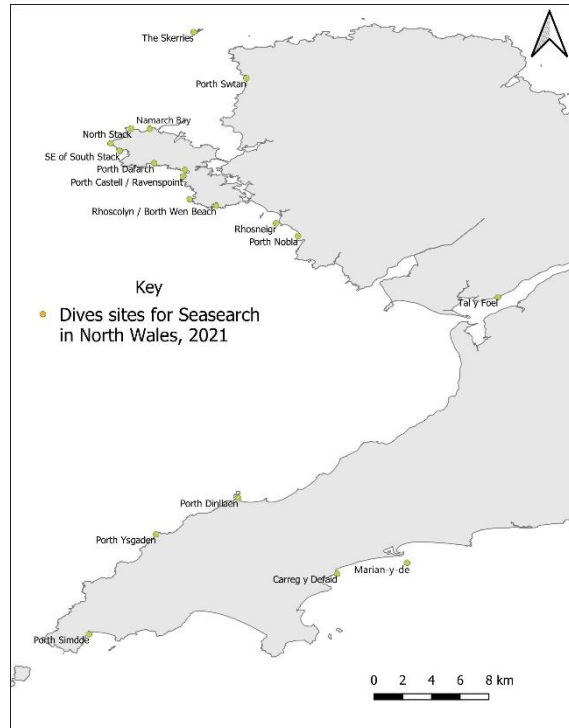
Nationally important habitats and species, Section 7 species and habitats, Wales Environment Act 2016

- Seagrass bed *Zostera marina* (patches recorded at Rhoscolyn / Borth Wen Beach, south end of Holy Island, north-west Anglesey; and dense *Zostera marina* seagrass recorded from a snorkel survey at Porth Dinllaen)
- Plaice, *Pleuronectes platessa* (recorded at Porth Dafarch and Rhoscolyn/Borth Wen Beach)
- Crawfish, *Palinurus elephas* (recorded at Darrens Rock)

Nationally rare and scarce species, unusual records and those of limited geographic distribution

Records of species more commonly found in the south and south-west of the UK:

- Yellow staghorn sponge, *Axinella dissimilis* (recorded at The Skerries, Namarch Bay, South Stack and Southeast of South Stack),
- Brain sponge, *Axinella damicornis* (recorded at Namarch Bay and Southeast of South Stack),
- Yellow feathers hydroid *Gymnangium montagui* (recorded at South Stack and Darrens Rock)
- Sea slug *Crimora papillata* (recorded at Darrens Rock)



Less commonly recorded species in North Wales

- The ctenostome bryozoan *Amathia imbricata* was recorded at a site between North and South Stack. There are only three previous records around Anglesey for this species on NBN and few for North Wales as a whole
- The red seaweed *Neevea repens* was also recorded at the same site between North and South Stack as *Amathia imbricata*. This appears to be the first record for this seaweed species in North Wales.
- The stalked jellyfish *Calvadosia campanulata* was recorded at Namarch Bay. There are few records on the NBN of this species for North Wales.
- The cushion star *Asterina phylactica* which was recorded at two sites: South Stack and Southeast of North Stack/Between North and South Stack)
- Lesser weaver *Echiichthys vipera* (recorded at Porth Dafarch)
- Strawberry anemone *Actinia fragacea*, recorded at Tal y Foel in the Menai Strait. There are few records on the National Biodiversity Network (NBN) atlas for this species around Anglesey and North Wales generally.
- Imperial anemone *Capnea sanguinea* recorded at Marian y de at Pwllheli. There are only a few records of this species for North Wales on NBN.

Non-native species

A number of non-native species were recorded during the 2021 North Wales Seasearch dives:

- Slipper limpet *Crepidula fornicata* (first diver record of this species in North Wales recorded at Tal y Foel)
- The New Zealand flat oyster *Ostrea chilensis* (recorded as frequent in occurrence at Tal y Foel)
- The brown seaweed *Sargassum muticum* was recorded at Rhoscolyn, Rhosneigr, Tal y Foel (where it was recorded as abundant), Porth Ysgaden and Porth Simdde.

3. North Wales dive site descriptions

3.1 Anglesey – north, and north-west coasts

In 2021, divers and snorkellers explored a wide range of different sites on the north and north-west coasts of Anglesey, with sites accessed by boat and as shore dives/snorkels. Fifteen different sites were surveyed with 11 Survey forms and 26 Observation forms completed. Many of the survey forms were for sites targeting known or potential locations important for fragile sponge species.

There were a high proportion of snorkel surveys undertaken at the Anglesey sites with 12 Observation forms completed.

The sites visited in 2021 are described below in an order that runs in a generally westerly direction from The Skerries, the northernmost location surveyed, to Porth Nobla on the west coast of Anglesey.

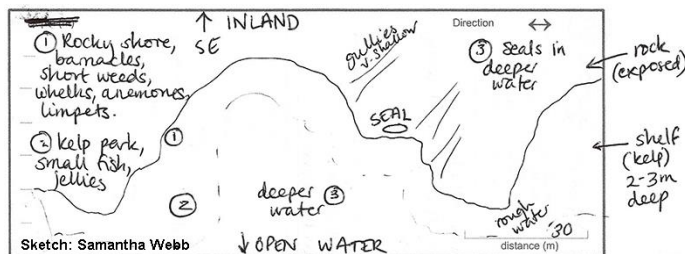
Surveys undertaken in the Menai Strait between the south side of Anglesey and mainland North Wales are presented in section 3.2 of the report.

Human activities and impacts

The predominant human activities and impacts recorded related to various waste material observed on the seabed including pieces of metal, chains and old pipe (at South Stack, Porth Dafarch and Porth Castell), litter, discarded fishing hook and glass bottles (North Stack, Porth Castell and Rhoscolyn) and a discarded lobster pot at the Skerries. Active mooring buoys and chains were recorded at Ravenspoint/Porth Castell, Rhoscolyn and Rhosneigr and lobster pots present in the area surveyed at Rhoscolyn.

