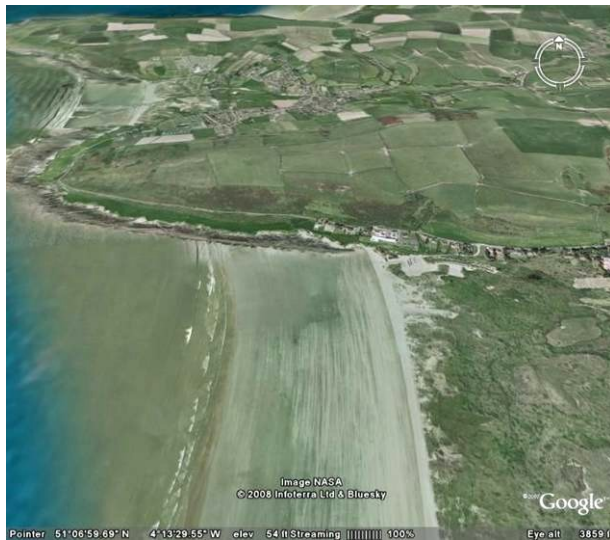


Saunton's Shore



Introduction



Map ref. SS446378

Saunton Sands extends for over 3 miles from Saunton Down to the mouth of the Taw/Torridge Estuary almost due south.

Saunton Sands is one of the most idyllically situated beaches in the country. A stunning 3 mile stretch of golden sand, it has some of the best surf in the country, and as a backdrop has the dunes of Braunton Burrows, the heart of North Devon's Biosphere Reserve. As a place of nature Saunton is second to none. The dunes and cliffs both carry Site of Special Scientific Interest designations and together support a wealth of plants and wildlife

Saunton Sands is already well known as a holiday beach and a surfing venue. The main focus of this profile will be the natural history, particularly of the rocky shore, which has its own fascinating story to tell.

But first – the familiar



The beach, the dunes, the surrounding hills are all part of the Christie Estate where the public are welcome provided that they respect the environment.

Holiday makers enjoy facilities which are based around the car park - the café, and *The Sands*, a balconied café restaurant, and adjoining showers and toilet facilities.

The uncompromising whiteness of the Saunton Sands Hotel creates an iconic landmark visible for miles. The view from the Saunton Down footpath behind reveals the Edwardian villa around which the Hotel was built.



Man-made

The impact of the beach buildings is more muted against the open skies and the vast stretch of sand. Beach huts (far right) and deck chairs are rented out from the building on the right, which only just withstands the waves. The Saunton Life-Saving Club, on the left, is one of the most successful clubs in national competitions. Surfing, kite-surfing and surf life-saving competitions are all held here.



Braunton Burrows was a notable training area for the D-day landings in the Second World War. The beach was defended by pillboxes and remnants can sometimes be seen in the sand, but the purpose of the bricked-in enclosure shown here is unclear. In earlier centuries the beach was the scene of many shipwrecks, remains of which sometimes emerge when the sands shift. There are remnants of a lime kiln emerging from the rapidly eroding sands near the cliff path below the hotel.

Water, tides and currents



Facing west, with views across the Bristol Channel towards Lundy, Saunton has a fine seascape and spectacular sunsets. The waters of Barnstaple Bay are a mix of oceanic waters from the Atlantic, fresh water from the Taw/Torridge Estuary which drains much of North Devon, and the Bristol Channel. The effect of these waters funneling up the Bristol Channel is to create the second highest tidal range in the world. At Saunton the range is 8.5 m, and given the gentle slope of the beach the sea retreats a long way at low tide.

Saunton has slow moving waves, much appreciated by novice surfers and long-boarders. Exposed to the full force of the Atlantic, the waves develop gradually over a slowly rising seabed to the gently shelving shore where they break, often as glorious lines of rollers.

A recent study (2007), “Taw-Torridge Estuary: Geomorphology and Management Report”, by Professor J Pethick identified a counter-clockwise movement of water in the Bay circulating sand northwards along the shore, returning south offshore, resulting in some sediment accumulation at the north end of the shore by Saunton cliffs. The effect of the westerly driven waves on this circulation, the “swash” effect, tends to erode the coast until parallel to the waves - creating the conditions for the long lines of rollers to form. This stretch of coast has a tidal current of up to 2-4 knots, which together with the impact of the headland at Downend results in rip currents, notably at the north end, which can be dangerous to the unwary, particularly as the beach is not life-guarded.

The study also considered the very different profiles of the rivers Taw and Torridge and the relatively young estuary they form on joining, with its developing delta. Sands get moved about, particularly under storm conditions, resulting in varying degrees of turbidity and salinity which impact on the marine life. Excess nutrients that run off from the land can result over-nitrification and algal blooms which are often misinterpreted as sewage contamination which sometimes fringes the shore. Since recent improvements at the Croyde sewage treatment works the beach has generally fared well in the good beach guides. Pollution from storm drains flushed by heavy rain in summer 2008 resulted in failure to achieve a blue flag in 2009, a pattern likely to be repeated in 2010.

