

## **Combe Martin Beach. (SS 576475).**

Combe Martin derives its name from ‘combe’ – a wooded valley, and from the Norman family ‘Martin’ (Martin of Tours) who, some believe, was given this manor by William the Conqueror. The crest of Martin of Tours bore a swan with a shield, and an emblem similar to this can be seen on the hillside overlooking the sea (see fig.1). This large seaside village grew up as a prosperous harbour exporting locally grown strawberries and hemp, which grew well in the mild climate. The area also contained precious metals, including silver, so mining became a flourishing industry by the seventeenth century. Some believe that attempts to work the mines lasted for around seven centuries in total. Evidence of mine working can still be seen, with the most apparent being a shaft in the Lester cliff, visible from the seaside at low tide (see fig. 2), whilst a ruined engine house still stands on Knap Down. Lime burning also provided much work in the village, and when the new car park (known as Kiln CP) was constructed at the seaside, one of the best preserved lime kilns in the district was demolished.



**1 : White Swan emblem**

Combe Martin is a popular holiday resort with several annual events such as Carnival week, a Musical Festival, and the Hunting of the Earl of Rone. The latter event takes place over the four days of the Spring Bank holiday weekend with an unlikely cast of characters – the Grenadiers, Hobby Horse, and a Fool as well as the unfortunate Earl, who is hunted over the four days and finally thrown into the sea, after being shot many times! But our village is much more than a tourist hot spot. We have a thriving residential community of some 2700 people, with many clubs and societies in full flow throughout the Winter season who find many ways to celebrate our proximity to the Bay. I remember writing a poem/song for the Songwriters’ group called ‘Where the River (Uمبر) meets the Sea’ in 2004 shortly after arriving here, and another one about the Carnival Procession. The village and its Bay gets into your blood very quickly!

On July 20<sup>th</sup> 2009, the very attractive new Museum, now located next door to the Information Centre, was formerly opened by Mark Horton of BBC 'Coast' fame. The Museum boasts a ground-breaking Marine Laboratory, where finds on the nearby beach can be studied with the aid of a video microscope. There are also displays on local history and culture. Several Coastwise members were able to give particular forms of help in the preparation of the exhibits.



**2 : A Mine Shaft**

### **General orientation.**

Our village is the subject of a number of official 'protection' bodies – the Exmoor National Park, Area of Outstanding Natural Beauty (AONB), N. Devon Heritage Coast (Coast and Countyside Service), Voluntary Marine Conservation Area (VMCA), and the Coastal Preservation Area. Parts of the Bay are also marked as Sites of Special Scientific Interest (SSSI's). Last, but certainly not least, it is part of the UNESCO Biosphere Reserve which has just had a big splash in the North Devon Journal (Oct 2, 2008).

Using money from a number of grants including winning one of the 'People's Millions' Lottery Funds awards, our enterprising Parish Council has made a number of improvements, particularly in the seaside area. These include handsome blue railings leading from the beach to the 'bandstand' (see fig. 3), CCTV cameras in the Kiln car park overlooking the beach, and the erection of some attractive Information Boards. These Boards show the general layout of the beach, advise on what dangers to avoid, how to use the Seashore Code, information about water quality and the biodegrading nature of various objects, together with graphic illustrations about bird, animal and marine life to be found on and around the beach.



**3 : The Blue Railings**



**4: Plan of Combe Martin Beach**



**5 : Dangers to Avoid**



**6 : Biodegrading Nature**



## 7 : Water Quality

### Please use the Seashore Code



**Handle us with care** - Poking or squeezing soft-bodied animals like sea anemones can harm them.



**Please leave me my home** - Only collect empty shells.



**Litter is horrible** - Please take any rubbish home - litter can kill us.



**Put me back** - Always replace animals, rocks and seaweed where you found them. Animals in buckets can die.



**Hey! I'm down here!** - Watch where you walk - you can easily dislodge or crush small sea creatures.

**Look after yourself** - Combe Martin's coast is a wonderful place, but be careful - its rocks are slippery, its cliffs are high and the sea comes in quickly - the second highest tidal drop in the world!

## 8 : The Seashore Code

**A geological tour on 7 August, 2008, in the company of Paul and Ro Madgett.**

Combe Martin Bay was formed by post-glacial (i.e. post 10,000 years ago) flooding of the valley of the River Umber – itself formed by erosion along the lines of a major SE – NW trending fault, the stream ‘exploiting’ the shattered rocks along this zone. More details of the tour are available on request, but here are a few examples of what was discovered.