3.1.1 The Skerries

Suitable weather and sea conditions in July enabled a trip to survey sites at the Skerries, an exposed group rocky islets approximately 3km offshore from Carmel Head on the north-west corner of Anglesey. This is an important location for nesting terns and alongside these the divers and snorkellers were treated to the site of many grey seals hauled out of the water and also a few puffins. Snorkel and dive surveys were undertaken at two different sites, one on the north-west side of the islets and the other on the east side.



The snorkel surveys focussed on the mid and lower shore areas and sublittoral fringe areas. The sites were characterised by mainly rocky reef with some boulders. The intertidal rocky reef was characterised by fucoid seaweeds, barnacles and limpets. Beadlet anemones *Actinia equina* were common. Extending into the shallow sublittoral these species gave way to *Laminaria hyperborea* kelp forest, kelp park and mixed seaweeds. Barrel jellyfish *Rhizostoma pulmo*, Compass jellyfish *Chrysaora hysoscella* and ctenophores including the melon comb jelly *Beroe cucumis* were present in the water.

The dive surveys were able to explore deeper areas. At the site on the north-west side of the Skerries surveyed down to 7.3m BCD, the seabed comprised ridges of rocky reef with patches of stony ground, sand and gravel. The rocky reef supported *Laminaria hyperborea* kelp park and red seaweeds (*Drachiella spectabilis* and *Heterosiphonia plumosa* both common), and a number of sponge species were recorded as present: yellow





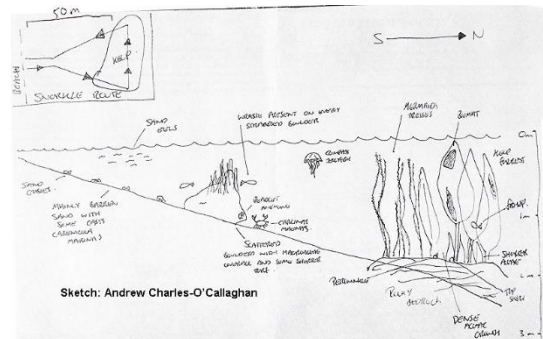
staghorn sponge *Axinella dissimilis*, chocolate finger sponge *Raspailia ramosa*, mermaid's glove sponge *Haliclona oculata* and the orangy-yellow sponge *Stelligera rigida*.

On the east side, a heavily sedimented, vertical rock wall extending from 4-8m BCD was dominated by sponges, sea squirts and occasional red seaweeds. Yellow staghorn sponge *Axinella dissimilis* was common as was the purse sponge *Sycon ciliatum*, and several other sponge species were frequent: *Haliclona oculata*, *Stelligera rigida*, Prawn cracker sponge *Axinella infundibuliformis*, Golf ball sponge *Tethya citrina* and Black tar sponge *Dercitus bucklandi*. At the base of the wall were large boulders primarily covered with mixed red and brown seaweeds.



3.1.2 Porth Swtan

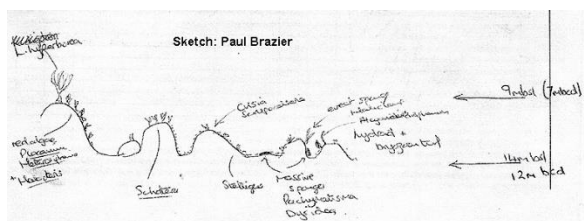
A snorkel survey was completed recording habitats in mid-intertidal (1.5m ACD) into the shallow subtidal (1.5m BCD). A sloping sand seabed with occasional lugworm *Arenicola* sp. casts and gobies *Pomatoschistus* sp. extended into a shallow area of rocky reef with kelp and dense seaweed cover. Mermaid's tresses *Chorda filum* was common and there were scattered boulders in the predominantly sand habitat with a cover of macroalgae and wrasse present around the boulders.



3.1.3 Namarch Bay

This is a small bay that lies just to the west of Holyhead breakwater on the north coast of Holy Isle at the north-west corner of Anglesey. Silted bedrock with rock gullies was recorded between 3-11m BCD with the shallower, upper facing rock surfaces covered in *Laminaria hyperborea* kelp park.

Rock gullies between 4-8m BCD supported mixed red and brown seaweeds (including *Calliblepharis ciliata*, *Delessaria sanguinea*, *Halopteris filicina*, *Dictyopteris polypodiodes*, *Plocamium cartilagineum*, *Cryptopleura ramosa* and pink encrusting algae) and sea squirts with some sponges; a variety of different sea squirts were recorded including frequent *Ascidia mentula*, *Ascidia aspersa* and *Lissoclinum perforatum*, and one dive pair recorded abundant *Dendrodoa grossularia*.



greatest abundance), with a variety of sponges present and sparse red seaweeds. The sponge fauna included *Dysidea fragilis* (frequent/common), *Stelligera rigida*, *Hemimycale columella* and *Cliona celata* (all recorded as frequent in occurrence) with a number of other species at lower abundance including, *Polymastia boletiformis*, *Raspailia hispida*, *Raspailia ramosa*, *Pachymatisma johnstonia*, *Haliclona oculata*, *Tethya citrina*, *Amphilectus*

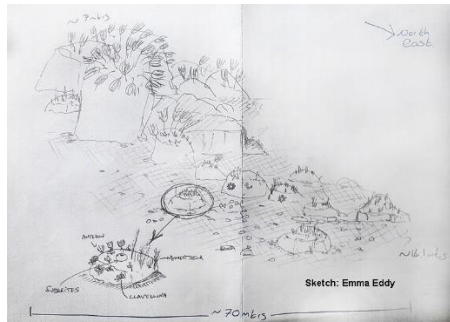


fucorum, *Hymedesmia paupertas*, *Dercitus bucklandi* and *Leucosolenia* sp. The stalked jellyfish *Calvadosia campanulata* was recorded in this habitat

Silted rocky knolls below the shallower infralittoral algal zone were also dominated by a bryozoan turf with sponges with similar species as the rock gullies but greater abundance of bryozoans.

