

Speakers' Biographies

Martin Quaile - Severn Estuary Partnership Chair

Welcome and Introduction to the Day

Born in Lancashire, his family moved to Bristol where he went to school and studied Architecture at Bristol University. His architectural career took him to West Africa, New Zealand, Vanuatu in the South Pacific and Hong Kong. After 30 years he returned to the UK, to take life at a more leisurely pace in the Forest of Dean.

Martin's interests in the environment started in Nigeria where the orientation of buildings, the control of sunlight and ventilation, all affected the human comfort zone. These studies proved useful 10 years later in Vanuatu. However, whilst in Hong Kong his interests grew to building design and the environment and on his return to the UK broadened further to an interest in matters such as flooding, contaminated land, foreshore management, waste to energy, climate change impacts and carbon emissions.

And so the interest develops.

Gemma Conway - Solent Estuary Forum

State of the Solent Report, Best Practice Identification

Gemma Conway has an MSc in Coastal Management and first started working for the Solent Forum in 2004. In this time she has worked on a number of projects including the development of a set of indicators for the Solent and the associated State of the Solent Report.

The first edition of the State of the Solent was produced in 2001 and since then there have been 2 further editions. The aim of the first report was "to provide a snapshot of the Solent at the start of the new millennium, by reviewing and quantifying the multiple uses of the Solent's coastal zone". Since then the second and third report have developed a set of indicators. These have been selected to measure the 'health' of the Solent. In particular the indicators aims to promote and measure progress towards the sustainable development of the area. The majority of the indicators are nested with those which are used at the regional, national and European level.

Rhoda Ballinger - Cardiff University

The State of the Severn Report

Rhoda Ballinger has a degree in Geography, a Postgraduate Certificate in Education and a PhD from the University College of Wales, Aberystwyth. Over the last decade, particularly as a member of the Marine and Coastal Environment Research Group, she has engaged in a quest for model institutional and policy frameworks to deliver Integrated Coastal Management (ICM). Currently, her interest in non-statutory and participatory processes for ICM is reflected in her postgraduate students' research topics. Keen to develop more than an academic perspective on coastal management, Rhoda has been heavily and actively involved in the development and day-to-day running of a number of international, national and local coastal and estuary management projects, including the Severn Estuary Partnership.

This presentation will build on the launch of the State of the Severn Estuary Report at last year's Forum event. The presentation will highlight the current development of indicator sets and specific report cards detailing the 'State of the Severn in specific themed areas. The presentation will focus mainly on the approach taken and the initial findings.

John Harrison - Environment Agency

Introduction to: The Severn Estuary Features, Physical Environment and Resources

John Harrison is the Environment Manager West within the SE Area, Environment Agency Wales. John is responsible for a range of environmental regulatory services which includes incident response, water and waste regulation and environmental crime. John has been chair of the Bristol Channel Standing Environment Group since 2010.

Paul Evans - Cardiff University

The Tidal Regime of the Severn Estuary

Paul Evans graduated from Cardiff University in 2006 with a 2:1 in Marine Geography. During his time at Cardiff University, Paul worked at HR Wallingford as part of an optional Year in industry where he worked on a number of commercial projects as a coastal hydraulic physical modeller. Paul subsequently studied for a Masters in Coastal Engineering at The University of Plymouth and completed a dissertation researching the protective capabilities of seawalls.

Between 2007 and 2008, Paul was employed as a Research Assistant at Cardiff University (School of Earth and Ocean Sciences) where he undertook various tidal resource assessments for potential tidal stream turbine sites.

In July 2008, Paul joined Waterman Transport and Development Ltd. as a Graduate Engineer in the Cardiff Office. Paul has over 4 years experience in hydrology and flood risk analysis, using FEH hydrological modelling techniques and 1D, 2D hydraulic modelling software, namely HEC-RAS and TUFLOW packages.

Paul is currently a Research Assistant at Cardiff University (as part of the Low Carbon Research Institute (LCRI) convergence programme) to again investigate the resource potential at various sites along the Welsh coastline, namely Ramsey Sound. He has been working closely with Tidal Energy Limited to help choose the most suitable location within Ramsey Sound to install their delta-shaped tidal turbine in terms of suitable substrate, a flat seabed and sufficient tidal flow. Paul uses his GIS skills to map and model various sites in order to visualise and interpret the tidal flow data collected onboard Cardiff University's Research Vessel Guiding Light. Paul is also studying for a PhD into the hydrodynamics of significant bathymetric features.