**9 : View from NE Side of Bay**

This picture was taken from the concrete path along the NE side of the bay. Note the general SW dip of the rock layers here, and the ‘gap’ in the rock exposures in the middle of the Bay where the sandy beach now is. This probably represents the in-filled deep channel of the River Umber which had down-cut into the shattered zone along the Umber Fault during the low sea levels of the last glacial episode.



**10 : Trace Fossils**

Figure 10 is a close-up of trace fossils (hand lens for scale) showing the burrows of some invertebrate (?shrimp ?worm) in a sandier layer of the Devonian age. It indicates that conditions on the sea floor at the time were conducive to life; the animals were actually living there, rather than being washed in from elsewhere, as is often the case with other fossils.

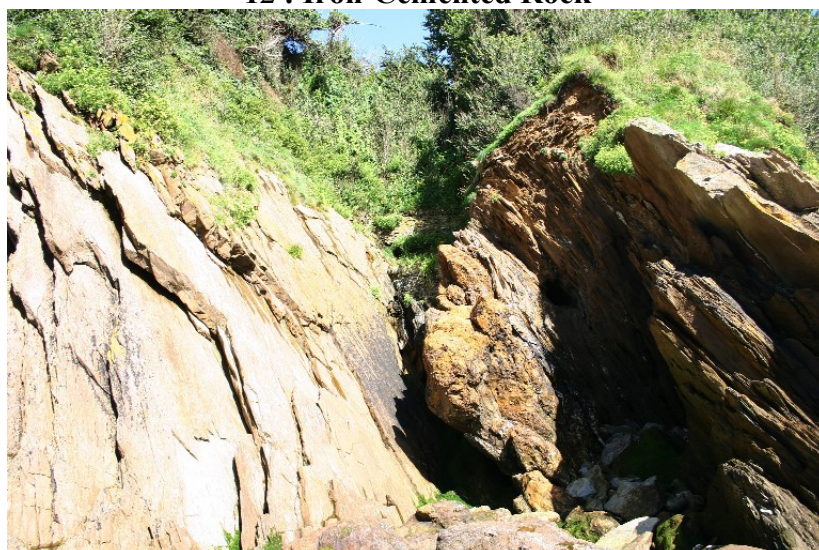
And here is 'jointing' (fig. 11) in a massive sandstone layer within the Lester Slate and Sandstones produced by stresses acting on the rocks. The bisection of the acute angle between the two major sets of joints indicates the direction of the Principal Maximum Stress (i.e. Straight 'up and down' the plane of this image).



**11 : Jointing**

Here is a mass of iron-cemented rock along a strike-fault plane (fig. 12 & 13), parallel to the trend of the sedimentary layers. This is a probable source of Umber (hydrated iron oxide in weathered ferruginous limestone) for which Combe Martin was once famous.

**12 : Iron-Cemented Rock**



**Figure: 13**  
**A close-up of the rock.**



In this photo below (fig. 14) we have a small cave cut by marine erosion, in a weaker slate bed of the Lester Slate and Sandstones sequence, with more massive and stronger sandstones and limestone layers to the left and right of the cave



**Figure 14 : The Cave**

Note also the 'grassy stripe' running up the cliff – this is along the line of a minor fault-plane within the LS and S.

Finally, here is a shore platform and sea-stack cut across SW-dipping LS and





**15 : Mini-scarps**

S layers. Differential erosion of the sandstones and slate beds has produced a series of mini-scarps across the shore platform.

**A Marine Biological ‘Sweep’ at low tide on 11 September 2008, in company with Paula Ferris, Rob Jutsum and Helen Weaver-Hills**

Various factors affect the marine life of Combe Martin beach. The cliffs provide rocks and boulders, their layered structure and folding creates rock pools, the river UMBER introduces fresh water, and sand midshore creates another habitat. Man’s intervention has re-routed the river to the SW side of the Bay, and created a causeway-sewage pipe to the NE, both interfering with natural plant and animal zonation of the shore.