3.1.4 North Stack

A single dive was undertaken to the east side of North Stack at the north end of Holy Isle. Here, bedrock reef in shallower water led into a flatter area of seabed in deeper water to



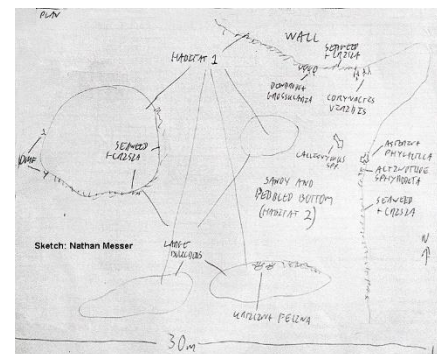
around 10m BCD with boulders surrounded by cobbles, pebbles, sand and gravel. Shallower, upper facing rock surfaces with *Laminaria hyperborea* kelp and mixed seaweeds whilst deeper rock surfaces supported a mixed faunal turf of bryozoans (*Bugulidae* common), hydroids (*Nemertesia antennina* common), sea squirts (*Aplidium punctum* and light bulb sea squirts *Clavelina lepadiformis* common), sponges (*Cliona celata* common), anemones (Ginger tiny *Isozanthus sulcatus* and white-striped anemone *Actinothoe sphyrodeta* common) and dead

men's fingers *Alcyonium digitatum*. Several sea slugs were recorded: *Edmundsella pedata*, *Antiopella cristata*, *Doto fragilis* and *Doto* spp. eggs and *Acanthodoris pilosa*. Feather stars *Antedon bifida* were common along with a variety of different mobile species including cuckoo wrasse *Labrus mixtus*, brown crab *Cancer pagurus*, velvet swimming crab *Necora puber*, spiny spider crab *Maja brachydactyla*, common sunstar *Crossaster papposus* and candy-striped flatworm *Prostheceraeus vittatus*.

3.1.5 South of North Stack / Between North and South Stack

This exposed section of the Holy Isle coast was surveyed in October with a focus on surveying sites for presence of fragile sponge species as well as filling in gaps in seabed data.

Below the kelp habitat which extended to approximately 3m BCD and which was not surveyed, scoured, steep bedrock and rounded boulders supported a mixture of bryozoan turf (dominated by Crisiidae with frequent *Flustra foliacea* and the ctenostome bryozoan *Amathia imbricata* (a species for which there are few records from North Wales)), red and brown seaweeds (with *Plocamium cartilagineum*, *Phyllophora crispa*, *Delessaria sanguinea*, *Cryptopleura ramosa*, *Heterosiphonia plumosa*, *Dictyopteria polypodiodes*, *Gracilaria* sp., *Rhodymenia pseudopalmata*, *Schottera*



nicaeensis and *Neevea repens* most abundant), many small sponges, sea squirts, keelworms *Spirobranchus* sp. and superabundant feather stars *Antedon bifida*. The sponge fauna included abundant *Dysidea fragilis*, frequent *Cliona celata*, *Stelligera rigida*, *Tethya citrina* and *Pachymatisma johnstonia*).

Below 8m BCD, bedrock and boulders were surrounded by smaller stones, sand and gravel and the rock was very scoured with sparse seaweeds and sea squirts.

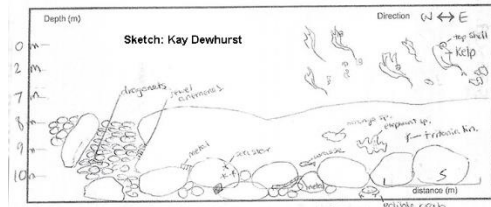
A number of different wrasse species were seen (Ballan wrasse *Labrus bergylta*, cuckoo wrasse *Labrus mixtus*, corkwing wrasse *Symphodus melops* and goldsinny wrasse *Ctenolabrus rupestris*)

although not in great abundance. Other fish species present included leopard spotted goby

Thorogobius ephippiatus, gobies *Pomatoschistus* sp., and dragonets *Callionymus* sp. The cushion star *Asterina phylactica* was recorded at this site.

3.1.6 South Stack

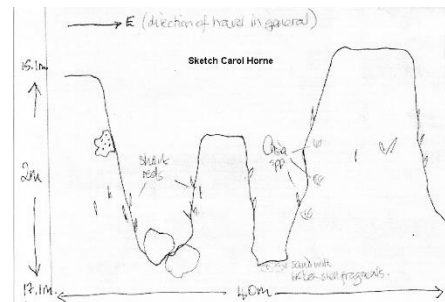
This site and the adjacent 'South east of South Stack site described below, both of which are also on a particularly exposed part of the Anglesey coast, were successfully surveyed in early



September. Two survey forms and three Observation forms were completed for this location. The seabed comprised bedrock reefs with gullies running in a north-south direction, overhangs on

the rock walls and boulders, cobbles and pebbles at the base of the bedrock reef.

Bryozoan turf with abundant Crisiidae, diverse sponges, sea squirts and short red seaweeds characterised the bedrock fauna. Barnacles and amphipod tubes were frequent. Elephant hide sponge *Pachymatisma johnstonia*, *Dysidea fragilis* and *Polymastia boletiformis* were the most abundant sponge species recorded (both common) with lesser amounts of *Stelligera rigida*, *Hemimycale columella*, *Sycon ciliatum*, *Amphilectus fucorum*, *Cliona celata* and *Raspailia ramosa*. A few jewel anemones *Corynactis viridis* were seen by some of the divers and the Indian feather hydroid *Gymnangium montagui* was also recorded as present as was the cushion star *Asterina phylactica*.

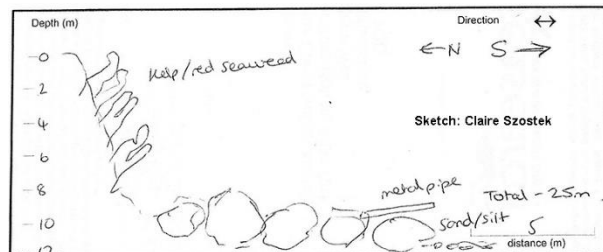


Mobile fauna recorded at this site included ballan wrasse *Labrus bergylta*, goldsinny wrasse *Ctenolabrus rupestris*, European lobster *Homarus gammarus*, tompot blenny *Parablennius gattorugine*, leopard spot goby *Thorogobius ephippiatus* and the sea slug *Duvaucelia lineata*.

