South West Marine Ecosystems 2018

April 13th Sherwell Centre, Plymouth University, Plymouth

Delegate Notes

The 2018 South West Marine Ecosystems Meeting (SWME) meeting will take place again in the Sherwell Centre, Plymouth University on Friday April 13th 2018. Full details are available on the SWME website.

In 2017 200+ delegates attended representing 90+ organisations. The format and content for 2018 is similar to previous years with a mix of long and short presentations, poster displays and good time for discussion and networking.

The objectives of SWME have been updated following your feedback from SWME 2017 and are as follows:

1. **Networking** Through the conferences, website and mailings, to provide a networking opportunity for a wide cross section of people to meet, exchange views and build networks for the south-west's marine ecosystems in order to:
   - Provide active support for existing networks enabling and building citizen science projects;
   - To encourage collaboration between users, researchers/scientists and managers/policy makers;
   - Encourage links between researchers on science projects throughout the region's seas (e.g. the English Channel, Bristol Channel, Celtic Seas and the wider Atlantic Ocean).

2. **Annual Events & Recording** To use the annual conference to record observations on ecological and oceanographic events of the previous year that have affected the south west marine ecosystems and to make the linkages between environmental and biological phenomena. To publish these observations annually. To promote the recording of observations throughout the year and ongoing regional and national marine recording projects through the SWME website.

3. **Ecology of marine species** To promote research studies that focus on the ecology of marine species, planktonic, benthic and 'mobile' species (fish, birds, mammals, turtles) and the ecosystem that supports them. To understand the status of populations of marine species in the region's seas and how they are responding to environmental and anthropogenic pressures. To enable stories to be told about the ecology of our common species, their distribution, movements and numbers, and importantly to highlight the gaps in our knowledge.

4. **Management of south west marine ecosystems** To encourage strong relationships between policy makers and scientists; to promote science and the evidence base that underpins management of human activities in the coastal and marine environment with a view to supporting and promoting the health of the south west marine ecosystem.

5. **Marine Education and Outreach** To highlight marine education and outreach programmes in the south west. To support the development of new programmes that promote marine management and make use of marine science. To promote good practice in environmental education, interpretation, signage and outreach.

…and to come together to celebrate being part of the SWME!

EXPLORE WITH PLYMOUTH UNIVERSITY MARINE INSTITUTE

WWF

The Wildlife Trusts Cornwall Wildlife Trust

Thank you to this year's sponsors and the organising team: Natasha Bradshaw, Ruth Williams and support staff at Cornwall Wildlife Trust and Bob Earll and Jayne O'Nions of CMS Ltd.

SWME 2018 Programme

Networks and Recording – Getting an Overall Picture for the South West

09.00 – 09.30: Refreshments

Session 1 Events & Observations

9.30 Welcome Chair: Keith Hiscock, MBA

9.35 The SWME Annual Report: Observations & Science, People and Making a Difference – The theme of SWME Conferences **Bob Earll** CMS

10.00 Events & Observations in 2017 **Natasha Bradshaw** SWME
Comment on events and bring along your observations of 2017.

10.15 From climate to oceanography to plankton **Angus Atkinson** PML

10.35 From Regional to Global: how good data support good stewardship **Dan Lear** MBA

10.55 MARINe-DNA: a forensic approach for detecting marine biodiversity
Professor Willie Wilson, Marine Biological Association

11.15 Power of the network **Claire Wallerstein & Delia Webb** Cornish Plastic Pollution Coalition

Short Updates
11.35 **Mermaids Tears and Witches Britches: Plastic Pollution Research** **Pennie Lindeque** PML
11.40 **Biofluorescence and rocky-shore organisms** **Rebecca Allen** Cornwall College Newquay
11.45 **Is sticky ecology protecting our sandy beaches?** **Robyn Samuel** Plymouth University

