

Severn Tidings

Working in partnership for the future of the Severn Estuary

www.severnestuary.net

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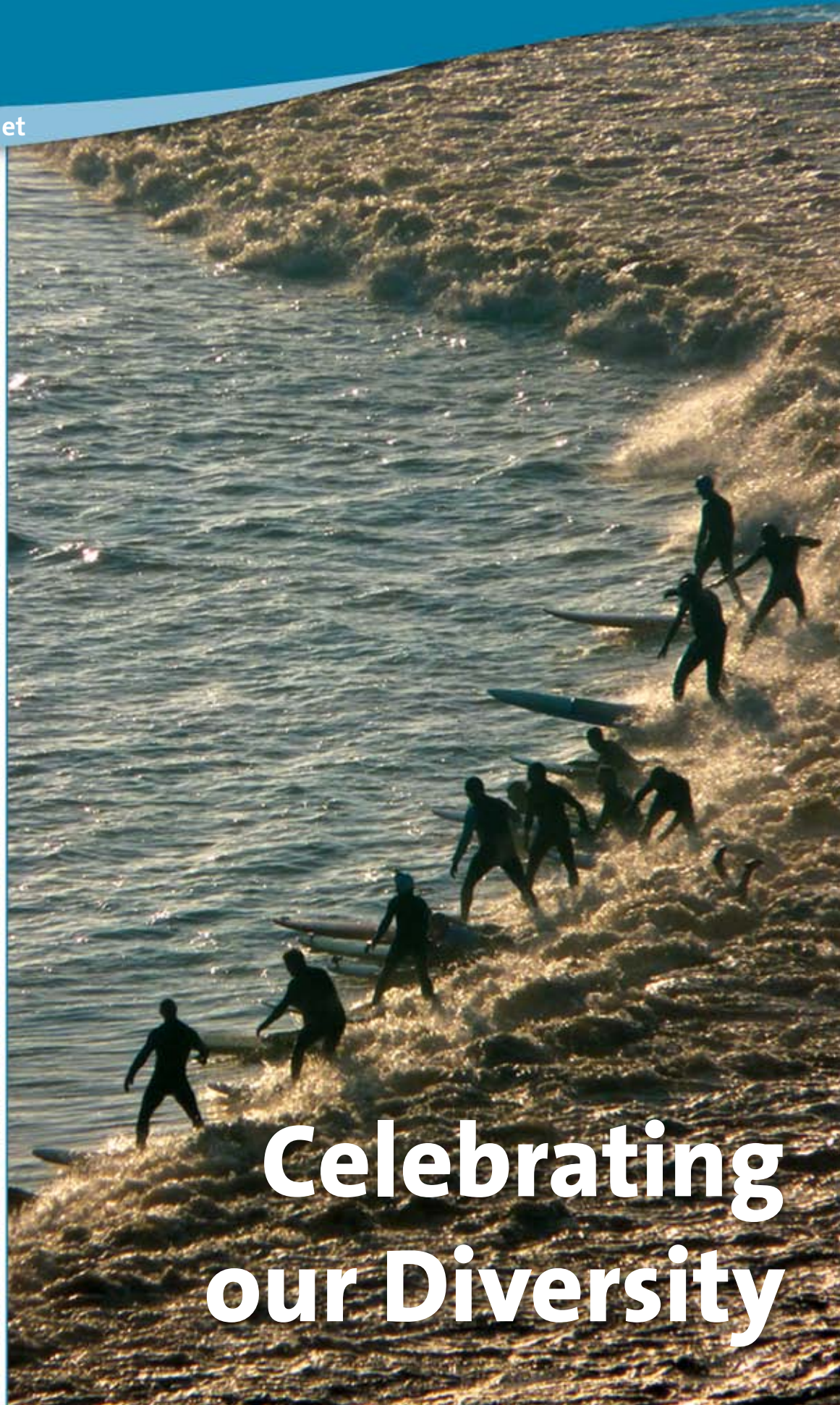
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Welcome!



Peter Tyzack,
Chair of the Severn
Estuary Partnership

The past few months has seen us embark on a journey of transition in more

ways than one. With a change of Government at number 10, the Marine and Coastal Access Act gaining royal assent and a change of personnel at the Partnership. The next 6 months promises to be a busy and exciting time as the Marine Management Organisation begins the unprecedented task of developing Marine Spatial Plans for the UK's coastal waters.

I would like to take this opportunity to thank Jonathan Mullard for his work with the Partnership over the past 12 months and wish him all the best in his new role with the Department of Energy and Climate Change.

I have been fortunate enough to be Chair of the Severn Estuary Partnership for several years. However, I feel amongst the changing regimes, that it is time for a change of Chair bringing with them an injection of new ideas. I would therefore like to call for volunteers/nominations of Chair to be emailed to Severn@cardiff.ac.uk, I shall however, continue to represent South Gloucestershire for the foreseeable future (voters willing next May) and support the work of the SEP.

Thank you all for your input and please continue to support the excellent and unique work of the Partnership through these exciting transitional times.



