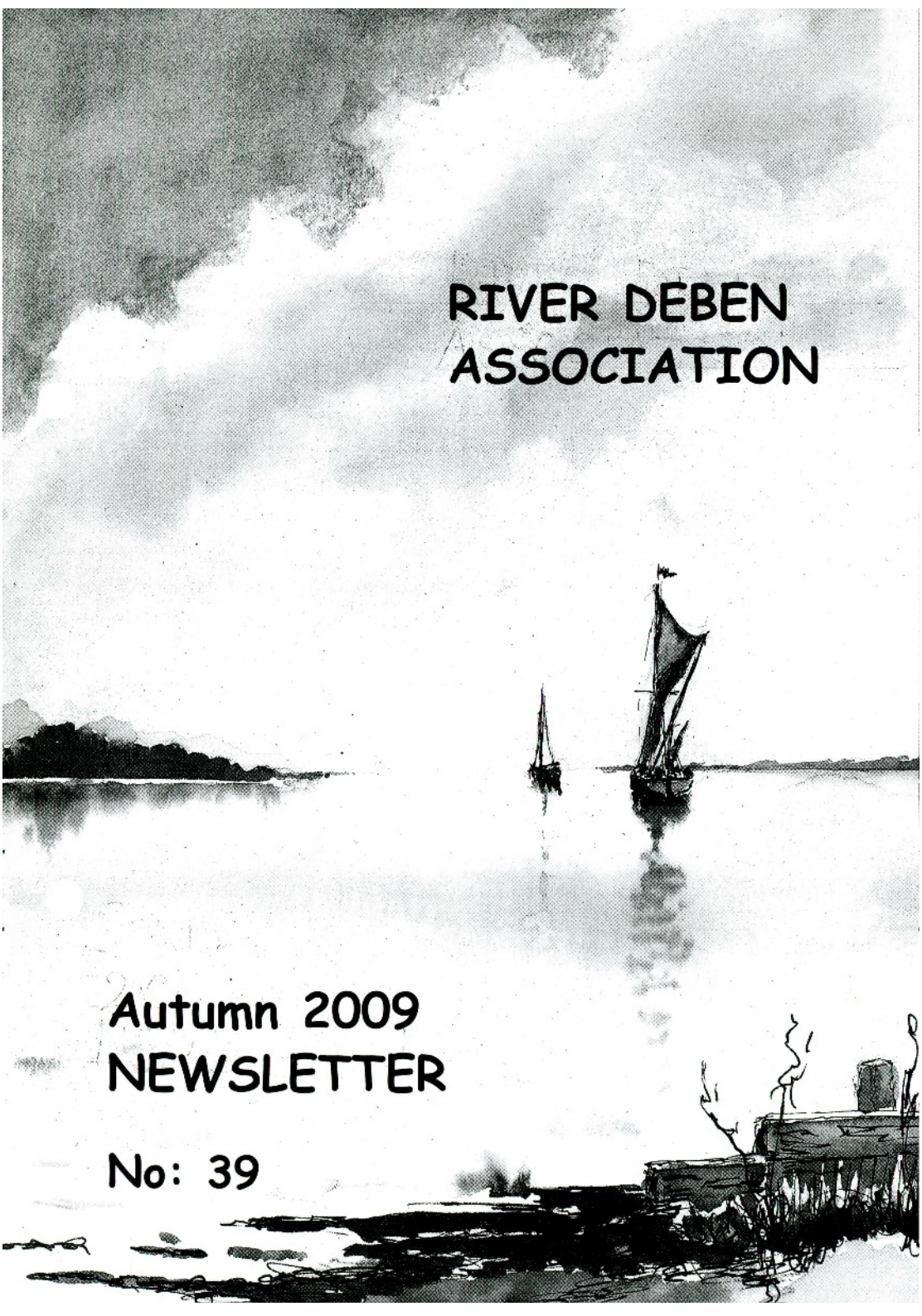
RIVER DEBEN ASSOCIATION



Autumn 2009 NEWSLETTER

No: 39

RIVER DEBEN ASSOCIATION OFFICERS AND COMMITTEE
September 2009

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CHAIRMAN'S REPORT

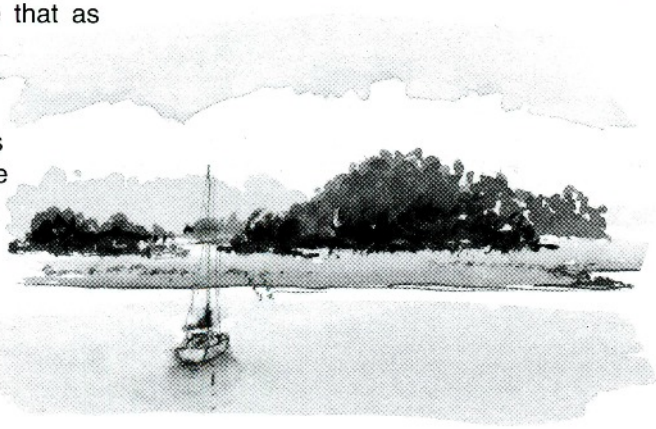
Proposals which affect the river have been gathering pace in the last six months.

have included a separate report on the Shoreline Management Plan [SMP] which is a detailed study of the issues relating to erosion, sea level rise and so on. The key recommendation for the mouth of the Deben is to hold the line. I have included some paragraphs of the text partly for information and partly to illustrate the fact that the consultants appear to be unable to write in clear comprehensible English.

