

Solent News

The newsletter of the Solent Forum

Issue 49: Winter 2020/21

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Defra's Solent Nitrate Trading Pilot



Algal bloom in Chichester Harbour. Photo courtesy of Chichester Harbour Conservancy

In September 2020, Environment Minister, Rebecca Pow, and Natural England Chair, Tony Juniper, visited Warblington Farm in Havant to launch a pilot scheme to reduce nitrates and aid wildlife recovery in the Solent. Backed by £3.9 million of government funding, it will seek to set up an online 'nitrate trading' auction platform. Through this, housing developers will buy credits to create new habitats to prevent nitrates from new housing impacting the Solent's water quality.

Housing growth had stalled in the Solent due to concerns that nitrates were causing a range of negative environmental effects, such as the excessive growth of green algae which smothers mudflats and saltmarsh. The Solent Maritime Special Area of Conservation is currently in unfavourable condition, one of the causes for this is elevated nutrient levels.

The Solent pilot will be rolled out over the next two years and will be delivered jointly with the Ministry for Housing, Communities and Local Government, Natural England, and the Environment Agency.

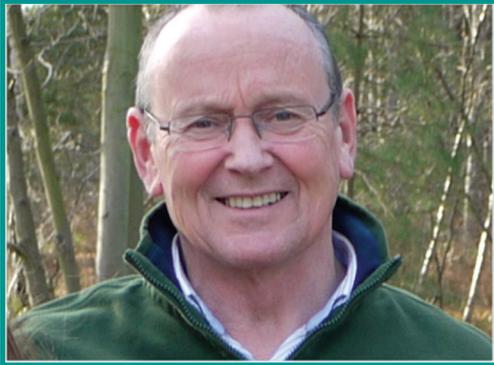
In December 2020, Defra held a webinar to introduce the Solent Nitrate Trading Pilot to Solent stakeholders, Solent Forum staff attended the event. Defra recognise that to be successful the pilot project requires the co-operation and participation of developers, landowners, the farming community, NGOs, and local government.

From January to March 2021, Defra will be holding a series of engagement events to gain input on what future nitrate neutral solutions could look like. The Solent Forum have registered an interest with this work and will keep our members posted. See: <https://www.gov.uk/government/news/wildlife-protection-plan-to-unlock-hampshire-housebuilding>.

Natural England's paper on the issue can be viewed at: <https://www.push.gov.uk/wp-content/uploads/2020/06/Natural-England's-latest-guidance-on-achieving-nutrient-neutrality-for-new-housing-development-June-2020.pdf>

News from the Forum

Chairman's Column



Peter Barham

It is hard to know what to say about the time since the last newsletter. In some ways, with the pandemic still affecting every aspect of life, it is almost like Ground hog Day with each day the same as the last, but this isn't actually true. Regardless of the limitations created by the pandemic and the need to avoid spreading the disease, so much is actually going on and so much of it is targeted at improving the environment. The articles in this edition of Solent News are evidence of that. Throughout the last few months there has been more and more in the news about what the world will look like after the pandemic. While we know there will be considerable economic damage, there is increasing talk of not just recovery, but a Green Recovery where the environment is at the centre of planning and delivering economic growth. This is seen most evidently in the North Sea, with the massive planned growth of offshore wind to combat climate change. The possibilities for a better and greener economy are everywhere, not least in the Solent where opportunities abound.

At the same time, we are hearing more and more talk about the Agriculture, Fisheries and Environment Bills which are all aimed at creating greener and better environments. The emphasis of Government support will be more towards 'public goods' and natural capital than on simple productivity and output. As these Acts come into force we will need to look at how the Solent Forum can assist in delivery, particularly in areas such as biodiversity net gain which will become a legal obligation through the Environment Act. What is also clear is that the delivery of all this will not just be through Government intervention, but through people working in partnerships to deliver real improvements. This is what the Solent Forum is about, and what Alan Inder, who sadly recently passed away, would have been pleased to see as a founder of Solent Forum and a key player in initiating coastal action. Tracey Hewett's article in

this newsletter says much more about Alan's accomplishments, but I met him a number of times and always liked him for his ideas, his openness and friendliness. People like him were essential for setting up coastal partnerships; it is all of our duties to make sure that work continues and builds on the opportunities which the current climate of change will almost certainly create.

I am optimistic for the future and I know that Karen and Kate will, as always, play more than their part in the coming months. In the meantime I hope you all had a Happy Christmas and we will have a Greener New Year, I also look forward to seeing some or all of you in person in the coming months.

Solent Forum Meetings Go Online

Like many organisations we have undergone a steep learning curve in the last few months, moving all our meetings online. From ensuring we have the right hardware to working out when we are mute we are now in a place where we feel comfortable hosting meetings. Early on we did some evaluation of how people can best access our meetings, with Zoom just edging ahead of MS Teams. We have also ensured that all our meeting papers and presentations are uploaded to our website in advance to help people who may have difficulty in viewing shared content.

To help our meetings work smoothly we have undergone lots of practices, both with staff and our meeting Chairs, so that we know who is monitoring chat, looking for waving hands or helping people who are having access problems.

Solent Forum Officers have also been able to participate in a wider range of meetings that may have been difficult before due to travel distances, particularly with national colleagues. We have also hosted individual briefing meetings with new staff from our members; please contact us if you would like to have one of these informal meetings to find out what your membership of the Solent Forum can offer your organisation.

Forum staff can also help member organisations host online events that require a Solent wide audience. We recently helped to host and publicise a Solent Water Quality Boating Workshop with the Environment Agency and Natural England.

The presentations from our Autumn 2020 Members Meeting can be found at: <http://www.solentforum.org/networking/meeting/>. The Forum will next meet on 17 March 2021 online with a view to holding our Autumn 2021 meeting in person.

Solent Marine Sites (SEMS)

Last September the Solent Marine Sites Management Group met and agreed the Annual Management Plan for 2020. This Plan reviews seventeen activities that take place around the Solent and whether they are having an impact on its designated sites. Where concerns are raised, partnership actions are agreed and taken forward by the Natural Environment Group (NEG).

NEG's focus for 2021 will be looking at disturbance to mudflats by activities like bait digging and the hand gathering of shellfish. It will also look at the impact of the growth of paddleboard use in disturbing birds in the Solent's harbours.

News from the Forum

Remembering Alan Inder by Tracey Hewett (Solent Forum Officer 2001-2008)

I worked with Alan in his capacity of Coastal Manager at Hampshire County Council (HCC), Planning and Environment Department. He line-managed me when I was the Solent Forum Officer (2001-2007 when he retired). This was my first job in coastal management and I was lucky to learn from someone so knowledgeable and forward thinking.