Below is a list of the marine life found during the Sweep given as a ‘snapshot’ which shifts from side to side to take account of the conditions (a neap low tide with an unusually high swell). Additionally records from an earlier sweep on 16 May 2007, which focussed on the low shore, have been included. Here are some examples of what we found:



**16 : Dulse encrusted with a bryozoan**



**17 : *Audouinella floridula***



**18 : Tattered Sea Beech**



**19 : Iridescent Irish Moss / Pink Corallina**

And here is the full list:

Combe Martin

Various factors affect the marine life of Combe Martin beach. The cliffs provide rocks and boulders, their layered structure and folding creates rock-pools, the river Umber introduces freshwater, and sand midshore creates another habitat. Man's intervention has re-routed the river to the south west side and created a causeway/sewage pipe to the north east, both interfering with the natural plant and animal zonation of the shore.

To do justice to the richness of the beach for the marine enthusiast this snapshot of life shifts from side to side to take account of the conditions, and in addition to the records taken on 11 September 2008, a neap low tide, with an unusually high swell, records from an earlier account which focused on the low shore (on 16 May 2007) has been included.

Abundance codes used – Super Abundant, Abundant, Common, Frequent, Occasional, Rare

**Species – upper shore**

The upper shore records are taken from the south west side. On the other side the upper shore is dominated by large rock-pools lying behind a causeway, and instead of typical upper shore species there are plentiful species such as shore fish, nursery fish, prawns and crabs, making it a favourite haunt of children rock-poolers.

Black tar lichen	F
Black lichen	C
Channelled wrack	F
Knotted Wrack	A
Spiral Wrack	A
Gut weed	A
Cladophora	C
Barnacles sp.	A
Flat periwinkle	F
Small periwinkle	C
Rough periwinkle	C
Limpets	A
Common winkles	C
Thick topshell	F
Beadlet	F
Shore crab	F

**Species mid shore**

The mid shore records are taken from the north east side, to avoid the Umber, and where there is greater abundance.

Sea lettuce	C
Gut weed	C
Cladophora	F
Toothed wrack	C
Bladder wrack	A
Wireweed	C
Carragheen	C
Encrusting red algae	C
Pepper dulse	A
Audouinella florida	C
Barnacles sp.	C
Flat periwinkle	F
Breadcrumb Sponge	O
Beadlet anemone	O
Snakelocks anemone	F
Gem anemone	R
Daisy anemone	R
Edible (common) periwinkle	C
Mussel	F (But A mid shore south west)
Dog whelk	R
Limpets	A
Flat or purple top shell	SA
Thick Top shell	C
Chiton	F
Porcelain crab	R
Shore Crab	C
Prawns	F
Blenny	F

### Species lower shore

Taken from both sides of the beach

Sea lettuce	C
Gut weed	A
Dulse	SA
Bladder wrack	F
Toothed wrack	SA
Encrusting red algae	C
Corallina	A
False Irish moss	C
Pepper dulse	SA
Lomentaria	F
Audouinella florida	O
Barnacles sp.	A
Keel worms	A
Spirorbis worms	A
Bryozoans	A
Limpet	C
Dog whelk	F
Beadlet anemone	F
Flat periwinkle	F
Flat topshell	F
Sponge	F
Fan worm	R
Scale worm	O
Sting wrinkle	R
Sea squirt, solitary, unidentified	R
Morchellium argus	O
Spiny starfish	R
Squat lobster	R
Sea cucumber	R
Common grey sea slug	R

### **Mammals seen off shore.**

Two years ago (2006) there was much excitement in the village as a pod of dolphins only about 80 yards out were spotted. People gathered around the Bay to watch, and some ventured out in boats. Helen and I were particularly touched by the sight of a mother with her calf swimming close by her. Recently(2008) porpoises have been observed 100 yards off shore, and I took one of the tourist boats from Ilfracombe to the Combe Martin Bay where a small group of porpoises were to be seen – presumably hunting for fish. Pilot whales have been reported in the area, and seals are fairly common in winter time.

### **Fish.**

I don't fish myself, but talking with locals who do, it appears that a large range of fish common around UK shores are all found here. Examples are Bass, Pollack, Ling, Wrass, Gurnard, Conger Eels, Cod, Mullet, Garfish, Sunfish, Dogfish and Plaice.