The Deben Estuary Partnership is getting up to speed which is why I have invited Trazar Astley-Reid of Suffolk Coast and Heaths to speak at our half-yearly meeting at Waldringfield (see outside back cover). I very much hope that as many members as possible will come along, the DEP needs input from as many sources as possible if it is to get the required level of support for what it proposes to do.

A propos the SMP I was asked by another group of consultants for my personal opinion on proposals affecting the Felixstowe sea front between Jacobs Ladder and the War Memorial. In brief the scheme was to build more rock-armour groynes. Without commenting on the plan in general I merely said that I find rock armour to be an absolutely brutal way of dealing with the problem of long-shore drift. Wood is to be preferred but is more expensive and requires maintenance. I have the same view about the rock armour at the Ferry, by no stretch of the imagination can it be described as attractive and as adding to the beauty of the approach to the Deben.

At the end of July members of the committee paid a visit to the Essex Wildlife Trust farm at Abbotts Hall near Colchester. We were given an extended tour by Andy May the Conservation manager. Our interest derived from the fact that this is one of the first managed realignment projects in our general area. 400 years ago Essex had 30,000 hectares of salt marsh. As a result of walling and erosion only 2800 hectares remained by 2002;in the last 10 years



only 60 hectares have been added. In brief, five breaches were made in a river wall bordering the Salcott Channel of the Blackwater and the land allowed to flood up to the natural rise in the land behind. Despite many doubts the outcome has been very positive and regeneration of salt marsh is occurring to the point where commercial samphire harvesting is taking place and sheep are feeding on the marsh. We were interested to see how rapidly the salt marsh colonised which is encouraging for any salt marsh development schemes on the Deben.

Our speaker in October was closely involved in this project which is another reason why her talk will be so interesting; it will be very relevant to the DEP.

I was somewhat mollified to learn from Andy that, even with the Wild Life Trust's resources and clout it still took them 3 years to get all the relevant approvals. Perhaps we weren't so slow with the Sutton Shore project after all!

An equally important meeting took place at the beginning of July starting at Hemley church hall. A group consisting of representatives of Suffolk County Council, Natural England, the Environment Agency. The DEP and the RDA to consider the implications of any work on river banks. No specific plans were discussed. it was merely an opportunity to exchange views among the important players prior to any scheme being put forward. I'm afraid that any development these days takes a very long time to get going and it is essential that the views and opinions of the key players are known in advance, hence the meeting. It is fair to say that there is a general realisation that work on the banks has to be done and there is support for it from all parties though that is not to say that all approvals will be easily obtained.

Can I say a few words about the articles which you will find in this edition. Firstly the reference to my intended resignation in April. Five years is long enough to occupy the chair and I can't believe that there isn't one member who feels sufficiently deeply about the river to take over from me.

The next article is a summary of the presentation by John White given at our AGM. We felt it was so interesting that non-attenders would like to read the remarks of one of the most knowledgeable men on the river. As I have already mentioned I have quoted verbatim extracts of the impenetrable prose from the SMP; if anyone is brave enough to want read the full text please let me know.

Fred Reynold's summary of the Tide Mill saga illustrates how difficult it can be to get official approval and funding these days. I hope the Trust succeeds; the Tide Mill is as important to Woodbridge as Sutton Hoo and places us firmly on the tourist trail. The RDA has agreed to make a donation of £500 to the Trust: if any member would like to make a

personal contribution I'm sure that Fred would be happy to receive it. Finally we have two articles on salt marsh. Jenny James has written about the very diverse birdlife which the salt marsh supports and Simon Read has written a scholarly piece on salt marsh and its role in protecting river walls. Who knows the next Chairman may be less keen on salt marsh and will focus on other topics!! Finally my commiserations to all those sailors who have found the winds in the last month or so to be more than they wanted. Is it my imagination or have the winds in the last couple of years been stronger that usual? Fortunately whatever the weather the river is still a most beautiful place. *Ed Stanford*

RDA CHAIRMAN

By the time of the Annual General Meeting in April 2010 I shall have been Chairman for five years and for the last two issues Editor of the Newsletter as well. At the AGM I propose to resign and I hope that between now and then a member who cares about the river will come forward to take my place. I suggest that future Chairmen should hold office for three years unless they particularly wish to carry on.

If any member is interested in taking over from me please do not hesitate to get in touch for a general discussion about the role.

May I remind you that we still need a volunteer to look after the Newsletter.

