Seasearch Wales 2012

Summary Report

report prepared by

Kate Lock, South and West Wales co-ordinator

Liz Morris, North Wales co-ordinator

Chris Wood, National co-ordinator

Seasearch Wales 2012

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

This report summarises the Seasearch activity in Wales in 2012. It includes summaries of the sites surveyed and identifies rare or unusual species and habitats encountered. These include a number of Welsh Biodiversity Action Plan habitats and species. It 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 data is also available on-line through the National Biodiversity Network.

During 2012 we continued to focus on Biodiversity Action Plan species and habitats and on sites that had not been previously surveyed.

Data from Wales in 2012 comprised 192 Observation Forms, 154 Survey Forms and 1 sea fan record. The total of 347 represents 19% of the data for the whole of Britain and Ireland.

Seasearch in Wales is delivered by two Seasearch regional coordinators. Kate Lock coordinates the South and West Wales region which extends from the Severn estuary to Aberystwyth. Liz Morris coordinates the North Wales region which extends from Aberystwyth to the Dee. The two coordinators are assisted by a number of active Seasearch Tutors, Assistant Tutors and Dive Organisers. Overall guidance and support is provided by the National Seasearch Coordinator, Chris Wood.

Seasearch Cymru 2012

Cynllun gwirfoddol sy'n arolygu rhywogaethau a chynefinoedd y môr yw *Seasearch*. Cafodd ei lunio ar gyfer deifars sy'n deifio yn eu hamser hamdden ym Mhrydain ac Iwerddon. Caiff ei gydlynu gan y *Marine Conservation Society* ar ran Grŵp Llywio *Seasearch*.

Mae'r adroddiad hwn yn crynhoi gweithgareddau'r prosiect *Seasearch* yng Nghymru yn ystod 2012. Ynddo ceir crynodebau o'r safleoedd a arolygwyd a nodir y rhywogaethau a'r cynefinoedd prin neu anarferol y daethpwyd o hyd iddynt. Mae'r rhain yn cynnwys nifer o gynefinoedd a rhywogaethau a restrir yng Nghynllun Gweithredu Bioamrywiaeth Cymru. Nid yw'r adroddiad yn cynnwys yr holl fanylion, oherwydd cofnodwyd y rhain yn y gronfa ddata *Marine Recorder* a chawsant eu rhoi i Gyfoeth Naturiol Cymru i'w defnyddio yn ei waith ar warchod y môr. Mae'r manylion hefyd ar gael ar-lein trwy'r Rhwydwaith Bioamrywiaeth Cenedlaethol.

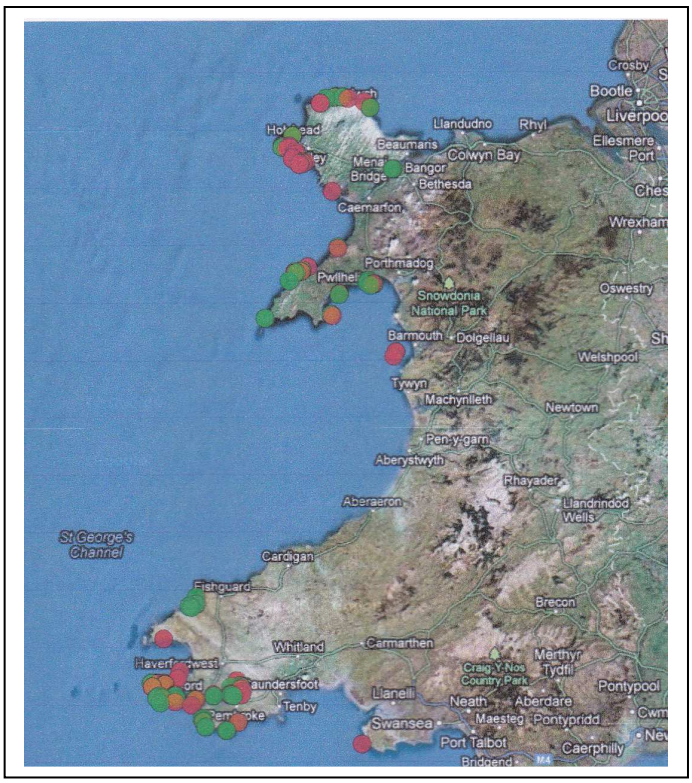
Yn ystod 2012, parhau i ganolbwyntio ar rywogaethau a chynefinoedd a restrir yn y Cynllun Gweithredu Bioamrywiaeth a wnaethom, ac ar safleoedd nad oeddynt wedi'u harolygu o'r blaen.

Roedd y data a ddeilliodd o Gymru yn ystod 2012 yn cynnwys 192 o ffurflenni arsylwi, 154 o ffurflenni arolygu ac 1 cofnod yn ymwneud â gwyntyll fôr. Mae'r cyfanswm o 347 yn cynrychioli 19% o'r data ar gyfer Prydain ac Iwerddon.

Caiff y prosiect *Seasearch* yng Nghymru ei gyflawni gan ddau o gydlynwyr rhanbarthol. Kate Lock sy'n cydlynu'r gwaith yn Ne a Gorllewin Cymru, sef rhanbarth sy'n ymestyn o Fôr Hafren i Aberystwyth. Liz Morris sy'n cydlynu'r gwaith yng Ngogledd Cymru, sef rhanbarth sy'n ymestyn o Aberystwyth i Afon Dyfrdwy. Caiff y cydlynwyr eu cynorthwyo gan nifer o Diwtoriaid, Tiwtoriaid Cynorthwyol a Threfnwyr Deifio. Rhoddir cymorth a chanllawiau cyffredinol gan Chris Wood, Cydlynydd Cenedlaethol *Seasearch*.

Summary of Data Received in 2012

The map shows the sites from which Seasearch forms were received during 2012.
The green circles represent Survey Forms and red circles Observation Forms.



The composition of forms was as follows:

	2012	2011
Observation	**192**	216
Survey	**154**	135
Sea Fan	**1**	0
Crawfish	**0**	43
Total	**347**	394

Whilst the number of forms was less than in 2011, the reduction is almost entirely due to the fact that a crawfish survey project was undertaken in 2011, generating 43 forms, and this was not repeated in 2012. The number of Observation Forms was a little lower than in 2011 but the number of Survey Forms increased by 14% and represented 44% of all records.

Survey Forms typically contain three times as much information as Observation Forms and because they are divided into different habitats enable us to identify MNCR biotopes as well as recording species. The increase in Survey Forms reflects our efforts to prioritise Surveyor training and encourage volunteers to move up to this level of recording.