11.50 – 12.40 First break**:** Buffet and refreshments

Session 2 Seabirds & Mammals

Chair: Matthew Witt University of Exeter

12.40 Capturing seabird data in the South West – bringing monitoring and citizen science together
Sophy Allen Natural England
12.50 Seasearch – local to regional perspective
Charlotte Bolton Seasearch **& Matt Slater,** Cornwall Wildlife Trust
13.10 Setting up, sustaining and securing a regional recording network
Sue Sayer Cornwall Seal Group
13.30 Sail training – an opportunity to advance ocean literacy
John Hepburn The Island Trust

Short updates
13.50 **England's only resident bottlenose dolphin population: introducing the SW community**
Dr Simon Ingram Plymouth University
13.55 **Distribution of small cetaceans along the SW coast using passive acoustic & visual surveys**
Clare Embling Plymouth University
14.00 **Recreational impacts in the Plymouth Sound & Estuaries EMS: bridging science to policy**
Beth Siddons Plymouth City Council & **Olivia Langmead** Plymouth University
14.05 **Influx of Portuguese Man O War and By-the-Wind-Sailors into UK waters 2003-2017**
Victoria Hobson Exeter University

14.10 - 14.50 Second break**:** Cakes and refreshments

Session 3 Using science to inform marine management

Chair: Martin Attrill Plymouth University Marine Institute

14.50 Development of a real-time, regional coastal flood warning system for southwest England
Christopher Stokes Plymouth University/SW partnership for Environment and Economic Prosperity (SWEEP) project.

15.10 A Wrasse's tale: research and management
Sarah Clark Devon & Severn IFCA **& Pete Davies** Plymouth University

15.30 Capturing the Coast **Nova Mieszkowska** Marine Biological Association

15.45 Inspiring people to connect to our beautiful UK SEAS **Penny Wilson** WWF-UK

16.00 Blue Planet stories **Jonathan Smith** BBC Natural History Unit

16.30 Close

Speakers Abstracts

The SWME Annual Report: Observations & Science, People, and Making a Difference - The theme of the SWME Conferences

Bob Earll
CMS – Communications and Management for Sustainability
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The objectives of this talk are:

1. To describe the SWME Annual Report and what it is setting out to do.
2. To explain the objectives of SWME in terms of:
   - Observations, recordings and science
   - People and networks
   - Using these to make a difference
3. To link these elements together.

Why produce an annual report?

1. **Describing 'normal' patterns of events** e.g. the oceanographic and planktonic systems
2. **Marking major events** e.g. the major winter storms of 2014-15 or the PIB incident
3. **Highlighting significant ecological and population changes** – **trends** e.g. the increase in seabirds on islands after rat control and blooms of barrel jellyfish.
4. **Good years & bad years – relative status - trends** For species like basking sharks, tuna
5. **Remarkable sightings** e.g. Bowhead whale, Cornwall in 2016 or the Dalmatian pelican
6. **Acting to focus interest** Publishing provides a focus for further research, year on year
7. **Questions and interactions – making the links** between environmental, species, habitat and management changes
8. **Telling stories about what we know and providing access – education & outreach**
9. **Making a difference – managing human activities** e.g. wildlife entanglement, fisheries for crawfish or wrasse, the spatial allocation for developments or protected areas, acting on plastics.

The talk will illustrate these points from the SWME annual reports for 2014, 2015, 2016, which can be accessed from the SWME website http://swmecosystems.co.uk/annual-reports

Events & Observations in 2017

Natasha Bradshaw
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Natasha will be facilitating this session to encourage delegates to comment on events and record observations from 2017 which will feed into the next annual report.

Observation forms are provided by email before the event and in paper-copy in the delegate packs on the day.

From climate to oceanography to plankton

Angus Atkinson and **Tim Smyth** Plymouth Marine Laboratory (PML)
aat@pml.ac.uk 01752633409

This talk will highlight the value of time series to understand how variation in the physical environment effects marine ecosystems. These effects operate over a range of scales, and this talk will emphasise scales ranging from seasonal up to multi-decadal. Sustained time series of observations are essential to identify the extent of natural variability in the system. They provide a context from which we can examine anomalous years or the effects of extreme events. The Plymouth L4 site (50 m water depth, 13 km SSW of Plymouth) has been sampled since 1988, with its 30th anniversary of weekly observations in March this year. I will use examples from this time series to illustrate the seasonal cycle of the plankton, and how the annual timing of this seasonality (the phenology) of some of its species has shifted in response to climatic warming. I will also place the 2017 season observations into the context of decadal-scale trends that we have been observing at this site.