From left to right, Christine Marsh (ASERA & SEP Scientific Officer), Paul Parker (SEP Engagement Officer), Gwilym Owen (SEP Communication Officer), Dr. Jeanette Reis (SEP Manager)

Celebrating our Diversity

The past 12 months have seen significant changes for the Partnership, the Severn Estuary and the UK's marine waters. Of particular significance, has been the UK's Marine and Coastal Access Bill, which was granted royal assent and became an Act on the 12th November 2009. The Partnership has been busy keeping abreast of associated developments, including responding to consultations on marine plan areas and the marine policy statement. This included co-hosting (in partnership with Devon Maritime Forum), a DEFRA marine policy statement workshop in Taunton in March 2010.

SEP has also been working closely with ASERA in the development of a Severn Estuary European Marine Site Management Plan, and has been actively engaged with identification of Marine Conservation Zones through the Finding Sanctuary project.

Joint working between the Environment Agency and the Severn Estuary Coastal Group on the Shoreline Management Plan (with SEPs support for public consultation) has continued this year. It is likely that the plan will be signed off this Autumn and will be followed by consultation of the associated Flood Risk Management Strategy. This details how the Shoreline Management Plan should be implemented, and once again, SEP will assist the consultation process.

Other developments in the estuary have included SEP keeping a watching brief on developments and plans at Oldbury and Hinkley Point Nuclear Power Stations. EDF Energy, who have responsibility for the Hinkley Point Site, plan to undertake stage 2 of their public consultation process on the preferred proposals between July and October 2010. Further information can be found at <http://hinkleypoint.edfconsultation.info/home>

The Severn Estuary Partnership also attended the first meeting and workshop of the INTERREG IVB Deltanet project in Hamburg (April 2010). The 3 year project, which supports a network of nine delta and estuary areas (Tagus, Elbe, Llobregat, Severn, Rhine-Scheldt, Danube, Vistula, Minho), aims to promote sustainable delta/estuary governance. Experiences will be shared through a series of workshops and conferences in which the following topics will be explored: integrated delta/estuary management, flood and sediment

management, environmental quality issues, public awareness of delta/estuary matters and coordinated delta/estuary policy.

From the introductory workshop, which explored the need for integrated approaches to estuary/delta areas, it is clear that, despite their geographical differences, the areas face many common challenges associated with sectoral and fragmented governance systems. The areas have also much to learn from each other in the way they interpret and implement European legislation, particularly the Habitats Directive.

It is hoped that many of our SEP partners will be able to participate with this exciting project and help promote better estuary/delta governance across Europe.

The Partnership has also been actively involved in the INTERREG IVB IMCORE project discussed later in the newsletter, and the Welsh Assembly Government / Countryside Council for Wales funded YoCCO project, which involves a range of education activities related to climate change adaptation.

It is clear that we are living in exciting times in a busy and internationally significant estuary. The Severn Estuary Partnership offers a unique, neutral platform for discussion and coordination to actively support the sustainable development of the Severn Estuary. For more information on the aims of the Partnership's work please see the Partnership's website (www.severnestuary.net/sep) or join us at our annual Forum (see back page for details) to celebrate our diversity.

Dr. Jeanette Reis
Severn Estuary Partnership Manager

The Severn Estuary's Marine Conservation Zones & European Marine Sites

The Severn Estuary is one of the largest coastal plain estuaries in the UK and is also one of the largest estuaries in Europe. It supports populations of wild birds and fish that are of European importance and protected under the Habitats Regulations. In recognition of this, the estuary was designated as a Special Area of Conservation (SAC) on 10th December 2009, following a review by UK ministers. The estuary was already classified as a Special Protection Area (SPA) in 1995 and is also a Ramsar site. Where a SAC or SPA incorporate subtidal and/or intertidal areas, they are referred to as European Marine Sites (EMS).

Following this revised designation, the Association of Severn Estuary Relevant Authorities (ASERA) are in the process of reviewing the management scheme for the European Marine Site, so that it takes into account the additional 'features' of the estuary and any potential impacts to these from the users of the estuary. For more information about the Severn Estuary Management Scheme, please contact the ASERA Implementation Officer who is based in the SEP office via marshc3@cardiff.ac.uk.

Simultaneously, the English and Welsh Governments are in the process of designating Marine Protected Areas (MPAs) in our waters. The aim is to establish a network of MPAs across UK waters to safeguard undersea habitats and marine life, and to help ensure the long-term sustainability of marine resources.

Marine Conservation Zones are a new designation introduced by the Marine and Coastal Access Act to help implement these Marine Protected Areas. Finding Sanctuary is one of four regional partnership projects tasked with identifying and designating Marine Conservation Zones (MCZs) around England and recommending them to Government in June 2011. Its remit is the coast and sea around South-West England, including parts of the Severn Estuary.

Finding Sanctuary is currently calling for all users of the Severn Estuary (and beyond) to go online to their interactive map and input information on how and where they use the marine environment for a number of activities, such as diving and sea angling.

This information will help inform the Government on where to locate Marine Conservation Zones, whilst also minimising the impacts on those stakeholders who live, work and enjoy the sea. For more information about Marine Conservation Zones, Finding Sanctuary and to map your activities in the estuary, please visit <http://www.mczmapping.org/>.

On the Welsh side of the estuary, and also extending around the coastline of Wales, the Welsh Assembly Government is working to fulfil its international and legal obligations to contribute towards an ecologically coherent UK network of well managed MPAs. Wales already has a number of marine protected areas covering over 70 per cent of Wales' coastline and about 40 per cent of Welsh seas. The Welsh Assembly Government intends to build on this existing suite of Welsh sites to contribute towards the UK network. For more information about the proposed approach for identifying marine conservation zones in Wales, please visit www.ukmpas.org or the Countryside Council for Wales website www.ccw.gov.uk.