Mobile fauna recorded at this site included ballan wrasse *Labrus bergylta*, goldsinny wrasse *Ctenolabrus rupestris*, European lobster *Homarus gammarus*, tompot blenny *Parablennius gattorugine*, leopard spot goby *Thorogobius ephippiatus* and the sea slug *Duvaucelia lineata*.

3.1.7 South east of South Stack

Steeply sloping bedrock reef with gullies extending into a flatter area with boulders, cobbles and pebbles. Shallower parts of the reef dominated by *Laminaria hyperborea* kelp park and mixed seaweeds, with the rock walls were covered with a mixed animal turf of Crisiidae and



other bryozoans, hydroids, sea squirts (including *Ascidiella aspersa*, *Morchellium argus* and *Pycnoclavella stolonialis* which were all recorded as frequent), sponges and some red seaweed. Quite a lot of sponges recorded at this site including frequent yellow hedgehog sponge *Polymastia boletiformis*, crater sponge *Hemimycale columella*, chocolate finger sponge *Raspailia ramosa* and golf ball sponge *Tethya citrina*; other sponges species less abundant but included yellow staghorn sponge *Axinella dissimilis*, *Axinella damicornis*, *Stelligera rigida*, *Dysidea fragilis*, boring sponge *Cliona celata*, elephant hide sponge *Pachymatisma johnstonia* and black tar sponge *Dercitus bucklandi*.

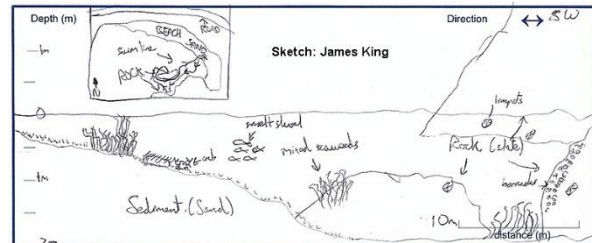
Ballan wrasse *Labrus bergylta*, rock cook *Centrolabrus exoletus* and corkwing wrasse *Symphodus melops* were seen along with a limited number of other mobile species that were recorded: leopard spotted goby *Thorogobius ephippiatus*, squat lobster *Galathea* sp., velvet

Ballan wrasse *Labrus bergylta*, rock cook *Centrolabrus exoletus* and corkwing wrasse *Symphodus melops* were seen along with a limited number of other mobile species that were recorded: leopard spotted goby *Thorogobius ephippiatus*, squat lobster *Galathea* sp., velvet

swimming crab *Necora puber*, bloody Henry starfish *Henricia* sp. and sea slugs *Cadlina laevis* and *Duvaucelia lineata*.

3.1.8 Porth Dafarch

Porth Dafarch is a small, southwest-facing bay on the west coast of Holy Isle. Its sandy beach and easy access from the road make it a popular location for diving and snorkelling as well as swimming. A survey form and three Observation forms were completed for dive and snorkel surveys at this site. Three of these were from an organised Seasearch event and one Observation form was completed for an independent snorkel survey on a different date.



The bay is flanked by rugged rocky coast on both sides. The surveys were undertaken along the southern side of the bay where shallow rocky reef extending from the lower shore to 2.5m BCD quickly led into an extensive area of rippled sand to the north of the reef with gravel present further out into the bay which was surveyed to 4.5m BCD.

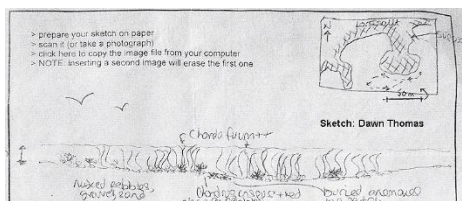
Fucoid seaweed, limpets *Patella vulgata* and barnacles were present on the lower shore whilst in the sublittoral fringe and deeper, oarweed *Laminaria digitata*, discoid fork weed *Polyides rotundus*, mixed filamentous red seaweeds, *Corallina* sp., pink coralline crust and sea lettuce *Ulva* sp. provided the main cover on the rocky reef.



A variety of mobile species were recorded on the sediment habitat. The surveys undertaken in June noted an abundance of sand eels *Ammodytes* sp. seen leaving the sand and forming shoals in the shallow water. Also several cuttlefish *Sepiolo atlantica* were seen along with lesser weever *Echiichthys vipera* which were recorded as frequent. Dab *Limanda limanda*, dragonets *Callionymus* sp., plaice *Pleuronectes platessa* and juvenile cod (gadidae) were also present on or over the sediment habitat. Ctenophores and the blue jellyfish *Cyanea lamarckii* were observed in the water column. The snorkel survey undertaken in May recorded a small shoal of approximately 50 fish 5-10cm long smelt-like fish, possibly *Osmerus eperlanus* although identification was not certain.

3.1.9 Trearddur Bay

A single snorkel survey was undertaken around the headland to the west of the main slipway in the bay with an Observation form completed recording habitats and species in the low eulittoral and edge of the sublittoral fringe. Seaweeds (mermaids tresses *Chorda filum* (common) and occasional Irish Moss *Chondrus crispus*, oyster thief *Colpomenia peregrina* and pink encrusting algae were present on the mixed ground with pebbles and gravelly sand. Hermit crabs, gobies *Pomatoschistus* sp. and two spot gobies *Gobisculus flavescens* were the most abundant fauna along with a thin layer of colonial seasquirt *Diplosoma* sp. which was growing over quite a high percentage of the marine life and substrate. Other fauna present in less abundance included lightbulb seasquirts *Clavelina lepadiformis*, velvet swimming crab *Necora puber*, fatherlasher *Myoxocephalus scorpius*, snakelocks anemone



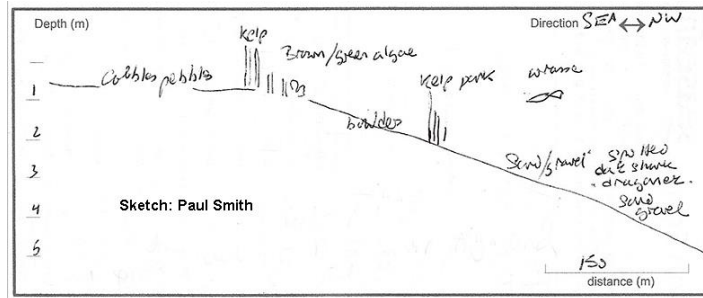
Other fauna present in less abundance included lightbulb seasquirts *Clavelina lepadiformis*, velvet swimming crab *Necora puber*, fatherlasher *Myoxocephalus scorpius*, snakelocks anemone

Anemonia viridis, dahlia anemone *Urticina felina* and sand mason worms *Lanice conchilega*.