From Regional to Global: how good data support good stewardship

Dan Lear Marine Biological Association (MBA)
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Your data matter. In this presentation we will look at how data collected and managed at the regional scale are contributing to the development of national and European policy and in tackling global challenges. We will explain the sometimes complex data flow pathways and highlight technical improvements that have streamlined data management activities. DASSH, the UK Archive for Marine Species and Habitats is based at the Marine Biological Association and forms part of a thematic network of data centres working towards common standards and guidelines to facilitate data discovery and reuse and improve access for all.

MARINe-DNA: a forensic approach for detecting marine biodiversity

Professor Willie Wilson, Marine Biological Association
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As we continue to encroach upon the remaining 'wild' areas of our planet, evidence of the presence of rare and endangered species is a prerequisite for the implementation of conservation measures and management actions designed to ensure their survival in the future. But what about those creatures that are seldom seen and provide little or no evidence of population numbers or even whether they exist in an area at all? The evolving technique of analysing environmental DNA (eDNA) which may provide insights into what is, or at least has recently been, present in an area. The powerful tool of eDNA as a technique is now made possible thanks to the great strides that have taken place in molecular biology which enable the smallest of samples to be collected, filtered and sequenced to provide evidence of an organism's presence within an environment; in a forensic sense, the organism's genetic fingerprints are left behind. I will discuss the development of these molecular biology techniques to assess biodiversity in the marine environment and how we go about automating the detection methods.

Power of the network

Claire Wallerstein & Delia Webb Cornish Plastic Pollution Coalition (CPPC)
claire.wallerstein@gmail.com

The Cornish Plastic Pollution Coalition (CPPC) is a large and growing network of beach cleaning groups and marine conservation organisations and experts, all galvanised to work together with a common goal – to fight and raise awareness about plastic pollution issues in Cornwall and beyond.

With its signatory groups between them representing the interests of tens of thousands of people, the CPPC is becoming an ever-stronger and increasingly respected voice in lobbying on many issues ranging from balloon releases to the losses of plastic biomedia used in wastewater treatment.

Through presentations, letters, reports, media work, information sharing, stakeholder meetings and education work in schools, the CPPC is spreading the message about the impacts of marine plastic pollution.

By sharing the workload among its member groups and supporting each others' individual initiatives, the CPPC is also able to tackle a large number of plastic pollution issues with the increased power of its shared voice. Acting as a network also allows all of its passionate member groups to participate in actions that they may not usually have the capacity or expertise to get involved with.

Short Updates

Mermaids Tears and Witches Britches: Plastic Pollution Research

Dr Pennie Lindeque Plymouth Marine Laboratory (PML)
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www.pml.ac.uk/Research/Research_topics/Facing_the_challenge_of_new_pollutants/Marine_plastics

Over 322 million tonnes of plastic are produced globally each year, and it is predicted more plastic will be produced in the next decade than in the whole of the last century. Of this plastic, 40% is used for single-use items such as food packaging and drinks bottles. While plastic has vast societal benefits with countless applications, due to poor waste management, road run-off and littering, plastic is entering our oceans at an unprecedented rate, where it has become a widespread environmental pollutant, contaminating oceans, seas, coastlines and rivers worldwide. Of increasing concern are 'microplastics' (microscopic plastics, 0.1 µm–5 mm), which come in a variety of shapes, sizes and polymers, with microplastic fibres, stemming from synthetic fabrics and ropes, being particularly prevalent. It is estimated that over 4.75 trillion individual microplastic particles are floating on the world's oceans, and they've been identified in polar ice, deep-sea sediments, and beaches of remote oceanic islands.

