



Seasearch North Wales 2019 Summary Report



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Seasearch Gogledd Cymru 2019

Cynllun gwirfoddol sy'n arolygu rhywogaethau a chynefinoedd morol yw Seasearch ar gyfer deifwyr sy'n deifio yn eu hamser hamdden ym Mhrydain ac Iwerddon. Mae'r cynllun yn cael ei gydlynw yn genedlaethol gan y Gymdeithas Cadwraeth Forol.

Mae'r adroddiad hwn yn crynhoi gweithgareddau Seasearch yng Ngogledd Cymru yn ystod 2019. Mae'n cynnwys crynodebau o'r safleoedd a arolygwyd ac yn nodi rhywogaethau a chynefinoedd prin neu anghyffredin a welwyd. Mae'r rhain yn cynnwys nifer o gynefinoedd a rhywogaethau â blaenoriaeth yng Nghymru. Nid yw'r adroddiad hwn yn cynnwys yr holl fanylion data gan fod y rhain wedi eu cofnodi yn y gronfa ddata Marine Recorder a gyflwynwyd i Cyfoeth Naturiol Cymru i'w defnyddio yn ei weithgareddau cadwraeth forol. Mae'r data rhywogaethau hefyd ar gael ar-lein drwy Rwydwaith Bioamrywiaeth Cenedlaethol Atlas.

Yn ystod 2019, roedd Seasearch yng Ngogledd Cymru yn parhau i ganolbwyntio ar rywogaethau a chynefinoedd â blaenoriaeth yn ogystal â chasglu gwybodaeth am wely'r môr a bywyd morol ar gyfer safleoedd nad oeddent wedi cael eu harolygu yn flaenorol. Mae'r data o Ogledd Cymru yn 2019 yn cynnwys 15 o Ffurflenni Arolygu a 34 o Ffurflenni Arsylwi, sef 49 ffurflen i gyd.

Yn 2019 cyflawnwyd gwaith Seasearch yng Ngogledd Cymru gan Holly Date, cydlynnydd rhanbarthol Seasearch yng Ngogledd Cymru; mae ardal Seasearch Gogledd Cymru yn ymestyn o Aberystwyth i Afon Dyfrdwy. Mae'r cydlynnydd yn cael ei gynorthwyo gan nifer o Diwtoriaid gweithredol Seasearch, Tiwtoriaid Cynorthwyol a Threfnwyr Deifio. Darperir canllawiau cyffredinol a chymorth gan Charlotte Bolton, Cydlynnydd Cenedlaethol Seasearch.

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



Seasearch North Wales 2019

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

This report summarises the Seasearch activity in North Wales in 2019. 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 Atlas.

During 2019, Seasearch in North Wales continued to focus on priority species and habitats as well as collecting seabed and marine life information for sites that had not been previously surveyed.

Data from North Wales in 2019 comprises 15 Surveyor forms and 34 Observation forms, a total of 49 forms.

Seasearch in North Wales in 2019 has been delivered by Seasearch North Wales regional co-ordinator Holly Date; the North Wales Seasearch region extends from Aberystwyth to the Dee. The co-ordinator is assisted by a number of active Seasearch Tutors, Assistant Tutors and Dive Organisers. Overall guidance and support are provided by the National Seasearch Co-ordinator, 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). In 2019 in North Wales this included the Angel Shark Project with the Zoological Society London.



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.

In 2019, Seasearch North Wales collaborated with the 'U-Boat Project, 1914-18: Commemorating the War at Sea' to look at collecting biological records from video footage collected from the wrecks.

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 2019 a Surveyor recorder development training event was run in North Wales 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 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. North Wales summary 2019

2019 was a busy year for Seasearch in North Wales with a variety of dives, courses and events taking place.

Seasearch dives in North Wales during 2019 concentrated on a wide range of sites around North and West Anglesey with both boat and shore dives undertaken. In addition, a small number of dives took place in the Menai Strait, North Llŷn, South Llŷn and also further south in Tremadog Bay at Shell Island (near Llanbedr south Harlech) as part of the collaboration with the Angel Shark Project Wales. A range of different habitats and species were recorded including observations of several unusual or less commonly recorded species.

An initial list of target sites was identified early in the year through discussions between Natural Resources Wales, the National Seasearch Coordinator Charlotte Bolton and North Wales Seasearch Coordinator Holly Date. As in previous years, limited boat availability had an impact on the areas around the North Wales coast that can be more easily reached for Seasearch diving, and the weather played its part in disrupting some of the planned survey days. However, despite these constraints, a number of new sites were visited and a large number of different people took part in Seasearch events during 2019.

A total of 9 planned Seasearch survey days went ahead and included both boat and shore dives, all of which were organised by Holly Date with both experienced and new Seasearchers taking part. As a result of increased interest from snorkellers to take part in Seasearch, a number of



of the events were both dive and snorkel friendly. An impressive 38 divers and 8 snorkellers took part in the North Wales dives in 2019, with several individuals taking part in a number of the dives and events. A number of people attended Observer training courses during the year and completed their qualification forms on the organised dives. Having both experienced and new Seasearchers on the dives meant that people new to Seasearch had a good opportunity to dive with more experienced Seasearchers. In addition to the planned survey days, a number of Seasearch records were also submitted from independent Seasearch dives undertaken by individuals.

Over the weekend of 13th – 14th August two days of shore diving and snorkelling took place at Pwllheli and Shell Island as part of the “Diving for Angels” collaboration with the Angel Shark Project that is being run by the Zoological Society London and Natural Resources Wales (<https://angelsharknetwork.com/wales/>). Seventeen citizen science divers and snorkellers took part in this weekend and were provided with briefing about angel sharks and how to spot them when they are lying in the sand. Joanna Barker from the Zoological Society London gave a lecture on ‘Angel shark ecology and survey methodology’. Although no angel sharks were observed on this occasion, some interesting species were recorded including a John Dory *Zeus faber* and red mullet *Mullus surmuletus*.

A dry event in collaboration with the 'U boat Project, 1914-18: Commemorating the War and Sea' project was held on the 31st August. Seasearch North Wales was involved with this project so that Seasearchers could help identify marine life that had been videoed on deep water wrecks around North Wales. Prior to the day, footage from the wreck of the 'Cartagena' had been sent out to participants for them to have an initial look at the type of footage that had been obtained. The day started with presentations by Tim Whitton, Rohan Holt and Holly Date. Tim, one of the organisers of the project, spoke on 'Marine life and man-made structure, focus on wrecks', Rohan, a Seasearch tutor gave a presentation on 'Identifying species on wrecks – common and tricky species' and, Holly Date gave a talk about 'Seasearch North Wales'. The nine Seasearch participants completed a dry dive of the 'Derbent' wreck. The day also included a tour of the University of Bangor's research vessel Prince Madog.

