North Pembrokeshire
Seasearch 2005-2008

Photos: David Kipling
The north Pembrokeshire coast has been targeted by Seasearch diving since 2002. Survey dives have been completed from Porthgain to Strumble Head. This area of coast is located just north of the current Pembrokeshire marine SAC boundary. The surveys have been run by the combined effort of Jen Jones, West Wales diving school and Kate Lock, local Seasearch co-ordinator. The survey aim is to highlight the incredible marine biodiversity found and the importance of the area for monitoring marine life. This report summarises the surveys completed from 2005 to 2008.

Offshore and cliff reefs habitats dominate the area, ranging in depth from 8-30 metres. Steep walls, drop offs, deep gullies and extensive low-lying reefs are all found in this area. The waters off Strumble Head are well known for their importance for porpoises, less known is that this is also the northern limit of the pink seafan *Eunicella verrucosa* directly below the Strumble light house.

The rocky reefs around Strumble Head and all along the coast to Porthgain are distinct in their incredible richness of sponge communities with 29 species being recorded by Seasearch surveys. Striking also are the extensive carpets of the yellow cluster anemone *Parazoanthus axinellae*, the tide swept gullies with the scarlet and gold cup coral *Balanophyllia regia* and the numerous records of nationally scarce species. These are listed below along with the Welsh BAP/Nerc Section 42 species and habitats found in this area.

**Nationally rare species:**
- sponge *Stryphnus ponderosus*

**Nationally scarce species:**
- Sponges: Mashed potato sponge *Thymosia guernei*, *Tethyspira spinosa*, *Plocamilla coriacea* and *Axinella damicornis*.
- Nudibranchs: Elegant sea slug *Okenia elegans* and sponge sea slug *Doris sticta*.
- Cnidarians: Pink sea fan *Eunicella verrucosa*, yellow cluster anemone *Parazoanthus axinellae*, scarlet and gold cup coral *Balanophyllia regia*.
- Crustacea: Sponge crab *Dromia personata*.

**Welsh BAP/NERC Section 42 species and habitats:**
- Harbour porpoise *Phocoena phocoena* common around Strumble Head.
- Pink seafan *Eunicella verrucosa* found at several sites, northern limit south of Strumble lighthouse.
- Blue Mussel *Musculus discors* beds found at Tri Maen Tre, offshore reef.
- Crayfish *Palinurus elephas*, found at several sites including juveniles (no site information provided as a ‘commercial sensitive species’).
- Erect sponge and anthozoan communities superb examples of these communities at several sites.
- Tide swept channels found all along this coast with their associated habitats.
Site 1  South Strumble Head, Carreg Onnen Bay
A rugged bedrock reef leading down to a cobbled and pebble slope interspersed with boulders at 16m below sea level. Thick kelp forest and red seaweed meadows dominated the shallow reef. Bryozoan species including the white claw sea moss Crisia sp and square-end horn wrack Securiflustra securifrons along with the sea squirt Didemnum spp carpeted the deeper areas. Sponges species were diverse with yellow staghorn sponge Axinella dissimilis, the prawn cracker sponge A. infundibuliformis and A. damicornis and all present. A single pink sea fan Eunicella verrucosa was found, this becoming the new northern UK limit for this species. Territorial fish species were found on both the reef and cobbled slope habitats with the leopard-spotted goby Thorogobius ephippiatus frequently recorded.

Site 2 Pwll Arian  A magnificent site with steep rock walls and deep swim through gullies. The site was described as ‘a yellow site’ as almost everything recorded was yellow! The yellow cluster anemone, Parazoanthus axinellae was super abundant carpeting the rocks and again, like many of these sites, a high diversity of sponges recorded, including a large patch of the mashed potato sponge Thymosia guernei. Hydroids were also abundant with the common and branching antenna hydroids Nemertesia antennina and N. ramosa both present along with Aglaophenia sp and the herring bone hydroid Haleciumber halaeicum. Notable were patches of the indian feathers hydroid, Gymnoangium montagui. Six species of nudibranch were recorded including two sightings of the nationally scarce elegant sea slug Okenia elegans.
Site 3 Pen Brush
A rugged rocky reef with steep cliff walls and deep gullies. The rocks were dominated by a high diversity of sponge species with 20 species recorded. Particularly common were Homaxinella subdola and A. damicornis. Patches of yellow cluster anemone, P. axinellae were found on the walls and on exposed areas common mussel Mytilus edulis beds mixed in with kelp park. Unusual crabs found were the sponge crab, Dromia personata and the great spider crab, Hya araneus. Leading away from the reef was a cobble/gravel slope with occasional potato crisp bryozoan, Pentapora foliacea and sightings of the curled octopus Eledone cirrhosa.

Site 4 Tre Maen Tri
A rocky pinnacle breaking the surface at low tide with spectacular steep walls, deep gullies and crevices running down the slopes to a depth of 26m. Kelp forest is found at the top of the pinnacle thinning out to kelp park, red algae and an abundance of the blue mussel Musculus discors. At 9m below sea level the algae zone gives way to an abundance of short animal turf. A high diversity of faunal turf was found with 18 sponges species recorded, hydroids included the Indian feathers hydroid G. montagui and anenomes carpeted the walls with jewel anenome, Corynactis viridis, yellow trumpet anenome Parazoanthus axinellae and the fried egg anenome Actinothoe sphyrodeta. Adding to the colour were the feather stars Antedon bifida and the white lace like Didemnidae indet seas squirts. A single pink seafan E. verrucosa was recorded. Alongside the reef the well encrusted wreck of the Vendome can be found but this was not surveyed.