With the second highest tidal range in the world, the Severn Estuary has a unique tidal regime. This will be the main focus of this presentation, introducing the science behind such a unique tidal range and how the physical environment of the Severn Estuary can alter or may be altered in the future.

Robert Kirby - Revensrodd Consultants Ltd

The Severn Estuary, a Physical Process Perspective

Dr Kirby is an oceanographer, formerly employed by the government's Institute of Oceanographic Sciences. He is a specialist in the behaviour of fine cohesive sediment and between 1969 and 1984 worked intensively in the Severn (The Shoots - Watchet) studying the behaviour of this material in the estuary turbidity maximum from research vessels. With colleagues, he discovered a number of phenomena new to science and retained his data base when IOS closed in 1985. Subsequently, together with his son, he undertook the longest-ever (17½ years) investigation of tidal flat elevation change focussed on Stert Flats, but set in the context of other adjacent sites.

Arising from this, he has given frequent inputs to major commercial and managerial endeavours including all 4 phases of tidal power investigation of the modern era, Shoreline Management Plan, Hinkley "C", Second Severn Crossing, Cardiff Bay Barrage, Bristol Deep Sea Container Terminal, etc., as well as advising on various conservation designations. He is the inventor/co-inventor of a number of generic sediment management systems (SMSs) for muddy zones, permitting ports to remain operational without recourse to expensive and environmentally-damaging maintenance dredging. These sustainable methods are becoming widely applied around the world, though still ignored here in the UK.

He has written 60+ reports and papers on the estuary, 15 of which are on various tidal power options. In 2010, jointly with a French professor, he won the Telford Premium Award from the ICE for Outstanding Paper of the Year for their paper comparing the ecological consequences of La Rance and Cardiff-Weston barrages. For his work on innovatory generic SMSs, also in 2010, he was given a Lifetimes Achievement Award by the ASCE in Washington.

Arising from the physical dimension being largely unrepresented in the Severn at present, the talk addresses two problematic areas, both covered by the term “Loss of Corporate Memory”. First, in his “backstop” advisory input for the Hinkley “C” inquiry it became apparent that sight had been lost of the storm surge inundations of the station site in 1962 and 1981. Illustrating these likely focussed minds. Second, another disconcerting “Loss of Corporate Memory” surrounds implementation of the shoreline management plan. As the original Technical Advisor to this, Dr Kirby drew up its physical framework. For the moment, and in an aberration, this is currently being implemented without any link to estuarine evolution or fine sediment exchanges between inter- and sub-tidal zones in favour of a simplistic resorting to 4 high water options. This is an inadmissible breach of protocols and leaves our coastal zone in “a bad place”.

By way of contrast, and a stark one, recent engineering developments in near-European estuaries are briefly reviewed. A number are deteriorating rapidly. In the immediate timescale maritime economies can be safeguarded by employing modern generic SMSs and/or shifting ports to estuary mouths. Reinstating and returning these to “health” will take time and money. Sustainable generic SMSs are more desirable in healthy systems, too. Using this physical analysis as a platform, it is shown how the Severn, too, has “Lost its Resilience” and this can’t be reinstated by tinkering with its margin. Evidence is that UK is 3 iterations (abandoning physical background, lack of proper analytical framework, failure to adopt generic SMSs) behind mainland Europe.

Highlighting this in the past has proved futile, though the door remains open.

Dr Andrew Bellamy - Tarmac Marine Dredging Ltd

Marine aggregate dredging in the Severn Estuary

Andrew Bellamy works as Resources Manager of Tarmac Marine Dredging Ltd and is responsible for locating marine aggregates and applying for Government licences to allow their extraction. He has a PhD in marine geology, entitled “An investigation of gravel bodies offshore southern Britain” and is a Chartered Geologist and Fellow of the Geological Society of London.

Aggregate extraction in the Severn Estuary takes place from the Middle and Welsh Grounds. There are currently six licensed dredging areas in the region granted to four companies, CEMEX UK Marine, Hanson Aggregates Marine, Severn Sands and Tarmac Marine Dredging. These companies supply sand aggregate from the Severn Estuary to wharves in Avonmouth, Appledore, Bridgwater, Newport, Cardiff, Swansea and Pembroke for use in the construction industry of SW England and South Wales. The licences are granted by the Welsh Government and the companies are responsible for compliance with numerous licence conditions including environmental monitoring. Dredged cargoes are loaded over screens to ensure that no oversize particles, such as occasional pebbles and shell fragments, enter the cargo. Once landed, sand cargoes are immediately ready for use, requiring no onshore processing and producing no waste. The sand from the Severn Estuary is naturally well suited as an ingredient in mortar and concrete and has been used in a range of large and small local construction projects including the Second Severn Crossing.