This 'rocket' talk will give a quick update of the research of the microplastic team at Plymouth Marine Laboratory including:

- Analysis of a 10-year nationwide assessment of marine anthropogenic litter using citizen science data from the Marine Conservation Society.
- Assessment of microplastic pollution in coastal waters off Plymouth; a comparison of sampling with different mesh sizes.
- Fate and impact of microplastic; ingestion of microplastic by zooplankton in their natural environment.
- Investigation of microplastic trophic transfer to marine top predator.

Biofluorescence and rocky-shore organisms

Rebecca Allen Centre for Applied Zoology, Cornwall College Newquay
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Bioflourescence – the unseen disco on the sea shore: a brief exploration of this phenomenon which shows appearances can be deceiving in even the humblest occupants of the Cornish coastline. Website: https://www.cornwall.ac.uk/cornwallcollege/marine-natural-environment/fdsc-marine-conservation-2 & https://www.cornwall.ac.uk/cornwallcollege/marine-natural-environment/bsc-hons-applied-marine-zoology-2

Is sticky ecology protecting our sandy beaches?

Robyn Samuel Plymouth University
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As part of the BLUECoast project with Plymouth University, we are investigating the role of ecology on sediment dynamics. Perranporth beach on the north coast of Cornwall is a site where extensive research has been undertaken to understand the physical mechanism for sediment transport and now we are starting to look at the role of ecology there.

This research looked at 2 factors:

1) The amount of extracellular polymeric substance (EPS), a sticky carbohydrate matrix produced predominantly by diatoms, which has been shown have a significant role in sediment cohesion.
2) And the abundance and distribution of macrofauna.

By measuring these factors across the intertidal and out to -30m, in the winter and summer we found:

- EPS across Perranporth was significantly greater in the winter survey and some samples contained quantities of EPS that have been shown to play a role in sediment stabilization.
- An increase in macrofauna abundance and diversity was identified in all but the shallowest depths during the summer survey
- The intertidal and seaward of the inner depth of closure (-15m) are the area's most likely to have sediment transport affected by ecological factors.

Session 2 Seabirds & Mammals

Capturing seabird data in the South West – bringing monitoring and citizen science together

Sophy Allen Natural England

Seabird monitoring in the UK tends to be focused on breeding birds nesting within managed sites, with wider monitoring outside of these sites and at sea more sporadic and disparate. However, there may be missed opportunities for data capture through observations made by professionals and citizen scientists not currently feeding information into bird recording schemes. This talk publicises the main data storage systems for seabirds, the Seabird Monitoring Programme and BirdTrack, highlights key data gaps and describes the value of submitting observations to these schemes. Of particular interest to the conference, such observations could be used to inform annual South West Marine Ecosystems reports, and to make linkages with emerging patterns in other taxa.

Seasearch – local to regional perspective

The *Palinurus elephas* population revival in the South-West

Charlotte Bolton Seasearch **& Matt Slater,** Cornwall Wildlife Trust

Since 2015 divers in the south west have been recording a veritable population explosion of the spiny lobster/crawfish, *Palinurus elephas*, after they were exploited to virtual extinction in the 1980s. Seasearch have been encouraging divers to send in their records to inform Natural England and the local IFCAs and to assist with the management of the re-emerging *Palinurus* fishery and the Marine Conservation Zones that list this species as a Feature of Conservation Interest. We will present the sightings data and show how all divers can get involved with this project.

Matt Slater, Marine Awareness Officer and Cornwall Seasearch Coordinator, Cornwall Wildlife Trust, Five Acres, Allet, Truro (www.cornwallwilifetrust.org.uk)
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Setting up, sustaining and securing a regional recording network

Sue Sayer
Cornwall Seal Group Research Trust (CSGRT)
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CSGRT is an evidence-based conservation charity supporting a large network of active citizen scientists surveying their local patch to learn more about grey seals, a globally rare marine mammal for which the UK has a special legal responsibility (JNCC). CSGRT put seals on policy, planning and management agendas.

Volunteers across the SW identify seals from unique fur patterns and photo ID catalogues are shared around the Celtic Sea. In 2017 alone, CSGRT received 3945 seal records from 285 different volunteers and 101,017 photos were processed for photo ID from 271 locations.