Did you know that the Habitats Regulations have recently been revised?



Severn Saltmarsh © English Nature

On the 8th March 2010, the "Conservation (Natural Habitats &c.) Regulations 1994" were presented before Parliament for revision. This was necessary because over time these regulations have been transposed and amended several times. Previous amendments and more recent amendments, such as the inclusion of the Marine Management Organisation and Inshore Fisheries and Conservation Authority are now in the revised Section 6 list of Relevant Authorities.

On the 1st April 2010 the new regulations came into force and are now known as "The Conservation of Habitats and Species Regulations 2010 (the "Habitats Regulations") (SI No. 2010/490)" and "The Offshore Marine Conservation (Natural Habitats, &c) (Amendment) Regulations 2010 (SI No. 2010/491)".

To all intents and purposes there are no substantive changes between the 1994 and 2010 regulations, so the changes should not affect how they work in practice. However it is worth noting that there has been re-numbering of the regulations which will affect its referencing in pre-April 2010 documents.

ASERA Update

In July 2009 ASERA welcomed their new Implementation Officer, Christine Marsh to the team. Christine brings with her 4 years experience as the Environmental Officer for the Port of Dover and a background in Marine Geography. The Implementation Officer is based in the SEP office and is currently helping ASERA to prepare a new single scheme of management for the Severn Estuary European Marine Site (including the SPA, RAMSAR and new SAC designations).

A workshop was held in September 2009 for all the Relevant Authorities around the estuary to offer them an update and raise awareness of the development of the management scheme. Activity information has since been revised by the relevant authorities, and reviewed and assessed by nature conservation agencies in order to identify their potential impacts upon the features of the European Marine Site. A management scheme is in the process of being drafted in light of these revisions.

The ASERA website has also had a facelift and has been updated to include information about the revised Habitats and Species Regulations and the new SAC designation.

For further information please contact Christine Marsh (marshc3@cardiff.ac.uk) or see <http://www.severnestuary.net/asera>

Angling in the Estuary



Angling in the Severn Estuary © Don Metcalfe

“There shall be no restrictions on race, colour or creed” written as Rule No.1 when the European Federation of Sea Anglers was formed way back in the early sixties. A simple message on which recreational sea angling has been based and accepted by all.

The image of a scruffy guy dressed in a worn overall and wearing a cloth cap,

fishing for his supper, was originally portrayed as the sport and yet nothing could be further from the truth, except, that fish still provide a meal. There is absolutely no comparison between a fresh rod-caught fillet of bass or cod to something that has been deep frozen for months.

While the sceptics cry for all species to be unhooked and returned, this attitude is already being supported when the catch is not for eating. Most angling clubs in the Severn Estuary area belong to the Bristol Channel Federation of Sea Anglers and respect the policy of conservation whenever possible. All competitions both afloat and ashore are fished on a catch-and-release system. Length of the fish now replaces its weight.

Years of over-fishing by much of the commercial fleet and unacceptable levels of discards, usually in the form of immature fish, has resulted in a noticeable decline by sea anglers. The Fishing Policy adopted by the EU has been a complete failure from which some species may never recover

and the DEFRA-oriented idea of Marine Conservation Zones by 2012 is already being regarded as too late.

It has been estimated that there are some 1.5 million recreational sea anglers who fish at least once a year. With the South West offering some of the finest and most diverse sportfishing in the U.K.

There are some 3000 jobs including charter boat skippers and tackle shops linked to the sport, which generates some £165 million of expenditure. The current economy may well see these figures increase as less people take overseas vacations.

Add to the opening sentence the addition of recreational sea fishing being the greatest leveller in society which has neither age nor gender restrictions.

*Don Metcalfe
Founder member (1961) &
President of the BCFSA.*

GO AHEAD FOR BRISTOL PORT'S DEEP WATER TERMINAL



Bristol Port Aerial View © Bristol Port Company

On 25 March 2010, the Port of Bristol was given consent for its Deep Water Container Terminal in Avonmouth. The 1.5 million teu1 facility will have a 1.2 kilometres quay capable of receiving the largest existing and future container vessels (of up to 16 metre draft), at all states of the tide. The new facility will be located in the estuary, negating the need to pass through locks.

Simon Bird, Chief Executive, said: “This project is based on the clear economic advantages of our location. Bristol is closer to container import distribution centres and has a larger population than the other

deep water ports – this means we can provide substantial cost and emissions savings by reducing the inland part of the journey. The preparatory work is starting now, as soon as we and our customers feel that the market is picking up we will proceed.”

“We would like to thank everyone who has supported us with these proposals during the application process and look forward to working together to deliver the nation's most sustainable deep water port”.

The Port is now committed to undertaking the next phases of the project that includes undertaking a full Environmental Impact Assessment and securing consent for a scheme to create over 120ha of intertidal habitat on the Steart Peninsula, in Bridgwater Bay. The Port will also carry out a site investigation to provide information required for the design and installation of the container terminal and to more fully understand the environment of the Severn Estuary prior to construction.



