



## **Environment: habitat and conservation**

### *Blackwater: A Threatened Habitat*

#### **Voice Over**

The Blackwater Estuary on the coast of Essex, a place where land meets sea, and human and natural processes interact. The estuary forms an environment of diverse habitats and species, and is an area used in a variety of ways. It's a flatland of marshes, creeks and mudflats used for fishing, farming and recreation. But it's the relationship between the sea and the land that is fundamental. The relationship that may at first seem predictable until nature unleashes a freak event which can upset the whole balance. By looking more closely at this relationship we can begin to understand the themes of change, contest and response that enable us to explore the environment. The first of these, the theme of change, emphasises the dynamic relationship between land and sea over time.

#### **Mark Dixon, Project Manager, Environment Agency**

We're talking about change if we look at just the last hundred years, the last two generations of people. They would have seen first of all a saltmarsh out here in our sea, and then the saltmarsh washed away to become a mudflat, and then the mudflat went and it became a beach. So these changes are taking place all the time and change is the order of the day, change is what coasts are about. When people look at a coastline like this they think that it's always been the same, that this is static. In actual fact only ten thousand years ago, a micro-second in geological time, this was part of a freshwater system of the Thames, the Thames came sweeping right the way up here. And if we go forward in time from then, from those big changes at the end of the last Ice Age, if we went out there now and we went out a mile on that mud, and when the tide goes down you can go a mile out, you'll come across four thousand year old oak forests when it was dry land. Four hundred years ago this bit of sea, which is right by the beach, had sheep grazing on it. Then we come to the 14<sup>th</sup> century, the mini Ice Age came. Sea level had stopped rising or was static, that's when all the sea walls went in, and it's during that period that man realised the importance of using this coast particularly for agricultural gain.

#### **Voice Over**

At the mouth of the Blackwater is the 7<sup>th</sup> century Saxon chapel of St Peter, itself on the site of a Roman fort. Here Kevin Bruce describes the impact of humans on the local landscape.

#### **Kevin Bruce, Local Historian**

The most significant factor in this has been human changes, it's been the desire of man to reclaim natural saltmarsh for agricultural purposes so the landscape that we have here is very much a man-made landscape. The farmers found it beneficial to reclaim the land here because previous to them building any sea walls at all, twice a day the saltings would have been flooded by the tides. They found these saltings extremely good for pasturing sheep, and the Domesday Book records that hundreds of sheep were kept on the Essex marshes, all round the Essex coast.

#### **Voice Over**

And from the Middle Ages, right up to the 19<sup>th</sup> century, more and more land was being recovered from the sea.

#### **Kevin Bruce, Local Historian**

It's been a constant process. What these farmers discovered, on building a new sea wall, then they changed the tidal patterns. The sea was beginning to slow down and enabled deposition to take place further out on the saltings, and it's actually recorded in many of the

documents that the farmers reckoned that within five or ten years of building a sea wall there would be new fresh saltings for them to enclose, and so bit by bit they must have pushed out the level of the saltings, and when they found it convenient they would enclose them to produce new land. You can actually see from the maps how far the saltings extended.

#### **Voice Over**

But once the sea level began to rise the situation changed again.

#### **Mark Dixon, Project Manager, Environment Agency**

And as time went on and the Ice Age, the mini Ice Age ended in about 1860, and so this coastline here which would have been then salt marshes by now because the sea's come up a bit, and there was no beach here then; in fact this beach even in the 1930's was a little tiny, narrow strip and as the mud is washed away, so the coarse material gets washed ashore and forms these beaches, and then behind us we get these kind of reed beds forming. And you have to bear in mind that in between the reed bed there and you have trees behind it and houses on the top, that cliff was a sea cliff in Saxon times. So sea level is always going up and down since the end of the last Ice Age, but with a steady and consistent trend, upwards and you can't stop that.

#### **Voice Over**

With rising sea level important habitats become vulnerable, and livelihoods may be threatened. This raises questions of what should be protected and what values are important in choosing what we do about the environment.

#### **Mark Dixon, Project Manager, Environment Agency**

Behind me now is the, this big peninsular that stretches out here, it's the Old Hall Bird Reserve, it's owned by the RSPB, the sea wall went up in about 1620, and it had been a huge area of saltmarsh. Now around that bird reserve now is the sea wall that stretches for ten kilometres. Now to hang on to that sea wall, that sea wall is under serious threat, the saltmarshes will wash them away and as such we've got to decide as a society – what do we do? We can improve that sea wall but we're going to have to spend probably the best part of, say, five million pounds every twenty years, that's going to go up as time goes on and sea level rises. If society wants those big areas, those big freshwater areas for birds to nest in, which society probably does, protected by European law, then we've got to try and manage that.

#### **Voice Over**

And there are clearly some habitats, such as these grazing marshes, which are highly valued by society and consequently heavily protected. Chris Tyas of the Royal Society for the Protection of Birds.

#### **Chris Tyas, RSPB**

Old Hall Marshes is internationally important for its bird populations and it's been designated as an S.P.A., Special Protection Area, under the EC Birds' Directive, and probably the most important species we've got here, and along the Essex coast is the Brent Goose. It's a fascinating migration that the Brent Geese have got. They breed up in Siberia, the Tamar Peninsula of Siberia, and then they come down to the South East of England to winter, so they're travelling a long, long distance, but the reason they're coming here is because we've got lots of relatively undisturbed estuaries with good feeding within the Estuary, and also behind the sea walls as well. Old Hall Marshes have been here for about four hundred years, they were claimed from saltmarsh, and since then what we've got that's developed behind the sea wall is a superb coastal grazing marsh, so it's a mosaic of old saltmarsh creeks and lots of different types of grass, and half a million anthills, a really amazing topography, and never been ploughed, never been fertilized so it's just a very unique habitat, there aren't many things that are unique, but I think this one is. It's important as an example of coastal grazing marsh, and all the different bio-diversity that that's got; it's not just the birds, I mean there are some, lots and lots of important birds here, but there are also a whole range of different invertebrates and different plants, all of which are severely threatened by sea level rise, and also in the past by loss to agriculture.

**Voice Over**

As sea level rises it will be impossible to protect the whole coastline. The values placed on different environments are contested, and conflicts may result between different uses.