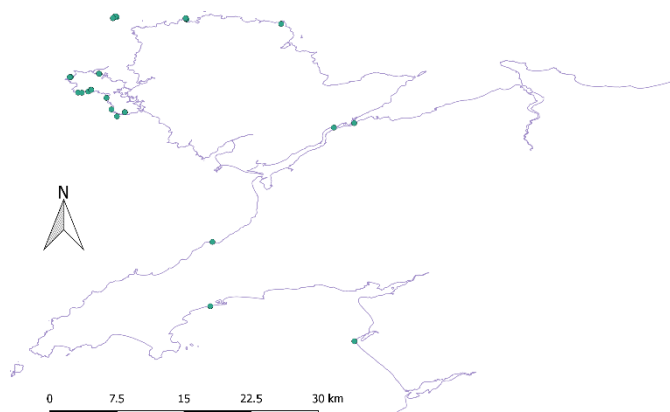
A number of Seasearch courses were run through the year and these are reported on later in this report.



Seasearch North Wales had a stand at the 'A bridge to the future' event organised by the Menai Bridge Community Heritage Trust on 10th August at the Prince's pier quay Menai Bridge and also had a display at the Anglesey Sea Zoo which is near Brynsciencyn on Anglesey. These events provided very useful opportunities to raise awareness with a wide range of people about North Wales' marine life and the Seasearch project.

In 2019 Seasearch dives were undertaken in the following areas around North Wales:

- North and west Anglesey (14 sites)
- Menai Strait (2 sites)
- North Llŷn coast and Caernarfon Bay (1 site)
- South Llŷn (2 sites)



Highlights from 2019 include a habitat and species listed on Section 7 of the Environment (Wales) Act 2016 and several species considered rare, scarce or unusual records.

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

- Seagrass bed *Zostera marina* (Rhoscolyn, south end of Holy Island, north-west Anglesey); the record was for small patches of *Z. marina* in the area dived, but there are known to be more extensive areas of seagrass bed at this site.
- Plaice *Pleuronectes platessa* (Pwllheli beach)



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

- The sponge *Tethyspira spinosa* was recorded at a number of sites around Anglesey (the Skerries, North of South Stack and Seagull Island). This species has a predominantly south-western distribution in the UK and is not that commonly recorded.
- The Southern cup coral *Caryophyllia inornata* was recorded at the Skerries. This small, solitary cup coral is not that commonly recorded, and this was the first record of it from Anglesey (the previous North Wales records being from the Llŷn Peninsula)
- Yellow staghorn sponge, *Axinella dissimilis* (North of South Stack and Seagull Island, north-west Holy Isle (NW Anglesey))
- The sea fern weed *Halopteris filicina* (NE Skerries)



Records of species more commonly found in the north of the UK

- The small starfish *Leptasterias muelleri* was recorded at the Skerries. This is a more northern species that occurs as far south as SW Ireland but is more commonly recorded from Scotland and in the Irish Sea.
- The stalked jellyfish *Calvadosia campanulata* was recorded on the lower shore on the east side of Holyhead Bay at Traeth Penial.

Less commonly recorded species in North Wales

Cnidarians

- The slender seapen *Virgularia mirabilis* was recorded at Newry beach in Holyhead harbour. This species is not commonly recorded in Wales due to the limited availability of its preferred habitat. It has been recorded in Holyhead harbour previously; the construction of the harbour breakwater in 1873 has enabled soft mud habitat to develop and provide a habitat for this and other mud-dwelling species to live.

Molluscs

- The sea slug *Akera bullata* was recorded at Newry beach in Holyhead harbour. This species is not that commonly recorded around the UK with only three previous records in North Wales, one of which was in Holyhead harbour.
- The seaslug *Rostanga rubra* was recorded at the Skerries. This species has not been commonly recorded in Wales with only a handful of records in North and South Wales.

Worms

- The free-living polychaete worm *Oxydromus flexuosus* was recorded from Newry beach in Holyhead harbour. This is the first record of this species in North Wales outside of Tremadog Bay and south-east Anglesey.

Sea squirts

- The orange-red colonial sea squirt *Didemnum pseudofulgans* was recorded at Seagull Island, west Anglesey. There are only a handful of records for this species in the UK and this is the first record for Anglesey (previous North Wales records have been around the Llŷn Peninsula).

Fish

- Red mullet *Mullus surmelleetus* was recorded off Shell Island. Although they are found all around the British Isles, these fish are much more common in warmer waters such as the Mediterranean.
- John Dory *Zeus faber* was recorded off Shell Island. Although they occur all around the Welsh coastline they are not commonly seen by divers and this is the first record for this species in Tremadog Bay.

Red seaweed

- Red seaweed *Xiphosiphonia pennata* (Nelson's Column, Menai Strait). The first record of this species for North Wales was made on a Seasearch dive in 2017 at another location in the Menai Strait). It's presence at Nelson's Column is the 2nd North Wales record and only the third record of this species north of Skomer (there is one record on the west coast of Scotland)



Melobesia membranacea on *Furcellaria lumbricalis* © Paul Brazier

- The red seaweed *Melobesia membranacea* which forms a pink crust on other seaweed was recorded on the seaweed *Furcellaria* on a dive at Porth Dafarch. Despite being relatively common around the British Isle, this is only the second record of this species in North Wales which is probably due to its rather cryptic nature as an epiphyte on other seaweeds.

Non-native species

A number of non-native species were recorded during the 2019 North Wales Seasearch dives:

- The sea squirt *Corella eumyota* (East of Wylfa Head and NE Skerries, North Anglesey)
- The sea squirt *Styela clava* (Newry beach (Holyhead harbour) and Pwllheli beach (South Llŷn coast))
- The New Zealand flat oyster *Ostrea chilensis* – frequent spat recorded at Nelson’s column site in the Menai Strait.
- The brown seaweed *Sargassum muticum* (Newry beach (Holyhead harbour), Rhoscolyn beach (West Anglesey), Nelson’s column (Menai Strait) and Pwllheli beach (South Llŷn coast)).
- The red seaweed *Dasysiphonia japonica* (Newry beach (Holyhead harbour) and Nelson’s column (Menai Strait))



3. North Wales dive site descriptions

3.1 Anglesey – north and west coasts

In 2019, Seasearch dives collected data on seabed habitats and species at a variety of different locations around the north and west coasts of Anglesey, further adding to the existing data and knowledge of the marine life around the island. As in the previous two years, the greatest number of Seasearch dives were undertaken around this part of Anglesey in 2019 due, primarily, to the availability of dive boats and accessible shore dive locations.

Sites dived on organised Seasearch weekends were chosen to fill gaps in existing survey effort and provide shore dive opportunities. Several new sites were visited and Seasearchers were able to get out to the Skerries off the north Anglesey coast, which had not been possible in recent years due to weather over planned survey weekends. Fourteen sites were explored in 2019 with 4 of these being surveyed as a result of independent shore dives. 14 Surveyor forms and 25 Observer forms were completed for this area. The sites visited in 2019 are described below in an order that runs in a westerly direction from Porth Eilian (located in the eastern part of the north coast). Dives in the Menai Strait between the south side of Anglesey and mainland North Wales are presented in section 3.2 of the report.