All data has been entered onto Marine Recorder and made available directly to participating organisations as well as to everybody on the National Biodiversity Network website. Native oyster and crawfish data is entered into Marine Recorder but is tagged as sensitive following CCW guidelines. Access to this data is therefore restricted.

Survey Planning

Meetings were held in both North and West Wales with relevant Countryside Council for Wales marine staff to establish priorities for Seasearch surveys in 2012.

In North Wales the main focus of Seasearch boat days was to survey areas with little or no previous survey information including sites within potential Marine Conservations Zones (MCZs), to complete higher level Survey Forms and capture imagery of the seabed wherever possible. Seagrass was deemed to be an excellent backup focus of the year, primarily to confirm un-validated records around Anglesey.

In West Wales it was agreed to continue to focus on BAP species and habitat recording at Cleddau sites and information gap filling around St Anne's Head, south Pembrokeshire and the offshore islands. One specific weekend was also planned to continue the crawfish survey work in north Pembrokeshire started in 2011.

Weekend dive plans were kept flexible until the Welsh Government released their consultation on potential MCZs in April and also so that most appropriate sites could be selected based on the weather and tides.

Summary of Surveys Undertaken

In North Wales 8 Seasearch boat days and 2 shore based training/refresher days took place. Seven additional boat days were cancelled due to high winds or bad weather.
In West Wales 10 Seasearch diving weekends were planned of which 2 were cancelled due to poor weather.

Survey dives were completed in the following locations:

- Tremadog Bay & the South Llŷn Peninsula 5 sites
- North Llŷn Peninsula 6 sites
- The Menai Strait 2 sites

- Anglesey 18 sites
- Dau Cleddau waterway 5 sites
- St Anns Head 4 sites
- South Pembrokeshire 4 sites
- Skomer MNR 4 sites
- Skokholm 4 sites
- North Pembrokeshire 4 sites

Forms were also completed at 18 additional sites by divers who organised their own dives, only one which was a new site for Seasearch.

Summary of significant species records

In West Wales there were 4 new species records for Wales by volunteers Sarah Bowen and David Kipling

The sea squirt *Polysyncraton bilobatum*,
Welshmans Bay, St Anns Head;

The sea squirt *Didemnum fulgens,*
Long Point, St Anns Head;

Nudibranch *Aeolidiella alderi*
Worms Head, Gower;

The diminutive goby *Lebetus scorpiodes*,
West Hook, Skomer MNR;

Significant species records from North Wales were:

The nationally scarce sponge, *Tethyspira spinosa*
North and West Anglesey;

Crawfish, *Palinurus elephas*
North Anglesey;

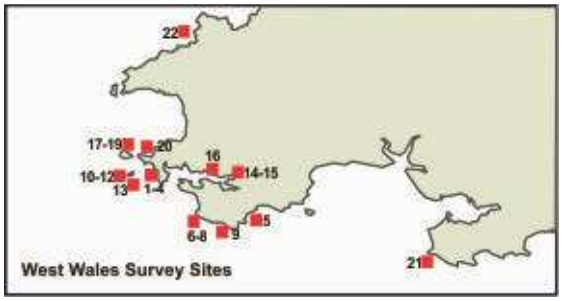
Nudibranch *Caloria elegans*
North Anglesey and South Llŷn Peninsula;

Nudibranch *Cuthona caerulea*,
North Anglesey;

Other significant records were:

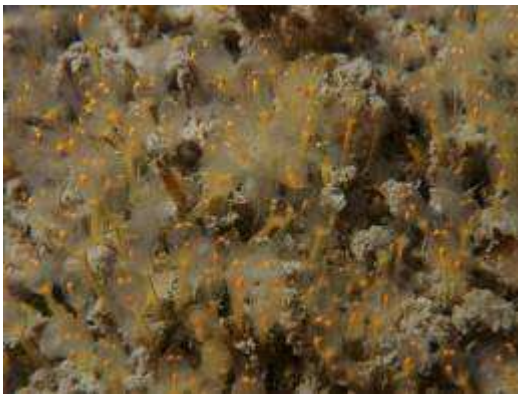
- Tidal rapid reef site at Barnlake, Cleddau with nationally scarce nudibranch *Thecacera pennigera*;
- Records of the rare cushion star *Asterina phylactica* at Worms Head, Gower;
- Pink seafan *Eunicella verrucosa*, the scarlet and gold cup coral *Balanophyllia regia* and tassel weed *Carpomitra costata* at Skomer MNR;
- The nationally scarce sponges: mashed potato sponge *Thymosia guernei*, yellow staghorn sponge *Axinella dissimilis*, brain sponge *Hymerhabdia damicornis* and prawn cracker sponge *Axinella infundibuliformis* at a selection of sites.
- Confirmation of a previously suspected Seagrass, *Zostera marina*, bed at Rhoscolyn, Anglesey.
- A second potential sighting following David Kipling's sea squirt *Didemnum fulgens,* spotted off the North Llŷn Peninsula.
- The Icelandic Cyprine, *Arctica islandica* (Welsh BAP species), spotted at 'Sandy Plains' off the North Llŷn Peninsula and at Rhoscolyn Seagrass bed on Anglesey.

Description of Sites Surveyed



St Anns Head, Pembrokeshire

St Anne's Head is located at the tip of the Dale Peninsula and marks the entrance of Milford Haven waterway with its lighthouse. The headland is well known for its strong tidal currents that create steep standing waves and prevailing SW winds create constant wave action along the west side of the headland. The steep cliffs of old red sandstone form a dramatic landscape and these continue down below the surface with rocky reefs and large boulder fields. On two weekends during 2012 the winds were from the east and we found ourselves with the rare opportunity to dive along the west coast. Dives were completed at Long Point, Welshman's Bay and the inner and outer reefs of West Dale.



West Dale outer reef (1) was covered in red seaweed meadows with and occasional kelp stand along with extensive ascidian, sponge and bryozoan cover. Carpets of colonial ascidians including the four spotted squirt *Morchellium argus*, white perforated sea squirt *Lissoclinum perforatum* and the sparkling sea squirt *Pycnoclavella aurilucens* were frequently recorded. White clawed sea mosses, *Crisia spp.* were found in abundance and the spiral bryozoan *Bugula plumosa* was common. The yellow staghorn sponge *Axinella dissimilis* and prawn cracker sponge *A. infundibuliformis* were both present, along with large boring sponge *Cliona celata* and elephant's hide sponge *Pachymatisma johnstonia*. A single crawfish, *Palinurus elephas* was recorded and common urchin, *Echinus esculentus* were occasionally recorded.