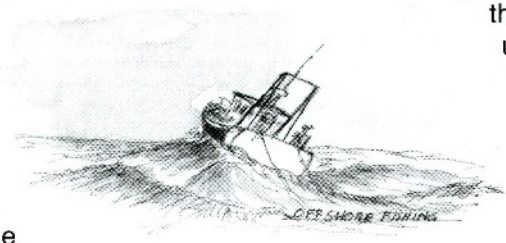
SHINGLE SHINGLE

The behaviour of the shingle knolls at the mouth of the river has been something of a mystery to many of us. At the RDA's AGM in April ***JOHN White,*** *the Felixstowe Ferry Harbour Master and Deben pilot, explained some of the factors involved.*

As far as John knows, the Aide and Ore and the Deben are unique, certainly in the UK, in having shingle banks or "knolls" at their entrances. Many readers will have observed these at close quarters, either by accident or design. The creation of these knolls is largely due to another unusual characteristic of these rivers, namely that the tide has to change direction through nearly 180° on entering or

leaving the mouth. This results in radical changes to the speed and direction of the tidal stream and is thus an important factor in the sedimentation process.

The key to the movement of shingle to and from the knolls is a process known as "longshore drift" - the flow of sediment up and down the coast. Longshore drift is largely determined by the prevailing winds. However, although these are generally from the southwest, off our coast the winds that seem to have most effect on longshore drift are generally from north and east. Hence longshore drift here is down the coast from north to south.



The shingle we find on the knolls and on our beaches is reckoned to have come from the Dunwich cliffs. Shingle beds thought to have been laid down in the last Ice Age have been eroded by the sea over several hundred years and deposited along the coast as far as Landguard Point. Beaches to the north of Dunwich are mainly of sand, of course. Those that are not - Sheringham, for instance - are replenished by shingle from local deposits.

On reaching the mouth of the Alde and Ore or the Deben, the flow of sediment is interrupted by the tide into and out of the river, and is deposited to form the knolls. However, the knolls themselves affect the tidal flow, leading to further changes in the quantity and location of the deposits. These are also affected by the strength and direction of the wind, and especially by the occasional tidal surges that come down the North Sea, usually during the autumn and winter, and threaten widespread flooding.

As John described the processes at work, it became very clear that predicting changes to the size and location of these banks of shingle is almost impossible. Navigation into and out of these two rivers, especially for strangers, will remain notoriously difficult.

Charts of the Deben entrance going back to 1990 showed clearly that the entrances to the Deben and the Ore and Alde move progressively southwards on account of the southerly longshore drift. When th shingle becomes over-extended, the entrances break out to the north-east and the process starts again. This can happen on cycles of anything between 10 and 25 years.

In 1990 the Bawdsey spit was much shorter than today, with the Deben entrance to the north-east. By 1998 it had moved to the south, and in 2000 was opposite Clifflands Car Park, further south than anyone could

remember. Yachts entering and leaving the Deben had to sail close inshore, parallel to the beach between somewhere near the Dip and the rock armour opposite Bawdsey Manor.

Eventually, in 2003, the channel broke through again to the east-north-east, and has generally held that position until today. However, shingle from the knolls is presently accumulating on the North Felixstowe beach towards Clifflands Car Park and the Dip. Over the past two or three years seven groynes have been covered, while the six rock groynes near Martello Tower T have become redundant, with two having disappeared completely.

John believes that the large rock groynes built to protect Cobbold's Point have not worked as intended, particularly as they seem to promote scouring in the Fludyers area and hinder the flow of shingle down the coast. As a consequence, Felixstowe beach is not replenished properly, while the southerly drift takes the existing shingle to the end f Landguard Point where it drops into the main shipping channel from where it is dredged up and dumped at sea - lost forever.

It is good to know that John, who has lived at Felixstowe Ferry almost all his life, is a member of the new Deben Estuary Partnership, through which his vast knowledge and experience of the natural processes at work at the mouth of the Deben is available to statutory bodies like the Environment Agency and local authorities. With the funds available for protecting our coastline severely limited, it is vital that the decision-makers consult with those on the ground - or, in John's case, on the water.

His talk, illustrated with PowerPoint slides of charts and photographs and

interspersed with several humourous tales of local characters, was greatly appreciated by all who attended and provoked many questions.

Leigh Belcham

Suffolk Shoreline Management Plan

On 16m July Simon Read and I attended an exhibition at Hollesley village hall to learn about the latest proposals. Similar exhibitions were held in other locations and some members may have gone along to see the detail.

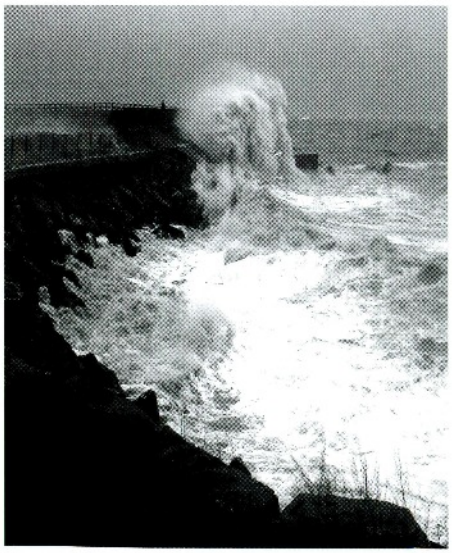
I was fortunate enough to acquire a

full copy of the proposals for Policy Development Zone 6 Orford Ness to Cobbold's Point. Our specific interest is in DEB 17 Bawdsey Hill to the mouth of the Deben.

In general the specific proposals for the Deben mouth are to 'Hold the Line'. This applies only to the mouth and not to the river banks. I should add that the copy of the plan which I have is marked version8 (draft policy)!