Although environmental legislation did not come into UK law via the EU Habitats Directive (1992) until 1995, Alan had the Council and local stakeholders begin to consider the need for sustainable management of the coast with the initiative 'A Strategy for Hampshire's Coast' (1991).

Recognising that sustainable use of the coastal zone requires vision and co-operation between all parties with an interest in the area, Alan laid out the need for a mechanism to bring stakeholders together. Understanding that the coast is a dynamic zone not bound by local authority jurisdictions, Alan was the catalyst for the creation of the Solent Forum in 1992, the UK's first coastal partnership. Since then more than 50 similar partnerships have been set up to promote sustainability and encourage joint working at the coast, many of which Alan advised.



In the early 1990s, this was not only novel but no easy thing to do. It was unusual to work cross-sector and outside local authority jurisdiction. He networked tirelessly to encourage the Solent's harbour authorities and local authorities along with regulators, land owners, NGOs and marine users to buy into the idea that the sustainable use of the Solent necessitated their involvement. This culminated in the publication of 'Strategic Guidance for the Solent' (1997) facilitated by the first Solent Forum Officer, Tim Badman; a document that, although non-statutory, was often referred to in planning matters.

From its establishment, Alan sat on the Solent Forum Steering Group representing Hampshire County Council's interests. Sustainability and protecting the environment continued to be a focus for Alan in his role of Hampshire County Council Coastal Manager until his retirement in 2007.

With the introduction of the Habitats Regulations, there was a need to develop a scheme of management for the Solent's proposed and designated nature conservation sites. With the successful delivery of the 'Strategic Guidance for the Solent', it was natural to adopt a similar partnership approach. The Solent Marine Sites (SEMS) Management Scheme was begun in 2000, coordinated by a Project Officer who reported to Alan.

Meanwhile Alan was beginning to review of all HCC's coastal land holdings, in light of sea-level rise and climate change. To do this, he again looked to partner with others. Building on the relationships afforded by the Solent Forum network, he created working groups of interested stakeholders. From these working groups actions plans were drawn up; many of which have since been implemented.

When Alan retired in 2007, he continued to have an active role in the future of coastal management in the Solent. This included becoming a member of the Solent Protection Society, planning and organising a conference to discuss the future of the Solent saltmarshes in the face of sea-level rise and environmental change.

Alan taught me much in my role as Solent Forum Officer and became a personal friend. One of the main things I tried to learn was to go quietly about your work (I haven't mastered it!). I never once saw him gain or seek recognition for what he did but those who continue to enjoy the coast, not just of Hampshire but other areas of the UK, owe him a great deal.

In the past Alan also guided and managed the current Solent Forum Officers, Karen McHugh and Kate Ansell, we will all miss him.

Plastics & Litter

Microplastics from Tyres

A major government-funded research study suggests particles released from vehicle tyres could be a significant and previously largely unrecorded source of microplastics in the marine environment.

Microplastics are a type of marine plastic pollution now widely distributed in aquatic habitats. The evidence base on their effects in the marine environment is limited; however, they do not biodegrade, they accumulate in the marine environment, they can absorb toxic chemicals and pathogens, and their small size means they have the potential to be ingested by marine organisms.

This study shows that tyre particles can be transported directly to the ocean through the atmosphere, or carried by rainwater into rivers and sewers, where they can pass through the water treatment process. Researchers estimate this could place around 100 million square metres of the UK's river network, and more than 50 million square metres of estuarine and coastal waters, at risk of contamination by tyre particles.

The study was directed by Professor Richard Thompson OBE, Head of the International Marine Litter Research Unit at Plymouth University. It is available on the Defra Research pages at: <http://randd.defra.gov.uk/>.

Portsmouth Plastics Workshop

An online plastic pollution workshop for Portsmouth encouraged people to work together and inspire behaviour changes locally. Community leaders, attending the Environment Agency led event, heard how they could access resources and share experience as part of wider ambitions to reduce avoidable plastic waste to zero by 2042.

It was delivered by the Agency's plastics and sustainability team as part of a programme of partnership activity in England and France for the Interreg Preventing Plastic Pollution project. This seeks to identify and targets hotspots for plastic by looking at catchments from source to sea.

Workshop attendees had the chance to find out about the impact of plastic pollution, the use of sustainable alternatives, how to organise litter picks, access marketing materials, and get involved with existing local projects.

To find out more about the workshop, please email: plasticsandsustainability@environment-agency.gov.uk.



Great British Beach Clean 2020

Despite the unusual circumstances, the Marine Conservation Society's (MCS) Great British Beach Clean, 2020 saw 459 litter picks take place, with over 2,100 volunteers getting involved to remove over three tonnes of litter. Volunteers also got involved in MCS' brand new Source to Sea Litter Quest inland. This inland litter survey gave information on what litter is making its way to the coast; eighty percent of litter on our beaches has made its way there from parks, rivers and streets far from the coast.

The results from this year show a concerning, but perhaps predictable, presence of PPE litter. Face masks and gloves were found on almost thirty percent of beaches cleaned by volunteers. The Source to Sea Litter Quest data shows a similarly worrying presence of masks and gloves, with more than two thirds (sixty nine percent) of litter picks finding PPE items. Disposable masks pose a threat to wildlife. Made from polypropylene that can take hundreds of years to break down, they shed microplastics that can be ingested by marine life and sea birds can become entangled in the ear straps.

In addition to the sharp jump in face masks and gloves, drinks containers continue to pollute UK beaches. An average of 30 drinks containers were found per 100m of beach surveyed this year. Inland, almost all litter picks (ninety nine percent) found drinks containers.

Coastal Defence

Southsea Coastal Scheme

The Southsea Coastal Scheme is the UK's largest local authority-led coastal defences' project, worth more than £100M. It will stretch for 4.5km from Old Portsmouth to Eastney, and help to reduce the risk of flooding to more than 10,000 homes and 700 businesses.

The Scheme got underway in September 2020 with Sub-frontage 1 works, the construction of coastal defences between Long Curtain Moat and Clarence Pier. This is the first of six phases in the Portsmouth City Council-led project. These works are expected to take 12 to 18 months, with the entire Scheme estimated to end in 2026.

The start of the Scheme was the culmination of seven years of work including wide-ranging public consultation. This work is ongoing, with a continuing commitment to engage with Portsmouth residents and businesses. Most recently the work has focused on disability and accessibility considerations and ideas for enhancements along the seafront. Further comments and observations will be sought in 2021 on the design for other phases of the Scheme.