West Dale inner reef (2) was made up of a combination of horizontal rocky ridges up to 2m height and large boulders. The upper surfaces were covered in a mixed kelp park of forest kelp *Laminaria hyperborea* and sea belt *Saccharina latissima*. Encrusting pink algae covered many of the vertical faces along with carpets of ascidians and sponges. White perforated sea squirt, *L. perforatum* was abundant, four spotted sea squirt *M.argus* common and a scattering of the pin head squirt *Pycnoclavella stolonialis* was found. Bloody henry starfish, *Henricia oculata* were found in many colour variations and the brown crevice sea cucumber *Aslia lefevrei* was common. Territorial fish were found amongst the boulders including goldsinny wrasse, *Ctenolabrus rupestris*, cuckoo wrasse, *Labrus mixtus* and ballan wrasse, *Labrus bergylta*. The common urchin, *E. esculentus* was common but had a patchy distribution.

North Long Point (3) was a reef complex comprising of rocky horizontal ledges and vertical walls up to 3m height with kelp park at the shallowest points. These were interspersed with gullies running east to west with boulders and sand at the bottom. Sponges were diverse with a total of 16 species recorded. These included the yellow staghorn sponge, *A. dissimilis*, brain sponge, *Hymerhabdia damicornis* and prawn cracker sponge *A. infundibuliformis*. The branching sponges *Stelligera rigida* and *S. stuposa* were also recorded. Ascidians were prominent with the pin head and sparking sea squirts *P. stolonialis* and *P. aurilucens* found scattered on the reef and patches of the bright orange *Didemnum fulgens* which has been confirmed as a new species record for Wales.

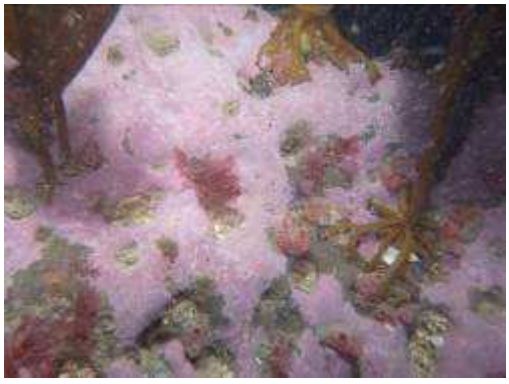
Welshman's Bay (4) formed a mixture of rocky reef with many crevices and large boulders. Mixed sediments occurred at the base of the reef. The horizontal surfaces were covered in kelp park, red seaweeds and a diversity of ascidians (7 species) and sponges (16 species). The highlight was a new Welsh record, a yellow sulphur coloured sea squirt *Polysyncraton bilobatum*. Sponges included the two *Axinella* species, along with the nationally scarce mashed potato sponge, *Thymosia guernei* and brain sponge *H. damicornis*. Bryozoans were also frequently recorded with white clawed sea mosses, *Crisia spp.* and the encrusting bryozoan, *Escharoides coccinea*. The Goldsinny wrasse, *C. rupestris* was frequently spotted but there was a distinct lack of starfish and crustacean species with only an occasional record.

South Pembrokeshire

The south Pembrokeshire limestone coast has been a focus for Seasearch dives in recent years and during 2012 two further days of diving was completed. The sites were the Ionian wreck near St Govans and 3 sites near Linney Head: Crow rock, Pole outer reef and south of Brimstone rock. Linney Head is an impressive headland of towering limestone cliffs and marks the start of the Castlemartin Range. Strong currents are found around the headland and care must be taken to choose slack water times.

At **Stackpole Quay** (5) 70 forms were completed for shore dives during the Observer Courses run at the beginning of the season. Stackpole Quay was also the location of a Bioblitz in July where species recording was completed over a 24 hour period. Despite fantastic weather the visibility was sadly very poor, but 8 keen divers recorded as much as they could and brought back seaweed samples to the shore. The public took part in various seashore activities which included checking out what was living in the seaweed and helping to do seaweed pressing.

Crow Rock (6) is an islet just off Linney Head. Below the surface are rocky gullies with 4m vertical faces and very large boulders. The reef is smothered in red algal meadows and dense animal turf. Large pollack, *Pollachius pollachius* were found patrolling the gullies and there were extensive areas of encrusting pink algae. There were also considerable amounts of wreckage, shell castings, bits of metal and the wreckage of a fishing vessel MFV Kerloch which lay just of the reef on sand. The area was rich in crustaceans especially common lobsters, *Homarus gammarus* and velvet swimming crabs *Necora puber*. Sponge and bryozoan species were diverse with 14 species of sponges recorded. The most common bryozoan was the white clawed sea moss, *Crisia spp.* covering the rocks. Ascidian species were diverse, as at many of these current swept sites. Species included: four spotted squirt *M. argus*, club head sea squirt *Aplidium punctum*, light bulb sea squirt, *Clavelina lepadiformis* and orange sea grapes, *Stolonica socialis* along with a scattering of the sparkling sea squirt *P. aurilucens*.



Pole – outer reef (7). The site comprised of horizontal bedrock running in ridges 1m high with 1m wide gullies covered in kelp park and lush red seaweed dominated by sea beech *Delessaria sanguinea*, siphoned feather weed *Heterosiphonia plumosa* and red fringed weed *Calliblepharis ciliata*. The rock faces were covered in carpets of ascidians and sponges. Ascidians included four spotted sea squirt *M. argus*, *Synocium incrustum*, white perforated sea squirt, *L. perforatum* and occasional toby jug sea squirt *Corella parallelogramma*.
The purse sponges *Grantia compressa* and *Scycon ciliatum* were both commonly found on the seaweed together with ghost shrimp *Caprella linearis*.

South Brimstone rock (8). This was a fairly shallow site with fairly flat limestone reef with gullies up to a maximum of 1m deep. The reef was made up of small overhangs and ledges where many patches of black tar sponge *Dercitus bucklandi* were found. The teapot sea squirt *Polycarpa scuba* was abundant and both the four spotted sea squirt *M. argus* and *Aplidium glabrum* were frequently recorded. The reef tops were covered in kelp park and thick red seaweed. Nudibranchs included *Aeigires punctilucens* and the tiny *Gonidoris nodosa*.