Avonmouth Docks © Matt Buck

For Further information please contact Anne Hayes, Environment Manager, or John Chaplin, Project Director, at The Bristol Port Company.



Portishead Lighthouse © SEP



Salmon caught in putcher © Stuart Ballard

The River that Flows Backwards:



Aerial view of Severn Bore © Mark Humpage

The first day I slipped down the muddy banks of the river Severn donned in wetsuit and board under my arm I could have never imagined what a journey of discovery lay before me, I was there just to catch an unusual wave, but the river was going to show me so much more.

That first grey day, I missed the bore but was astonished and alarmed to find myself being swept away by the immense current that follows, what I now know to be, the 'head of the tide'. I paddled desperately to reach the bank and went whizzing past my entry point as the trees sped by. As panic started to subside I reasoned that it was ok as I was being swept inland not out to sea and therefore the river would get narrower and the worst that would happen was a long walk. As I clutched at the passing rocks and hauled myself and board out of the chocolatey water I knew I had to find out what other surprises the river held for me.

One of the questions I had to answer was, why does the river flow backwards? I could understand that it was the tide, but why was it going so fast, why was it making a wave and what is the tide?

The quest to answer these questions led me to meet some amazing people. Tom Wright, was a regular bore surfer, had studied philosophy, set up the Tidal Bore Research Society and the Bore Riders Club – he had all the answers for me. He explained that the tides are caused by the rotation of the earth. When the moon and Sun line up their combined gravitational pull creates bulges in the oceans (imagine an egg shape). These are held stationary in space and as the world rotates the landmasses crash into the bulges and the water is forced inland. This means that when you are on the beach and you have to move your towel as the tide comes in, it's actually your beach that is moving not the tide. This is the basic concept, so why does the Severn create a wave and why does it move so fast? And why are some tides bigger than others?

Tom explained that the funnel shape of the Severn Estuary 'scoops up' a wide body of water and focuses it into the river. So the water from the tip of Cornwall and the tip of South Wales is 'squirted' up the Severn, a little like a water pistol. As this water meets the out going flow it creates a wave, technically this is called a 'hydraulic jump', we know it as the Severn Bore. He also showed me that we share this phenomenon with other rivers in the UK such as the Parret in Bridgwater and the Dee on the Wirrel, but the Severn is our biggest one. Other parts of the world such as China and the Amazon have huge bore waves and in France a spectacular and fast moving wave travels up the Dordogne and Garonne rivers from the Gironde Estuary. Amazingly up until the early sixties a bore of up to 4m travelled regularly up the Seine. It was lost due to canal works at the entrance to the river and is a great loss to the region. We were later to travel to France to share their wave and they have visited the Severn. This international friendship spawned an expedition to the Amazon to surf the famed 'Pororoca'. It was an expedition of three Englishmen, three Frenchmen and three Brazilians and has bonded the three rivers with common traditions.

So why different sized tides? Tom got into great technical details involving baffling words such as 'peregrinations' and



Severn Bore approaching Newnham © Gwilym Owen



Severn Bore departing Newnham © Gwilym Owen

'declinations' of the moon. Simply put, the moon is in an elliptical orbit so some times it's closer to the earth thus exerting a stronger pull and lifting the bulge of water higher. All this amazing solar system activity is the power beneath my feet every time I surf our magnificent Severn Bore.

Whilst surfing I discovered that the tide brings more than just surfboards up the river. This was shown to me by a Grey Mullet leaping out of the wave and draping its silver body across my feet as I sped past Broad Oak. Over the roar of the tide I shouted to my friend, Steve King, with amazement.

He smiled sagely and nodded. Steve has surfed the river for almost 30 years and was once the world record holder for the longest surf. This is now held by our friend, Segio Laus, in the Amazon. Yet Steve managed a ride of 7.3 miles in 2006. Steve's Grandparents ran the last ferry across the tidal Severn at Elmore Back and his other Grandparents worked boats on the Sharpness Canal – it seems that his blood runs brown. The tradition of bore surfing was started on the Severn by Colonel 'Mad' Jack Churchill in 1955. On another occasion a Harbour Porpoise followed me up the river as I surfed. The tide also delivers a bounty in the

way of Elvers (baby eels) and, surprisingly, Salmon.

My perception of the river had always been one of a rather savage and wild place. I was intrigued to find out it nurtured such a wealth of life. I needed to find out more, so tracked down, John Powell, secretary of the Netsman Association. He has a glint in his eye and seems to 'feel' what is going on in the Severn with his heart. He is full of a gentle passion for his river and I have often found him sitting on his bench overlooking the river spotting Salmon and full of a soft rapture for the life that surrounds him. He leads his life to the rhythm of the tides. He explained how the method of catching Salmon on the Severn is ancient and unique. Conical traps about four feet long are woven from hazel and willow. These are placed in the river in 'weirs' or 'ranks'. In the past they could have contained hundreds of individual traps called 'putchers'. Amazingly you can see these traps in garden centres. We now use them to grow sweet peas up and I think people would be astonished to know they are actually vestigial Salmon traps! In the river, the

wide end of the trap points inland. As the tide comes in the traps are submerged. As the tide recedes Salmon that have not made it up to the safety of deep water are swept back downstream and into the open end of the putcher. As the water level continues to drop the fish are left high and dry and you can walk out across the mud and retrieve them.