Life stories for seals span nearly 20 years, telling us that there is no such thing as an average seal; seals don't live in static colonies and seals from Cornwall travel to Devon, Dorset, Wales and France! Research findings are shared internationally at conferences across Europe and the USA, during global calls / webinars and in scientific reports / publications.

Establishing, building and sustaining our huge network of volunteers has been successful because of our geographical context, numerous like-minded partner networks, CSGRT's scientific protocols for data management and successful fundraising alongside the personal philosophy of key personnel. We have some top tips to guide those working with similar networks.

Sail training (ST) – an opportunity to advance ocean literacy (OL)

John Hepburn The Island Trust
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ST - Educational experience that occurs on board sailing vessels of various sizes in various contexts around the world.
OL - Understanding the ocean's influence on you and your influence on the ocean.
ST & OL should be natural bedfellows, but in UK and Europe they are not.

- Barriers to teaching OL include lack of connection with the Ocean.
- There is an appetite within ST for a qualification in marine environmental education.

Ocean Discoverability

- Project within The Island Trust taking disabled children day sailing in Plymouth waters in traditional sailing vessels.
- Strong educational element with emphasis on OL.
- Day's activities described.
    - Alongside – pontoon and seabed life, CO2/O2, NNIs, adaptation
    - Sailing – I Spy guide, maritime, plankton trawl
    - Alongside – plankton, evaluation
- Demonstrates it can be done. Could it be taken up by other organisations; what are the issues?
    - Make sail trainers marine science educators, or bring MSEs on board?
    - Qualification, toolkit of activities, access to expertise, cooperate with existing MSEs?

Who could take up the challenge?

Short updates

England's only resident bottlenose dolphin population: Introducing the south west community

Dr Simon Ingram Plymouth University
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'Bottlenose dolphins (*Tursiops truncatus*), have been sighted regularly in the southwest region of the UK since 1991. However, the degree of residency for this population remained poorly understood. Citizen science data was used to analyse the social structure, distribution and abundance of bottlenose dolphins in southwest waters. A total of 193 photo-identified encounters from 2008 to 2016 were acquired from various sources throughout the region. Evidence for a discrete coastal community restricted to waters <50 m is presented, along with the existence of other pelagic animals and lone individuals, who appear to be spatially and behaviourally segregated. Although kernel density methods demonstrated that the community appeared to have two distinct core areas of use, ranging behaviour determined that individuals travelled appreciable distances and were not confined to these core areas. Seasonal distribution indicated that dolphins within the coastal community are year-round residents, with an increase in sightings during the summer. Mark-recapture analysis produced an estimate of only 28 (±4) individuals within the resident population. Therefore, until demographic isolation can be fully determined a precautionary conservation approach should be applied. It is clear that this population requires specific measures of protection, such as the designation of a Special Area of Conservation (SAC) or Marine Conservation Zone (MCZ) in southwest waters.'

Distribution of small cetaceans along the SW coast using passive acoustic & visual surveys

Clare Embling Plymouth University

Embling, C.B.[1], Edwards, W.[1], McCallien, A.[2], Ingram, S.N.[1]
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The southwest of the UK has one of the highest diversities of cetaceans in the UK, with high numbers of small cetaceans including harbour porpoises (*Phocoena phocoena*), common dolphins (*Delphinus delphis*) and the small vulnerable population of coastal bottlenose dolphins (*Tursiops truncatus*). The southwest also has one of the highest fisheries bycatch rates of small cetaceans in UK waters, making these populations particularly at risk. However, we know very little about cetacean populations along the SW coast except in localised areas. We have therefore recently started carrying out systematic broad scale visual-acoustic surveys of the SW coast of Cornwall from the university sailing yacht (*Take the Helm*) to gain a better understanding of the distribution and relative abundance of small cetaceans in the area. Acoustic surveys are particularly useful for detecting harbour porpoises, which are difficult to spot visually in poor sea states. We report on the first survey carried out in August 2017, surveying the coast from Plymouth to the Lizard Peninsula out to the 6 mile limit. There were a total of 116 harbour porpoises, 47 common dolphins, and 3 minke whales detected visually, with highest densities of harbour porpoises found off Whitsand Bay, Fowey, and the Lizard Peninsula. This forms the first of a series of regular surveys of cetaceans off the SW coast to inform conservation management of these populations and help understand and mitigate bycatch rates.