Ionian Wreck (9) off Castle Head, St Govans. A jumble of wreckage in 9m depth, heavily overgrown with kelp and red algae including abundant under tongue weed *Hypoglossum hypoglossoides*. A dense covering of gooseberry sea squirt, *Dendrodoa grossularia* was found and occasional tufts of squirrels tail hydroid *Sertularia argentea*. On one section of wreckage a dense area of oaten pipe hydroid *Tubularia indivisa* was found with aggregations of the nudibranch *Facelina auriculata* grazing on it. Very few fish or crustaceans were recorded, just an occasional spiny spider crab, *Maja squinado.*

Skokholm is an old red sandstone island located 2 miles off the Pembrokeshire coast. Seasearch dives were completed at sites around the island between 2004 and 2006. The aim in 2012 was to dive new sites but to also revisit some for further species recording.

North Skokholm (10). A low lying rocky reef with kelp park and red algae on the rocks and a thick covering of silt. Rock faces up to 2m height were found covered in short animal turf and occasional massive sponge formations of the boring sponge *C. celata* and elephants hide sponge *P. johnstonia*. A diverse array of life was found but everything was at an abundance rating of frequent, occasional or rare. Nudibranch highlights were records of the crystal sea slug, *Janolus cristatus*, *Tritonia lineata* and *Cladlina laevis*. Very little life was found between the gullies, boulders and cobbles.

Mad Bay Pinnacles (11) are a cluster of reefs found in Mad Bay made up of slanted bedrock roughly in parallel running east to west. Kelp forest covered the rocks to 8m depth, giving way to vertical faces with a turf of sponges, bryozoans and hydroids. South facing walls were dominated by elephant hide sponge *P. johnstonia*, shredded carrot sponge *Amphilectus fucorum* and deadmen's fingers *Alcyonium digitatum*. In contrast the north facing walls were supported the twiggy bryozoans *Cellaria spp*. and white clawed sea moss *Crisia spp*. Species records were diverse with 16 species of sponges, 12 species of ascidians and 9 species of bryozoans recorded. Highlights include records of potato crisp bryozoan *Pentapora foliacea*, yellow staghorn sponge *A. dissimilis* and chimney sponge *Polymastia penicillus* along with patches of Indian feathers hydroid *Gymnangium montagui*.

North Pond (12). A jumble of rocky walls, gullies and ridges running east to west between 15 to 20m depth. The rocks were smothered in a thick animal turf. 15 species of sponges were recorded, the most common being large patches of elephant hide sponge *P. johnstonia* and shredded carrot sponge *A. fucorum*. The dominant ascidians were the star sea squirt *Botryllus schlosseri*, teapot sea squirt *P. scuba* and sparkling sea squirt *P. aurilucens*. Abundant white claw sea mosses *Crisia eburnea* and *C. denticulata* were recorded and there were occasional records of the potato crisp bryozoan *Pentapora*

foliacea and hornwrack, *Flustra foliacea*. Large overhangs and crevices were found at the base of the walls mainly inhabited by velvet swimming crab *N. puber* and double spiral worms *Bispira volutacornis*. A variety of territorial fish species were recorded, including rock cook, *Centrolabrus exoletus*, ballan wrasse, *L. bergylta*, cuckoo wrasse, *L. mixtus* and leopard spotted gobies *Thorogobius ephippiatus*.

Marias Reef (13) is an offshore reef found located south east of Skokholm. The rocky reef is made up of slanted bedrock, boulders and overhangs of various sizes. At the bottom of the rocks at 17m depth there was a mixture of pebbles and boulders with little attached life but a common octopus *Eledone cirrhosa* was recorded. The rocks were characterised by short animal turf mixed with massive sponges including elephant hide sponge, *P. johnstonia*, boring sponge *C. celata* and shredded carrot sponge *A. fucorum*. The yellow staghorn sponge, *A. dissimilis* was occasional and the mashed potato sponge *T. guernei* was found beneath the overhangs. Notable too were potato crisp bryozoan, *P. foliacea* and horn wrack *F. foliacea,* both common in areas. Patches of Indian feathers hydroids, *G. montagui* were found and there was a single record of a pink seafan, *Eunicella verrucosa*. Reef fish were prominent with goldsinny wrasse, *C. rupestris*, cuckoo wrasse, *L. mixtus*, ballan wrasse, *L. bergylta*, rock cook, *Centrolabrus exoletus* and pollack *P. pollachius.*

Dau Cleddau, Milford Haven is a very active area with both commercial and recreation interest. Seasearch has completed many dives in the area looking at BAP habitats and species: tidal rapid reefs, eelgrass *Zostera marina* beds and the native oyster *Ostrea edulis*. There are also high numbers of non-native species including the invasive slipper limpet *Crepidula fornicata*. Further exploration in the area is a continuous need. New sites surveyed in 2012 were tidal rapids at Barnlake and the wreckage and piers of the Warrior and a disused jetty at Newton Noyes.

Warrior (14) is an area of wreckage and old disused pier standings. Boulders are found close to the shoreline leading down to a muddy slope to 12m depth. The muddy slope was covered in slipper limpet *C. fornicata* both living and dead shells with occasional anemones *Sargartia sp.* and *Diadumene cincta*. The wreckage and other artificial structures were smothered in sponges, in particular abundant breadcrumb sponge *H. panicea*. Hydroids included *Kirchenpaueria pinnata, Coryne exima, Sertularia argentea* and the helter-skelter hydroid *Hydrallmania falcata*. Finger bryozoan *A. diaphanum* was also common. Associated nudibranchs were found including large sea lemon *Archidoris pseudoargus* and the hedgehog sea slug *Acanthodoris pilosa*. A variety of crustaceans and benthic fish were recorded in low numbers.

Barnlake (15) is located just south of the Cleddau Bridge on the western side of the river. From the shore a shallow mud bank at 8m depth gives way to a steep rocky wall around 10m high levelling out at 18m to another muddy slope with slipper limpet *C. fornicata* and shell debris. The steep rocky wall was stepped with large rectangular blocks characterised by abundant sponge cover dominated by shredded carrot sponge *A. fucorum*, mermaids glove *Haliclona oculata*, breadcrumb sponge *H. panicea* and *H. bowerbanki*. Where space allowed, a smattering of other sessile fauna could be found, anemone *Actinothoe sphyrodeta*, hydroid *K. pinnata* and the spiral bryozoans *B. plumosa*. A nudibranch highlight was the nationally scarce *Thecacera pennigera*. A variety of small goby species were found including the black goby *Gobius niger.*

Newton Noyes Jetty (16) is a disused metal jetty consisting of cylindrical vertical posts linked by horizontal and cross struts. The entire structure was completely covered in a rich diversity of anemones, sponges, bryozoans and hydroids. In particular were high densities of feather stars, *Antedon bifida*, plumose anemones, *Metridium senile* and the elegant anemone *Sargartia elegans*. Seven species of nudibranch were recorded including *Tritonia lineata* and *Jorunna tomentosa*.
Below the jetty at 9m depth a muddy seabed was covered in slipper limpets, *C. fornicata* and mixed shell fragments.