Photo courtesy of Portsmouth City Council

Since September 2020, several key achievements along Sub-frontage 1 include:

- Arrival of Dutch dredging vessel, the Sospan Dau, to discharge (or 'rainbow') loads of gravel to make two working platforms on the beach.
- Archaeological discoveries including the original promenade under the path near Southsea Castle; old defences under Clarence Pier Playing Field; and 17th century stonemasons' signatures on the seawalls by the 'Long Curtain, Kings Bastion and Spur Redoubt' Scheduled Monument.
- Completion of significant piling work along the beach.
- Set up of three compounds in the nearby vicinity, including one that will be dedicated to recycling materials with the aim to make the Scheme a zero waste project.
- Making working conditions safe for all employees and visitors to deal with COVID-19 restrictions.

Hurst Spit to Lymington Project

A changing climate, rises in sea levels, and heavier rainfall poses a threat to many coastlines. In the New Forest a thirteen kilometre section of coast, from Hurst Spit in the west to the Lymington River in the east, is currently being investigated to see what risks these threats bring, along with how and when actions may be taken to reduce them.

The Environment Agency is working with New Forest District Council, Hampshire County Council, Natural England, engineers JBA Consultants and a number of local groups and partners to assess the risks and seek opportunities to work with natural processes. This coastline is characterised by low-lying coastal habitats, including mudflats, saltmarsh, grazing marsh and lagoons. The habitats and species are of international importance and the rich biodiversity creates a landscape attracting numerous visitors, which in turn boosts the local economy. The area is also popular for activities such as walking, sailing and fishing. All of these aspects need to be sustained whilst adapting to natural changes and managing the risk of flooding.

This project is in its early stages and is likely to take many years, a lot of effort, and there is substantial funding to complete. The project partners want to try to create a future for this coastline that is acceptable to as many people as possible, whilst recognising that some challenging decisions may be required at times. Therefore, they wish to keep you up to date with their progress as they develop proposals and look forward in return for your help in building a sustainable legacy. They would encourage all interested parties to sign-up to their updates by sending a request to email: hurstspit2lymington@environment-agency.gov.uk.

Fisheries

Confirmation of the Solent Dredge Permit Byelaw

On the 14 of October 2020, the Southern Inshore Fisheries and Conservation Authority's (IFCA) Solent Dredge Permit Byelaw was confirmed by the secretary of state. The byelaw had previously been made by Southern IFCA in 2018. The byelaw is due to come into force on the 1 of November 2021 and will strengthen the authority's ability to effectively manage the dredge fisheries within the Solent.

Vessels using a shellfish dredge will require a permit on which conditions are placed. The conditions will incorporate previous effort restrictions in order to mitigate impacts to sensitive habitats. They will also provide the IFCA with the ability to flexibly manage fishing activities in a manner appropriate for the dynamic environment of the Solent and allow for improved evidence. This could include more information regarding stocks, impacts or suitability of gear types.

Southern IFCA will begin a programme of engagement with the Solent fishing community in early 2021, in order to disseminate information regarding the new measures for introduction under the Byelaw. If you would like further information on fisheries management within the Solent please contact Southern IFCA at: <http://www.southern-IFCA.gov.uk>.

Fisheries Act, 2020

The Fisheries Act, 2020 has now passed into law. EU vessels' automatic access right to fish in UK waters has been removed and foreign boats will require a licence to fish in UK waters.

The UK government and the Devolved Administrations will publish a legally binding Joint Fisheries Statement and will work to coordinate fisheries management plans and achieve sustainability goals. They will also set up new domestic grant schemes.

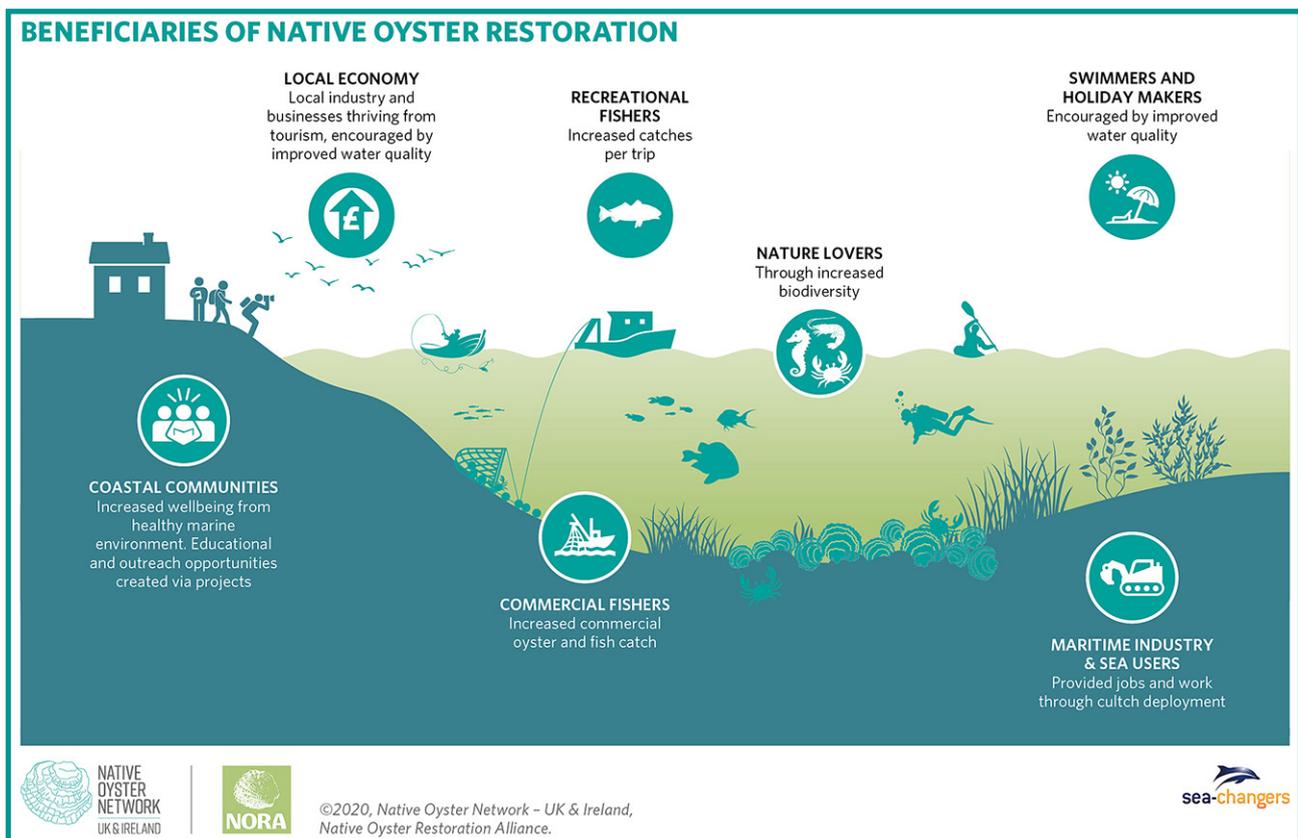
The Act will be used to ensure that fisheries are managed in a sustainable way, balancing social, economic, and social benefits while preventing the over exploitation of fish stocks. See:

<https://www.legislation.gov.uk/ukpga/2020/22/contents/enacted/data.htm>.

