

BERRY HEAD SURVEY 2005 - 2006



Introduction



Berry Head

Berry Head is a limestone headland projecting eastwards on the southern side of Torbay. The high cliffs fall in most places sheer into the sea with large boulders below sea level at the base, subsequently levelling out away from the cliffs to smaller boulders, cobbles and sand. As a result of past quarrying the sea can be accessed from the shore on the north side at several places (with caution) for diving and snorkelling but access on the southern side is restricted to boat and as there is a nesting colony of seabirds is preferably dived outside the breeding season. The cliffs have several

caves at sea level and many smaller caves, caverns and overhangs below sea level. The area is generally shallow and exposed to considerable surge and as such not a popular dive site with the exception of the swim through on the point of the headland itself.

Some of the caves extend a considerable way inland, becoming dry in places and in the past much work has been done to record these caves and associated fauna. In 2005 Garfish Cave and Corbridge Cave were surveyed by Chris Proctor, a local diver/caver. Subsequently Seasearch was contacted with a view to surveying the caves and cliff faces below sea level and integrating the whole into a national database.

A team of 13 volunteer Seasearch divers carried out surveys over two weekends in March and April 2006, and further surveys of Garfish Cave were conducted by Chris Proctor's team in April. The report necessarily reflects the various levels of marine biological knowledge of the volunteers. Algae, hydroids and bryozoans are not commonly well known and hence tend to feature less than perhaps they should.

This report aims to bring together these past and current surveys and give a general overview. Detailed species lists will be input into the Marine Recorder database. There is still much to be explored and recorded, not just at Berry Head but other sites in the Torbay area. Seasearch would welcome the involvement of more local divers and be very happy to receive Observer or Surveyor record sheets to add to the existing database.

Survey findings.

In some ways the habitats and fauna are similar on the north and south sides of the headland. Much of the fauna is found on both sides including the rare cup coral *Hoplania durotrix* and soft coral *Alcyonium hibernicum*. Both north and south have considerable wave action, scour and swell and are



Alcyonium hibernicum



Polycarpa scuba

challenging sites to dive and survey, not least in the exceptionally cold March weather! There are notable differences in some of the fauna however. In the March and April 2006 surveys the sites on the southern side were abundant in the ascidian *Polycarpa scuba*. It was not recorded on the northern side and in general the northern side appeared to have fewer ascidians and sponges present.

Southern side of the headland

Berry Head Sea Cave No 1

This was the most southerly area surveyed in March 2006. It comprised a vertical cliff face with horizontal fissures either side of a sea cave. The upper levels of the cave were intertidal and the lower levels dominated by sponge and ascidian animal turf. Strong swell prevented much diver ingress into the cave. Below and outwards from the cliff face large boulders up to 1.5m high were interspersed with smaller boulders and cobbles leading seawards to cobbles and sand at 5m below sea level. The lack of algal cover at this time of year made the faunal turf more obvious and a variety of 10 species of sponge were recorded including the rare “mashed potato sponge”, *Thymosia guernei*, 5 species of ascidian including abundant *Polycarpa scuba* and cup corals including *Caryophyllia inornata*, the Southern cup coral.

Cave near Rock Dove Cave

This site was again a limestone cliff with sea cave, fissures, cracks and crevices and a rich covering of turf especially near the cave entrance, on overhangs and up to 10m into the cave entrance. *Caryophyllia inornata* was recorded as common together with the larger *Caryophyllia smithii*, the Devonshire cup coral, 7 species of sponge, 10 species of mollusc and 12 species of algae. From the cave entrance large boulders led down to smaller boulders, cobbles and sand patches at 6m below sea level. The boulders had little kelp cover at this time of year but many holdfasts indicated a thick summer growth.



Caryophyllia inornata (left) with the larger *C smithii* to the right.

Cliff face and caverns around Rock Dove Cave

This was a continuation northwards of the previous site of limestone cliff with overhangs and small caverns then large boulders along the cliff base down to 9m below sea level. The rare tiny pink finger *Alcyonium hibernicum* was recorded in the cavern area together with possible sightings of *Caryophyllia smithii* and *Hoplangia durotrix*, the Weymouth carpet coral. Some debris in the form of abandoned fishing nets was also recorded.