Skomer Marine Nature Reserve

The Skomer MNR is managed by Natural Resources Wales, and its dedicated team of marine scientists have established a programme of littoral, sublittoral and oceanographic monitoring.
Although habitat and species records are considerable for the MNR, it has been identified by the MNR management plan that these need continued updating with new records. To assist with this, Seasearch forms were completed at the Wick Basin, Bullhole, Junko's Rock and North Stream.

Wick Basin (17) comprised very large boulders 3-4m wide and 2m tall. Between the boulders were gullies with smaller boulders and cobbles scoured by wave action and with little life. On the tops of the large boulders there was a sparse cover of red and brown seaweed. Animal turf was found on the vertical faces with a sprinkling of species. Sponges included *Polymastia mamillaris* and *P. boletiformis.* Devonshire cup coral *C. smithi* were common and a small cluster of the rare scarlet and gold cup coral *Balanophyllia regia* was found. Another highlight was the sighting of a single pink sea fan *E. verrucosa.*

North Stream (18) is located on the north side of Skomer, the 'north wall' area is well known for its steep walls plummeting down to 30 to 40m and boulder fields, and the species are well documented. The North Stream site is found further west along the coast and is less regularly dived so further species records are useful. Highlights included frequent records of tassel weed *Carpomitra costata*, potato crisp bryozoans *P. foliacea* and pink sea fan *E. verrucosa*. The divers also recorded 9 species of nudibranch.

Bullhole (19) is on the north west side of Skomer. Bedrock ridges and very large boulders were found from 12 to 20m depth. Very large boring sponge, *C. celata* were found everywhere and Devonshire cup corals *C. smithi* were abundant. Crustacean and territorial fish species were frequently found in the crevices and amongst the boulders, including spiny squat lobster, *Galathea strigosa*. Three pink seafans *E. verrucosa* were recorded and occasional potato crisp bryozoans, *P. foliacea*.

Junko's Rock (20) is located in Wooltack Bay off the north Marloes Peninsula. It is a pinnacle of rock from 8m to 25m depth with steep vertical walls. At the bottom of the reef sand and mixed sediment substrates are found. In the shallows kelp forest with both the forest kelp, *L. hyperborea* and furbellows, *Saccorhiza polyschides,* present. Tassel weed, *C. costata* was occasionally recorded. Rich hydroid, bryozoan and anthozoan turf was found on the steep walls. Antenna hydroid, *Nemertesia antennina* was common, mixed with Devonshire cup coral, *C. smithi*. Spiral bryozoans, *Bugula spp.* formed a thick turf and patches of hornwrack, *F. foliacea,* were frequently recorded. Common lobster, *H. gammarus,* and long clawed squat lobster, *Munida rugosa,* were found around the reef edge.

A new species for Wales was the Diminutive Goby *Lebetus scorpiodes* recorded at West during the Skomer MNR volunteer scallop survey. The photo was put on a social network and immediately recognised by marine biologists in Norway and Sweden where the fish is regularly found.

Gower

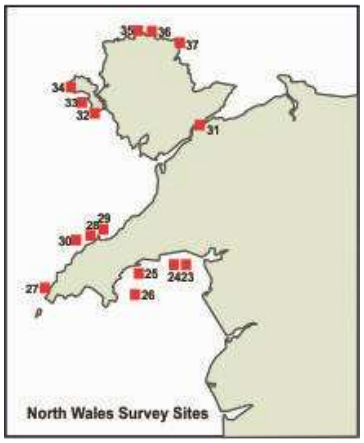
Seasearch diving was not completed in Gower during 2012. However Seasearch Observation forms were completed for two excursions at low water spring tides at **Worms Head (21).** Records included the rare cushion star *Asterina phylactica*, nudibranchs *Palio nothus* and *Tergipes tergipes,* along with a confirmed new nudibranch record for Wales of *Aeolidiella alderi*.

North Pembrokeshire, Crawfish *Palinurus elephas* surveys.

Crawfish has now been identified as a species that needs protection and is on the UK Biodiversity Action Plan species list. In Wales, it is found around Llyn Peninsula and Pembrokeshire, although numbers are now very low. Commercial fishery (netting) still exists off the Pembrokeshire coast.

In 2011 surveys were completed to gather baseline crawfish data at 6 sites in north Pembrokeshire. The project was co-ordinated and run by Jen Jones. The aim of the surveys was to record baseline information on the number and size of crawfish at different sites and to identify habitat preferences to aid any future re-stocking proposals. A project report has now been completed.

In 2012 one weekend was organised to continue the crawfish survey however the weather and sea conditions prevented divers accessing the sites. Seasearch dives were completed but at sites close to **Abercastle (22)** that had been previously surveyed - Fingers reef, Leysian wreck, Aber Mawr and Pwll Deri.

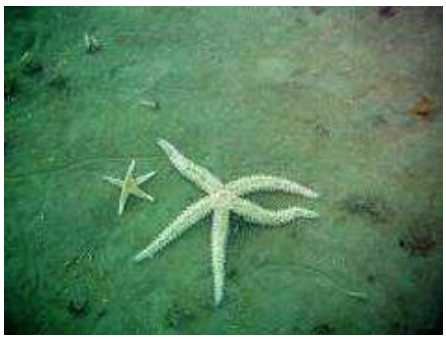


The Llŷn Peninsula

The Llŷn Peninsula is part of the Pen Llŷn a'r Sarnau Special Area of Conservation. Its' reefs, bays and sandbanks are monitored by Natural Resources Wales. Four areas around the Llŷn were put forward by the Welsh Government as potential highly protected Marine Conservation Zones (along with six sites in other parts of Wales). Following the consultation the Welsh Government is now considering how to proceed with MCZs. Seasearch dives around the Llŷn Peninsula looked at some of the potential MCZs and also on areas with little survey information.
A summary of the organised Seasearch dives is provided below. There were also independent Seasearch records made which have not been included in this report.

Afon Dwyfor Mud, off the South Llŷn Peninsula (23). This was a site a mile south of the coast where the seabed was thought to be muddy sand but had no previous survey records.