Native Oyster Restoration Handbook

The European Native Oyster Habitat Restoration Handbook aims to provide practical guidance on the restoration and conservation of native oysters (*Ostrea edulis*) and native oyster habitat across the UK and Ireland. It includes an introduction to native oyster restoration, information about starting a restoration project, current methods of restoration in practice, biosecurity recommendations and an outline of how to effectively communicate a restoration project.

View at: https://nativeoysternetwork.org/wp-content/uploads/sites/27/2020/11/ZSL00150%20Oyster%20Handbook_WEB.pdf.



Marine Industries

Government Plans for Freeports

Responding to a consultation on proposals for Freeports, the government has confirmed that sea, air and rail ports in England will be invited to bid for Freeport status. Government is aiming for the first of the new sites to be open for business in 2021. Designed to attract domestic and international investment, Freeports will allow places to carry out business inside a country's land border but with different customs rules.

A firm can import goods into a Freeport without paying tariffs, process them into a final good and then either pay a tariff on goods sold into the domestic market, or export the final goods without paying UK tariffs. They will be expected to collaborate closely with key partners across the public and private sectors.

The government will also introduce a package of tax relief on investment by businesses within Freeport tax sites, new measures to speed up planning processes for development in and around Freeports and new initiatives to encourage innovation.

Find out more at: <https://www.gov.uk/government/news/government-outlines-new-plans-for-freeports-to-turbo-charge-post-brex-it-trade>.

Sea Water Air Conditioning

Cooling is an essential resource in various sectors, there is a high demand for cooling and air conditioning, but these processes are highly polluting when produced with electricity generated by fossil fuels.

To address this issue, project EUROSAC aims to adapt existing Sea Water Air Conditioning technology to the English Channel's seawater.

The partnership will design and develop a cost-efficient solution for cooling production, using seawater as a refrigerant by exploiting the temperature difference between cold ocean water and external air temperature.

The project will undertake design and specification work, replicability methods and solutions, installation, deployment and validation, and future market analysis.

It is hoped that this technology will provide major benefits in terms of CO₂ emissions, lifespan and costs compared to existing solutions.

See: <https://www.channelmanche.com/en/projects/approved-projects/highly-efficient-innovative-shallow-water-based-sea-water-air-conditioning-solution-for-the-channel-area/>.

Aerial Drones and Ports

The British Ports Association has produced a briefing paper on the future use of aerial drones in ports.

The use of drones within the shipping industry could fundamentally alter how ships are serviced, supplied and operated in the future. Drones also have the capability of being used for surveillance, surveying and asset/infrastructure management purposes.

Associated British Ports (ABP) announced earlier in 2020 that they have successfully embedded drone technology into their asset and property management practices, inspections and policies.

Over the past five years the use of drones by lighthouse authority, Trinity House, has steadily increased. Their use includes simple visual surveys for maintenance inspections and historical comparisons, through to highly technical light detection and ranging scanning of lighthouse external and internal structures. They are also looking to use drones for aids to navigation, such as confirming buoy position, condition and light character.

View the paper at: https://mcusercontent.com/9fa5533f9884aad39ffc18f0e/files/184dac57-38d3-42e4-a298-186ff7bf9303/Aerial_drones_and_ports_BPA_briefing_paper_Nov_2020.pdf.

The Future of UK Tidal Power

The Environmental Audit Committee is conducting an overarching inquiry looking at how technological innovations can contribute to tackling climate change. One aspect of this work is the use of UK Tidal Power.

As the country with the largest marine renewable resources in Europe, and the second highest tidal range in the world, there is potential for a significant quantity of tidal power generation in the UK.

Tidal schemes, however, remain at the early stage of development, having not yet been deployed at scale or proven commercially. This Committee session will consider if various sources of tidal power, including tidal stream and tidal lagoons, could play a cost-effective role as part of the UK's energy mix.

Based on tidal movement and strength, tidal schemes have the potential to offer a predictable and reliable energy supply, which provides a benefit over other fluctuating sources of renewable generation such as wind or solar. However, the greatest output is delivered shortly after high and low tide and so the generation of electricity on demand (dispatchability) is low.

See: <https://committees.parliament.uk/work/780/technological-innovations-and-climate-change-tidal-power/news/120581/committee-examines-tidal-energy-in-the-uks-path-to-netzero/>.

Water Quality

Solent Boating and Water Quality

In June 2019, the Environment Agency and Natural England began an initiative on boating and water quality in the Solent, Sussex and Poole Harbour. Its aim was to look at ways to change recreational boating behaviour, and improve waste disposal facilities to reduce the risk of pollution from discharges of 'black water'.

It is important to tackle the sources of bacterial contamination as it can put peoples' health at risk, and effect local communities and the economy. There are 22 bathing beaches and 18 shellfish harvesting areas in the Solent which could be impacted. The project has now hosted two workshops, the second one was held in October 2020 which covered the following topics:

- Learning lessons from the Baltic Sea
- 'Love your Harbour' engagement campaign
- Mobile pump out facilities

The information can be viewed at: http://www.solentforum.org/services/Current_Projects/Boating/.

Environmental Innovation Hub

An innovative hub-facility dedicated to achieving a step-change in the reduction of waste and elimination of single use packaging along Bournemouth, Christchurch and Poole's seafront has been given the go-ahead.

With around two thousand tons of waste removed from Bournemouth, Christchurch and Poole's beaches every year, the hub will take a lead on recycling in public spaces. It will focus BCP Council's efforts to educate and change behaviour along the seafront, linking closely with its Leave Only Footprints campaign.

Interactive and temporary displays are being developed in collaboration with Bournemouth University and the University of Southampton, focusing on the environmental impact of waste management and single use packaging on the coastal environment. The intention is also to reach further afield with interactive touchpoints located along ten miles of coastline.

Funded with £2.4 million from the Coastal Communities Fund, the Durley Environmental Innovation Hub will give residents and seafront visitors the opportunity to explore and understand the environmental impact of packaging, waste and climate change on our coasts and seas.

Built to high environmental standards, the building itself will aim to be a working example of high environmental design.