3.1.10 Ravenspoint / Porth Castell

This site comprises a small sandy bay surrounded by rocky headlands with access to the site from the shore. Dive surveys were undertaken on the organised Seasearch event in June and two independent snorkel surveys were undertaken in June and August.

The dive surveys recorded seabed habitat of cobbles and pebbles in the sublittoral fringe leading into a sloping seabed down to 5.3m BCD with boulders leading into sand and gravel



in the deeper part. Kelp present on the larger rocks along with mixed seaweeds. Mermaids tresses *Chorda filum* were common. A variety of mobile fauna recorded including, catshark *Scyliorhinus* sp., cuckoo wrasse *Labrus mixtus*, Ballan wrasse *Labrus bergylta*, dragonet *Callionymus* sp., spiny spider crab *Maja brachydactyla*.

habitats and species down to 5m BCD. Ctenophores and the blue jellyfish *Cyanea lamarckii* were seen in the water column.

The snorkel surveys were undertaken around the rocky headlands on the west and east side of the small bay. On the western side, mixed ground with cobbles and pebbles supported kelp forest and mixed seaweeds down to 3.9m BCS. Oarweed *Laminaria digitata* present in the shallower areas with forest kelp *Laminaria hyperborea* and furbelows *Sacchorhiza polyschides* in the deeper parts surveyed. Sea mat *Membranipora membranacea* and blue rayed limpets *Patella pellucida* present on the kelp. Dulse *Palmaria palmata* was recorded as common and serrated wrack *Fucus serratus*, Irish moss *Chondrus crispus* and beautiful fan weed *Metacallophyllis lacinata* occasional. A few fish seen with corkwing wrasse *Symphodus melops*, juvenile ballan wrasse *Labrus bergylta*, two-spot gobies *Gobiusculus flavescens* and a shoal of sand eels *Ammodytes* sp. recorded.

The snorkel survey on the eastern side of the bay recorded rocky reef with gullies and boulders, cobbles, pebbles and gravel in the base to 3.9m BCD. Kelp forest, kelp park and mixed seaweeds were dominant on the reef with oarweed *Laminaria digitata* on the reef and in gullies, forest kelp *Laminaria hyperborea* present as kelp forest across much of the area surveyed and a few plants of furbelows *Sacchorhiza polyschides* present. Other seaweeds were also present with thongweed *Himanthalia elongata*, oyster thief *Colpomenia peregrina*, Irish moss *Chondrus crispus*, dulse *Palmaria palmata* and pink encrusting algae all recorded as common. Much of the mobile fauna similar to that recorded on the snorkel survey on the west side of the bay with the addition of a 15 spined stickleback *Spinachia spinachia*.

3.1.11 Darrens Rock

A single independent dive was undertaken at this site and an Observation form completed. Bedrock and boulder ridge extended from around 5.5m BCD to around 15m BCD, leading onto sand and gravel at the base of the reef.

Sparse *Laminaria hyperborea* kelp present in the shallows whilst much of the reef was covered with a dense turf of sponges, hydroids, sea squirts and bryozoans over the rock surfaces. Bryozoans *Bugulina flabellata*, *B. turbinata*, finger bryozoan *Alcyonidium diaphinum* and hornwrack *Flustra foliacea* were recorded as common as were the sea squirts *Clavelina lepadiformis*, *Aplidium punctum* and *Morchellium argus*, the sponges *Cliona celata* (boring sponge) and *Pachymatisma johnstonia* (elephant hide sponge), and the hydroids *Nemertesia antennina* (antenna hydroid) and *Nemertesia ramosa* (branched antenna hydroid). The yellow feather hydroid *Gymnangium montagui* a species more abundant in the

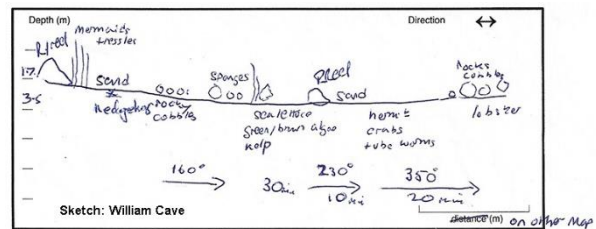
south and west of the UK was also present in lesser abundance. The white-striped anemone *Actinothoe sphyrodeta* was common on the reef as well.

Quite a wide range of mobile species were recorded with a varied fauna of fish, crustaceans and echinoderms. A number of more unusual and less commonly recorded species were seen: the sea slug *Crimora papillata* which is more commonly recorded in the south and west of the UK, the crawfish *Palinurus elephas* and lesser octopus *Eledone cirrhosa*.

3.1.12 Rhoscolyn / Borth Wen Beach

An independent snorkel survey was undertaken in May and dive surveys were undertaken on the organised Seasearch event in July. Four Observation forms were completed.

The dive surveys covered areas of shallow seabed habitats to a maximum of 2.8m BCD. Similar types of habitat were recorded on all dives with patches of rocky reef outcrops and cobbles and pebble with occasional kelp and varying abundance of mixed seaweeds. Bootlace weed *Chorda filum* was common.