John told me that the rights to fish in this way are hereditary and it was not until the 1400's did his family have to prove they had rights. His family has held the 'riparian rights' to the horseshoe bend around Newnham since then. Every year the Salmon men catch around 700 'fish' as a salmon are known using the traps and the athletic 'Lave net', which is held over the shoulder and the fish are chased at low tide. The salmon men, using their knowledge of the river, leap from sandbar to sandbar to intercept their prize. These traditions once sustained the independent and hard working families of the Severn.

With the coming of the railways in the 1800's, a wider market was available and the fishing effort increased. In 1860, 28,000 Salmon were caught in one season in the tidal section alone. It was deemed that this level of activity was unsustainable and fishing was regulated to traditional areas and level and new traps were removed. So sustainability is not a new idea!

I met, Nick Bull, from Awre who makes Severn Cider and is also a Salmon man. One beautiful early morning, nurturing a post party hangover, I joined him at the river to empty his traps. This has to be done at low tide, which can be at any time day or night. Luckily it was about 7am on a Sunday morning so not too bad! I was expecting to just help him clear his catch of sea weed.



Severn Bore and Bore riders from the air © Mark Humpage

This builds up in the traps to a point that the drag created can pull the whole structure over. To our delight there were three shining salmon in the putcher rank. Nick was thrilled and said I had brought good luck as well as a hangover. It was a deep privilege to become a tiny part in this ancient tradition that goes back maybe 4,000 years.

All these amazing discoveries on a river that most turn their back on! Travelling to other estuaries one thing that really struck me was that China, the Amazon and France all celebrate their rivers and bores. In China ancient temples are dedicated to the tides and thousands of people line the banks to see the arrival of the 'Black Dragon'. In France, hundreds both surf and watch the 'Mascaret' progress upstream. The roads are closed and parking is organised. The towns benefit from it and the crowds are well catered for, including plumbing in showers on the slip way for surfers to wash the mud off. In the Amazon, the streets are alive with music and dancing as everyone welcomes the 'Pororoca'. It was this and the discoveries made during my time in and around the river



Bore Riders © Gwilym Owen

that inspired me to organize a little event called 'The Magnificent Severn'. This was held near Over last August and we brought the best of the river to one place to show what an amazing asset we have in the heart of Gloucestershire. There was music and story telling all day, salmon men gave talks and demonstrations, the surfers told of the Severn and travels to distant bores, there was cutting edge tidal power technology which could give the river a living future as well as generating electricity and drinks flowed from the local cider bar. My ambition is for a river wide festival with events triggered



Severn Bore at Newnham © Gwilym Owen

by the tide. This year we will be running the event for three days to coincide with a '4 star' bore. This will be on the 10th, 11th and 12th of September. Keep an eye on www.magnificentsevern.co.uk to see what we have done and what we will do this year.

One day, I would like to drive into Gloucester and see a sign that reads, 'Welcome to Gloucester, home of the Severn Bore'.

Stuart Ballard

Severn Estuary Stakeholders Help Shape the Future of Flood Risk Management

Over the last 18 months or so, the Severn Estuary Coastal Group (SECG) has been carrying out a Shoreline Management Plan Review (SMP2) for the Severn Estuary. The SMP2 looks at the risks from flooding and erosion to people, property, the natural environment and the historic environment and sets out policies to manage those risks in a sustainable way for the next 100 years.

As part of this process, a number of events were held where people and organisations were asked for their input and opinions. This concluded in a formal three-month public consultation at the end of 2009. Over 900 organisations were contacted directly about the consultation. Posters were put up in local libraries and press releases were sent to local and national tv stations, radio stations and newspapers. Members of the SECG supported these activities further by discussing the consultation at meetings and events they attended. Three public events were organised by SEP and these were held in Penarth, Gloucester and Bristol.

In total, 87 questionnaire responses, e-mails and written comments were received from a range of organisations, as shown in the chart below. The SECG would like to thank everyone that took the time to attend an event, fill in a questionnaire or send comments on the draft SMP2 documents.

Since the consultation closed on 10th January 2010, the SECG and Atkins Ltd. have been analysing the responses and making changes to the draft SMP2 based on the feedback that was provided.

What did the consultation say about...

The consultation?

Some people felt that the consultation had been well publicised and well run, while others did not. About the same number of people provided positive comments as those that provided negative comments. Overall, the website (www.severnestuary.net/secg) was considered a good source of information.

The proposed policies?

Where people expressed a preference, there was general agreement with the proposed policy options in the draft SMP2. There was some disagreement with a few policy options and where objections were raised, each policy option was reviewed by the SECG. In response a number of policy options have been changed.

Several people felt that the definition of the "Hold The Line" policy option was confusing as it could have more than one meaning.

Key Policy Drivers?

Key Policy Drivers are features around the estuary that are so important they can influence the choice of policy option at a large scale. Keeping or improving the benefits people get from these features may be a requirement at regional, national or international level e.g. protecting EU conservation sites is an international commitment.

There was general agreement with the Key Policy Drivers that had been selected for the SMP2 – residential areas, conservation sites, critical infrastructure. Several people and organisations felt that agricultural land wasn't given a high enough priority and some people thought that smaller communities should be more important.