Love Your Harbour

Litter Free Coast and Sea is a strategic approach to creating better quality local environments along the Dorset and East Devon coast. Since 2012 the project has explored and dealt with social, economic and environmental benefits of reducing the impacts of marine and beach litter, and improving and maintaining bathing water quality.

One of the campaigns being run by the group is 'Love Your Harbour'. This is working together with harbour associations and Natural England to raise awareness of the issues associated with discharging toilet waste amongst the boating community. Toilet discharge can lead to bacterial contamination (E. coli) which affects bathing waters and aquaculture such as shellfish production.

There are a range of campaign materials that can be downloaded and used at any harbour at: <https://www.litterfreecoastandsea.co.uk/current-projects-and-campaigns/love-your-harbour/>.



AI Water Quality Sensing

The first phase of an innovative artificial intelligence (AI) water quality sensing project for Poole Harbour is now live.

The new and ground-breaking project is being delivered by AI specialists at UnifAI Technology through a partnership between BCP Council and Poole Harbour Commissioners.

It represents the first live deployment of a network of low-cost remote and continuous sensors which use AI to monitor, in real time, the health of a protected water ecosystem.

Sensors have been installed on existing navigation buoys and markers across the harbour, including the oyster beds. They require little maintenance, measure several key variables in the water and transmit the data automatically to the Cloud. This provides real-time water quality insights and can be used to quickly detect potential pollutants such as bacterial build up, sewage, fertiliser run-off and industrial discharges which can be harmful for aquatic ecosystems.

Coastal Management

Drainage & Wastewater Management Plans

Drainage and Wastewater Management Plans (DWMPs) are a new way for organisations to work together to improve drainage and environmental water quality.

They provide the basis for more collaborative and integrated long-term planning by organisations that have interests and/or responsibilities relating to drainage, flooding and protection of the environment. The production of DWMPs will be led by water companies.

A DWMP will be created for each of the wastewater areas served by water companies. It will be compiled from action plans covering strategic planning areas. Aligning strategic planning areas to the catchment areas that inform River Basin Management Plans and Flood Risk Management Plans, should help to ensure environmental water quality impact and flood risk can be appropriately considered in the process.

Within each strategic planning area, the DWMP process will be overseen by co-creation planning groups. These will include Local Planning Authorities, Lead Local Flood Authorities, the Environment Agency, the Highways Agency, third party providers, customer representatives and non-government organisations such as key environment groups.

Habitats Directive Legislation Change

The legislation transposing the EU Habitats Directive and the Wild Birds Directive has been changed so that it continues to operate effectively from 1 January 2021. This includes the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales, and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended). The changes were made by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Most of these changes involved transferring functions from the European Commission to the appropriate authorities in England and Wales.

CITiZAN App

CITiZAN, the Coastal and Intertidal Zone Archaeological Network, has released a new and improved version of its app and coastal map, making it easier for volunteer citizen scientists to record archaeology on England's shores.

Since 2015, over 3000 volunteers have joined CITiZAN to record and monitor threatened coastal and intertidal archaeological sites around England, using a standardised survey system on the app. Brought together in a single coastal map, these records have created a detailed and invaluable resource.

Find out more at: <https://citizan.org.uk/join-us/app/>. View the map at: <https://citizan.org.uk/interactive-coastal-map/>.

Green Industrial Revolution

In November 2020, government published its Green Industrial Revolution Plan to 2030. Key points for the coast include, to:

- Produce 40GW of offshore wind, including 1GW of innovative floating offshore wind.
- Invest £20 million into the Clean Maritime Demonstration Programme to develop clean maritime technology. Hydrogen ferry trials are already running in Orkney and a hydrogen refuelling port will be launched in Teesside.
- Invest £5.2 billion in a six-year programme for flood and coastal defences including new approaches to work with nature to reduce flood risk, and deliver wider benefits.

There are also plans for 'green' ships, investing in carbon capture, storage and use, protection of the natural environment and green finance and innovation.

The Clean Maritime Plan is the UK's route map to clean growth for the maritime sector and pathway to zero-emission shipping.

Environment Agency FCERM Strategy

The Environment Agency's Flood and Coastal Erosion Risk Management Strategy has finished its journey through Parliament. It will seek to adopt a range of innovative flood and coastal resilience measures, to implement it the Agency will:

- Invest in flood and coastal projects that help to improve water quality and biodiversity;
- Encourage farmers and land managers to adopt land use and land management practices that help contribute to greater resilience to both floods and droughts;
- Work with partners to develop the Environmental Land Management scheme and pilot ways of reducing flood and coastal risks;
- Work with Ofwat to develop a joint approach for how water companies should consider flood and coastal resilience to inform future water price reviews;
- Ensure water companies and other risk management authorities work together to inform drainage and sewerage management plans to improve long term resilience to surface water and drainage flood risks;
- Work with catchment partnerships, coastal groups, land managers and communities to increase the use of nature based solutions.

It will also help the Environment Agency reach its target of becoming a net zero organisation by 2030.

Conservation

Thorney Island Habitat Restoration

The Environment Agency is working in partnership with the Ministry of Defence (MOD), and Chichester Harbour Conservancy, to develop a habitat creation scheme through managed realignment at the Thorney Island barracks.

The MoD and Agency have signed a Memorandum of Understanding creating a partnership that will develop new habitat and sea defences. A set-back flood defence will be constructed, and the existing defence breached, which will allow new intertidal habitat to develop over time on the land seaward of the new defence. The resulting saltmarsh and mudflats have the potential to act as an effective 'carbon sink'.

Intertidal habitat is rapidly declining in Chichester Harbour and the wider Solent due to past and on-going development and sea level rise. The Environment Agency is legally obliged, under the Habitat Directives, to create new intertidal habitat to compensate for the losses resulting from coastal squeeze.

The project team are completing investigations and surveys during autumn and winter 2020 to inform a draft option. The project team will then engage with key stakeholders in winter 2020, to discuss this further and finalise the business case to unlock further funding for detailed design.

Thorney Island has also been identified as part of a pilot programme to install solar farms at four Army sites around the country. This solar farm will meet approximately one third of the Army's electricity needs on the Island and save around 400 tonnes of carbon dioxide emissions per year. Find out more at:

<https://consult.environment-agency.gov.uk/solent-and-south-downs/thorney-island-habitat-creation-scheme-information/>.



Thorney Island, Chichester Harbour

MMO Assessments of Non-Licensable Activities

The Marine Management Organisation (MMO) has an obligation under the Marine and Coastal Access Act 2009 to further the conservation objectives of Marine Protected Areas (MPAs). This includes using its byelaw making powers and marine planning policy to directly or indirectly manage unlicensed activities. It is responsible for the management of marine non-licensable activities which take place within its jurisdiction (0 to 12nm).