Page PDZ6:47 reads as follows 'Summary of Preferred Plan Recommendations and Justification Plan:

> the aim is to maintain the natural throughput of sediment both along the cliffs and across the Deben, providing the opportunity to manage defence of assets in a sustainable manner with minimal intervention in the coastal processes. This cannot be achieved through loss of the estuary mouth. The intent is to maintain the existing constraints on the estuary entrance, although allowing general variation within these limits. The behaviour of the Knolls is the subject of continuing monitoring. which needs to be continued. The plan imposes policy on the lower part of the estuary where management of defences should not result in unsustainable management of the current width to the entrance. The intent is to maintain existing land use and water use either side of the lower estuary. Areas further within the upper estuary need to be examined as potential mitigation for loss of salt marsh over the lower estuary, Management of defences within the lower estuary needs to consider how flooding during extreme events can be managed. The policy at the coast in the long term would be subject to successful resolution of these issues.'



Page PDZ6:17 reads as follows;

'At the Deben. the present policy is to maintain the defences at the entrance. This has been established to sustain the important assets of the communities and use of the estuary mouth, in addition to allowing better management of the defences upstream. A critical aspect of this is in maintaining defences within the lower reaches of the estuary. This would

maintain the flow within the estuary within manageable bounds. It has been assessed as part of the Felixstowe Ferry strategy that, despite the existing high flows, there is capacity within the entrance channel to manage increased flows that might occur due to an increased tidal prism as a result of sea level rise over the next 100 years. This also assumes that the potential for some realignment of defences within the upper reaches of the estuary.

Under this scenario, therefore, the principal assets associated with the entrance to the estuary would be retained and the defence to north Felixstowe and Bawdsey manor would be retained but in a manner responding to periods of pressure.' Editor's comment: the above is an accurate copy of what the report says. The lack of clarity in the writing makes for confusion. I would dearly like to submit it to the Plain English campaign to have it turned into everyday language. Just to reassure you despite the language that consultants use, the policy for Section DE817 until 2105 is to Hold The Line.

Ed Stanford

WOODBRIDGE TIDE MILL

In September last year, the Tide Mill Trust heard that an application to the Heritage Lottery Fund (HLF) for a restoration grant had failed. A brief history will be helpful before reporting on the present situation.

The application followed work undertaken with a Project Planning Grant from the HLF of £43,500 in November 2005 for the preparation of plans to restore and recommission the Grade I Listed Tide Mill, built in 1793 and rescued, derelict, in 1972. The plans were outlined in a distributed Programme of Works and developed with the dedicated commitment of an Architect RIBA Accredited in Historic Building Conservation assisted by Specialists and Trustee volunteers. The plans included:

- river works to remove the risk of the Mill subsiding into the water due to tidal erosion of the foundations
- fire protection for both the Mill and people in the building
- the historic use of tidal power to grind corn again for human

consumption but with electrical power used to help compensate for the lost original millpond
- a new water wheel and wheel house
- works to comply with the Disability Discrimination Act of 1995
  - internally by ground-floor screen-viewing of all the working areas of the Mill
  - externally by earthworks to provide level access to the pond & wheel house areas
- millpond repairs with new water-entry gates together with dredging to prevent the pond becoming useless due to mud accumulated from the river
- an external stand-alone wc to expand the use of the Mill for events
- displays and models for the enjoyment & education of visitors of all ages.

The plans were submitted to the District Council for Planning Permission and Listed Building Consent in October 2006 whereupon the Council decided that they were likely to have a significant effect on the environment and accordingly required an Environmental Impact Assessment before the application could be registered. Unfortunately over a year passed before the permissions were received and a further 4month delay arose from HLF advice that the plans did not adequately satisfy new Government requirements concerning activities, especially for children. With a total project cost close to £1.2m, the required match-funding was largely committed including £50,000 from Woodbridge Town Council, £50,000 from the Suffolk Environmental Trust (with Suffolk County Council) and £25,000 from Woodbridge Community Council. Other prospective funding sources awaited an HLF decision before making a commitment. Taken with unresolve VAT demands, the application to the HLF was only made possible by two extensions to their normal deadline enabling the Trust to apply for grant of £999,500 on March 31st 2008, the last possible day.

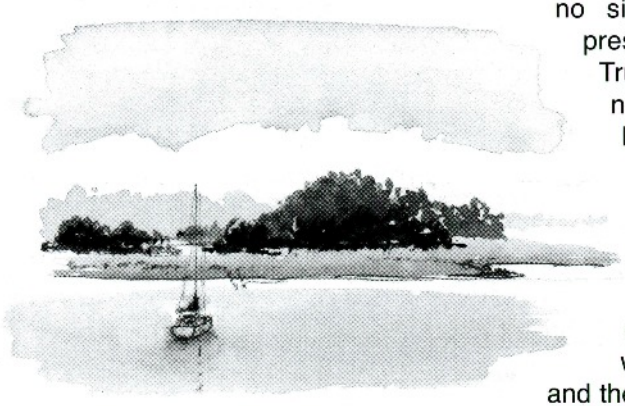
The independent Regional Committee which determines HLF applications:

- agreed that the project would deliver valuable heritage and public benefits and merited support
- considered that the project represented a lower level of priority in a competitive environment
- felt that given the potential for community benefit, the learning proposals could have been a stronger element of the application
- agreed that the plans for corn grinding were likely to be an important attraction for visitors but noted that they formed a large element of the project costs not directly related to the conservation needs of the building
- felt that there were financial risks....noting estimations for

visitor numbers and comparing the planned visitor offer with what was presently available

- considered that the total cost of the project was comparatively high in relation to the benefits received and represented 'less good value for money'
  - a judgement partly repeated in an encouraging letter to the EADT on July 15th from Robyn Llewellyn, Head of the HLF in the East of England.