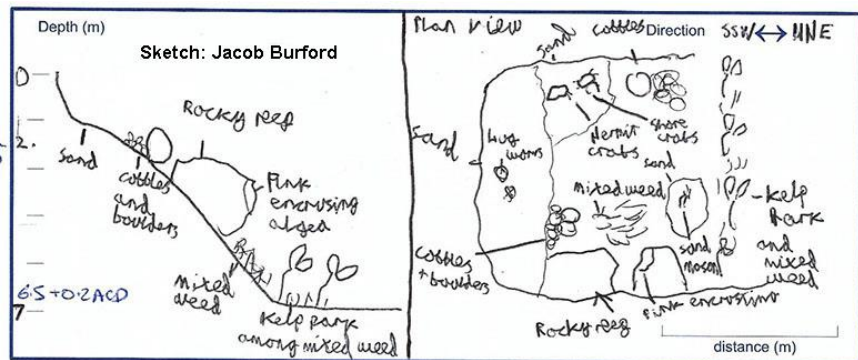
Human activities and impacts

Observations on human activities and impacts were not made for all of the sites, but where these were recorded they were dominated by records of a wide range of debris and litter including rope, plastic debris, plastic bags, tin cans, fishing line, fishing weights, a tennis ball, rubber hose, a small number of individual abandoned lobster bots, ceramics and fibre optic cable.

3.11 Porth Eilian

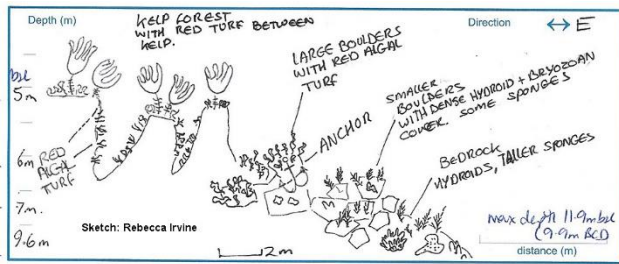
This small bay just to the west of Point Lynas (the north-easternmost point of Anglesey) provides a relatively sheltered (if generally silty) opportunity for a shore dive. The dives at this site were undertaken close to high water. In the intertidal between 4.5m – 0.5m ACD, a sloping rocky reef was dominated by intertidal brown seaweeds (*Fucus vesiculosus*, *Fucus serratus* and *Ascophyllum nodosum*).

This gave way to kelp (*Laminaria* sp.) park and mixed seaweed) in the deeper part of the dive (0.2m ACD). Barnacles, limpets and grey topshells (*Steromphala cineraria*) were present on the reef. While rocky reef was the dominant habitat, patches of sand and gravel, boulders, cobbles and pebbles were present with worm casts *Arenicola* sp., sandmason worm tubes *Lanice conchilega*, hermit crabs and gobies (*Pomatoschistus* sp.) present on the sediment.



3.12 East of Wylfa Head

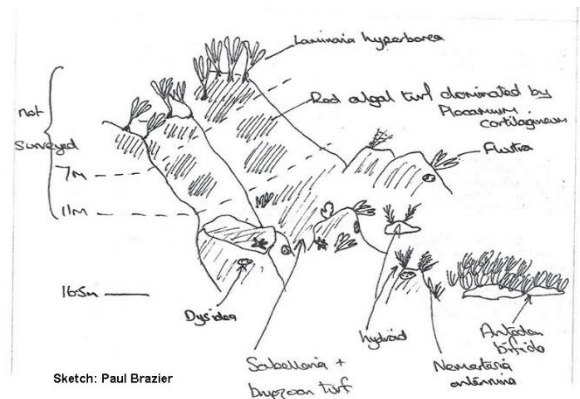
This site on the north coast of Anglesey can only be accessed as a boat dive. Fairly steep and rugged bedrock reef forming gullies in places extended from the shallow infralittoral at around 1m BCD into a less steeply sloping area of boulders and cobbles with the deepest depth dived around 13m BCD.



The shallow parts of the reef, upper facing and less steep surfaces of the rock gullies were dominated by *Laminaria hyperborea* kelp forest with an understory of mixed red seaweeds.

Red seaweeds *Plocamium* sp. and *Schottera nicaeensis* were common and *Delessaria sanguinea*, *Phyllophora crispera* and *Rhodomenia holmsii* were frequent.

From around 9m BCD the rocky reef slope continued but with boulders and cobbles forming the dominant seabed substrate. To around 13m BCD the rocks were covered with a dense growth of bryozoans (*Crisia* spp., *Flustra foliacea*), hydroids (*Nemertesia anetennina* and other hydroids common) and a variety of sponges (*Stelligera rigida* and sponge crusts common). These all appeared to be growing on a crust of *Sabellaria* sp. tubes. Below this, cobbles were more abundant and dominated by a shorter turf of bryozoans (*Crisia* spp., and *Bicellariella ciliata* abundant) and abundant featherstars *Antedon bifida*. These again appeared to be growing on a crust of *Sabellaria* tubes. Keelworms *Spirobranchus* sp. were frequent on the boulder and cobble habitats.

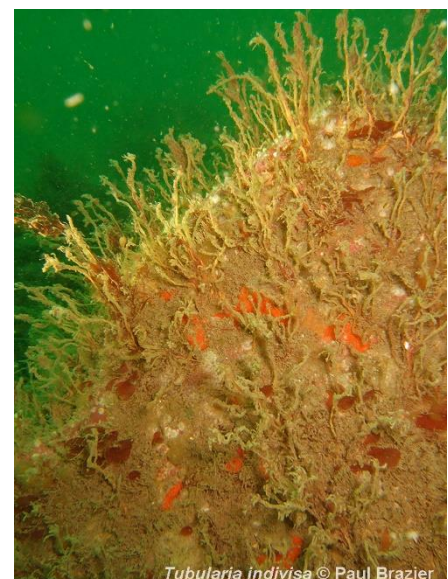


3.13 NE Skerries

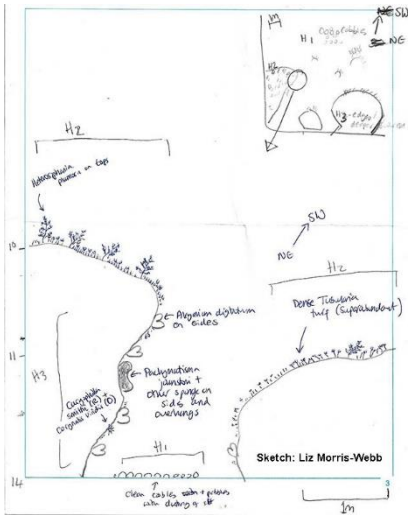
The Skerries are a small cluster of islands approximately 3km north-west from the north-westerly corner of Anglesey. They are exposed to the prevailing weather and tide and can be a challenging site to get to. This was the first of two successful trips to dive this location in 2019 and took place in May 2019.