Site 5 Pen Morfa
Horizontal beds of rock reef were interspersed with patches of cobbles and pebbles down to 15m below sea level. The reef top was covered in kelp forest and mixed algae. Snakeslock anemones Anemonia viridis, and the blue rayed limpet Helcion pellucidum were both frequently found and although in low numbers sponges were diverse. Rock areas were dominated with the highly diverse sponge and hydroid turf typical of this coast. Amongst the pebbles scorpion fish Taururus bubalis and tompot blenny P. gattorugine were found hiding.
Site 6 Aber Mawr Pinnacle
A jagged rocky reef at 12m below sea level with a rock and boulder slope down to 18m giving way to cobbles and pebbles at 20m. Sponge turf dominated the rock surfaces especially the shredded carrot sponge *Amphilectus fucorum* and the yellow staghorn sponge *A. dissimilis*. Other notable species were the mashed potato sponge *T. guernei*, the chimney sponge *Polymastia penicillus* and *Tethyspira spinosa*. Two pink sea fans *E. verrucosa* were recorded and hydroid species were also prolific with an abundance of the antenna hydroid *N. antennina*. Territorial fish were found around the reef and boulders with ballan wrasse *Labrus bergylta*, cuckoo wrasse *L. mixtus*, goldsinny wrasse *Ctenolabrus rupestris* and corkwing wrasse *Crenilabrus melops* all recorded along with tompot blenny *Parablennius gattorugine* and leopard spotted goby *Thorogobius ephippiatus*. Conger eel *Conger conger* were also spotted lurking in the boulders.

Site 7 Anderson Reef
A drift dive across a low-lying rocky reef with shallow ridges around 0.5m high. Running in parallel to the reef were plains of cobbles and sand mixed ground covered in brittle star beds and large dahlia anemones *Urticina felina*. The rocky reef area was festooned in sponge fauna with *Tethyspira spinosa*, *A. damicornis*, yellow staghorn sponge *A. dissimilis* and prawn cracker sponge *A. infundibuliformis* all recorded. Large numbers of crustacea were also recorded including some pretty funky great spider crabs, *Hyas araneus*. A nudibranch highlight was the sighting of the sponge sea slug *Doris sticta*, a nationally scarce species.
Site 8 Bola Reef
This extensive rocky reef lies 500m offshore from Abercastle. The bedrock was thickly covered in common mussel *Mytilus edulis* beds with occasional bare patches and dense groupings of the common starfish *Asterias rubens* were recorded. Although dominated in the thick mussel bed some sponges were found, goose bump sponge *Dysidea fragilis* was common and both yellow staghorn sponge *A. dissimilis* and *A. damicornis* were recorded. In the shallower areas kelp park was present with the holdfasts thickly encrusted by juvenile common mussels. At 20m below sea level the reef gave way to a cobble gravel slope thickly covered in common brittlestars *Ophiothrix fragilis*.

Site 9 Ynys Castell
This is a small island located in shallow water at the entrance to Abercastle. A rocky reef interspersed with sand patches is found down to 8-10m below sea level, dominated by kelp forest and algae turf. On the north east corner of the island a gully 1m wide is found running into the island around 25-30m long. The steep walls of the gully are dominated by short bryozoan turf, large elephant hide sponge *Pachymatisma johnstonia* and encrusting sponges. Common too were star sea squirt *Brotysllus schlosseri*, red sea squirt *Ascidia mentula*, sponge sea squirt *Diplosoma spongiforme* and other colonial sea squirts. At the bottom of the gully cobbles and pebbles with an abundance of the keel worm *Pomatoceros sp* were found.

Site 10 Ynys Devllyn
This small island is situated on the west side of the entrance into Abercastle. At 15m below sea level a rugged rocky reef and large boulders were found with deep gullies 1-2m deep in a series of parallel ridges. A high diversity of sponge species was recorded including large patches of the mashed potato sponge *T. gurnei*, chimney sponge *P. penicillus*, and recorded as either common or frequent were the scarce sponges: *T. spinosa*, yellow staghorn sponge *A. dissimilis* and *A. damicornis*. Bryozoan turf festooned the rock surfaces with an abundance of the twig bryozoan *Cellaria spp* and white claw sea moss *Crisia spp*, the sea squirt *Didemnidiae indet* covered the rocks like white lace.

Site 11 West Pwll Whiting Bay
A rocky reef from 12 to 15m below sea level sloping down to a cobble bed with occasional boulders. Typical of this area a richness of sponge species dominated this reef however unusually all the sponge forms were in ‘miniature’ with few large individuals seen. Species included: *H. subdola*, yellow staghorn sponge *A. dissimilis*, *A. damicornis*, yellow hedgehog sponge *Polymastia boletiformis*, and volcano sponge *Haliclona viscosa*. In the shallow areas red algae mixed with white lace like seasquirt *Didemnidiae indet*. Bryozoan turf covered the rocks in the deeper areas including the twig bryozoan *Cellaria spp*, white claw sea moss *Crisia spp* and spiral bryozoans *Bugula spp*.


Logistics and Boat support: Jen and Bruce Jones, Mark. Dave Stephens.

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Seasearch is a volunteer underwater survey project for recreational divers who wish to contribute to conserving the marine environment.

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