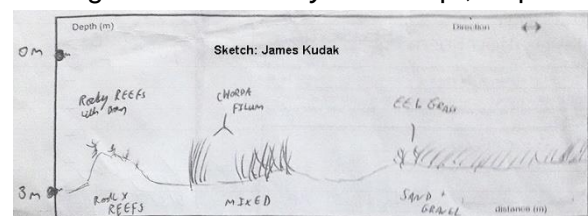
All surveyors recorded *Zostera marina* seagrass with varying abundance from occasional to common, generally present as patches. One surveyor recorded several clumps of what appeared to be new seagrass. The non-native wireweed *Sargassum muticum* was common.



One surveyor recorded several clumps of what appeared to be new seagrass. The non-native wireweed *Sargassum muticum* was common.

Arenicola sp. worm casts and bivalve siphons were present in the sediment along with sand mason worm *Lanice conchilega* tubes. A variety of mobile fauna were recorded including a number of different crustacean species (European lobster *Homarus gammarus*, brown crab *Cancer pagurus*, shore crab *Carcinus maenas*, spiny spider crab *Maja brachydactyla*, hermit crab *Pagurus bernhardus* and long-legged spider crab *Macropodia* sp.) and fish: wrasse, dragonets *Callionymus* sp., plaice

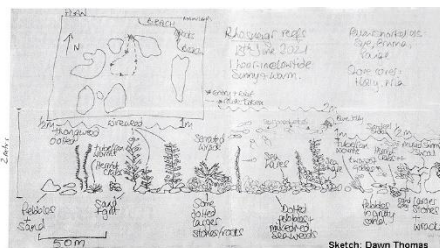
Pleuronectes platessa, gobies *Pomatoschistus* sp. and two spot gobies *Gobiusculus flavescens*.



The snorkel survey recorded similar habitats and species with the addition sand eels *Ammodytes* sp. and juvenile flatfish.

3.1.13 Rhosneigr Reefs

Two snorkel surveys were undertaken at Rhosneigr in June over mixed ground of predominantly cobbles and pebbles with boulders, sand and gravel between areas of bedrock reef. The surveys covered areas of the mid and lower shore with occasional bladder wrack *Fucus vesiculosus* and serrated wrack *Fucus serratus* into the shallow sublittoral to approximately 0.5m BCD. Encrusting pink algae was present in quite high abundance (common) along with other seaweeds including Irish moss *Chondrus crispus*,



false Irish moss *Mastocarpus stellatus* (both of which were common), occasional thongweed *Himantalia elongata*, oyster thief *Colpomenia peregrina*, sea lettuce *Ulva* sp. and pod weed

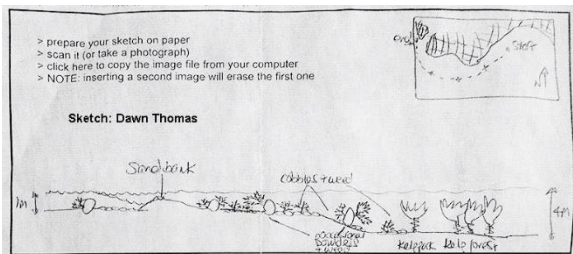
Halidrys siliquosa and a few plants of the oarweed *Laminaria digitata*. The non-native wireweed *Sargassum muticum* was common. Keelworms *Spirobranchus* sp. were common and a few sabellid tube worms were seen.

Small crabs and fish were present (shore crab *Carcinus maenas*, hermit crabs, mysid shrimp, two spot gobies *Gobiusculus flavescens*, gobies *Pomatoschistus* sp., flat fish and sand eels *Ammodytes* sp.) as well as occasional sea hares and netted dog whelk *Tritia* sp. Ctenophores (sea gooseberries) were common in the water column.



3.1.14 Porth Nobla

A single snorkel survey was undertaken at Porth Nobla a bay on the west coast of Anglesey over areas of sediment and stony ground with cobbles, pebbles and occasional boulders into rocky reef in slightly deeper water. The survey covered areas from the lower shore where serrated wrack *Fucus serratus* was common into the shallow infralittoral to a depth of 2.3m BCD where *Laminaria hyperborea* kelp forest and kelp park were most abundant. Occasional boulders had a covering of seaweed along with seaweeds on the larger stones and rocky reef. Irish moss *Chondrus crispus* was common with other species in lesser abundance: pink encrusting algae, green seaweed *Ulva* spp.



and dulce *Palmaria palmata*. Occasional bootlace weed was also present. *Arenicola* sp. casts and sand mason worm tubes were present in the sediment. Wrasse and gobies *Pomatoschistus* sp. were seen but not in great abundance.

3.2 Menai Strait

The Menai Strait, the sea channel separating mainland North Wales from the Isle of Anglesey provides varied conditions for marine habitats and their associated communities of marine life. The central section of the Strait is sheltered from wave action but subject to very strong tidal flow, with the more open southwest and northwest ends of the Strait more exposed to wind and waves.

In 2021 one independent shore dive was undertaken from the Anglesey shore in the southwest part of the Strait.

Human activities and impacts

No comment on human activities and impacts were made by the surveyors. It is worth noting though that there is quite a lot of boating activity (sail and power craft) in the Strait

3.2.1 Tal y Foel

A surveyor form was completed for a shore dive at this location which is on the Anglesey coast opposite Caernarfon (which lies on the mainland north Wales coast of the Menai Strait).

In shallow water between 0.1-2m BCD, shallow cobble, pebble and sand seabed was dominated by sugar kelp *Saccharina latissima* and the non-native brown seaweed wireweed *Sargassum muticum* with mixed red, brown and green seaweeds including abundant filamentous brown seaweed, frequent Dumont's tubular weed *Dumontia contorta* and occasional discoid fork weed *Polyides rotundus*, fine-veined crinkle weed *Cryptopleura ramosa*, *Halurus flosculosus*, and sea lettuce *Ulva* sp. This led into a sloping seabed between

1m-6.5m BCD comprising boulder, cobble, pebble and shell embedded in silty sand and gravel with abundant solitary sea squirts (possibly sandy *Molgula* sp.), frequent peacock worms *Sabella pavonina*, hydroids (including *Kirchenpaueria pinnata*, *Sertularia cupressina*, *Hydrallmania falcata* and *Obelia longissima*). Frequent elegant anemones *Cylista elegans* along with lesser abundance of daisy anemones *Cereus pedunculatus* and plumose anemones *Metridium dianthus* were recorded in this habitat, as well as an unusual record of a strawberry anemone *Actinia fragacea*. This deeper habitat was a mosaic of a sea squirt and hydroid-dominated community and a *Sabella pavonina*-dominated

community.