Over autumn 2020, it called for evidence for assessments on non-licensable activities for five offshore and one inshore MPAs:

- The Canyons Marine Conservation Zone
- Dogger Bank Special Area of Conservation
- Inner Dowsing, Race Bank and North Ridge SAC
- South Dorset MCZ
- Studland Bay MCZ

The focus of this call was to ensure that the draft assessments are based on the best available evidence. The introduction of any management measures is subject to a separate process, including appropriate levels of consultation. Potential future management options could include no restrictions, introduction of a monitoring and control plan, zoned management, limiting the activity or its intensity, or prohibiting it.

More information on the MMO byelaw making process can be found at:
<https://www.gov.uk/guidance/marine-conservation-byelaws>.

Ports & Marinas

Fifth Cruise Terminal for the Port of Southampton

Associated British Ports is to open a new open access cruise terminal for the 2021 cruise season in Southampton. This fifth dedicated cruise terminal at the port will benefit from roof-mounted solar power and will have Shore Power connectivity installed. This will enable cruise ships, with the right onboard technology, to 'plug in' while they are alongside.

This investment, of more than £55 million into the long-term future of cruise, will strengthen the Port of Southampton's position as Europe's leading cruise turn-around port and the UK's number one departure port. The project has received support from the Solent Local Enterprise Partnership (LEP) through the Government's Getting Building Fund with an £8 million grant.



Buckler's Hard Yacht Harbour Redevelopment to be Completed for 50th Anniversary

Buckler's Hard Yacht Harbour, on the Beaulieu River, will be marking its golden anniversary with the completion of the second phase of its £2m redevelopment in spring 2021.

Half a century since the marina opened in 1971, work is well underway with the final phase of its redevelopment. This will increase capacity and improve services in readiness for the changing demands of boating. The redevelopment adds 66 new berths, as the 35 berths newly-completed over winter join those built during phase one; these include large berths capable of accommodating vessels of 18 metres and above.

The Beaulieu River team are committed to undertaking the redevelopment in a sensitive and sustainable way. They have collaborated with Natural England and the Environment Agency to ensure the protection of the river's unique habitats and species.



Photo courtesy of Beaulieu Estate

Pump out facilities and a new wash down area in keeping with environmental standards have been installed, and as much of the old infrastructure as possible is being refurbished and reused to maintain the unique character of the harbour.

For sailors who would like to moor their boats on the Beaulieu River, a small deposit will secure their reservation for permanent river moorings and marina berths.

For more details see www.beaulieuriver.co.uk, email: harbour.office@beaulieu.co.uk or call 01590 616200.

Nature Solutions

Greening the Hamble

Novel restoration work is currently underway in the River Hamble, as part of a PhD project at the University of Portsmouth, supported by the Environment Agency and Blue Marine Foundation.

The project will trial and deploy structures that are specifically designed to promote the re-establishment of saltmarsh and oysters, two endangered habitats within the Solent.

The structures used in this project are known as BESE-elements and are completely biodegradable. They are ideal for both saltmarsh and oyster restoration because of their three-dimensional design. This creates a large surface area with gaps that disrupt and reduce the flow of water, a factor which is often a cause of saltmarsh erosion, especially in coastal areas with heavy boat traffic. The gaps also provide shelter for small or juvenile organisms to take refuge from prey. Cultch will be attached to the structures to provide a surface for oyster larvae to settle on, eventually facilitating the formation of a natural reef. The oysters will sit at their optimal height in the water column, avoiding smothering by suspended sediment on the seabed.



Photo courtesy of Charles Mountain, University of Portsmouth

Monitoring during the project will include surveying by drone and on-foot saltmarsh and invertebrate studies. Surveys of the associated fish and bird species, oyster condition, water quality and sediment analysis will also take place. These are all important factors influencing the success of restoration. Baseline surveys are currently underway before structure deployment, the aim is to deploy in early 2021. If successful the work could be expanded to restore saltmarsh and oysters in other areas of the Solent.

Solent Natural Capital Report

The Environment Agency and University of Portsmouth have published an excellent new report entitled 'Valuing the Solent Marine Sites Habitats and Species: A Natural Capital Study of Benthic Ecosystem Services and how they Contribute to Water Quality Regulation.'

The report found that Excessive nutrient inputs (principally nitrogen [N] and phosphorous [P]) in the Solent Marine Sites are causing eutrophication, leading to a decline in water quality and an increase in the growth of green macroalgae on intertidal mudflats. These impacts can have adverse effects on the ecology and species within the UK nature conservation designation sites (e.g. overwintering birds) in and around the Solent.

The impact on the condition of the sites is relevant to meeting legislative requirements, improving public health (e.g. reducing shellfish and bathing water contamination), and for a viable and productive marine economy (e.g. sustainable aquaculture, fisheries and tourism). The project was divided into three phases:

- Part A. Mapping natural capital stocks and estimating their capacity to remove nutrients
- Part B. Additional ecosystem services relating to water quality
- Part C. Assessing multiple stressors and impacts on benthic habitats and ecosystem services

Taking this natural capital approach allowed, for the first time, a comprehensive and consistent list of indicators for assessing and valuing water quality in the Solent to be collected.

You can view the report at: [http://www.solentforum.org/services/Member_Services/Building_Biodiversity_hub/net_gain/ENV6003066R_Solent%20Natural%20Capital%20Project_\(Final%20Report\).pdf](http://www.solentforum.org/services/Member_Services/Building_Biodiversity_hub/net_gain/ENV6003066R_Solent%20Natural%20Capital%20Project_(Final%20Report).pdf).

Enhancing Infrastructure

Seattle's New Seawall to Enhance Marine Habitats

In 2017, the City of Seattle completed the new Elliott Bay Seawall that will last more than 75 years and improve the lost nearshore environment. Prior to the start of the Seawall Project, the existing seawall had protected Seattle for more than 70 years, but time and a harsh marine environment had weakened its structure.

The new seawall has been built to meet current seismic standards, protecting public safety and acting as the foundation for Seattle's new waterfront. The seawall also includes habitat enhancements to restore the salmon migration corridor and improve ecosystem productivity.

When Seattle's existing waterfront was developed, Elliott Bay lost many of its natural habitat features for fish, including sloping beaches, crevices and vegetated hiding places for salmon.

The new seawall was built to improve marine habitats, with a special focus on encouraging juvenile salmon migration.

Its face includes grooves and nooks to promote algae growth, rock beds in the bay floor for fish to hide and forage in and a light-penetrating surface in the sidewalk above to provide light for young salmon during their migration.