Three slightly different locations at the NE side of the Skerries were dived. One site was closer into the islands and here a steep bedrock reef dominated by *Laminaria hyperborea* and *Plocamium* sp. with a wide variety of other mixed red seaweeds (*Delessaria sanguinea*, *Corallina officinalis*, *Schottera nicaeensis* and dark red algal crusts were frequent) extended from 0m-4m BCD. The small green mossy feather weed *Bryopsis* sp. and the small brown sea fern weed *Halopteris filicina* were also both frequent. Below this, the



seabed comprised mostly gently sloping embedded boulders and cobbles to 6m BCD leading into cobbles down to 7m BCD. The boulders supported a variety of red and brown seaweeds with pink coralline crusts and the sea fern weed *Halopteris filicina* abundant and *Hypoglossum hypoglossoides*, *Plocamium cartilagineum*, *Meredithia microphyllia*, *Phyllophora crista*, *Schottera nicaeensis* and dark red crusts frequent. In the slightly deeper habitat oaten pipe hydroids *Tubularia indivisa* and pink coralline crusts were abundant, the slightly greater distance of the cobble habitat from the shore probably meaning that it catches slightly stronger tidal currents. A thin crust of *Sabellaria* sp. crust was abundant on the boulders and cobbles.

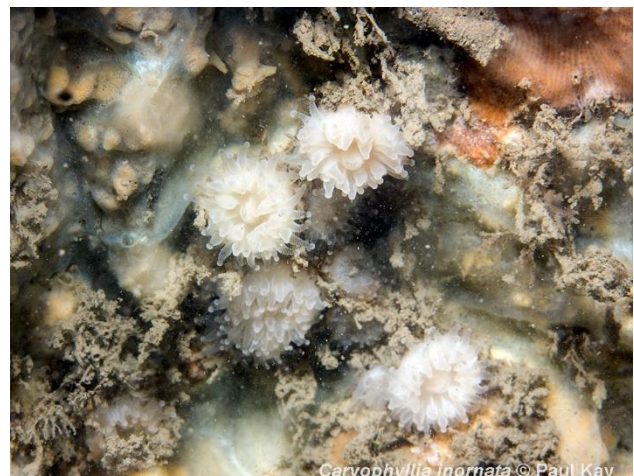


At the two sites slightly further offshore in this location, more exposed to wave and tidal action, rugged bedrock and large boulders formed gullies between approximately 3m - 11m BCD that had kelp and red seaweeds in the shallower areas and upward-facing rock surfaces. More exposed areas on the tops of bedrock and large boulders between 6m – 10m BCD were dominated by superabundant oaten pipe hydroids *Tubularia indivisa* and frequent stands of *Heterosiphonia plumosa* and other red seaweeds. Gullies and overhangs amongst the bedrock and boulders were characterised by abundant *Tubularia indivisa*, crisiid bryozoans, dead men’s fingers *Alcyonium digitatum*, sponges (*Pachymatisma johnstonia* and *Stelligera* sp. especially) and frequent jewel and fried egg anemones (*Corynactis viridis* and *Actinothoe sphyrodeta*).

3.14 Skerries

The second successful trip to the Skerries in 2019 took place at the end of June with dives close in on the NW side of the islands.

Bedrock and boulder reef extended from approximately 1.5m – 11m BCD with kelp (*Laminaria* sp.) and mixed seaweeds dominant in the shallower part of the reef and animal dominated turf in deeper parts with antenna hydroid *Nemertesia antennina* and dead men’s fingers *Alcyonium digitatum* both common. The animal turf also included other hydroids, bryozoans, small sea squirts and anemones and *Doto* sp. sea slugs were frequent. Very large angular rock formations created big gullies which had sediment and pebbles in the bottom.



The southern cup coral *Caryophyllia inornata* was recorded from a small area of rock overhang in this habitat. The rock surfaces were very silty. Small juvenile feather stars *Antedon bifida* were seen but no adult animals. A variety of echinoderms were recorded including, the cushion star *Asterina phylactica*, the northern starfish *Leptasterias muelleri*, bloody Henry starfish *Henricia* sp., common sunstar *Crossaster papposus*, and the common starfish *Asterias rubens*.

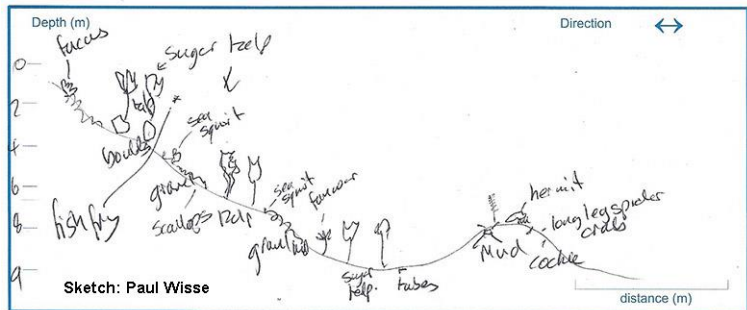
3.15 Traeth Penial, East side of Holyhead Bay

A single species record for the stalked jellyfish *Calvadosia campanulata* was made by a shore surveyor.

3.16 Newry Beach (Holyhead Harbour)

Despite being seen as a shallow, fall-back bad weather site, Newry beach within the confines of Holyhead harbour once again proved itself as somewhere that provides an opportunity to dive on a range of seabed habitats and observe species not commonly seen elsewhere in Wales. As in previous years, a number of non-native species were recorded on the dives here in 2019.

From the low shore a gently sloping seabed of cobbles, pebbles, gravel, sand and an occasional boulder led to an area of soft bioturbated mud at around 3m BCD.



Dense canopy form sugar kelp *Saccharine latissima* with a dense understory of red and brown seaweeds dominated the shallower habitat. A variety of seaweed species were recorded here including the non-native red seaweed *Dasysiphonia japonica* which was abundant. Two other non-native species were recorded in the shallower habitat, these were the brown seaweed wireweed *Sargassum muticum* and the sea squirt *Styela clava* both of which were occasional. There was a variety of mobile species present in this seaweed-dominated habitat including hermit crabs, spiny spider crab *Maja brachydactyla*, harbour crab *Liocarcinus depurator*, common starfish *Asterias rubens*, grey topshell *Steromphala cineraria*, cowrie *Trivia* sp., two-spot gobies *Gobisculus flavescens* and gobies *Pomatoschistus* sp., long-spined sea scorpion *Taurulus bubalis* and lesser spotted cat shark *Scyliorhinus canicula*. The sea squirt *Ascidiella aspersa* was frequent with a greater abundance in the deeper part of the seaweed-dominated habitat.



The soft mud habitat extended from 3 – 6m BCD (and probably deeper but not dived) and was characterised by small *Virgularia mirabilis*, the mollusc *Philine* sp. and occasional brittlestars *Ophiura*. The mollusc *Akera bullata* was recorded from this habitat; it is not a commonly recorded species but there is a previous record for this species from Newry beach. The free-living polychaete worm *Oxydromus flexuosus* was also observed on the mud. This is the first record of this species from the north-west coast of Anglesey.