Since the refusal, the Trust has concentrated on the main message from the Regional Committee namely that the cost of the project is too high. Economies are accordingly under consideration aided by the appointed Quantity Surveyor's breakdown of the project costs. For the survival of the Mill, 19% of the cost was required to protect the foundations (using sheet piling) with 11% needed for fire protection (a sprinkler system). Cost reductions are being studied without significantly reducing the protection desired. The mill-pond gates were included partly as an educational feature because many visitors cannot understand how the pond water is trapped, the inlet pipe and flap valve normally being invisible, but an 8% saving will be achieved by their abandonment. The Trust is however unable to reconcile the reference to financial risks with the recommended removal of grinding corn again. The production of flour is expected to attract many more visitors, reduce the financial risks and enable young millers to be trained whilst producing bread and possibly involving local shops. The cost of the supplementary power machinery was only about 7% and relatively small for the benefits expected but an alternative design is possible which could reduce this figure still further. Amongst the other large costs is 17% for a new water wheel and wheel house. About 20% of the project costs, mostly externally, arise from compliance with the Disability Discrimination Act for which no significant savings are presently envisaged. The Trust is well aware of the new emphasis on learning proposals although the failed application included plans for the greater involvement of schools and heritage groups with models and workshops for children and the appointment of a part-time Education Officer.



The need for the restoration work was illustrated in May this year when the water wheel became detached from the horizontal axle so that the machinery does not presently turn. The Trust is hoping for an early repair conscious however of the cost knowing that the wheel house rests on a rotting foundation.

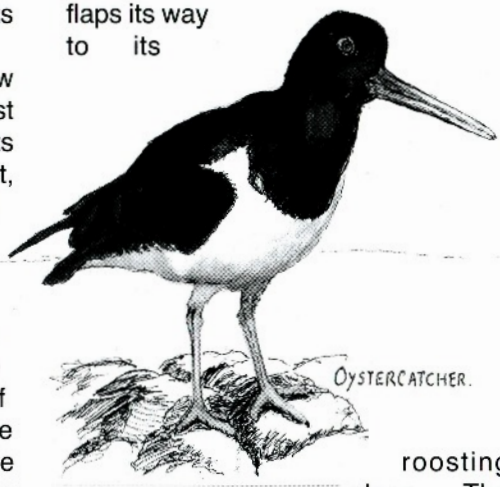
The Trust intends to submit a new application and is confident that most of the match-funding commitments will remain in place. New support, particularly if sufficient to help reduce the request from the HLF would of course be hugely beneficial.

There are only five tide mills left in the UK with none sharing the elegance and superb location of Woodbridge Tide Mill. If the restoration plans as described above are implemented, albeit amended, the restoration of the 1970s will have been completed as closely as will ever be practicably possible - a worthy example surely of conservation of the national industrial heritage.

F H Reynolds Trustee
1 September 2009

Saltmarsh Birds

The birdlife of an estuary, such as the River Deben, is intrinsically bound up with the health of the saltmarsh and mudflats of the foreshore. Both the vegetation on the higher areas and also the mud and water of the creeks between, provide food and cover for a wide range of birdlife. These birds give life and movement to this otherwise rather dull looking habitat. The static surface comes to life as a flock of lapwings comes in to roost on a late winter afternoon or when a heron slowly flaps its way to its roosting place. The rhythms of the seasons and the days provide a unique, fluctuating habitat, which many birds use to their advantage.

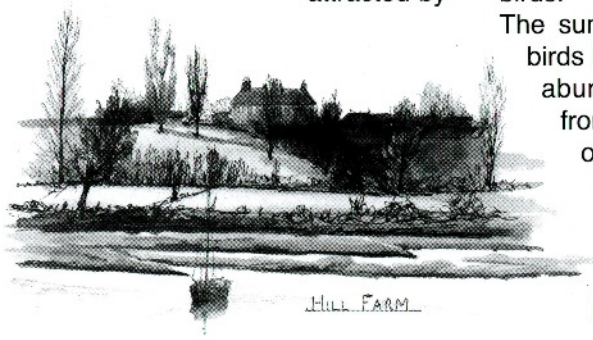


The daily ebb and flow of the tide refreshes and renews the nutrients from both upstream and down to nourish the base of the food chain for the growth of the plants and animals on which the birds feed. The structure of the saltmarsh provides a well protected haven of vegetated islands cut off by muddy and water filled channels where birds can feed, roost and also breed.