Compass Cave

This cave was situated in the corner where the cliff turns from a north/south direction to an east/west direction. It had a long narrow entrance with much surge. The cave floor at 6m below sea level was scoured and had occasional boulders but there was a rich fauna on the walls and roof recorded up to a distance of 10m into the cave. At the mouth of the cave abundant

Pachymatisma johnstonia, the elephant hide sponge, was of the normal grey colour with small colonies of *Alcyonium digitatum*, dead men's fingers, much red ascidian *Dendrodoa grossularia* and *Tubularia indivisa*, the oaten pipes hydroid. The black sponge *Dercitus bucklandi* was recorded as common here. 10m into the cave the fauna became much sparser with *P johnstonia* bleached due to low light levels and the walls finally dominated by *Pomatoceros* worms and barnacles.



Dercitus bucklandi

Southside Caves

Next was an area east of Compass Cave along the south-facing cliff with many narrow cave entrances penetrating the limestone. The intertidal face of the cliff was dominated by the barnacle *Balanus crenatus*, below which was short animal turf and short sparse kelp. In all 11 species of sponge were recorded here and patches of *Hoplania durotrix* seen under overhangs together with *Caryophyllia inornata* and much *Caryophyllia smithii*. As elsewhere, much *Polycarpa scuba* was recorded.

Northern side of the headland

Garfish Cave

This was the most easterly of the caves on the north side to be surveyed and the one with the most comprehensive records. A collection of survey records from both 2005 and 2006 has been used to summarise the habitat and fauna.

This cave (and Corbridge Cave, later) is unusual in that it is a limestone solution cave which has been flooded by the sea, so marine and brackish water cave habitats occur which penetrate far further from the sea than normally happens in a conventional sea cave. It is possible to swim in with airspace on a good low spring tide. The cave extends beyond the daylight zone into the dark zone.

Outer area.

A wide arched entrance in the cliff has overhanging rock faces with small tubes extending upwards. The overhangs are heavily shaded with little weed growth but a rich encrusting fauna. *Dercitus bucklandi*, *Dysidea fragilis*, goosebump sponge, and *Cliona celata*, boring sponge,



Dysidea fragilis

were amongst the 7 species of sponge recorded. There was abundant *Corynactis viridis*, the jewel anemone. *Alcyonium digitatum* and *Caryophyllia smithii* were common with *Alcyonium hibernicum* and *Caryophyllia inornata* also recorded amongst the total of 7 cnidarians. Ascidians included *Morchellium argus* and *Sidnyum elegans*. The floor of this entrance area had boulders in the centre with a narrow silt floored fissure on the east side with bib and leopard spotted goby present.

Inner area.

Moving further into the cave it became a deep twilight zone with no weeds but still heavily encrusted with fauna and further in still, the twilight zone blended into a dark zone - the type of

area not usually surveyed by Seasearch divers, as some level of caving and cave diving experience is required. The summary is drawn entirely from survey forms submitted by Chris Proctor.

Of the sponges, *Dysidea fragilis* was recorded as abundant amongst a total of 6 species. Cnidarians included a total of 9 species, *Caryophyllia smithii* being common and patches of the rare *Hoplangia durotrix* was recorded in several places just above the low water mark. The squat lobster *Galathea nexa* was recorded as frequent in this inner area,



Hoplangia durotrix

which is surprising as it is generally scarce in southern Britain, especially in shallow water. The crab *Macropipus puber* was frequent and the prawn *Palaemon serratus* common. Molluscs were scarce but nonetheless 10 species were recorded and also 6 species of worm. The floor fauna was restricted, mostly anemones, calcareous tubeworms and a few *Anomia* and crustaceans.

Cuttlefish Cave to Starfish Cave

Cuttlefish Cave is a long narrow cave facing north. Above it the cliff has been quarried and there is shore access to the sea extending west to Starfish Cave, which faces east. There was considerable surge and associated poorer visibility when the group were surveying these sites. The remnant of the cliff formed overhangs and low cliffs with a boulder bottom at approximately 7m below sea level. Short kelp and mixed weeds were evident on the cliffs below water with a short turf covering the lower cliffs and overhangs. Red fingers *Alcyonium glomeratum* were recorded in one of the overhangs together with *Caryophyllia inornata*. As expected, fishing line and debris was reported, since this is a popular spot with local anglers.