Find out more at: <https://waterfrontseattle.org/waterfront-projects/seawall>.



The new face of the seawall was moved inland 10-15 feet to provide enough room for construction, and to create additional space for the project's habitat enhancements.

Alverstoke Saltmarsh Restoration

As part of the Coastal Defence Scheme at Alverstoke, Gosport, Coastal Partners are creating twenty square metres of saltmarsh as an ecological enhancement. Thanks to the support from the Environment Agency and the Water Environment Improvement Fund (WEIF), they are looking to enhance an area of foreshore which has degraded due to unmovable concrete.

The proposal is to use wooden stakes and brushwood bundles to create an area that will be back filled with soil and planted with saltmarsh plants from the local area. The timber stakes will be driven by hand.

The maximum extent of the saltmarsh area will extend to the low water mark to ensure no adverse effect on the integrity of the lagoon. Since the foreshore conditions are not well understood, there is a need for flexibility as to the exact positioning of the stakes to allow for an easy construction by hand and to prevent any impact.

The scheme includes several other small-scale enhancements: additional native planting on the landward side of the new sea wall, removal of debris within the lagoon (by hand), an interpretation board and resurfacing of an area currently used as informal access to the lagoon for recreational activities.

Work on the scheme is due to start in Spring 2021 (subject to funding and consents), with the whole scheme (a new flood wall and installation of a flood gate) taking approximately eight months to construct.

Estuary Edges

Replacing brick, concrete, and metal tidal walls with a variety of habitats is the aim of the Estuary Edges project. The new project website is a 'how to' guide on ecological design for softening these 'edges' to encourage wildlife into urban estuaries.

In its case study estuary, the Thames, only around two percent of the river edges are natural. Increasing the habitat along the edges will have a significant positive ecological impact on plants, invertebrates, fish and birds.

The website includes a series of case studies across the Thames and seventeen design principles that look at a wide range of considerations.

The case studies include information on:

- Site condition - salinity, date of construction, tidal range, percentage of area accreted above design level, degree of exposure to waves and currents, max wave height, slope direction and angle
- Environmental - inundation, biodiversity and geomorphological
- Social, litter, navigation and safety
- Engineering - structure, condition and lifespan

Find out more at: <https://www.estuaryedges.co.uk/>.

More News

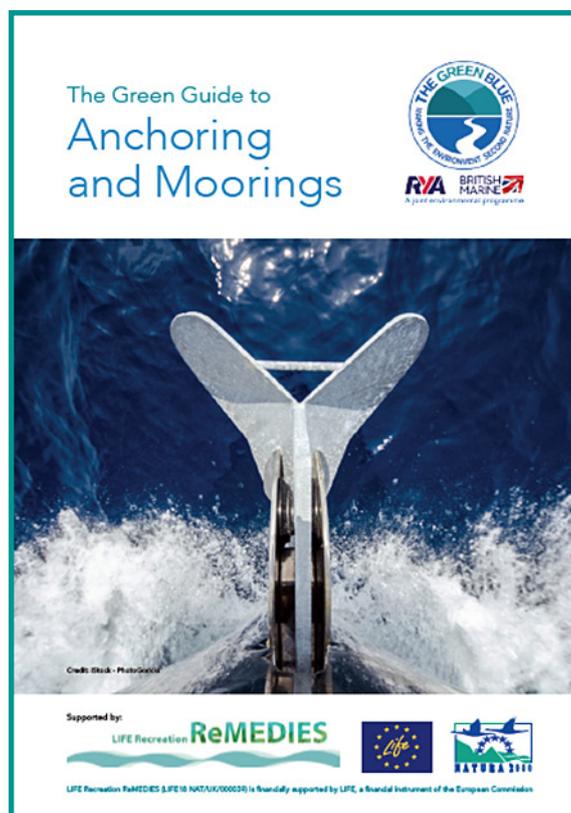
Green Guide to Anchoring and Moorings

A new practical guide to anchoring and mooring best practice has been published by The Green Blue, the joint environmental awareness programme between the Royal Yachting Association (RYA) and British Marine.

The guidance, The Green Guide to Anchoring and Moorings, was launched to educate people on the importance of seagrass and maerl habitats. It wants to actively inspire the boating community to adopt best practice when on the water, to minimise any impact on these protected marine habitats.

It has been produced as part of LIFE Recreation ReMEDIES, a four-year project funded by the LIFE Programme, led by Natural England in partnership with RYA, Marine Conservation Society, Ocean Conservation Trust and Plymouth City Council/Tamar Estuaries Consultative Forum. The project's aim is to protect and restore fragile seabed habitats within five Special Areas of Conservation in southern England. It includes work to reduce the impact and disturbance of recreational activities through awareness and education. The Solent Maritime is one of the sites included.

The guide looks at the impacts from anchoring, how to anchor and navigate with care, the impacts of using traditional moorings and it gives guidance on advanced mooring systems (AMS). AMS' are being installed and monitored within five sites in the South of England as part of this LIFE Recreation ReMEDIES project. Find out more at:



<https://www.gov.uk/government/publications/life-recreation-remedies-project>.

Coastal Buoys 5G Trial at Lulworth

Constant monitoring of sea conditions using 5G technology is set to be trialled off the Dorset coast. The system will use buoys to measure the sea state, it will then transfer the data to electronic signs and the information can also be accessed by emergency services.

The connected digital signs will be installed at busy locations on the Jurassic Coast. Data measured will include tidal current, temperature and wave height information.

The data will also be available, via a published feed, to the general public, and accessible by the emergency services to support their operations. The area has seen a number of fatalities with swimmers getting into difficulty off the coast.

JET Engineering System Solutions said its buoys would be placed in the sea up to 300m (980ft) off the UNESCO world heritage coastline. They have the bandwidth necessary for so-called Maritime Connected Technologies (MCT), allowing potentially large amounts of data to be transferred from offshore.

The project is part of a £7m government-funded project for digital services in coastal areas.

Blue Growth Surveillance

A UFO project is seeking to support collaborative projects (of two or more SMEs) to develop innovative products and services for Small Flying Objects (SFO) i.e. Smallsats, Drones and High Altitude platform systems.

Blue Growth is one of the sectors being targeted in this call. Coastal and marine areas face a number of key challenges in issues such as illegal fishing surveillance, the management of coastal water quality, metocean monitoring and forecasting, monitoring of offshore renewable assets and aquaculture activities.

As Blue Growth activities generally take place over very large areas of sea and ocean, airborne and satellite surveillance using SFOs can offer valuable solutions. Maintenance of surveillance capabilities on and beneath vast areas of ocean is very challenging and requires emerging technologies as well as complex information and data services.