Rocks



The rocks of Saunton are of considerable geological significance, as well as being home to many cliff plants and marine animals.

The stretch of rocks, though narrow, extends from the top of the beach to the headland at Downend.. The rocks are accessible with care to the cave, seen here, and beyond with rather more difficulty.

There are two very different types of rock, upended Devonian beds of Pilton shale (350 m yrs) running E:W parallel to the cliffs, a shore platform which is overlain by a cliff of coarse sandstone, only some 100,000 yrs. At the base of the cliffs there are traces of a raised beach formed when sea levels were up to 10m higher than today.

The upended beds of shale of variable resistance have been eroded into ridges, and intersected by faults, giving rock-pool and gully habitats for shore animals.

The much younger sandstone cliffs lie above the tide. The sandstone is notable for the geological features which contribute to its SSSI status: bedding planes which reveal its coastal origins, fossilised barnacles and other marine fauna, astonishing sandpipes which weaken the cliff and, spectacularly wedged between slate and sandstone, a boulder of pink granite that weighs 12 tons. The nearest outcrop of similar rocks occurs in Western Scotland. It is the most spectacular of the south west erratics, rocks displaced by glacial activity, several of which lie along this stretch of coast..



On the sand

The beach is surrounded by several superb habitats, and although the sands themselves are relatively inhospitable to wildlife, the strandline can be rewarding.

Gulls congregate on the beach, Oystercatchers and Cormorants along the low shore rocks at high tide, waders on the shore in winter, including Sanderling (seen here), Dunlin and Ringed Plover – the latter may try to breed on the strandline but are very vulnerable to



disturbance by walkers and dogs, which will chase birds unless properly controlled.

Sand hoppers feed on the strandline debris and attract insect eaters such as wagtails, pipits and, occasionally, swallows and martins.

Strandline debris often hints at the life at sea, with cuttlefish “bones”, common whelk eggs, and the egg cases of sharks and rays (mermaids purses). Big seas will churn up the sand and throw up some of the worm tubes, shells and sea urchins that are normally buried in the sand.

Spider crabs congregate just below low water to mate in summer when they have moulted and are receptive, and the beach gets littered with their discarded cases, often mistaken for dead crabs.

After a particularly good blow the sea can bring in oceanic animals - goose barnacles (right), by-the-wind sailors, and in the summer jellyfish, usually Moon (purple horseshoe markings), Compass (brown markings) or blue - *Cyanea lamarckii*. All are harmless, not so the Lesser Weaver fish lurking in the sand with its painful sting, but fortunately only rarely encountered.



Large land animals on the shore are uncommon, there's little food and no cover for them on the sand although night anglers report foxes and even otters lurking in the background in the hope of getting a share of the catch. There is food in the sea and seals are regularly seen, and occasionally in summer dolphins come into the bay, probably in pursuit of the shoals of fish which are sometimes seen in the surf, such as Mackerel, Bass or Pollock. Porpoise are present year round, though only occasionally seen.

Dunes & Cliffs



The gently sloping beach is exposed to the south westerly winds which blow the drying sand up to form one of the country's largest and most studied dune systems.

The Burrows sand and soil is rich in lime due to the high proportion of shell, and supports a great diversity of flowering plants including many lime-loving orchids. Braunton Burrows is famous for its flowers, its associated insects and the plant ecology it demonstrates well. It is designated a UNESCO Biosphere Reserve, and the subject of an excellent introductory book by local botanist, Mary Breeds.

On the north side, broken shells accumulate on the raised shingle beach above high water. The cliffs themselves have a distinctive plant covering. The aliens and garden escapes include red hot pokers, wallflowers and the attractive but

invasive hotentot fig, shown here.

There are some less flamboyant but more interesting uncommon wild plants – the Sea Stock, a national rarity, does very well here, as does Sea Heath (right), which thrives on the crumbly sandstone near the top of the beach. Plenty of commoner plants are also found here, including English Stonecrop and Rock Samphire, and, near the top of the cliff, Sea Lavender.



Even the car park has the rare stock (left), and the stunning Vipers Bugloss (right), and until recently the sinister Henbane – which will no doubt return when its seeds are disturbed.



The Rocky Shore



Although just outside the Voluntary Marine Conservation Area that runs from Croyde to Combe Martin, many of the rocky shore conditions that support a rich and varied shore wildlife are found at Saunton.

It is a shore fully exposed to the elements and as a consequence lacks much seaweed cover, favouring those plants and animals that can find a good enough hold to withstand the pounding seas, or can find shelter in rock-pools or amongst the rocks.

The rocks, running parallel to the cliffs, gradually rise to about head height. They have been eroded by wave action to form sharp ridges which are tricky to walk over. These rocks join a shingle shore strewn with sandstone boulders that have eroded from the cliffs above. There are several breaks in the lines of rocks, the result of faults caused when the area was the subject of enormous geological pressures, and these provide shelter for marine animals.