Two sites of flat infralittoral mud with a little shell and gravel between 8-12m below chart datum (bcd) supported the hitchhiking sea cucumber *Ocnus planci* (below), found to be common in places at the rather boringly named 'Afon Dwyfor Mud, site 65', and 'Llanstumdwy South Mud'. The mud was teeming with life: auger shell *Turritella communis*; common pelican's foot shell *Aporrhais pespelecani*; masked crabs *Corystes cassivelaunus* were frequent in places; hermit crabs; sea orange sponge *Suberites* and many other epifaunal species attached to shell fragments and the odd pebble or gravel as well as a diversity of burrows and eggs. No evidence of human impact was seen on these sites.



Llanystumdwy Reef, near Afon Dwyfor, off the South Llŷn Peninsula (24). Two organised Seasearch dives were undertaken on the low lying mixed stony reefs just off Llanystumdwy near the Afon Dwyfor (named Afon Dwyfor 62 and Llanystumdwy reef). The main habitat of interest was the tide swept, sand scoured mixed stony reef dominated by pod weed, or sea oak *Halidrys siliquosa,* and mixed kelps on cobbles and pebbles between 1.6 and 3m bcd. Other areas of low lying cobbles and boulders with no *H. siliquosa* were dominated by red discoid forkweed *Polyides rotundus,* a brown fuzzy branched weed thought to be *Arthrocladia* and a selection of other red seaweeds. These habitats create many crevices and fissures between cobbles which host sand gobies, *Pomatoschistus,* and other mobile epifauna including a plethora of crustacea, particularly the well camouflaged *Hyas* spider crabs which were frequent in places, seen below, and Montagu's crab, *Xantho pilipes*, (recently re-named *X.incisus,* below right). Areas of seaweed dominated reef were interspersed with infralittoral mixed sediments of muddy gravels (3-4m bcd) dominated by filamentous red algae, burrows and parchment worm (*Chaetopterus*) tubes.

Oyster Bank (25), is an area off Llanbedrog, South Llŷn Peninsula, which no longer appears to support any oysters. Instead Seasearchers found it to be a flat seabed at approximately 6m bcd, of pebbles lying in a thin layer over very muddy gravel sediment with pebbles, small stones and live shells (*Venus verrucosa* & *Clamys varia* amongst others). Pebbles were coated with dense algal turfs, mostly abundant brown fuzzy branched weed *Arthrocladia villosa* and common bootlace weed *Chorda filum* and mixed red seaweeds, with solitary ascidians (*Ascidiella aspersa*, *Polycarpa*, and *Styela clava*), black gobies (*Gobius niger*) and a mix of crustacea.

Tudwal Mound (26), St Tudwal's Island East, South Llŷn Peninsula. This was a lovely dive site of two habitats where the nationally rare nudibranch *Caloria elegans* was spotted by Richard Yorke. He also photographed the black and yellow colour morph of *Polycera quadrilineata* and *Liocarcinus corrugatus* (right), which is probably under-recorded in the area as it often appears in images but is lumped as another *Liocarcinus* by divers, despite its corrugated carapace.

The main habitat here was a rocky mound from 9 to 15m bcd, of small boulders and cobbles with 20-30 degree slope down to muddy, sandy bottom strewn with pebbles and cobbles. The mound was densely covered in mixed algae (cock's comb weed, *Plocamium cartilagineum* was abundant, together with a good diversity of other weeds) and short algal turf with sponge crusts and encrusting coralline seaweeds. At the base of the mound at 16m bcd, was a flat seabed with tall algal turf, sparse algae (mainly reds) on pebbles, scattered *Pentapora foliacea* and branching sponges. Numbers of the common starfish *Asterias rubens* were so large that divers suspected them to be a spawning aggregation.

Clusterless Reef (27) near the tip of the North Llŷn Peninsula was a disappointing dive, as Seasearchers were in the water to validate previous sightings of yellow cluster anemones (*Parazoanthus axinellae*) the most northern of which in Wales have been sighted at Bardsey Island and around the southern tip of the Llŷn Peninsula. Unfortunately no cluster anemones were found by the 2012 search team, but they did instead find some beautiful vertical bedrock reef extending from the waterline to 12m bcd. The infralittoral was dominated to 6.1m bcd by a kelp forest, of *Laminaria hyperborea.* Steep verticals were dominated by occasional records of massive and encrusting sponges; crater sponge *Hemimycale columella*, elephant hide sponge *Pachymatisma johnstonia* (frequent) and hedgehog sponge *Polymastia boletiformis,* amongst others. Devonshire cup corals *Caryophyllia smithii* were also occasional at the site, as were jewel anemones *Corynactis viridis*. Horizontal surfaces of boulders at the base of the vertical reef were topped with common red seaweeds and rare sponges including 'budding' golfball sponges (*Tethya citrina*) pictured left.

Sandy Plains (28), North Llŷn Peninsula, was a new site for Seasearch with very little known previously. Primarily this is an area of flat seabed composed of coarse sand, gravel sediment with some small boulders, patches of rippled sand with very sparse epifauna, and occasional patches of bedrock (7.6m to 12.8m bcd). There were rare dog cockles *Glycymeris glycymeris* and Icelandic cyprine *Arctica islandica*, together with occasional unidentified burrowing bivalve species. Boulders and bedrock were covered in mixed seaweeds, dominated by brown seaweeds to as deep as 13m bcd. Sponges, anemones and bryozoans were also found on the vertical rock faces.

Porth Dinllaen Seagrass (29), North Llŷn Peninsula. Several attempts were made to survey Porth Dinllaen by Seasearch divers who were part of more detailed Gwynedd County Council and NRW volunteer surveys assessing the status of the bed and informing future management plans. As well as confirmation of seagrass still at the site, this resulted in the incidental sighting of a single grey triggerfish (*Balistes capriscus*) at the site in October, which looked fatigued and rather worse for wear flapping around at the surface, undeterred by boats or divers. This is the most northern sighting of the species in Wales.

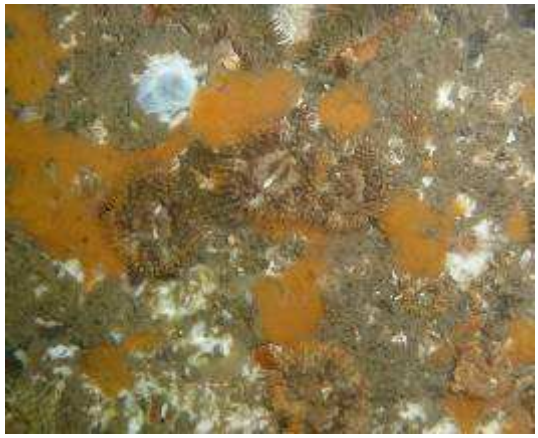
Richards Reef (30), North Llŷn Peninsula. Two Seasearch visits were made to this diverse and colourful reef – once to find it in a drift and a second to properly survey it. The upper circalittoral low lying rocks and boulders had a dominant cover of hydroids and eight species of bryozoans (mainly Crisids) These included hornwrack, *Flustra foliacea,* frequent *Securiflustra securifrons* and antenna hydroid *Nemertesia antennina* as well as sightings of potato crisp bryozoan *Pentapora foliacea* and monkey puzzle bryozoan *Omalosecosa ramulosa* and nine species of sponge. These low lying bedrock reefs are also characterised by an abundance of sea squirts (pictured below) – mostly *Polycarpa sp, Distoma variolosus and Didemnidae* (including a potential sighting of *Didemnum fulgens* following David Kipling's first record in Wales from the south earlier in the year) Many of these are of uncertain identification and in 2013 Seasearchers aim to confirm these species as they are very characteristic of this ridge of reef off the North Llŷn Peninsula.