Recreational impacts in the Plymouth Sound & Estuaries EMS: bridging science to policy

Beth Siddons Plymouth City Council
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Olivia Langmead Plymouth University
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The Plymouth Sound and Tamar Estuaries European Marine Site (EMS) is a complex site of inlets and bays, providing ideal conditions for a range of coastal and marine recreational activities. Its proximity to the city of Plymouth, and infrastructure enabling access (slipways, car parks, coastal paths), makes it a popular site for walking, sailing, kayaking, swimming, angling and diving. Understanding the location, intensity and seasonality of recreational activities and their pressures is key to identifying any potential impacts and disturbance to features of conservation importance. Forming part of the Habitats Regulations Assessment of the Joint Local Plan, developed by the four local authorities bordering the site (Plymouth City Council, Cornwall Council, South Hams District Council and West Devon Borough Council), the survey helps inform management plans to deliver sustainable recreational use.

An assessment of recreational activities was undertaken using three complimentary methods: 1) Volunteer surveys conducted on-site; 2) Targeted workshops for key activities and 3) Online questionnaires. This revealed that recreational users are predominately local (to Devon and Cornwall) and there were seasonal trends, with more non-local visitors in summer. Terrestrial activities accounted for the majority of visitors surveyed, with their distribution reflecting the main access points within the EMS.

Influx of Portuguese Man O War and By-the-Wind-Sailors into UK waters 2003-2017

Victoria Hobson[1], Peter Richardson[2], Matthew Witt[1,3]

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The occurrence in the autumn of 2017 of a large number of *Physalia physalis* L. strandings on the south-west coast of the British Isles has prompted an interrogation into records of its appearance on the Atlantic coasts of the UK during the past 15 years. MCSUK records for reported strandings for Portuguese Man O War and By-the-Wind-Sailors (*Velella velella*) are considered in detail in conjunction with environmental data for the period involved

Session 3 Using science to inform marine management

Development of a real-time, regional coastal flood warning system for southwest England

Christopher Stokes Plymouth University/SW partnership for Environment and Economic Prosperity (SWEEP) project.
Christopher Stokes[1], Timothy Poate[1], Gerd Masselink[1], Jak McCarrol[1], Erin King[1]

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Christopher.stokes@plymouth.ac.uk

An operational, real-time coastal flood warning system for the entire southwest of England has been developed as part of the South West Partnership for Environment and Economic Prosperity (SWEEP) project, funded by the UK's Natural Environment Research Council. Previous flood warnings for the region

only accounted for predicted tide and storm surge levels, and ignored wave runup and wave set-up, which can contribute many meters to the total elevation of the sea and cause significant flooding during a storm.

To improve coastal flood warning requires a system that is capable of predicting wave runup and overtopping volumes along the unique, macrotidal southwest coastline, which features embayed, sandy, gravel, and engineered regions. First, a 1 km wave and hydrodynamic model was developed to forecast inshore waves and water levels up to 5 days ahead. Bathymetric profiles, representing the most at risk profile within each kilometre of the ~900 km coastline, were extracted for the calculation of wave runup, and three different empirical models were used to predict wave runup and overwash volume for different profile types, in real-time, from the output of the hydrodynamic model.

Various stakeholders, including the Environment Agency, have partnered with SWEEP, and it is hoped that the system will now be used to inform and prioritise the roll-out of emergency resources across the southwest of England during extreme storm events. Prior to such events, automated alerts will be emailed to partnering authorities when certain thresholds of wave overtopping are predicted to occur in the forecast window, which will allow for pinpointed proactive flooding responses by the authorities at the locations predicted to be affected.