### **Bird Life.**

There is a wealth of bird life to be seen at different times of the year. Probably the most abundant species is the Herring Gull which can be seen all the year round. One of the Council employees counted as many as 800 of these magnificent birds on two consecutive days in September 2008. Black-headed Gulls appear at the beginning of August and disappear at Easter. Fulmars are most in evidence around Christmas, and occasionally nest on the cliffs. These beautiful birds greatly add to the ambience of the Bay, as they wheel and soar overhead.

Other species of the larger birds seen at various times of the year include: Oyster Catchers, Cormorants, White Egrets, Peregrine Falcons, Sparrow Hawks, Buzzards, Curlews, Crows, Wood Pigeons and Jackdaws. With the smaller birds, a popular spot for their activity is in the bushes above the beach. Here, Greenfinches, Long-tailed Tits, Sparrows, Robins and Song Thrushes have been observed, and listened to during early morning walks with our dogs. A particular delight was seeing the flash of a Kingfisher, as he sped along the western side of the Bay.



### **Challenges to Marine Ecology.**

One of the greatest challenges is that of pollution. The sea water is tested for toxic substances every day, and the results sent to the Environment Agency. Generally the water quality is good, but occasionally notices have gone up advising ‘no contact’ with sea water. Recently (Sept 2008), for example, following the heavy rains of August it was feared that bacterial pollution may have occurred, and notices were put up on several sides of the beach

Since 1999, Combe Martin has been assessed as having a clean beach most years, but there is a continual fight to keep it clean. Particular problems occur in the Spring when changes in wind direction as well as other, unknown factors, cause heavy litter pollution on the beach. Worst amongst all this are plastics. However the problem can occur at any time of the year and the pictures here displayed were taken this morning (2<sup>nd</sup> Oct 2008). Below you can see piles of wood and some plastic washed up at high tide, but flying proudly over everything is the unmistakeable message:

‘QUALITY COASTAL AWARD 2008!’



**Special Thanks to:**

Paul and Ro, for help with the geological tour; Paula, Rob and Helen for assisting with the marine biological sweep; and to Michelle Beaumont, Clerk to the Parish Council, for helpful background information. And most of all, thanks to my wife, Helen Weaver-Hills for expertise with photography, IT work, layout and general presentation.

**Don Hills, 3<sup>rd</sup> Oct. 2008 and 20<sup>th</sup> July 2009.**

### **UPDATE 2010.**

During this year, there has been good co-operation between Coastwise, the Museum and other groupings.

**On Saturday, 15<sup>th</sup> May**, the Museum hosted a ‘Seashore Discovery Day’ which included a Coastwise Safari, a ‘50 for 50’ species identification challenge, ‘Professor Blenny’ from Exmoor Zoo helping children create eco-friendly crabbing implements, and help from the Ilfracombe Aquarium. The Day turned out to be a real community event as there was excellent co-operation between Museum volunteers, Coastwise members, Exmoor National Park, Exmoor Zoo and Aquarium staff. A very good number of families, from both village and visitors, took part and the day just seemed to flow along, with people wandering down to the beach from the nearby Museum, heading for the big Exmoor National Park flag fluttering bravely in the refreshing breeze. Over 60 specimens from the beach were identified, and the excitement generated by collecting them was palpable., especially the oohs and aahs over the jellyfish!

As for species that were identified that were ‘extra’ to those found on 11<sup>th</sup> September, 2008 (see above) these were – Sandhoppers, Furrowed Crabs (*Xanthos pilipes*), Sea Hares, Moon Jellyfish (juveniles), Rock Goby, Dahlia Anemone, Netted Dog Whelk, Velvet Swimming Crab, Chiton (keeled), Strawberry Anemone, Grey Topshell, Five Bearded Rockling, Blue Jellyfish, Lugworm, Greenleaf Worm eggs, Brittlestar, Cushion Star, Hydroids, Bryozoans, and unidentified flat fish juveniles.

**On Saturday, 14<sup>th</sup> August**, the Museum hosted a Shore Safari, led by Coastwise guides Paula Ferris, Jim Monroe and Mavis Symons to discover a wide variety of creatures including Sea Hares and their eggs, Velvet Swimming Crabs, Blennies, Flatfish and Scorpion Fish.. John Laverty, the Museum Learning Co-ordinator said “The feedback from the families returning after the evnt was great. There was so much enthusiasm and people were really enjoying themselves.”

**Don Hills. 22<sup>nd</sup> August. 2010.**



**Hi-de-hi!**



**Jim getting down to it**



**Showing Paula their finds**