3.17 North of South Stack

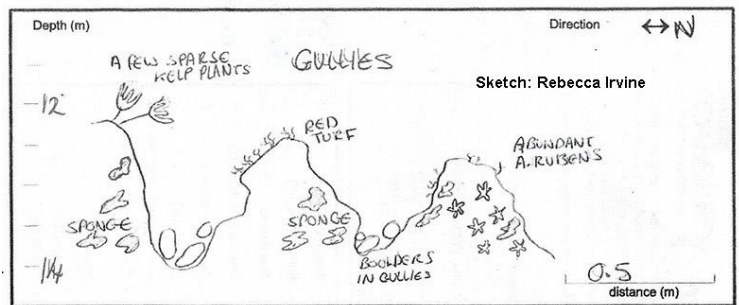
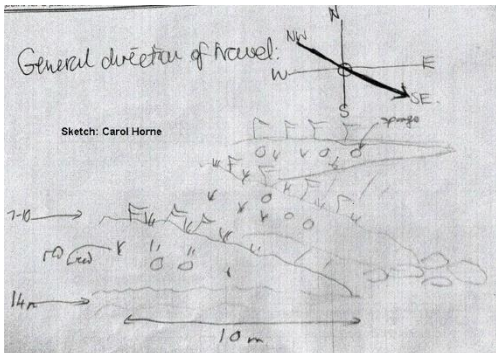
This site is on the north-west side of Holy Isle, NW Anglesey. Rocky reef of bedrock and boulders sloped down from the surface with *Laminaria* sp. kelp and mixed seaweeds dominating the shallower parts. From about 6.5m BCD to around 11m BCD the reef consisted of very large boulders or bedrock which created gullies.



A short animal turf with a range of different species of bryozoans, hydroids (the most abundant being *Nemertesia antennina* which was frequent), sponges (including *Axinella dissimilis* and *Tethyspira spinosa*) and ascidians covered the rock surfaces apart from in the base of the gullies where there were medium-sized flat cobbles or shale and finer mixed sediment. The pretty nudibranch *Trinchesia caerulea* which has blue pigment in the cerata was seen on the animal turf.

3.18 Seagull Island

This site, as with others on the west side of Holy Isle and Anglesey is exposed to the prevailing wind and waves. Bedrock reef extended from around 2m – 14m BCD as a series of sometimes convoluted ridges forming gullies with boulders, cobbles and sand in the bottom.



To around 7m BCD *Laminaria hyperborea* kelp forest and mixed red and brown seaweeds dominated the reef. The red seaweed *Caliblepharis ciliata* and pink coralline crusts were frequent with other red and brown seaweed species recorded at lower abundance (including *Dictyota dichotoma*, *Dictyopteris polydidioides*, *Rhodymenia* sp. and *Meredithia microphylla*).

The seaweed dominated habitat led into animal-dominated turf with increasing depth and on the rock gully walls. A turf was formed primarily of sponges, bryozoans and hydroids. The sponges *Amphilectus fucorum*, *Cliona celata* and *Dysidea fragilis* were common and

Hemimycale columella, *Polymastia penicillus* and *Polymastia boletiformis* were frequent; other sponge species were recorded including the less common recorded species *Tethyspira spinosa*. The bryozoans were dominated by *Chartella papyracea* (Common) and abundant crissids and encrusting bryozoans and *Flustra foliacea* was Frequent. The tube-building worm *Sabellaria* sp. was abundant forming a thin crust on the rock. The ascidian *Didemnum pseudofulgans* was recorded as Rare.



A variety of mobile species were seen but most in quite low abundance. These included crabs (edible crab *Cancer pagurus*, velvet swimming crab *Necora puber* and prawns *Palaemon serratus*), molluscs (including painted topshell *Calliostoma zizyphinum*, cowrie *Trivia arctica* and the nudibranch *Edmundsella pedata*) and echinoderms (the starfish *Asterias rubens* was Common, while other species such as the bloody Henry starfish *Henricia* sp., the cushion starfish *Asterina phylactica* and featherstar *Antedon bifida* were only Occasional or Rare). Only a very few fish were observed and in low abundance: ballan wrasse *Labrus bergylta*, goldsinny wrasse *Ctenolabrus rupestris* and a few gobies.



3.19 The Missouri

The SS Missouri was a four-masted steamship that ran aground in Porth Dafarch in the 1880's. While broken up, there is still quite a lot of the structure left, sitting on a sandy seabed in the outer part of Porth Dafarch. Being quite a shallow site it is a very popular location for divers. The area of the wreck that was surveyed in 2019 was at a depth of 8m-9m BCD, with the wreckage supporting a mix of red and brown seaweeds (*Caliblepharis ciliata* and *Dictyota dichotoma* frequent) and animal turf with the sponge *Dysidea fragilis*, hornwrack bryozoan *Flustra foliacea*, spiral bryozoans and light bulb seasquirts *Clavelina lepadiformis* Frequent). A number of sea hares *Aplysia punctata* were seen. Several fish species were quite abundant with pollack *Pollachius* and corkwing wrasse *Symphodus melops* Common, and Abundant pouting *Trisopterus luscus*.



3.110 Porth Dafarch

This small, south-west facing bay on the west side of Holy Isle is a very popular beach for holidaymakers as well as divers as the location provides easy access for shore diving. The sandy beach habitat extends underwater and is bounded by rocky cliffs on each side of the bay which extend underwater as bedrock and boulders reef.

The dives at Porth Dafarch were completed not long after high water and so the habitats recorded included the lower eulittoral shore area and shallow infralittoral. Medium, rippled sand with occasional lugworm *Arenicola* sp. casts and sand mason worm tubes *Lanice conchilega* extended from around 2m ACD to 2m BCD. One group recorded small lesser weaver fish *Echiichthys vipera* in this habitat.



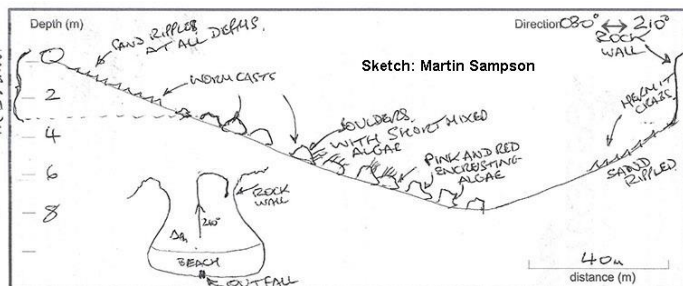
Arenicola sp. worm cast © Róran Holt



Patella pellucida © Paul Brazier

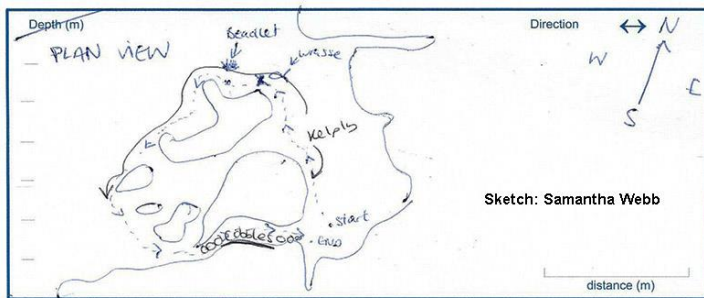
The shallow infralittoral rock between 1m ACD – 2m BCD was covered in mixed seaweeds including brown fucoid seaweeds *Fucus serratus* in the intertidal areas. In places, bedrock and large boulders had *Laminaria hyperborea* kelp forest with an understory of sponges (*Amphilectus fucorum* and *Halichondria panicea* which were both Frequent and the purse sponge *Grantia compressa* which was Common), and mixed red seaweeds which included a variety of different species such as *Plocamium* sp. and *Membranoptera alata* which were abundant, *Corallina officinalis* and *Hypoglossum hypoglossoides* which were both Common, and *Ceramium* sp., *Cryptopleura ramosa*, *Callophyllis lacinata* and pink coralline crusts which were Frequent.