A short video of the funding opportunity is available to view at: https://www.youtube.com/watch?v=k_LCrAI2eWA.

For more information please visit: <https://www.ufoproject.eu/call-for-proposals/>.

News & Snippets

Maritime Autonomy Regulation Lab

The Maritime and Coastguard Agency (MCA), the Department for Transport (DfT) and the National Oceanography Centre have worked together to secure funding from the Department for Business, Energy and Industrial Strategy to create the Maritime Autonomy Regulation Lab (MARLab).

During the past two years MARLab has shown its support for the operation of remotely operated vessels under twenty four metres long, by establishing ways in which to allow their testing and operation.

In May 2019, SEA-KIT International sailed a remotely operated cargo vessel from West Mersea to Ostend. This cargo run allowed the MCA to see how an autonomous vessel would perform in what is one of the busiest shipping lanes in the world. Another project, the Mayflower by MSUBS, is an attempt to recreate the original voyage of the Mayflower across the Atlantic Ocean four hundred years ago using cutting-edge technology.

SEA-KIT's remotely-operated unmanned surface vessel (USV) Maxlimer recently mapped over 1000 square kilometres of ocean floor on a twenty two day Atlantic mission around Europe's continental shelf.

Satellite Ocean Mapping

Thanks to UK Space Agency funding, experts across the UK's ocean and climate community, including at the Met Office and National Oceanography Centre, will be at the forefront of analysing the most accurate data yet on global sea levels and how our oceans are rising in response to climate change.

The Sentinel-6 satellite, which is the size of a small 4x4 car, will orbit around the Earth 830 miles above our planet. It will collect data for ocean and weather forecasts and climate understanding over the next decade.

It will allow a more accurate prediction of sea level rise and storm surge, helping to reduce the risk of damage from unexpectedly high floods.

Sentinel-6 is part of the European Copernicus Programme, this has improved our understanding of the critical role that the ocean plays in climate and the ocean-atmospheric interactions which produce extreme weather events.

Sea-level rise poses one of the greatest socio-economic challenges associated with climate change. Space-based observations since the 1990s, have already revolutionised our understanding of rates of sea-level rise around the globe.

Snippets

- BlueHealth has launched a bespoke online tool designed specifically to support the effective planning and design of urban blue spaces. Led by researchers at the WHO Regional Office for Europe, the Decision Support Tool (DST) is the first tool designed to help local decision makers assess blue spaces, with a focus on health and well being. See: <https://bluehealth2020.eu/projects/decision-support-tool/>.
- Maritime engineers have trained an energy shipping app to save over a quarter of a million tonnes of CO₂ emissions. Researchers from the University of Southampton and Shell Shipping and Maritime have developed a digital dashboard that helps captains respond to changing sea conditions. The Just Add Water, or JAWS, app interprets depths and angles of a ship known as the draught and trim to optimise the amount of fuel and power needed in any given situation.
- Portsmouth's Spinnaker Tower is to return to its original white colour after a £3.5m sponsorship deal ended.
- Isle of Wight company, Artecology, who have their artificial rockpools (vertipools) installed around the Solent have now moved into the Mediterranean with an array being installed in Gibraltar.
- On 24 November 2020, the UK government announced that the Fisheries Bill was enshrined into UK law. It is the UK's first major domestic fisheries legislation in nearly 40 years. The Fisheries Act 2020 gives the UK full control of its fishing waters and sets annual Total Allowable Catches (TACs).
- Portsmouth International Port have worked with Portsmouth City Council's Energy Services Team to deliver a ground-breaking solar and battery installation. The system, to be installed by Custom Solar, will incorporate roof-mounted solar panels across a number of buildings, a large battery and solar canopies. See: <https://www.portsmouth-port.co.uk/news/solar-and-battery-first-to-help-power-the-port>.
- What happened to Victory after The Battle of Trafalgar? The NMRN latest blog, 'The Baltic: Victory's Forgotten War', is now live for you to read, see: <https://www.nmrn.org.uk/news-events/nmrn-blog/baltic-victory's-forgotten-war>.
- In March 2020, just before Covid-19 locked down the UK, a team from Bournemouth University installed 3D printed artificial reef blocks in Poole Bay. At the end of July, after four months, the team were able to get back in the water to see whether any marine life had started to call the reef home. Find out what they found at: <https://www.bournemouth.ac.uk/research/research-action/revisiting-3d-printed-artificial-reef>.

Solent News

Solent Forum Chair Awarded MBE

The Solent Forum are delighted to announce that our Chair, Peter Barham, was awarded an MBE in the New Year's honours for services to the maritime sector.

Since 2009, Peter has managed, as Secretary and now Chair, the UK's Seabed User and Developer Group (SUDG), an umbrella group of all the major UK marine industries. His insights and pragmatism have led to innovative and constructive engagement and real environmental improvements. While working for Associated British Ports, his initiative and persistence secured a ground-breaking legal agreement enabling development to proceed whilst creating important wildlife habitats. His commitment has resulted in several joint statements between SUDG and marine environmental non-government organisations; acknowledging the importance of the development of marine industry whilst ensuring that the marine environment is properly protected.

Peter has long been an advocate of partnership working at the coast. He has been the Chair of the Solent Forum since 2014, and has helped to steer the work of the national Coastal Partnership Network. The Forum looks forward to progressing work with our members during 2021, where the theme of balancing the needs of the environment and development are ever increasingly important in our busy area, in the knowledge that we have an experienced and capable Chair to guide us.

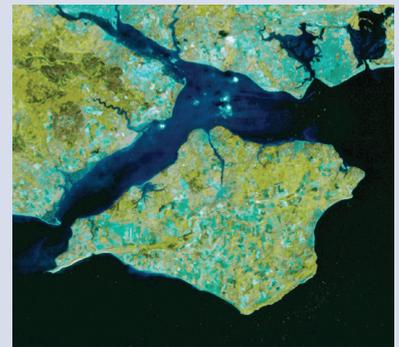
The Solent Forum

Since 1992, the Solent Forum has provided a platform to deliver Integrated Coastal Zone Management in the Solent sub-region of the southeast. It operates at a strategic coastal management level, providing a network for closer working relationships, information dissemination and discussion of topical coastal issues. The Solent Forum members meet twice a year and will next meet online on 17 March 2021.

Solent News is prepared and edited by the Solent Forum Officers. It is a biannual publication and issue 50 will be produced in summer 2021. To find out more about the publication, how to submit articles or be included on the mailing list, please visit http://www.solentforum.org/publications/solent_news/.

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