The first diver record for the slipper limpet *Crepidula fornicata* was made during this Seasearch survey. Along with this species, and the wireweed, another non-native species the New Zealand flat oyster *Ostrea chilensis* was also recorded at this location as frequent in occurrence.

3.3 North Llŷn

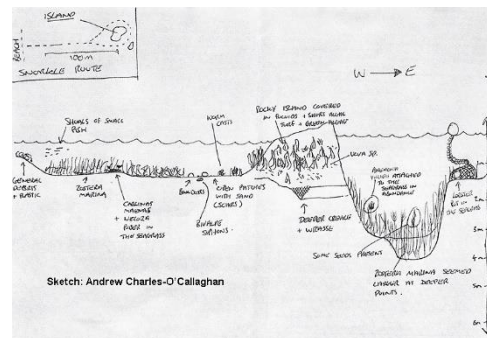
One independent snorkel survey was undertaken at Porth Dinllaen in July and three shore dives and a shore survey were completed at Porth Ysgaden as part of the organised Seasearch event in September. Five Observation forms were completed for these two sites.

Human activities and impacts

Lobster pots, anchors and various plastic material were recorded at Porth Dinllaen and at Porth Ysgaden various pieces of plastic litter were seen underwater and on the shore.

3.3.1 Porth Dinllaen

The snorkel survey covered an areas from the beach at Porth Dinllaen to a small rocky outcrop. Dense *Zostera marina* seagrass bed was present from the shallow sublittoral to approximately 2m BCD with larger plants present in the deeper water, some bearing seeds. Shore crabs *Carcinus maenas* and velvet swimming crabs *Necora puber* present in the seagrass bed and snakelocks anemones *Anemonia viridis* were common. Lugworm *Arenicola* sp. casts and bivalve siphons were present in sandy patches. The rocky outcrop had a turf of brown fucoid seaweeds sea lettuce and gut weed *Ulva* spp. a short algal turf. The fish life observed was limited to a few individuals with cuckoo wrasse *Labrus mixtus* and greater pipefish *Syngnathus acus* seen and a shoal of small, unidentified fish in the water column in the shallows.



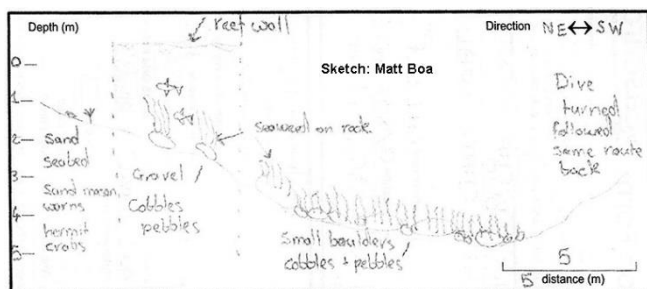
3.3.2 Porth Ysgaden

Porth Ysgaden is a small south-west facing bay on the North Llŷn coast with a sandy beach becoming increasingly stonier with depth and leading into mixed ground of boulders, cobbles and pebbles with sand and gravel in shallow water and with bedrock reefs bordering each size of the bay. Similar habitats and species were recorded on the shore dives undertaken here.

Mixed red and brown seaweeds were present on the rocks and stones including egg wrack *Ascophyllum nodosum* and serrated wrack *Fucus serratus* in the intertidal and in the subtidal *Laminaria hyperborea* kelp park, sugar kelp *Saccharina latissima*, Irish moss *Chondrus crispus*, pod weed *Halidrya siliquosa*, mermaid's tresses *Chorda filum*, pink coralline algae,

red rags *Dilsea carnosa*, coral weed *Corallina officinalis* and the non-native wireweed *Sargassum muticum*.

A sparse sessile fauna was present with sea squirts, sponges, snakelocks anemones



Anemonia viridis and barnacles present. There was quite a wide variety of fish seen over the course of the dives including wrasse (goldsinny wrasse *Ctenolabrus rupestris*, rock cook *Centrolabrus exoletus*, ballan wrasse *Labrus bergylta* and corkwing *Symphodus melops*) along with gobies *Pomatoschistus* sp., two-spot gobies *Gobiusculus flavescens*, tompot blenny

Parablennius gattorugine, dragonet *Callionymus* sp, 15-spined stickleback *Spinachia spinachia*, lesser spotted catshark *Scyliorhinus canicula* and whiting *Merlangus merlangus*.

The shore survey explored mainly the mid shore zone of the adjacent intertidal rocky shore which had rockpools and patches of sand. Egg wrack *Ascophyllum nodosum*, bladder wrack *Fucus vesiculosus* and pod weed *Halidrys siliquosa* were common with gutweed *Ulva* sp. and turf algae present including Irish moss *Chondrus crispus*. Dogwhelks *Nucella lapillus* were common as were snakelocks anemones *Anemonia viridis*, common prawns *Palaemon serratus* and flat top shell *Steromphala umbilicalis*.

3.4 South Llŷn and Tremadog Bay

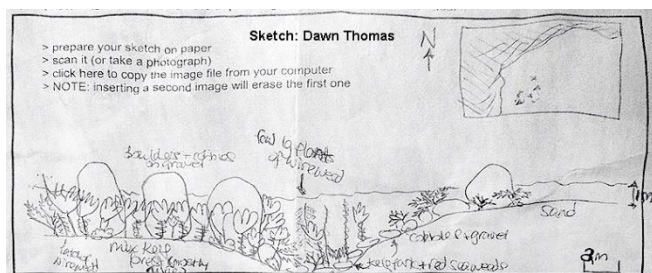
Three independent Seasearch surveys were undertaken at three different sites on the south Llŷn coast at three different sites with three Observation forms completed. Two of these were snorkel surveys and one was a dive survey,

Human activities and impacts

A fairly long length of fishing line in sediment was present at Carreg y Defaid, some of which was removed.