At low tide many waders such as redshanks and oystercatchers will be seen feeding on the worms and

shellfish of the mud on the foreshore or in the creeks of the saltmarsh, but darkness or the rising tide will drive them up into the higher vegetation where as night falls godwits and redshanks can be seen huddled between the clumps of saltmarsh grasses, the water lapping around their feet. Here they have found a sheltered and protected roost. Even the wintering ducks, such as widgeon and teal which may be seen in flotillas on the water will feed and roost in the saltings.

The seasonal changes are very marked on the estuary, the winter bringing huge flocks of waders and wildfowl, as well as passerines such as goldfinches and meadow pipits, from their northern and continental breeding grounds to the safe havens and rich food supplies of the mudflats and saltings. The salt tolerant flowering plants of the saltings provide food for many wintering birds. Brent geese and widgeon will graze on the vegetation and teal will rummage for the seeds of the sea purslane and sea lavender. Flocks of brightly coloured goldfinches are attracted by the fluffy seeds of the sea aster and meadow pipits will search the ground for insects and seeds. Many waders will shelter and feed, especially in the cold, hard winter days of wind and rain, among the muddy creeks which divide up the saltmarsh. Redshanks, blacktailed godwits and knots all probe the mud with their beaks of varying length for molluscs and worms - the basis of their diet. A surprising visitor to the winter estuary, is the kingfisher, the harsh whistle gives the clue and then the bright turquoise flash of colour can be picked out as it streaks along the edge of the saltings searching for fish in the shallows.



The spring and autumn bring the passage migrants, on their way north to breed from their more southerly wintering grounds. The vegetation and creeks of the saltings provides crucial cover with feeding and resting places for these weary birds. Birds of all kinds, waders, wildfowl and passerines may arrive in groups or flocks, stay for a short time and then move on. It is sometimes difficult to distinguish them from our resident birds.

The summer population of breeding birds has to balance the benefits of abundant food and protection from disturbance against the risk of flooding by high tides. In a good year the birds flourish and many young are reared but an inopportune high tide will destroy nests and young birds. A number of ground

nesting birds such as the skylark will choose higher, drier ground at the top of the marsh perhaps close to a river wall. This minimises the dangers of flooding but, they are made more vulnerable to predation from gulls and crows. Others such as oystercatchers, redshanks and meadow pipits avoid the predators by being more widespread through the marsh but they need to nest in a tussock of grass or on higher vegetation to stay above the water level. The most conspicuous breeding sites are the gulleries. On the Deben there is often a colony of black headed gulls in a more remote area of saltmarsh. Their raucous cries and mass mobbing are a sure defence against predation but they cannot avoid the unpredictable and damaging high tides.

The saltings remain an important food supply for birds which nest elsewhere. Herons can be seen in the creeks motionless, ready to strike with their long sharp beaks. In the breeding season they will carry their prey, fish large and small, up to their young in the nests in the Scots Pine trees. Egrets are becoming increasingly common and even though they are frequently seen fishing in the saltmarsh it is difficult to know where they are nesting. Shelducks nest away from the marsh but shepherd their young to its protection, the saltings providing a nursery for the creches of young ducks to feed and develop in safety.

We are fortunate, on the River Deben, to have some remaining areas of good saltmarsh which have not been lost over the centuries, by enclosure within river walls for

draining and farming. The danger remains even so, as rising sea levels squeeze the saltmarsh against the river walls. This precious habitat for wildlife for plants, birds and other animals, is seriously threatened.

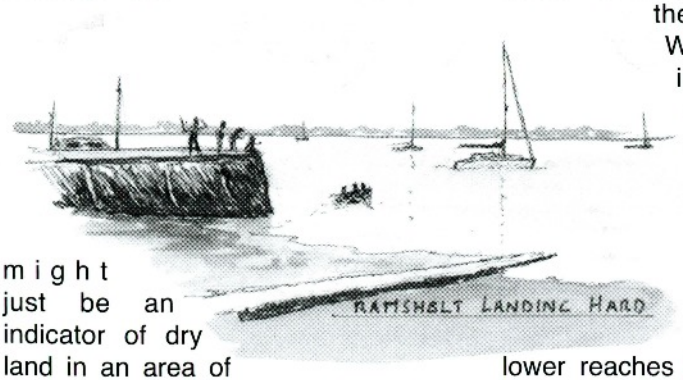
Jenny James

Saltmarsh

We have reached a moment in the history of our river when its capacity to generate saltmarsh appears to be waning. Why this is so is anyone's guess and where they care, there is an abundance of theory, but no definitive answer. This is the Deben; it is what is known as 'flood dominant', characterised by a narrow entrance that acts as a throttle, limiting the amount of water that can pass through on a single tide and ensuring that whatever is carried in, is unlikely to be carried out again. Other rivers such as those that debouch at a delta are 'ebb dominant', where there is

less of a tendency for material carried up by the flood tide to remain to clog the estuary except right at the upper reaches where the flow slackens and silt drops. But the downside of ebb dominance is that being broadly funnel-shaped, as the channel narrows it can constrain the rising tide, amplify its height and with a storm surge increase the propensity to flood the upper reaches.