An area of scoured boulders at around 1m-3m BCD, where sand had been washed away from between the boulders, there were dense dark red crusts on the rocks and two red seaweed species tolerant of sand cover: *Furcellaria lumbicalis* which was Abundant and *Gracilaria* sp. which was Common. A pink encrusting seaweed *Melobesia membranacea* was recorded growing on some of the *Furcellaria*; this is a common species but most likely under-recorded as it is not a particularly obvious species.



3.111 Porth Castell

This small bay is just to the south of Treaddur Bay on the south-west side of Holy Isle. This site was surveyed by two snorkellers who recorded rocky reef with patches of boulders, cobbles, pebbles and sand to 0.8m BCD.



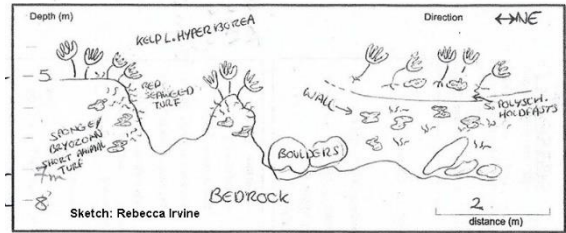
rocky reef with patches of boulders, cobbles, pebbles and sand to 0.8m BCD. Kelp (predominantly *Laminaria digitata*) and a range of shallow-water seaweed species were recorded: the brown seaweeds thong weed *Himanthalia elongata* and serrated wrack *Fucus serratus*, green seaweed *Ulva* sp. and encrusting pink seaweed. Wrasse (probably ballan wrasse *Labrus bergylta*) were observed as were beadlet anemones *Actinia equina*.

3.112 Porth Siant



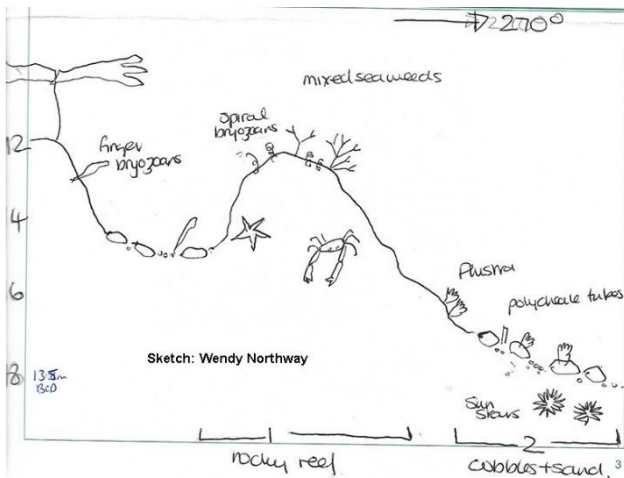
Porth Siant is situated close to the southern end of Holy Isle. Here, bedrock reef extended from about 0.8m – 3.5m BCD, forming gullies with steep and vertical walls and boulders at the base of the gullies. *Laminaria hyperborea* kelp forest with a turf of mixed red seaweeds was present on upper facing parts of the reef. On the steeper rock faces a faunal turf was dominant comprising mainly a mix of barnacles, crissid

byozoans and sponges with dahlia anemones *Urticina felina* and star ascidians *Botryllus schlosseri* also present. Velvet swimming crabs *Necora puber*, common starfish *Asteria rubens*, prawns *Palaemon serratus* and grey topshells *Steromphala cineraria* were also seen.



3.113 Rhoscolyn Beacons

The beacons are a cluster of small rocky islands to the south-west of Rhoscolyn bay. Here a rocky reef extended from around 7m-13m BCD forming gullies up to 1m high. Some *Laminaria hyperborea* kelp and seaweeds (*Dictyota dichotoma* Common) were present on the tops of the gullies in shallower water, but the area of the reef that was surveyed was dominated by bryozoans (spiral bryozoans and *Alcyonidium diaphinum* in particular) together with dead men's fingers *Alcyonium digitatum*, antenna hydroids *Nemertesia antennina*, fried egg anemones *Actinothoe sphyrodeta* and boring sponge *Cliona celata*, all of which were recorded as Frequent apart from the spiral bryozoans which were Common. Light bulb sea squirts *Clavelina lepadiformis* were also Common.

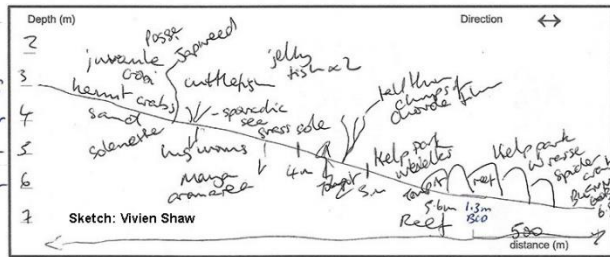


A variety of mobile species were recorded on the reef including frequent sea hares *Aplysia punctata*, velvet swimming crabs *Necora puber* and bloody Henry starfish *Henricia* sp., and other species in lower abundance such as the cowrie *Trivia monacha*, nudibranch *Antiopella cristata*, spiny spider crab *Maja brachydactyla*, and sponge spider crabs *Inachus* sp.

In deeper water around 13.5m BCD the seabed comprised cobbles interspersed with sand and shell fragments and very occasional small boulders. These supported a limited fauna with low abundance of mainly a few bryozoans, sponges and keel worms. Life present in the sediment included peacock worms *Sabella pavonina*, other polychaete tubes and daisy anemones *Cereus pedunculatus*. A Yarrell's blenny *Chirolophis ascanii* was recorded in this habitat.

3.114 Rhoscolyn Beach

Rhoscolyn bay provides a shallow, south-facing bay at the southern end of Holy Island, NW Anglesey. The site was dived almost at high water and so the habitats recorded included lower shore sand and rock.



Rhoscolyn beach is a sandy beach with the sand extending offshore and rocky outcrops of bedrock and boulders and bedrock reef each side of the bay.

The submerged intertidal sand habitat had abundant netted dogwhelk *Tritia reticulata* and other signs of life in the sand such as worm casts *Arenicola* sp. and burrows and holes in the sediment. Some brown seaweed was present which was attached to stones under the sand. In slightly deeper water to about 1.3m BCD, there was sparse bootlace weed *Chorda filum* and a patch of seagrass *Zostera marina*. The non-native brown seaweed wireweed *Sargassum muticum* was seen at this site.