3.4.1 Porth Simdde

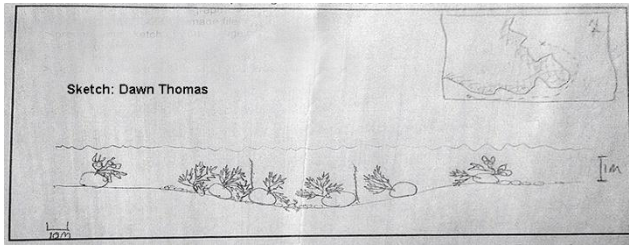
This site is at the western edge of Aberdaron beach right which is located on the end of the Llŷn Peninsula and was explored by snorkel survey. Boulders and cobbles on gravel with some sand were present from the lower shore down to 3.1m BCD and supported serrated wrack *Fucus serratus* and false Irish moss *Mastocarpus stellatus* in the shallows, mixed kelp forest on the boulders and kelp park and red seaweeds on deeper cobbles. Oarweed *Laminaria digitata* and forest kelp *Laminaria hyperborea* were common with occasional furbelows *Saccorhiza polyschides*. Sea mat bryozoan *Membranipora membranacea* was common. Some plants of the non-native wireweed *Sargassum muticum* were present and occasional mermaid's tresses *Chorda filum*. Flat top shells *Steromphala umbilicalis* and grey topshells *S. cineraria* were present along with some other small mobile fauna including two-spot gobies *Gobiusculus flavescens*, gobies *Pomatoschistus* sp., shrimp *Crangon* sp., and a few wrasse.



3.4.2 Carreg y Defaid

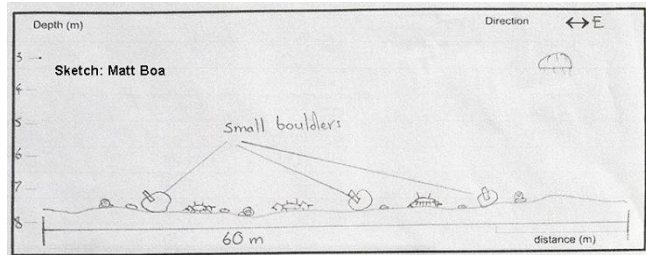
Carreg y Defaid (Sheep Rock) is a headland that lies between the village of Llanbedrog and the town of Pwllheli on the south Llŷn coast (in the northwest part of Tremadog Bay).

Due to the tide height at the time of the snorkel survey undertaken at this site the survey was over mid and lower shore habitats. Bladder wrack *Fucus vesiculosus* and serrated wrack *Fucus serratus* were both common with occasional mermaid's tresses *Chorda filum* and Irish moss *Chondrus crispus*. There were many two-spot gobies *Gobiusculus flavescens* and other mobile species in lesser abundance: shore crab *Carcinus maenas*, limpets *Patella vulgata*, shanny *Lipophrys pholis*, hermit crabs and gobies *Pomatoschistus* sp.



3.4.3 Marian y de (Pwllheli)

A shore dive was undertaken at this location, south of the small headland of Carreg yr Imbill at the entrance to Pwllheli harbour. A predominantly sandy seabed with some small boulders and occasional cobbles and pebbles. Lots of tubes and burrows in the sediment and lugworm *Arenicola* sp. casts. The fan worm *Myxicola infundibulum* and sand mason worm *Lanice conchilega* both present in the sediment along with the imperial anemone *Capnea sanguinea* which is not commonly recorded around North Wales. Harbour crab *Liocarcinus depurator* were common and there were a number of other mobile species including spiny starfish *Marthasterias glacialis*, dragonet *Callionymus* sp., hermit crab *Pagurus bernhardus* and spiny spider crab *Maja brachydactyla*.



The larger rocks supported a limited sessile fauna with snakelocks anemones *Anemonia viridis*, light-bulb seasquirts *Clavelina lepadiformis*, shredded carrot sponge *Amphilectus fucorum*, sea lemon *Doris pseudoargus* and clubbed sea squirts. Bull huss/greater spotted catshark *Scyliorhinus stellatus* eggcases were attached to some of the small boulders.



4. Training and data

4.1 Training and qualifications

A very successful online Observer course was run with 19 participants taking part, several of whom went on to complete qualifying snorkel and dive surveys during the year. The course was run by South Wales Seasearch Coordinator Kate Lock with North Wales Seasearch Coordinator Holly Date assisting.

Of the 46 Seasearch survey forms completed in 2021, 22 were qualifying forms (2 Survey forms and 20 Observation forms) showing good interest from people new to Seasearch.

4.2 Forms

A total of 46 survey forms were completed comprising 12 Surveyor forms (2 qualification forms) and 34 Observation forms (20 qualification forms). Fifteen of the Observation form) were from snorkel surveys and of these 12 were qualification forms, demonstrating a good level of interest and participation in snorkel surveys which are attracting additional people who might otherwise not become involved with Seasearch, as well as contributing important records for the less-well-surveyed sublittoral fringe habitats around the North Wales coast.

A total of 30 people (including dive and snorkel buddies) took part in Seasearch surveys in 2021 with 9 of them completing qualification observation forms (4 divers and 5 snorkellers) and one person completed two of their qualification Surveyor forms on North Wales dives. One Observation form was completed for a shore survey.

In addition to organised events, there continued to be sustained interest by Seasearchers to undertake independent surveys (snorkel and dive surveys) which have contributed important records and surveyed locations not usually visited.

All data has been entered onto Marine Recorder and is available on the National Biodiversity Network Atlas and via the JNCC public snapshot.



5. Acknowledgements

Given the continuing challenges of 2021 a special thanks go to all Seasearch volunteers who got out diving and snorkelling in North Wales and completed Seasearch records during the year.

We would like to thank Holly Date North Wales Seasearch Coordinator for organising the Seasearch survey events and providing support for the independent recording effort that took place this year.

We would also like to thank Angus Jackson, Seasearch Data Officer for providing the map for this report and Charlotte Bolton, Seasearch National Coordinator for support throughout the year and proof-reading the text.

Photo credits

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