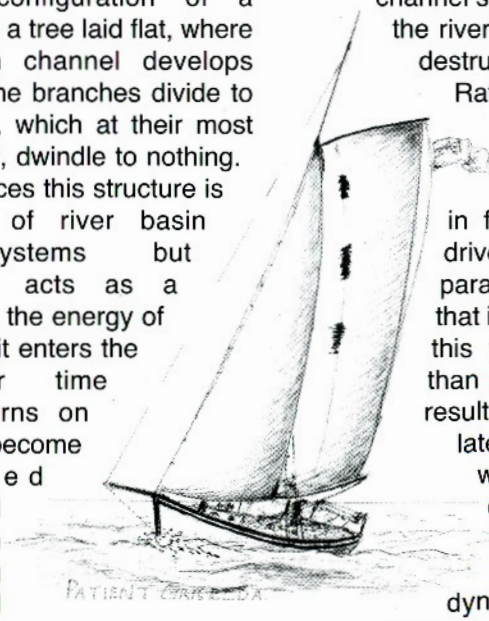
The River Deben has been meddled with since medieval times. It is not big but there was a time when it had an extensive floodplain when correspondingly, it was likely that the capacity of the one narrow entrance that we have today was not sufficient. In addition to the channel between Bawdsey and Felixstowe Ferry, maybe on a flood tide it could have also drained to the north of Bawdsey, giving credence to the 'ey' ending as a derivative of the Old English suffix-eg or the Norse 'oye' meaning island. Although this might just be an indicator of dry land in an area of coastal marsh, the entrance to our river was likely to be not as well defined as it is now. But this is a long time ago for in the meantime the people of this sheltered estuary made themselves busy and the temptation to control it proved irresistible. Saltmarsh was already considered common land for grazing livestock and a logical next step was to enclose it, create a turf wall, convert saltwater marsh to fresh and eventually drain it to create arable or pasture land. Near the mouth of the river, behind Felixstowe Ferry, walls were built to enclose Kings Fleet and maintained on a communal basis with the understanding that one man's neglect would be a neighbour's loss. In this way most of the intertidal area of the river was given over to farming, but further inland where much of the land bordering the river rises above mean high water, there was little scope for reclamation beyond tinkering with the small areas of flood plain available. The most significant effect of walling these in, whilst gaining a modest amount of land, has been to secure the low-lying parts of Woodbridge against inundation and to ensure navigability as far as the port. Consequently the opportunities for an ambitious estuary strategy for the upper reaches are limited, but in the lower reaches there is potential for havoc should the urge to get creative with the existing defences prove too tempting. Abandoning or setting them



back to create salt wetland would increase what is known as the tidal prism (the amount of water passing through the entrance) to the extent that the stability of the entrance, its defences and the settlement of Felixstowe Ferry would be jeopardised. This threat has possibly not been felt so keenly since the wetlands were first reclaimed after which any secondary entrance to the river, if it ever existed, would have atrophied. To abandon defences on a large scale could have the effect of concentrating the tidal action around the lower reaches, with the effect of diminishing the tidal range at Woodbridge and the upper reaches, exacerbating the problem of siltation.

The typical configuration of a saltmarsh is like a tree laid flat, where a single main channel develops branches and the branches divide to form capillaries, which at their most landward extent, dwindle to nothing. To all appearances this structure is a microcosm of river basin drainage systems but reciprocally it acts as a dampener upon the energy of a rising tide as it enters the marsh. Over time drainage patterns on the foreshore become pronounced topographical features and an increasing differential between channel and mud bank occurs to the point that they consolidate to create a suitable environment for salt tolerant vegetation. Starting in pioneer form such as samphire, this in turn may eventually stabilise through more complex colonisation and the creation of root mass until a characteristically labyrinthine salting is established. What is crucial to the stability of the system is that as a rising tide passes into mature saltmarsh, it decelerates; as it slows and stops, it sheds its load of silt before ebbing.

Constructing a river wall across a saltmarsh system has the effect of truncating a dynamic structure, so that where the energy of a rising tide was originally dissipated by the channel system, now it reaches the river wall with some of its destructive potential intact. Rather than slowing and dropping its silt it begins to attack the marsh immediately in front of the wall and drive a lateral channel, parallel to it. It is inevitable that in an extensive salting this will happen in more than one channel with the result that eventually the lateral channels join up, whereupon the tide entering the saltmarsh system is able to flow dynamically along this new channel, severing the link between saltmarsh and the river wall.



This was often exacerbated by the practice of taking material to maintain the wall from the marsh immediately in front of it. This is the first step in the assured destruction of the salting; the inner channel through which the tide freely flows enlarges the channels immediately adjacent to it and in due course the vegetated areas become a series of islands vulnerable to erosion on all sides. In this way saltmarsh completes a cycle, returning to mudflat and we could well be the final witnesses of a process that in all probability has been centuries in the making. Once the marsh has gone, the wall must bear the brunt of the wear and tear of tidal action, which would never have been its original intention. Set upon saltmarsh in the first place most walls do not have load bearing foundations and consequently the only additional protection can be got through a hard revetment of masonry along its outward edge, the knock-on effect of which is that erosion is diverted to the base, undermining it further where the protection stops. In this way a passive flood defence system of which the saltmarsh was a component, is turned into an active one, which, without continuous maintenance, will collapse. At this point the whole structure passes beyond the threshold of simple remedy to a point where the cost of maintenance, whilst justifiable to the owner of the property being protected, is not perceived to be to the general public good. This is the dilemma for those authorities charged with a responsible flood defence strategy and one, which at the risk of dereliction of a permissive duty to protect, can only make sense if the maintenance of walls on a local level acknowledges the right of landowners to seize the initiative with support, logistical and otherwise, from local and national government.