Caves numbered 8,9 and 10

The caves on this section were shallow and interspersed with cliff wall falling to a boulder-strewn seabed with much mixed weed and small kelp. The boulders appeared fairly stable and amongst them were many fan worms *Bispira voluticornis*, squat lobsters *Galathea squamifera* and varieties of mollusc. The ascidian *Dendrodoa grossularia* was common but there were no records of *Polycarpa scuba*, which had been abundant on the southern side of the headland. The non-native slipper limpet *Crepidula fornicata* was seen here and a single sighting of a young pogge, *Agonus cataphractus*.



Agonus cataphractus – young pogge

Corbridge Cave, Otter Sump

Although not part of the dive survey this cave (and the following Quarry Pool) are included for completeness. It is a tidal pool in a dark cave accessed from the onshore quarry. There is a dye-tested connection to the sea. The floor is mud and the walls and rocks are mud covered. The water level rises and falls about 1.5m with the tide. Burrowing anemones *Edwardsia sp* and *Cerianthus lloydii* have been recorded here. Prawns are common and eels have been seen here in the past.



Cerianthus lloydii

Quarry Pool

This pool is a shallow (less than 0.5m) artificial tidal brackish lagoon created by excavating down to sea level c1970. It too has a dye-tested link to the sea via Corbridge Cave. It is an integral part of the complex of habitats clustered around the caves. The edges are mainly boulders and cobbles, in places gravel, with a muddy bottom across the centre of the pool. The pool is colonised by beetles, shrimps, prawns and worms. Cockles, mussels and limpets are present, two large eels *Anguilla anguilla* have been recorded and the anemone *Sagartiogeton undatus* has also been identified here.

Conclusions

The area is part of the Berry Head National Nature Reserve, an Area of Outstanding Natural Beauty, especially important for birds, rare flora including orchids, for butterflies and bats and administered by The Torbay Coast and Countryside Trust. The headland forms the southern boundary of the Torbay area and there are other habitats in this region that have interesting

marine fauna. *Alcyonium hibernicum* for instance has been recorded across the bay at Oddicombe and *Caryophyllia inornata* more widely in the area. Many of these rare species live in shallow waters under overhangs and in caves, which are either not the usual dive sites or they are not easily spotted by the untrained eye and hence are much under recorded. It would be a good exercise for a local club or group to systematically survey the shallow coastal areas at the foot of the cliffs around Torbay.

The table below shows the number of species recorded in each phylum.