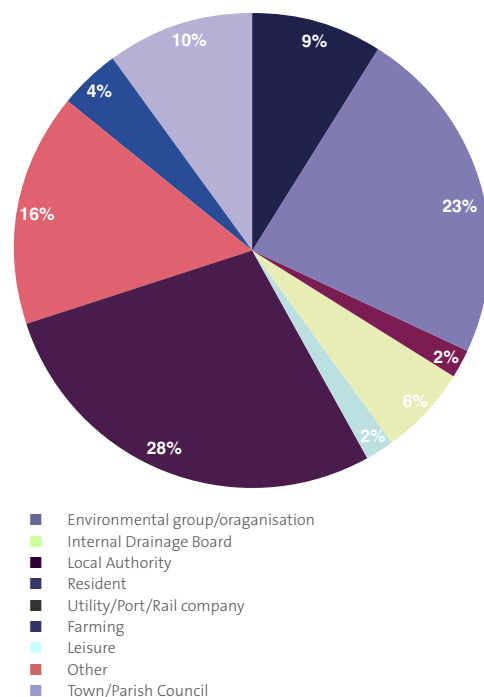
What has happened since the consultation?

A number of changes have been made to the draft policy options that were proposed in the consultation. This is thanks to the detailed comments that were received from stakeholders.

All the SMP2 documents and appendices have been reviewed and updated and they are now going through a quality review process set up by the Environment Agency to ensure that all the SMP2s around England and Wales are consistent.

The revised Severn Estuary SMP2 is also being reviewed by the Environment Agency Regional Flood Defence Committees (RFDCs) in preparation for their agreement

Responses by Group Type



and adoption of the SMP2. The SMP2 should also be approved and adopted by all ten Local Authorities around the estuary.

The Countryside Council for Wales (CCW) and Natural England (NE) are also reviewing the SMP2 to ensure that the policies don't have an adverse effect on the many protected sites in and around the estuary. This is quite a complex and lengthy process as it may involve the approval of the European Commission as the SMP2 includes EU protected sites.

Until final sign-off, the SMP2 should be considered a draft. All the revised documents are available to view and download from the SECG website (www.severnestuary.net/secg).

For further information please contact Paul Parker, SECG Secretariat, Severn@cardiff.ac.uk



Welsh Heritage Minister Alun Ffred Jones and Welsh Archaeological Trust Officers at the launch of Archwilio - Treftadaeth 2010 The Welsh Historic Environment in Focus - 1st July, Liberty Stadium, Swansea

New Archaeological data website - <http://www.archwilio.org.uk/>

Launch of Archwilio - New online access system to the Historic Environment Records (HERs) of Wales was launched on July 1st 2010 by the Welsh Heritage Minister Alun Ffred Jones.

The Archwilio website has been developed through a partnership of the four Welsh Archaeological Trusts to provide wider public access to this valuable resource. The Trusts believe that the dissemination of information leading to a

wider understanding of our cultural heritage and historic environment is the most effective conservation tool. Archwilio translates as 'to explore, examine or audit', and therefore encapsulates the use of the HERs in relation to the historic environment.

The four regional historic environment records compiled and maintained by the four Welsh Archaeological Trusts (WATs) aim to provide a comprehensive catalogue of archaeological and historical

sites and finds of all periods throughout Wales. They offer a unique opportunity to investigate the heritage of Wales. Currently, about 100,000 individual entries are held by the four regional records, which are continually updated and expanded as new information becomes available. The HERs fulfil a wide variety of functions including assisting in the positive management and presentation of the historic landscape, planning control, and as a source for input to

local history, conservation and tourism projects.

The HER covers all aspects of human activity in the landscape from early prehistory to the twentieth century without prejudice. Details of well and lesser-known sites can be found, in addition to records generated by archaeological projects undertaken in the area. If you are interested in researching your local area, or finding out more about a particular historical period, this is a good place to start.

Contact details for the Welsh Archaeological Trusts

Dyfed Archaeological Trust
The Shire Hall
8 Carmarthen Street
Llandeilo
Carmarthenshire SA19 6AF
Tel 01558 823121
info@dyfedarchaeology.org.uk
www.dyfedarchaeology.org.uk

Clwyd-Powys
Archaeological Trust
Clwyd-Powys
Church Street
Welshpool
Powys SY21 7DL
Tel 01938 553670
trust@cpat.org.uk
www.cpat.org.uk

Glamorgan-Gwent
Archaeological Trust
Heathfield House
Heathfield
Swansea SA1 6EL
Tel 01792 655208
enquiries@ggat.org.uk
www.ggat.org.uk

Gwynedd Archaeological Trust
Craig Beuno
Ffordd y Garth
Bangor
Gwynedd LL57 2RT
Tel 01248 352535
gat@heneb.co.uk
www.heneb.co.uk

Introduction

The scientific consensus indicates that the global climate is changing. Overall, warming of global and regional climates is occurring and, although climate variation is a natural phenomenon, the accelerated rate at which this is occurring indicates this is very likely due to human influences. Changes to the regional climate of the Severn Estuary will have impacts on its social, economic and natural environment and it is important to understand these changes for effective adaptation. Current research and evidence for the estuary suggests that air and sea temperatures are rising in line with global trends. Local impacts include coastal flooding and erosion. A significant proportion of critical infrastructure such as roads, rail tracks, power stations and industrial developments are located on low lying land and, therefore, are potentially at risk from these impacts.