It seems perverse that saltings should deplete whilst the river is silting up, since a precondition for saltmarsh generation is an ample supply of silt, but the opposite appears to be happening. Saltmarsh needs very particular conditions to propagate: on our river it is found where the tide is slowed by extensive foreshore or where it is slackened on the inside of river bends or in the shelter of a promontory or feature that interrupts its flow, whereupon it generates its own entropic system. It needs a saline environment and favours a particular regime of inundation and exposure. Because of its flood dominant character, silt that is carried in by the tide from the North Sea is not carried out again. The River Deben lies within the Suffolk Coast and Heaths Area of Outstanding Beauty and is a 'Special

Protection Area' where any activity that is likely to impact upon the biodiversity of the river and its foreshore is strictly regulated. For the present it is forbidden to remove silt from the system by dredging and either taking it out of the river or depositing it above the high water mark. Consequently when a dock or foreshore needs to be cleared of accumulated mud, the favoured method is to plough dredge using a box shaped apparatus, dropped to the riverbed and towed by a tug. This is a simple if not crude expedient by which the mud that has choked a site is dragged into the main tideway and released on the opposite foreshore. What does not immediately settle is dispersed on the ebb. Obviously this solution is deeply unsatisfactory since it is not only short term but also ultimately does little more than spread the grief around. What is more it contributes to the reduction of the differential in height between salting and neighbouring mudflat by adding to the level of the foreshore. Now bear in mind that other effect of a flood dominant river, which is that a narrow

entrance controls the amount of water entering an estuary on any single tide. The presence of a higher foreshore in the upper reaches could increase the likelihood that the saltmarsh will be covered more frequently by the tide. Any change to the amount and duration of inundation that a saltmarsh receives reduces the favourability of the conditions for its propagation. Further to this, the upper reaches of the river tend to be brackish, saltwater is heavier than fresh, and consequently due to the increase in silt on the upper reaches, it could be that the water flowing through the marshes on a high tide would be more charged with fresh than was previously so and less conducive to healthy saltmarsh. With this in mind, it is consistent that a great many areas that within the last twenty years were thriving saltmarshes on the upper reaches of the river, now seldom generate beyond a pioneer stage and therefore do not renew the root mass that is needed to consolidate and resist tidal impact.

Allowing the accumulation of silt to continue on the assumption of its habitat value is probably counterproductive, since it is an inadequate response to a state of affairs established since medieval times that has grown beyond its own tolerance level. Truly corrective measures would have to address the unnatural flood dominant state of the river, but to deliberately do so would be unacceptable since it would

probably wash away the settlement at Felixstowe Ferry. Like it or not, without radical change the continuation of a discreet level of interference is unavoidable. The dilemma of saltmarsh protection is just one example of how a decision not to interfere can act to the detriment of the biodiversity of the system as a whole. It is only a dream that we can return to year zero conditions and a sad fact that as we started so we must continue in a state of managed imperfection.

Expose these issues to the regulatory authorities and the discussion becomes arcane: the principle is that since the processes under examination have been centuries in the making so solutions can only be contemplated within a similar time frame projected into the future. The expectation that this common-sense but dispassionate approach will be acceptable at a community level is not realistic, especially when it is proposed that land hard-won from the sea 400 years previously and continually fought for ever since, should be given back because in the bigger picture it does not justify the cost of protecting and coincidentally might go some way to fulfiling habitat quotas. Sadly this turns public servants into public enemies. The acceptance of the cogency of the current rationale and the mantra of sustainability requires a tremendous act of public faith, where there is a strong suspicion of the diversion of funds from the coast by cash-strapped government departments to avert disaster on irresponsibly developed urban floodplains. If only these issues were just a matter of acting on best knowledge but they are not, the water is muddied by a societal problem: people live there and their interests must be addressed. If this were not so, it would be a simple matter to take a step back and let nature get on with it. This is not an option; the need to develop public insight is vital and must be fostered, only if this is well managed can there be informed exchange between the public at the sharp end and those authorities charged with managing resources. Without this, any debate is hamstrung by the expectation that defence is a right and if this falters the solution is perceived to be one of applying the right kind of political pressure. The danger of not acknowledging extraordinary environmental circumstances is exacerbated by the institutional habit of treating communities in a paternalistic manner and not fostering involvement in the decision making process until too late when disaffection has taken root and the damage done. This could be all set to change with the realisation that a community can bite back and that any strategy will not progress without its support. It is only right that this should happen and coincidentally pragmatic partnerships between government and communities are becoming real solutions to the affordability of many defence works.

Simon Read

THE RIVER DEBEN ASSOCIATION

ANNUAL MEETING

To be held at

Waldringfield Village Hall

On

Friday 16th October 2009 at 7.30pm

The Speaker

MRS TRAZAR ASTLEY-REID
of Suffolk Coast and Heaths

entitled

What can we expect from the Deben Estuary Partnership