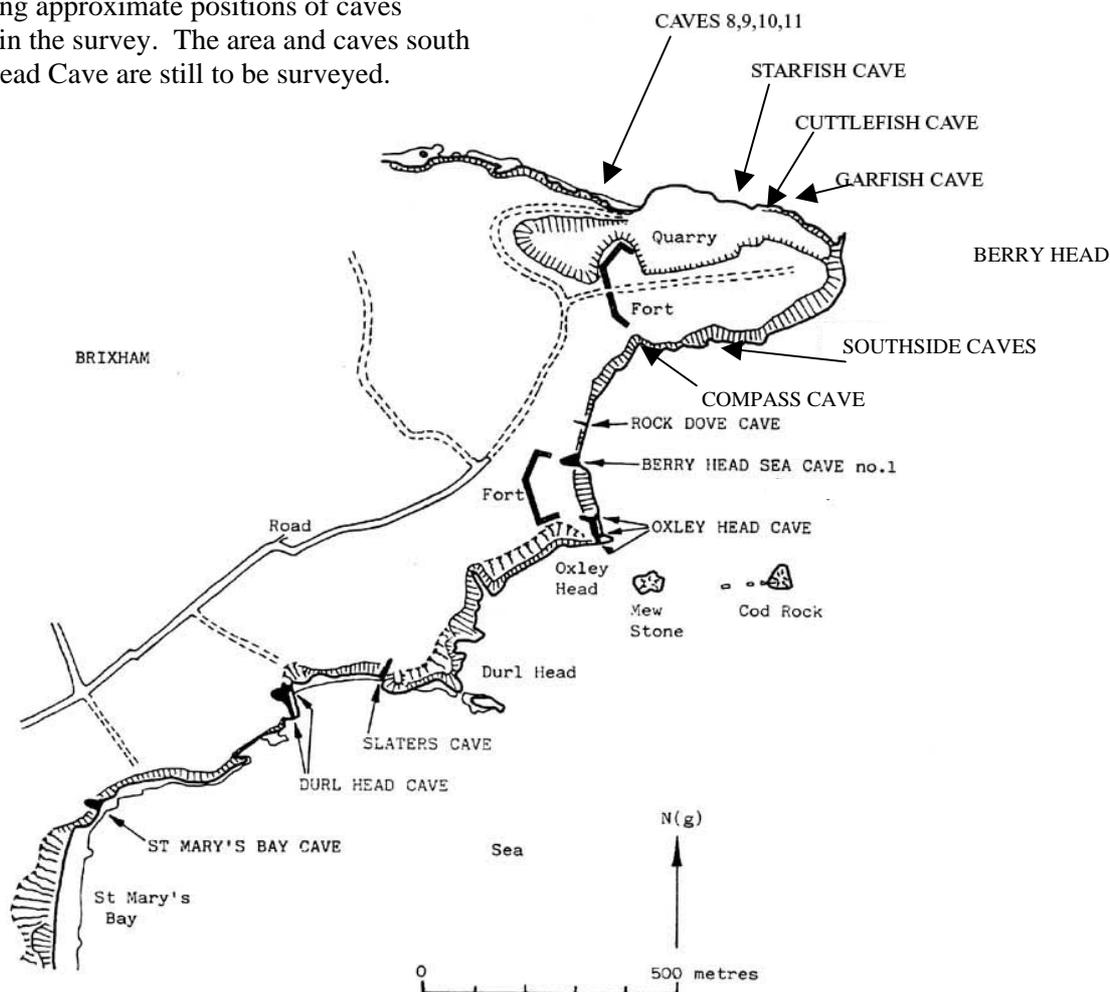
Phylum	Common name	Number of recorded species	
		South side	North side
Porifera	Sponges	16	9
Cnidaria	Anemones, corals, hydroids, jellyfish	15	16
Annelida	Segmented worms	8	7
Crustacea	Crabs, lobsters, barnacles	9	11
Mollusca	Shells, seaslugs, cuttlefish	11	18
Bryozoa	Sea mats	4	3
Echinodermata	Starfish, urchins, cucumbers	4	4
Tunicata	Sea squirts	8	9
Pisces	Fish	4	9
Algae	Seaweeds	12	15

Deeper into the caves is the type of habitat rarely recorded and about which we know little. I am grateful to Chris Proctor for bringing it to the notice of Seasearch and passing on his valuable reports. Hopefully over time further surveys will be done here too by Chris and his team of cavers.

The following table lists the rare and scarce species found.

Species	Designation	Where found
<i>Thyrosia quernei</i>	Rare	Berry Head Cave no 1
<i>Alcyonium hibernicum</i>	Scarce	Rock DoveCave, Garfish Cave
<i>Edwardsia sp</i>	Occasional/rare	Corbridge Cave
<i>Caryophyllia inornata</i>	Rare	Berry Head Cave no 1, Rock Dove Cave, Garfish Cave Cuttlefish to Starfish Caves
<i>Hoplalgia durotrix</i>	Rare	Southside Caves, Garfish Cave
<i>Galathea Nexa</i>	Rare (S Britain)	Garfish Cave

Map showing approximate positions of caves mentioned in the survey. The area and caves south of Oxley Head Cave are still to be surveyed.



Volunteer divers and cavers were: Chris Wood, Sally Sharrock, Graham Bees, Jason Hall-Spencer, Alec Jacobs, Kat Brown, Hugh Miller, Dominic Flint, Chris Webb, Mac McCorry, Gemma Brice, Gavin Black, together with Chris and Janet Proctor with help from Mike Bond, Pete Glanvill, Colin Smith, Chris Popham, Keith Pearson and John Whitely. Report prepared by Sally Sharrock. Photographs by Sally Sharrock and Chris Proctor. Thanks also go to Mike Weathersbee of Sunfish Charters for dropping us in the right places.

Seasearch is a volunteer underwater survey project for recreational divers to contribute to the conservation of the marine environment. Financial support for Devon projects during 2005 and 2006 has been given by English Nature and The Heritage Lottery Fund.