The automation of this interlinked system of models for such a unique and diverse length of coastline represents a novel approach to predicting coastal flooding. The core wave and hydrodynamic model will next be used to develop other 'bolt-on' coastal monitoring and management tools, potentially including a lifeguard search and rescue tool, and a high-resolution lifeguard rip current model. Opportunities are now being sought to use the model to help predict the dynamics of coastal ecological systems in the southwest.

A Wrasse's tale: research and management

Sarah Clark Devon & Severn Inshore Fisheries & Conservation Authority (IFCA)
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Pete Davies Bournemouth University
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- Background to the Live Wrasse Fishery
- What the fishery looks like
- Potential ecological and biological Impacts of the Fishery
- Devon & Severn IFCA research work and data collection
- Management of the fishery
- Benefits of Participation

Lasers and Labridae in Lyme Bay; exploring a novel method to investigate territoriality in wild fishes

- The extent of animal territory and 'home-range' are key considerations when designing spatial conservation measures, such as marine protected areas.
- In Lyme Bay, southwest England, territorial wrasses have frequently been observed pursuing a laser projected onto the seabed during towed video surveys.
- In this brief presentation, Pete Davies describes his MSc research spent investigating this 'laser-chasing' behaviour, to reveal aspects of wrasse territoriality and territory size.
- Using this novel, opportunistic method, fascinating behavioural differences were found within and between species, which may be related to their reproductive biology.
- The potential for this method to be applied more widely to study fish territoriality is discussed.

Capturing the Coast using citizen science to record marine life around the UK

Nova Mieszkowska Marine Biological Association (MBA)
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The responsibility for protecting our seas and marine biodiversity belongs to all of us. CoCoast represents a unique collaboration between research, university and conservation organisations around the UK that are concerned with increasing our knowledge base and conserving marine biodiversity. The CoCoast team train members of the public who are interested in learning about marine life to actively assist with data collection in both field and laboratory settings. Across the Training Hubs at seven university, research and conservation organisations around the country, over 3,500 citizen scientists have been trained and are engaging in surveys and experiments on rocky shores across the UK regional seas. CoCoast is investigating the impacts of climate change, extreme weather events, Invasive Non-native Species, and the development of artificial structures in the coastal zone on native biodiversity via studies on phenology, species interactions, and changes in the abundance and distribution of species around the UK coastline. Data are being made available to UK Country Nature Conservation Bodies and published in peer-review literature. CoCoast is empowering members of the community to actively engage with the discovery, recording and protection of intertidal habitats and the biodiversity that these ecosystems support in the UK.

Inspiring people to connect to our beautiful UK SEAS

Penny Wilson WWF-UK
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Our seas are amazing. They give a home to wildlife, provide us with food and jobs, and even generate some of our energy, but many people feel disconnected from them. A recent survey by WWF in the UK found that despite oceans being one of the key environmental concerns – only 12% of those surveyed felt they 'knew a lot' about marine issues.

There are vast benefits to engaging the public with our oceans, from small scale changes an individual can make, to pushing for more effective management at a national and international scale. The recent success of Blue Planet II shows people care and are excited about the sea, when engaged in the right way.

WWF's UK SEAS project is working in North Devon to inspire and excite local communities with the marine environment on their doorstep. In this presentation we will explore some of the challenges in communicating with the general public about the sea, its wildlife, and the conservation issues facing it. We will also discuss some of the approaches being used by the UK SEAS project in order to engage with local communities in new and innovative ways, and the opportunities for collaborative working in the future.

Blue Planet stories

Jonathan Smith BBC Natural History Unit

Jonathan is a natural history film Producer at the BBC Studios Natural History Unit specializing in underwater landmark wildlife films. His career has spanned projects for the BBC and Silverback Films including Life for BBC One, North America for DCI and Bears for Disney Nature. Most recently he Produced two episodes of Blue Planet II.

Jonathan strives to push the boundaries of natural history storytelling through surprising storytelling, innovative filming methods and by developing new filming equipment in order to transport viewers into the natural world like never before. He believes that natural history documentaries can play an important role in conservation of species and habitats.