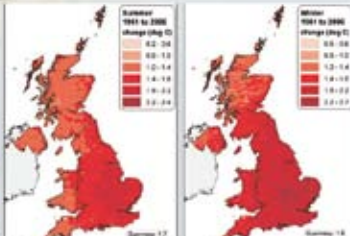


Figure 1: Geographical remit of Severn Estuary.

Key past trends for the UK & Severn Estuary

- ✓ Average UK land air temperature has risen since 1961 (Figures 3 & 4). Winter temperatures in the Severn Estuary have increased between 1.4 and 2.2°C. Summer temperatures have increased between 1 and 1.8°C.
- ✓ UK marine and sea surface temperatures have increased by about 0.7°C per decade since the 1980s. There are strong regional variations. Sources suggest Severn Estuary sea surface temperatures are higher upstream than they are downstream (e.g. ranging between 11-13.5°C in 2006).
- ✓ UK relative sea level rise by about 1mm during the 20th century, this rate increased during the 1990s and 2000s.
- ✓ All regions of the UK, including the Severn Estuary, have experienced an increase in heavy winter precipitation events since the 1960s (Figures 5 & 6). During the same time period, heavy summer precipitation events have decreased across the UK with the exception of NE England and Scotland.
- ✓ The frequency of severe wind storms in the UK has increased since 1990, but not above levels recorded during the 1920s (a particularly stormy period). Recent research for the southern UK, including the Severn Estuary region, has supported this trend.

Note: The majority of climate change information and data exists at national scale, therefore generalisations have been made to associate Severn Estuary specific details. Regional research is continuing. (Source for above information: UKCIP09 and IMCOP)



Figures 3 & 4: Winter & summer warming 1961-2006 (Source: UKCIP09)

The IMCORE Project Update

Given the low lying nature of much of the European coast, adapting to climate change and particularly sea level rise, is a major challenge for local government. In this context, the Interreg IVB IMCORE project is bringing together local government and academic partners from nine study sites across North West Europe to enhance local capacity for coastal climate change adaptation.

On the Severn Estuary IMCORE is helping inform the development of climate change adaptation on the Severn Estuary and is encouraging joint working and improved interaction between scientists and policy makers, particularly through the development of the Severn Estuary Climate Change Research Advisory Group (SECCRAG). Recent events have included a joint Severn Estuary Partnership, RTPI Cymru and RTPI South West conference in Bristol on coastal planning.

The planning conference brought together other organisations and individuals to hear about new developments in marine and coastal planning and to discuss the implications of climate change for planning in coastal areas. A full conference report is available on the IMCORE Severn website. Other future events include a Severn Estuary workshop with local schools on climate change adaptation, which is being organised in association with the Beacons Young People's Climate Change Forum - the YoCCo Forum project and a futures scenario workshop, also in the autumn. The project is also developing a series of 'climate change science made simple', report cards, explaining key possible changes to our climate for our policy makers and practitioners around the estuary. These will be available on the Severn IMCORE website shortly and we'd appreciate your comments on these.



Discussing planning issues at the RTPI SEP IMCORE coastal planning conference © IMCORE



Interactive workshop session on marine planning © IMCORE

- Contact:**
Severn Estuary: Rhoda Ballinger (BallingerRC@cf.ac.uk)
Wider project: Jeremy Gault (J.Gault@ucc.ie)
- Websites of interest:**
IMCORE Severn website: www.severnestuary.net/sep/partnership/imcore.html
IMCORE General website: www.imcore.eu

Review of Severn Estuary Forum 2009



Severn Estuary Forum Delegates © Gwilym Owen

The 2009 Severn Estuary Forum was held on Friday the 11th of September at Gloucester Guildhall. Over 150 delegates attended the event, which focused on the upper estuary in the morning, and energy and climate change in the afternoon. Delegates were then treated to a short tour of Gloucester Docks, including a trip aboard the 'Queen Boadicea II' which cruised along the Gloucester and Sharpness Canal.

The Severn Estuary Partnership was welcomed to Gloucester by the Right Worshipful Mayor of Gloucester, Councillor Chris Witts, who outlined the importance of the Severn to Gloucester and expressed his pleasure that the city was hosting the Partnership's Forum. Jonathan Mullard, Severn Estuary Partnership Manager, then highlighted the current work and direction of the Partnership before thanking Cllr Witts for his kind hospitality. Cllr Witts responded with an impromptu reflection of amusing real life antics on and around the Severn from the past 30 years!

Dr. Paul Leinster CBE, Chief Executive of the Environment

Agency delivered the Keynote Address, which focused on the importance of working in partnership for the good of the common resource. Dr Leinster discussed the complexity of issues, pressures and conflicts on the estuary and the challenges presented by cross boundary working. Various topics relating to the Severn Estuary and partnership working were discussed including industry, policy, community, energy, flood risk and funding structures.

Chris Oldershaw, Chief Executive of Gloucester Heritage Urban Regeneration Company concluded the morning's proceedings with an informative presentation highlighting the regeneration of Gloucester Docks. Chris explained that Gloucester Heritage Urban Regeneration Company had been in operation for 4 years and focused on the heritage of Gloucester. Four case studies were then used to illustrate the developments (and future) of Gloucester Docks and the surrounding area.