Bill Cooper - ABP MER

Severn Tidal Power Resource

Bill Cooper is Managing Director of ABP Marine Environmental Research. Bill has over 26 years of practical experience in coastal projects since he graduated from Swansea University where he obtained his first degree in Oceanography. Bill has previously worked at the Tidal Waters Unit of Welsh Water and for an engineering consultancy based in South Wales. Since 2004, Bill has contributed to a variety of marine renewable energy projects, ranging from development of standards and guidance, strategic scale studies for UK Government, to major infrastructure projects like the Severn Tidal Power schemes and also local developments such as the Swansea Bay Tidal lagoon.

This presentation aims to provide an objective overview of the Severn Tidal Power Resource, as a personal examination and without prejudice. An explanation is offered as to why the resource in the Severn is so unique in contrast to other UK estuaries and why some of these properties present issues of their own. The presentation highlights some of the implications of harvesting the resource and interest features that may be involved.

Dr Jeanette Reis - Cardiff University

Introduction to: The Severn Estuary Features, Natural and Cultural Environment

Jeanette gained her degree from the Department of Maritime Studies in Cardiff University in 1996 and her PhD in Integrated Impact Assessment of Marine Oil Spills from the School of Earth and Ocean Sciences, also from Cardiff University (2002). While undertaking her PhD she worked part-time as a research assistant, becoming involved in ten international marine risk assessment research projects that involved widespread travel. She then spent four years working on integrated system assessments at local authority level, before becoming a strategic advisor for a Welsh Government minister.

Her return to academia in Cardiff University involved research into the maritime heritage of the Severn Estuary and science/ policy integration for coastal systems assessment, which then evolved into a number of coastal climate change adaptation projects. In 2010, she began teaching Integrated Coastal Zone Management at Glamorgan University, and in 2011 became module leader for Ocean Management in Earth Sciences, Cardiff University. In addition to teaching Management of the World Ocean, Integrated Coastal Zone Management and Environmental Law at Cardiff University this year, she works for the Climate Change Consortium as a policy outreach officer, as well as for the Association of Severn Estuary Relevant Authorities as a scientific officer. She is currently undertaking a review of recreation in the Severn Estuary as part of this latter role.

On her days off, Jen enjoys a game of badminton and camping in her trusty (rusty) VW campervan.

John Buttivant - Environment Agency

Bristol Channel Strategic Coastal Group, Shoreline and Flood Risk Management

John has a BSc in Geography from the University of Wales, Aberystwyth. He is a chartered Water and Environmental Manager and a Chartered Environmentalist. Since joining the Environment Agency in 2001 John has had a key role in Coastal Management at all levels from individual flood defence schemes to strategic management planning and regional coastal monitoring. Currently, he is a Senior Coastal Advisor working for the Environment Agency's Wessex Area, where he maintains a Strategic Overview of coastal activities and works closely with local authorities and other stakeholders to manage the risks of flooding and coastal erosion.

The Coastal Groups play a key role in the integrated management of coastal flood and erosion risks. They are responsible for production of the Shoreline Management Plans and have key roles in the sharing of best practice and overview of coastal issues.

Local Authorities and the Environment Agency are working hard to address the demands of society for effective coastal defences as well as meeting legal obligations to mitigate habitat losses. The challenges posed to the coastal authorities by increasing sea levels adds to the pressure at a time when direct government funding is decreasing. The Coastal Groups have a vital role to play in assisting the coastal operating authorities as they seek external partners and partnership funding to deliver improvements to defences whilst acting as a focus for innovative solutions that meet the demands of society.

Dr Joe Green - Natural England

The Severn Estuary European Marine Site

Dr Joe Green has a degree in Marine Geography and a doctorate in marine oil spill response, both from Cardiff University. He has ten years experience working in the marine and coastal sector ranging from teaching coastal and marine ecology in the lab, field and offshore, to EU funded work writing and delivering workshops and training courses to private and Government sectors in SE Asia as part of an International collaboration between Asian and European Universities.

He has worked for Natural England for three years and is currently the lead marine adviser on the Severn Estuary. The role includes providing statutory environmental advice regarding maintaining UK and European marine protected sites in favourable condition, assisting a range of stakeholders with the Habitats Regulations Assessment process and carrying out ecological monitoring programmes. Prior to this role he has worked with students and professions studying the physical features of the Estuary environment from a coastal and offshore perspective.