Muddy gravel sediments with mussel spat (*Mytilus edulis*) surrounded the low lying reefs, with sporadic patches of barren mud. Within the muddy gravel large aggregations of common starfish *Asterias rubens* and dense patches of common brittle star *Ophiothrix fragilis* were noted.

Menai Strait, Anglesey

The Menai Strait is part of the Menai Strait and Conwy Bay Special Area of Conservation and as such is of great interest to conservationists and divers alike. It is also an excellent place to seek shelter when the wind is blowing, which in 2012 it certainly was! Two sites resulted in 12 Seasearch Survey Forms for the area, from an organised Seasearch Surveyor course run from Bangor University School of Ocean Sciences and 2 Seasearch Observation Forms as a result of independent dives conducted by volunteers. Both dive sites are shore dives from the northern coast of the Menai Strait located in close proximity to Menai Bridge.

The Cable (31) had a eulittoral zone of mixed sediments which was dominated by fucoids. A kelp zone of sugar, or belt kelp *Saccharina latissima*, and oarweeed *Laminaria digitata*, was typically found around the sublittoral fringe and upper infralittoral. Due to the high tidal flows and sediment profile of the Menai Strait, the sublittoral epifauna communities were found to be dominated by scour resistant species, with Dahlia anemones *Urticina felina* found to be common. This was then followed by rich circalittoral communities of bryozoans, hydroids and sponge. Steep rocky bedrock reef etched into the central channel of the Menai Strait are dominated by elegant anemones, *Sagartia elegans*, breadcrumb sponge *Halichondria panicea*, grated carrot sponge *Amphilectus fucorum* and the mermaid's glove sponge, *Haliclona oculata*. Another habitat of note is the artificial rock surfaces formed by the Menai Bridge supports which provided an additional surface for further faunal species to inhabit.



Perch Rock (31) is a beautiful rocky 'pinnacle' in the centre of the Strait, with similar communities to those found on the cable but with more of the rocky reef dominated sponge and bryozoan communities. At Perch Rock in 2012 there was found to be an unusually high abundance of juvenile *Asterias rubens*.

Other sites around Anglesey

Most of Anglesey itself is not part of a Special Area of Conservation, but it is regularly dived because there are many gaps in knowledge, particularly around the cliffy north of the island where access is often difficult. In 2012 Seasearchers were lucky enough to get three days of boat diving off Anglesey, plus one shore based refresher day. 14 additional sites around Anglesey were surveyed independently by Seasearchers, plus another shore based training day, but these are not detailed here though all have been entered into the Marine Recorder database.

Rhoscolyn Bay Seagrass Bed, Anglesey (32). On an annual Seasearch skills refresher day, a group of keen North Wales Seasearchers confirmed the presence and location of the Borthwen seagrass bed at Rhoscolyn. This was a huge success; as well as an estimated 6,770m^2 of subtidal seagrass, *Zostera marina*, bed at the site there was also a small area of the BAP habitat 'peat with piddocks', and the Welsh BAP species *Arctica islandica*, the Icelandic/Arctic cyprine or ocean quahog. Details of the Rhoscolyn seagrass bed have been reported in separate Seasearch report.

Near Maen Piscar, North West Anglesey (33), was dived by Seasearchers as part of a skills refresher day. Probably part of the 'Maen Piscar ridge' this site was low lying circalittoral reef of boulders and bedrock from 15-17m below chart datum, The habitat was dominated by hornwrack *Flustra foliacea* with several species of hydroid including antenna hydroids *Nemertesia antennina*, common, *N. ramosa*, frequent and the squirrel tail hydroid *Sertularia cupressina* and common dead men's fingers *Alcyonium digitatum*. There were also many ascidians, including the club sea squirts *Morchellium argus* and *Aplidium punctum*, and solitary sea squirts *Polycarpa scuba* and *Ascidia mentula* in places. Eight species of sponge were recorded at the site, including frequent observations of the mermaid's glove sponge, *Haliclona oculata,* and occasional boring sponge *Cliona celata* which also hosted the very lemony sea lemon pictured *Archidoris pseudoargus*. The craggy reef also hosted a diversity of mobile epifauna including the curled or lesser octopus *Eledone cirrhosa* and crevice dwelling sea cucumber *Pawsonia saxicola*. A live ray eggcase, probably from *Raja clavata* the thornback ray, was also found in a crevice between boulders on the reef. Mobile gravels between rocky outcrops were home to rare gravel sea cucumbers, *Neopentadactyla mixta*.

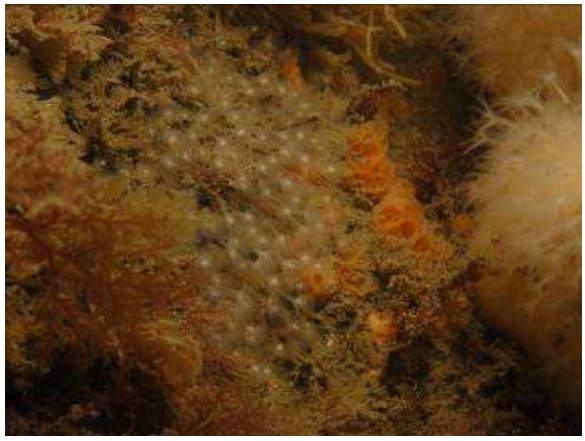
Penrhyn Mawr Gullies (34), near South Stack on Holy Island North West Anglesey, are series of beautiful coastal gullies and walls dropping steeply from sea level to sea floor (approximately 3m bcd). Topped by a kelp forest of *Laminaria hyperborea*, with some dabberlocks, *Alaria esculenta* and dense red seaweeds with an understory of Crisid bryozoans, these walls become vertical and colourful – scattered with splashes of spongy colour amongst bryozoan turf dominated by Crisids. 16 species of sponge were recorded at this site, including the nationally scarce sponge, *Tethyspira spinosa.* Also at the site was the white nudibranch *Goniodoris nodosa*, recorded as abundant in one gully

Off Llanbadrig and Wylfa Heads, North Anglesey (35). These beautiful headland sites on North Anglesey are tide swept, silted rocky reefs below steeply sloping cliffs with infralittoral kelp and dense red seaweed communities. The most interesting bit for Seasearch is at the bottom of the cliffs at approximately 16m bcd, where there is 100% cover of diverse bryozoan, hydroid and sponge communities (with 22 species of sponge recorded at both sites) on low lying bedrock outcrops and boulders. The habitat is covered with feather stars, *Antedon bifida* and their stalked pentacrinoid juveniles. The pictures above are a great example of these beautiful rocky reef habitats.