Boulders in the intertidal had brown seaweeds on them typical of rocky shores including channelled wrack *Pelvetia caniculata*, bladder wrack *Fucus vesiculosus* and egg wrack *Ascophyllum nodosum*. Shallow rocky reef between 1m – 2.3m BCD had *Laminaria* sp. kelp and bleached filamentous red seaweeds growing on it. The hydroid *Obelia geniculata* was common on the blades of the kelp plants.



Solonette *Buglossidium luteum*, small juvenile dab *Limanda*, dragonets *Callionymus* sp., hermit crabs and common whelk *Buccinum undatum* were present on the sand. One pair of divers recorded a pogge *Agonus cataphractus* which, while not rare, are not that commonly seen.

3.2 Menai Strait

This sea channel separating the island of Anglesey from mainland north Wales provides conditions that have supported the development of unusual marine habitats. The central section of the Strait is narrow and sheltered from wave action, but it subject to particularly strong tidal currents. At the south-west and north-east ends of the Strait the channel widens and there are areas of sediment and mixed ground as well as rocky reef habitat.

The Strait marks a fault zone carved out by glaciers and it separates the complex bedrock geology of Anglesey from the similar-aged, but apparently unrelated, rocks of North Wales. The geology along the Strait is very varied providing contrasting rock habitat along the length of the channel, with a substantial area of limestone at the north-east end that forms limestone bedrock reef on the Anglesey coast and nearby islands, such as Puffin Island.

In 2019, records from two sites in the Strait were submitted from dives by independent Seasearchers, one on the Anglesey side of the Strait by Nelson's Column and the other on the mainland side of the Strait close to Normal College (Coleg Normal).



Human activities and impacts

Some human rubbish was recorded from these two sites with angling debris and electric cable seen at Nelson's Column and an abandoned lobster pot, bottle and metal pole recorded at the Normal College site.

3.21 Nelson's column

Just to the west of the Britannia combined road and rail bridge, one of two bridges crossing the Strait over the narrow central section, a statue of Nelson stands gazing out over the fast-flowing waters of the Strait. Nelson was reputed to have described the Menai Strait as "one of the most treacherous stretches of the sea in the world".

The area dived was to the south-west from the statue with bedrock and boulders in the lower shore into the shallow sublittoral extending into more cobble-dominated habitat to around 3m BCD and slightly deeper deposits of clean mobile shell gravel and coarse sand acting as a veneer over bedrock and boulders (this deeper habitat was not surveyed).

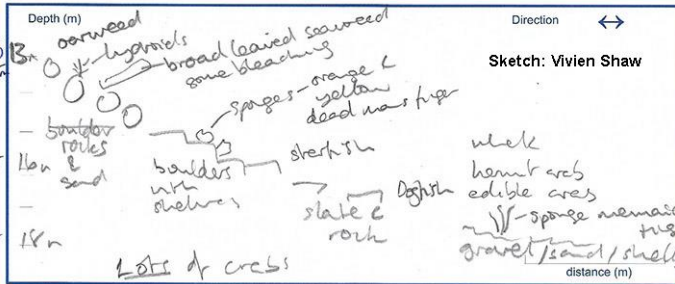
The shallower bedrock and boulders were dominated by abundant *Saccharina latissima* kelp and mixed red seaweeds with *Calliblepharis ciliata* and *ErythroGLOSSUM laciniatum* common and frequent *Heterosiphonia plumosa*, *Calliblepharis jubata* and *Delessaria sanguinea*. Two non-native seaweeds were recorded in high abundance in this habitat with the brown wireweed *Sargassum muticum* Common and the fluffy red seaweed *Dasysiphonia japonica* Frequent.

The cobble-dominated habitat was dominated by *Balanus crenatus* barnacles with abundant short hydroid turf, frequent keelworms *Spirobranchus* sp. and a variety of other fauna but at lower abundance, including sponges, hydroids, bryozoans and ascidians. Some red seaweed species were also growing on the cobbles including *ErythroGLOSSUM laciniatum*, *Rhodophyllis divaricata*, *Rhodymenia holmsii* and *Apoglossum ruscolium*. The red seaweed *Xiphosiphonia pennata* was also recorded in this habitat. This is the 2nd record for this species in North Wales. The non-native fluffy red seaweed *Dasysiphonia japonica* was Occasional in this habitat. There were occasional boulders present which had luxuriant

but sickly-looking colonies of the branching mermaid's glove sponge *Haliclona oculata*.

3.22 Normal College

A deeper area of circalittoral reef was surveyed comprising a sloping seabed of boulder and cobble reef between 10.5m - 15.5m BCD leading to a seabed of gravel, sand and shell remains at approx. 15.5m - 16,5m BCD. Breadcrumb sponge *Halichondria panicea*,



encrusting sponges, branching hydroids and the finger bryozoan *Alcyonidium diaphinum* were Common. There was sparse occurrence of dead men's fingers *Alcyonium digitatum*, shredded carrot sponge *Amphilectus fucorum*, hornwrack *Flustra foliacea* and the branching

mermaid's glove sponge *Haliclona oculata*. Small edible crabs *Cancer pagurus* and common starfish *Asteria rubens* were the most abundant mobile species recorded.



3.3 North Llŷn

As with previous years, the lack of charter dive boats covering the Llŷn Peninsula mean that it is much more difficult to plan boat-based Seasearch dives along this stretch of the North Wales coast in recent years. One independent shore dive was undertaken in 2019 at the site of the former Trefor Pier.

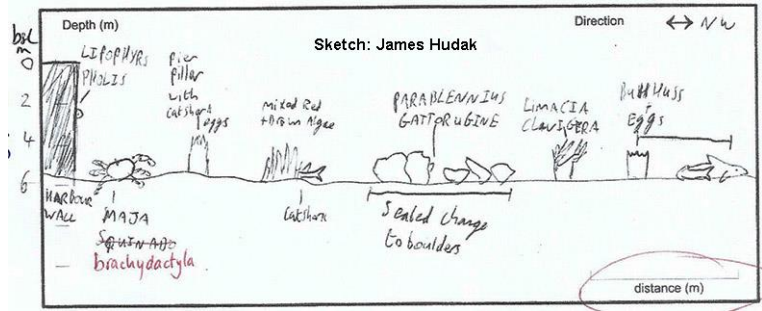
Human activities and impacts

Fishing weights and fishing line were seen at the Trefor Pier site which is perhaps not surprising given the popularity of the pier for angling.

3.31 Trefor Pier

The old pier at Trefor was removed in 2017/18 because it had fallen into disrepair and become unsafe. It was always a popular dive site and the location continues to provide an easy access shore dive, even though the dismantling of the pier has removed most of the man-made habitat that was provided by the pier structure.