Animals are most abundant on the sheltered side of the rocks, especially on the lower shore and where there are stones, boulders and overhangs which provide shelter. In the crevices between the lines of rock there are algae encrusted rock-pools with characteristic animals.

On the rocks

Take a walk down the beach alongside the rocks and you will see little seaweed, just some Laver mid shore. There is lichen in the splash zone, the well-named Black Tar lichen and beautiful golden splashes of Caloplaca coat the higher rocks.



The animals increase in abundance further down the shore, as the time they spend immersed increases. There is a thin scattering of limpets on the rocks of the upper shore, and barnacles which increase as you progress. Sea snails, winkles and top shells, shelter in the cracks. Gradually patches of mussels appear, which together with barnacles, cover the low shore rocks. Nearby numerous Dog whelks which feed mainly on barnacles shelter in the crevices, often close to their clusters of yellow eggs(left).

In the rock pools

The pools are often fringed with colourful seaweeds, the greens of Sea Lettuce contrasting with the pinks of the Corallina. The various red seaweeds are often dominated by Irish Moss with its striking iridescent tips. Despite the difficulties of life in a rock-pool due to changes in temperature and salinity, there are plenty of small animals: Beadlet Anemones (left), found closed on the rocks and open in the pools, other anemones including Snakelocks and Gem, small fish such as Blennies, Shore crabs and Prawns.



The Celtic Sea Slugs (right) is found only in the south west but is relatively common at Saunton, where other more colourful sea slugs can also be spotted by the keen sighted. A snapshot of the plants and animals seen on a typical summer visit is attached, Appendix 1.

The Future

The beach has much to offer, with good beach facilities and plenty of space. It is renowned as a sportsman's playground but as a place of nature is less well known. Environmentally friendly management practices appear to be in place: appropriate mechanical beach cleaning and recycling facilities. This, with the recent erection of an interpretation board celebrating the Biosphere Reserve, provides a welcome indication that the balance may change in the future.

Saunton is a wonderful place to see nature at work on land and sea. It cries out for ecological interpretation and has enough to offer to attract a range of levels of interest. By promoting the location as a place for nature there would be scope to increase visitor numbers over a longer season with little detriment to the place itself provided care was taken. Indeed the increased awareness could work to the advantage of an environment which might otherwise be inadvertently damaged by excessive traffic. The dunes bordering the slipway to the beach are being eroded and too much wind blown sand is the inevitable result.

A couple of suggestions: – The Tarka Trail should be extended to the coast at Saunton (and Croyde) to encourage environmentally concerned visitors, with cycle access and facilities at Saunton Beach.

Dune management measures should be introduced to reduce erosion in areas suffering excessive public pressure.

Saunton Sands – Animals & plants of the shore
 A snapshot: upper and mid shore –
 12 August, low shore 16 August 2008
 28 May 2009 update

Upper shore

Plants

Caloplaca	C
Black tar lichen	A
Black lichen	A
Channeled wrack	C
Spiral wrack	O

Animals

Sea Slater	O
Barnacles sp.	A
Small periwinkle	F
Rough periwinkle	C
Limpets	C
Shore crab	O

Mid shore & Rockpools

Plants

Sea lettuce	C
Gut weed	C
Bladder wrack	R
Carragheen	C
Encrusting red algae	C
Laver	C
Corallina	F
Bifurcaria bifurcata	O
Ceramium rubra	O

Animals

Barnacles sp.	SA
Beadlet anemone	O
Snaklocks anemone	A
Gem anemone	F O
Daisy anemone	R
Common periwinkle	F
Rough Periwinkle	O
Mussel	SA
Dog whelk	C A
Limpets	C
Purple top shell	C
Thick Top shell	A
Chiton	F
Prawns	F N
Blenny	F
Nursery Fish (shoals)	F
Anthopleura thalli	N O
Blenny	N O

Low shore, 1.7m tide

Plants

Sea lettuce	F
Gut weed	F
Carragheen	F
Encrusting red algae	A
Laver	R
Pepper dulse	C
Dulse	C
Corallina	F
Ceramium rubra	F
Audouinella floridula	R

Animals

Barnacles sp.	SA
Volcano barnacles	A
Breadcrumb sponge	F
Beadlet anemone	A
Snaklocks anemone	C R
Gem Anemone	C
Anthopleura thalli	F
Hydroids	C
Greenleaf worms	F
Encrusting worms	A
Red threads	F
Edible crabs	O
Shore crabs, juv.	O
Chitons	O
Celtic sea slugs	A C
Mussel	SA
Dog whelk	A SA
Limpets	C
Purple Top shell	C
Thick Top shell	F
Blenny	A O

Paula Ferris 16/8/08

On 13 August after storms, Buoy barnacles washed up on shore

Codes: SA Super Abundant, A Abundant, C Common, F Frequent, O Occasional, R Rare (N -Not found)