Tamsyn Noble - Devon & Severn IFCA

The Work of the Devon and Severn Inshore Fisheries and Conservation Authority in the Severn

Tamsyn Noble is the recently appointed Senior Environment Officer for Devon and Severn Inshore Fisheries Authority (IFCA). Based in Bristol, Tamsyn is primarily responsible for the delivery of IFCA research objectives within the Severn area, having established survey programmes to assess the availability and use of sea fisheries resources, and habitats of conservation significance. Tamsyn graduated with a BSc (Hons) in Marine Biology and Coastal Ecology in 2005, before undertaking voluntary work in a variety of marine ecosystems, both in the UK and abroad. Following graduation from MSc Applied Ecology and Conservation in 2009, Tamsyn was recruited to the role of Marine Environmental Scientist in the offshore energy sector. During this period she worked both onshore and offshore to deliver environmental baseline and monitoring projects, and specialised in the assessment of Annex I habitats.

Devon and Severn Inshore Fisheries and Conservation Authority (D&S IFCA) was fully vested in 2011 under the Marine and Coastal Access Act 2009, to provide inshore fisheries and conservation management, with an increased focus on habitats and ecosystems. The district boundary of the IFCA, which previously encompassed only the Devon coastline to six nautical miles, was substantially increased to include the Severn Estuary and Inner Bristol Channel. Following establishment of a presence in the Severn area of the district, a programme of research activities has commenced, aiming to determine the extent of commercial and recreational use of its marine resources and habitats. This presentation will focus on the role of the IFCA within the Severn area, introducing key current and future research areas, and presenting preliminary data on recreational activities.

George Ashworth - Severn Estuary Partnership Management Group Chair

Introduction to: Managing our Common Resource

George Ashworth has chaired the SEP Management Group since 1998. Following a Geography BA (Hons) degree from Southampton University, he undertook an MSc in Urban and Regional Planning from Strathclyde University and became a Member of the Royal Town Planning Institute (RTPI) in 1978. He has been Head of Planning and Regeneration in Monmouthshire County Council since its formation in 1996 and has always recognised the significance of the Estuary to planning interests around its shore; not least because of climate change and renewable energy concerns. He has promoted such interests in relation to the Wales Spatial Plan and South East Wales Strategic Planning Group, of which he is a past chair.

David Tudor - Crown Estate

Marine Planning and Offshore Renewables, A Crown Estate Perspective

David Tudor is the Senior Marine Policy & Planning Manager for The Crown Estate. He has gained a wide range of experience from working in marine management matters as a consultant and within a diverse range of organisations – including NGOs, universities and government agencies. David leads the delivery of a number of key aspects of Crown Estate business and advice across the UK, including: marine planning, consenting, input to marine conservation initiatives, and advice on government legislation and marine policy. He also leads the team that utilise the MaRS spatial planning tool, which assists The Crown Estate in sustainably managing the marine estate.

This presentation will focus on how the Crown Estate deals with the management of the resource that is the Severn Estuary, in terms of marine planning and offshore renewable energy.

Al Storer - Welsh Government Marine Team

Welsh Government, Marine Planning Update

Alan started his career as a Foreign Direct Investment Project Executive for the Welsh Development Agency, working across a number of advanced manufacturing sectors before joining the Welsh Government and continuing in a similar role for International Business Wales. Alan initially joined the Marine Branch of the Welsh Government to help project manage the implementation of the Marine and Coastal Access Act in Wales on a 1 year secondment. Alan returned to Marine Branch in January 2011 as a Marine Planning Officer.

This talk will offer an overview of the work of the Welsh Government within the marine planning process. The presentation will offer an insight into marine planning specifically within the Severn Estuary including current planning updates.

Paul Parker - Severn Estuary Partnership / Coastal Partnership Network

A Partnership Approach

Paul Parker has over five years working experience with the Severn Estuary Partnership, helping to build a practical working framework in order to aid the effective cross-border communication of coastal estuarine matters in the Severn Estuary. Paul is currently the acting Chair of the National Coastal Partnership Network after holding the secretary's post for 2 years. The Coastal Partnership Network aims to encourage the exchange of information and debate between Coastal Partnership Officers on a regular basis, linking Partnership Officers to the wider field and offering increased opportunities for learning and influence. Paul has a background in Marine Geography and completed a Marine Geography Degree at Cardiff University in the Summer of 2008.

This presentation will focus on the Partnership approach to sustainable coastal management, drawing on the past years experiences of both the Severn Estuary Partnership and Coastal Partnership Network. The presentation will also offer a brief analysis of research between the Coastal Partnership Network and Marine Management Organisation exploring how and where Coastal Partnerships can best and better engage in marine planning and coastal management processes in to the future.