The afternoon session offered delegates the chance to focus on energy creation around the estuary and the potential impacts of Climate Change. Dr. Hance Smith of Cardiff University offered a short introduction to the need for an

integrated approach to Estuary Management. Dr. Smith went on to explain how he felt the Severn Estuary was an 'Energy Estuary' with numerous energy creation schemes from conventional power station to nuclear power station and renewables all being considered/operated in and around the Severn.

Juliet Austin from the Department of Energy and Climate Change presented an update into the progress of the Government's Feasibility Study into Severn Tidal Power. This was followed by Hugh Hutton, EDF Energy, who outlined the Hinkley Point New Nuclear Build proposal. Stuart Hayward-Higham, Technical Director of SITA UK then took the stage to discuss the proposal of a Severnside Energy Recovery Centre. Finally Dr. Rhoda Ballinger of Cardiff University brought the formal proceedings to a close with an informative talk about the European IMCORE project; which aims to promote a transnational, innovative and sustainable approach to reducing the impacts of climate change on coastal resources. A healthy discussion into energy creation and the impacts of climate change on the Severn Estuary followed.

Further information of the 2009 Severn Estuary Forum,



A boat trip of the Gloucester Docks and Sharpness Canal © Gwilym Owen

including copies of speakers' presentations, can be found on the Partnership's website (<http://www.severnestuary.net/sep/forum.html>).

Feedback from the event indicates that delegates had a rewarding and enjoyable day, learning about the resources the estuary has to offer and the need to work together towards a sustainable future. The Severn Estuary Partnership would like to thank the Sponsors of the 2009 Forum, the speakers and all those who help to make the event a success. Should you wish to find out more about the event or feedback on the day please do not hesitate to contact the Partnership office (severn@cardiff.ac.uk).

Preview of Severn Estuary Forum 2010

Celebrating our Diversity



The Severn Estuary Partnership are pleased to announce that the 2010 Severn Estuary Forum will be held on Friday 8 October at Armada House, Bristol. Please note the change of date from that previously advertised.

The Severn Estuary Forum is the annual event for everyone interested in the Severn Estuary and its future. The Forum promises to be a lively day of formal and informal presentations and talks. There will be an opportunity at the Forum for displays from any organisation with an interest in the Severn Estuary. Display areas can be provided at a cost of £250 for a 1 meter display or £500 for 3 meter displays, please

contact the Partnership office (severn@cardiff.ac.uk) for further details.

This year's event will focus on the recent developments in Marine Planning and the effects on the estuary, commencing with a Public Sector perspective, before moving on to reflect the developments and influences of the Private Sector and the effects and impacts on the Public. The Partnership is looking forward to welcoming Steve Brooker, Head of Marine Planning from the Marine Management Organisation and Julia Williams, Head of Marine Planning & Nature Conservation, Welsh Assembly Government, to discuss Marine

Planning and the role of local partnerships Welsh Assembly Government to discuss Marine Spatial Planning and the role of local partnerships. Other themes include, Nuclear Power generation, Port development, Life in and on the estuary, Climate Change implications and the National Partnership Approach.

The Forum is open to everyone, whether you represent an organisation, live in the area, or simply enjoy visiting. It is a unique opportunity to learn from others, share your views and participate in the management of the Severn Estuary. We look forward to welcoming you in Bristol!

Booking Form

Complete the following form (or a copy) and return it to:

Severn Estuary Partnership, c/o School of Earth and Ocean Sciences, Main Building, Park Place, Cardiff CF10 3AT

Email: Severn@cardiff.ac.uk

Severn Estuary Forum Conference @ £40 (member) / £50 (non-member) per person. No. of places requested:

TOTAL COST :

Name(s):

Organisation/Interest(s):

Address for confirmation of place(s) :

Telephone: Email:

Payment Method

Cheque – made payable to Cardiff University enclosed with booking form

Invoice required – enclose purchase order with your full address.

Credit/Debit card (Not American Express) – Complete details below

Card No.:

Expiry Date..... Issue No (Debit cards).....

Signature..... Date.....

Bacs transfer – to Cardiff University General Account, a/c no 7000 2203 sort 089003 quoting ML22001002

Booking forms with full payment to secure your place should be sent to:

Severn Estuary Partnership, c/o School of Earth & Ocean Sciences, Cardiff University, Main Building, Park Place, CF10 3AT

Email: Severn@cardiff.ac.uk

The Severn Estuary Partnership

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Editor Paul Parker

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Cover Photograph: Severn Bore, April 2010 © Gwilym Owen.

The Severn Estuary Partnership involves local authorities, other organisations and users of the estuary working together to ensure that the estuary remains a resource of great value throughout the 21st century.



Coming up...

Severn Estuary Forum – Armada House Conference Centre, Bristol	8/10/10
The Magnificent Severn Festival	10/09/10 to 12/09/10
Fore & Aft: A programme of guided tours through the remains of the Purton Hulks – Meet Purton Lower Bridge, Tour fess & 3.50 per person	15/08/10 - 14:00, 5 & 19/09/10 - 14:00, 17/10/10 - 14:00, 21/11/10 - 13:00, 19/12/10 - 13:00
Cardiff Harbour Festival	28/08/10, 30/08/10
Bristol Harbour Festival	30/07/10, 01/08/10