Interesting records at the sites included: the nationally scarce sponges *Tethyspira spinosa* and prawn cracker *sponge Axinella infundibuliformis;* crawfish *Palinurus elephas*; a new species for the area, the knobbled crab *Eurynome aspersa*; as well as the rarely recorded nudibranchs *Caloria elegans* and *Cuthona caerulea* and the soft coral *Sarcodictyon catenatum*.

Tommy's Rock (36), near Borthwen on North Anglesey, is a beautiful scenic site between 6 and 11m bcd. Lower infralittoral bedrock is dominated by cock's comb weed *Plocamium cartilagineum* and sea beech *Delesseria sanguinea*, with occasional brown weed *Dictyota spiralis* and rare *Laminaria* sporelings. The circalittoral bedrock and very large boulders are dominated by dense and diverse hydroid, bryozoan and sponge turfs. Hydroids include antenna hydroid *Nemertesia antennina, Halecium halecinum* (above) and claw bryozoa *Crisia denticulata* and frequent *Bowerbankia spp*. 19 species of sponges include *Axinella infundibuliformis* which is not common in the local area. Peppercorn anemones *Isozoanthus sulcatus* and leopard spotted gobies *Thorogobius ephippiatus* characterised the silted ledges.

Porthygwichain (37) is another scenic boulder reef on a relatively sheltered part of the north Anglesey coast. The reef was surveyed from 3-8m bcd. There were infralittoral boulders topped with red and brown algal turf, including *Halidrys siliquosa* (frequent) and *Saccharina latissima* (rare). The sides of boulders had a diverse bryozoan, hydroid and sponge turf. Phoronids (pictured right) were also present at the site. This was the only site on the North Anglesey coast showing evidence of litter.



Training and Publicity

Training and qualifications

Four Seasearch Observer Courses took place as follows:

Month	Location	Participants	Tutor(s)
March	Cardiff University	19	Kate Lock
March	Bangor University	14	Liz Morris & Harry Goudge
April	Marloes, Pembrokeshire	10	Jen Jones
May	Marloes, Pembrokeshire	14	Jen Jones & Kate Lock

Training dives were held after all four courses at Stackpole Quay and Martins Haven, Pembrokeshire and Newry Beach, Holyhead.

Two Seasearch Surveyor Courses took place:

Month	Location	Participants	Tutor(s)
May	Marloes, Pembrokeshire	8	Jen Jones
June	Bangor University	9	Kirsten Ramsay and Liz Morris

A two day intermediate identification workshop led by Dr Joanne Porter and Chris Wood was held after the Bangor Surveyor course and was attended by 17 participants making the most of laboratory sessions to try out the new Seasearch Guide to Bryozoans and Hydroids.

Seventeen participants who carried out their training and diving in Wales achieved the Seasearch Observer qualification. They were: Lee Peters, Mike O'Brien, Ian Lawson, David Atkins, Pat Spencer, Phil Darlington, James Padfield, Carol Horne, Vicky Greenlaugh, Paul Winkley, Hywel Owen, Geraldine Hendricks, Rod Fransham, Natalie Hirst, Hayden Close, David Palfrey and Victoria Dobbs.

Two volunteers completed the Surveyor Qualification, Pat Spencer and Louise Bebb, and two others who attended the Bangor Surveyor Course completed their qualification in England.

In North Wales two enthusiastic Seasearchers were awarded a free day's diving for their ongoing commitment to Seasearch. Carol Horne was awarded **'Most Dedicated North Wales Seasearcher 2012',** as she qualified as an Observer, has completed lots of forms on both boat and independent dives, and has started a local river catchment project utilising her new found skills. For the second year in a row, Shôn Roberts was awarded 'Best Independent North Wales Seasearcher 2012' for the highest number of independent forms completed by any one person (and what's more they were pretty good too!).

A short presentation was given and the Seasearch display presented at a 'Dive Fest' in September in Milford Haven organised by the Pembrokeshire Coastal Forum and Haven Diving Services.
In North Wales Seasearch made an effort to re-contact dive clubs in the area and establish new contacts with divers around North Wales and in Cheshire and attended Anglesey 'ScubaFest' weekend, where we had a stall to help participants identify their photos. This was more successful in terms of contacting interested divers than the Dive 2012 show in Birmingham.

Acknowledgements

Many thanks to all the Seasearch volunteers who have taken part and supported Seasearch during the 2012 season. Jen Jones for Seasearch project support in south and west Wales and Richard West and Harry Goudge with dive marshalling.
We also thank our fantastic dive boat skippers including Alun Lewis of Cleddau King, Andy Truelove of Volsung, Paul Turkentine of Waterline Charters and Aubery Diggle of SBS Charters. Their seafaring skills and local knowledge helps the teams dive safely in locations that would not otherwise be possible.

Photo credits: Paula Young: *Botryllus schlosseri* and *Gymnangium montagui*, Skokholm. Blaise Bullimore: Encrusting pink algae, *Dendrodoa grossularia* and *Facelina auriculata*, South Pembrokeshire. David Kipling all other South Wales photos. Bernd Baufeld: Crawfish, *Palinurus elephas & Eurynome aspersa.* Richard Yorke: *Caloria elegans, Liocarcinus corrugatus,* budding *Tethya citrina, Distomus variolosus* and *Polycarpa* reef, potential *Didemnum fulgens* off the North Llyn, *Parablennius gattorugine* & juvenile *Crossaster papposus*. Shôn Roberts: *Cuthona caerulea* & dense bryozoan and sponge turf. Liz Morris all other North Wales photos.

Financial support for the project during 2012 was been given by the Countryside Council for Wales which from 1st April 2013 has become:

Cyfoeth Naturiol Cymru
Natural Resources Wales