A flat seabed of shallow infralittoral sand and gravel with occasional boulders extends northwards from the outer side of the harbour wall at Trefor. A mixture of red and brown seaweeds were Common, attached to smaller stones and a small amount of branched antenna hydroid *Nemertesia ramosa* was recorded. There was a variety of mobile species present including edible crab *Cancer pagurus*, velvet swimming crab *Necora puber*, lobster *Homarus Gammarus*, spiny spider crab *Maja brachydactyla*, butterflyfish *Pholis gunnellus*, pipefish, tompot blenny *Parablennius gattorugine* and the nudibranch *Limacia clavigera*. Eggcases of both the lesser and greater spotted catsharks were seen and shannies *Lipophrys pholis* were common in holes and crevices in the harbour wall.

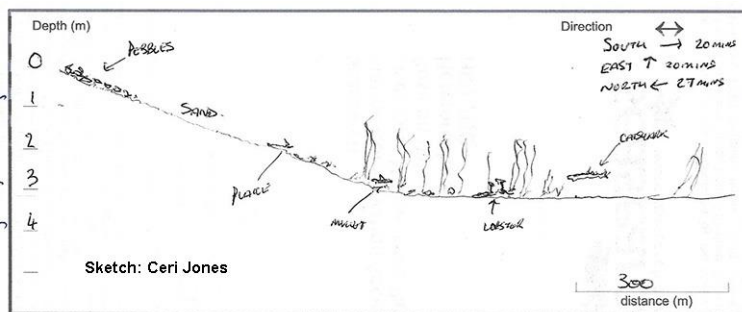


3.4 South Llŷn and Tremadog Bay

Seasearch dives were undertaken at two locations around Tremadog Bay in 2019 at Pwllheli and Shell Island (on the Meirionnydd coast south of Harlech). These dives were undertaken in partnership with the Angel Shark Project Wales. The dives were both shore dives for logistical reasons although a lack of availability of dive charter boats covering this area is a key reason why there have been much fewer Seasearch dives in this part of North Wales in recent years. Despite only two sites being surveyed some interested species records were made.

3.41 Pwllheli beach

This site comprised a gently sloping seabed from 0.9m ACD to 4.1m BCD with pebbles closest to the shore leading into a sloping sandy seabed. Bootlace weed *Chorda filum* was present and common between around 2m - 4m BCD. There were small amounts of sponge and encrusting pink coralline seaweed on larger stones. Polychaete worm tubes, the worm *Myxicola* sp. and daisy anemones *Cereus pedunculatus* provided visible indications of life within the sediment. Two non-native species were recorded here, the brown seaweed wireweed *Sargassum muticum* and the leathery sea squirt *Styela clava*.

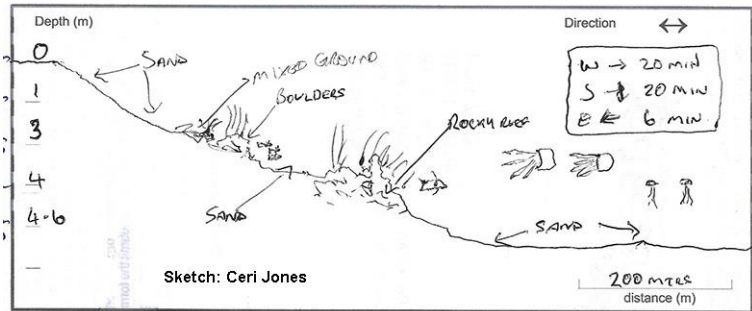


Two non-native species were recorded here, the brown seaweed wireweed *Sargassum muticum* and the leathery sea squirt *Styela clava*.

A variety of mobile species were recorded including several different species of fish (flounder *Platichthys flesus*, gobies *Pomatoschistus* sp., greater pipefish *Syngnathus acus*, dragonets *Callionymus* sp., lesser spotted catshark *Scyliorhinus canicula*) and crustaceans (hermit crabs, long-legged spider crab *Macropodia* sp., edible crab *Cancer pagurus* and lobster *Homarus gammarus*).

3.31 Shell Island

The sandy beach sloped down to the west to around 3.8m BCD with rocky reef, boulders and cobbles present between approx. 1.8m - 2.8m BCD. Red seaweeds, crissid bryozoans and spiral bryozoans were common on the patches of rocky reef and a variety of mobile species were present on and over the sand and around the rocks. The mobile species included snake pipefish *Entelurus aequoreus*, gurnard, sea mouse *Aphrodite aculeata*, and masked crab *Corystes cassivelaunus*, and unusual sightings of red mullet *Mullus surmuletus* and a John Dory *Zeus faber* which was a real treat for the divers who saw it.



4. Training and data

4.1 Training and qualifications

In North Wales, Observer courses were run in March and November with an optional training dive held after the November course (adverse weather prevented the optional training dive taking place after March course). In total, 16 people attended the two Observer courses (9 in March and 7 in the November). Several of those attending the Seasearch courses went on to complete qualifying forms during the year.

A Seasearch refresher dive was held in June; five Seasearchers attended this and found it a useful opportunity get in the water and remind themselves of the recording protocol. This day provided an opportunity for everyone to discuss what they had seen and complete Seasearch forms while enjoying food at the nearby café next to the Holyhead Maritime Museum and the dive site.

A dry Surveyor refresher day was held in June and, while there was only limited interest in this it was a useful opportunity to go over and discuss different aspects of the Surveyor recording.

A one-day fish identification course was run by Paul Kay at Anglesey Sea Zoo in July with



an optional follow up dive the next day where participants were able to immediately put their new-found ID skills into practice. Basing the course at the Sea Zoo provided an excellent opportunity for people to see live fish up close and people found this very helpful. Ten people attended the course and 6 divers took part in the dive the following day.

4.2 Forms

In 2019 there were 49 forms completed, 15 of these being Survey forms and 34 Observation forms. The higher number of Observation forms is due to new people taking part in Seasearch in North Wales in 2019 and completing Observation forms on the organised dives. A total of 18 qualifying Observation forms were completed.

A large number of different people took part in Seasearch in North Wales in 2019 with 38 divers and 8 snorkellers participating in the organised dive events or submitting independent records.

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

5. Acknowledgements

Many thanks to all the Seasearch volunteers that have taken part and supported

Seasearch in Wales during the 2019 season.

In North Wales we would like to thank boat skipper Aubrey Diggle for his expert boat support for diving around Anglesey. We would like to thank all those who helped organised the special events this year: 'Diving with Angels' (Holly Date, Jake Davies, Ben Wray, Fenella Wood and Joanna Barker) and the U-boat project (Michael Roberts & Tim Whitton (Bangor University), Rohan Holt and Holly Date). We would also like to thank the tutors who helped to deliver the Seasearch training events (Rohan Holt, Paul Brazier, Liz Morris-Webb and Lucy Kay), and also Paul Kay for the excellent Fish ID course. And thanks to Holly Date the North Wales Co-ordinator for her enthusiasm and energy throughout the year.

We would also like to thank Charlotte Bolton, Seasearch National Co-ordinator for support throughout the year, providing maps for this report and proof-reading the text.

Photo credits

Paul Brazier, Lucy Kay, Paul Kay, Rohan Holt, Richard Yorke

