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Highly Protected Marine Areas Review

An independent review, led by former Fisheries Minister Richard Benyon, published on World Ocean Day, is calling for the introduction of Highly Protected Marine Areas (HPMAs) in English waters. The review was commissioned on last year's world ocean day by then Environment Secretary Michael Gove.

The UK currently has a range of protections in place through a network of 355 Marine Protected Areas. These offer protections for a designated feature or habitat within their boundaries.

HPMAs would go further by taking a 'whole site approach.' This would only permit certain activities within their boundaries such as vessel transit, scuba diving and kayaking. This approach will seek to conserve all habitats and species within the site boundary, including mobile and migratory species that visit or pass through the site.

Activities that could have a damaging effect on habitats or wildlife including fishing, construction and dredging would be banned. The Review claims the introduction of such areas could lead to a significant biodiversity boost for our seas, by giving our marine life the best chance to recover and thrive.

It also highlights the potential social and economic benefits such as increased tourism and recreational activities, opportunities for scientific research and education, and positive effects for human health. It suggests that any potential fishing restriction could be counterbalanced by a stronger and more biodiverse marine wildlife. This would lead to potential long-term benefits for the fishing industry by providing areas where sea life can develop and breed undisturbed.

The Review says that potential sites should be identified on the basis of ecological principles, and they should be introduced in conjunction with the existing MPA network; in many instances sections of existing MPAs could be upgraded to HPMAs. Once these are met, the selection of sites should seek to minimise any negative effects on stakeholders. To do this, government should agree the identification and regulation of these sites in partnership with sea users. 'Blue carbon' habitats are also identified for protection during the HPMAs site selection process to help combat climate change.

The Solent Forum Chair, Peter Barham, was part of the Independent Review Panel.

See: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/890484/hpma-review-final-report.pdf.



Benyon Review Into Highly Protected Marine Areas

Final Report

News from the Forum

Chairman's Column



Peter Barham

It goes without saying that Covid-19 has affected the Solent Forum and the work we do every bit as much as it has everyone else. To stay socially isolated, Karen and Kate have been working from home, and will continue to do so until their office within Hampshire County Council is reopened. During this period of lockdown, they have been very busy doing all the normal work of the Forum and keeping people informed about activity in the Solent area. Some of this is covered in this Solent News, other updates are in the monthly news which we email to many people and organisations.

We will not be holding the Solent Forum members meeting in October in person. Although we are very disappointed about this, we know that you will understand that this is the right thing to do. We are, however, hoping to try and hold the meeting as a virtual event using Zoom or similar technology and this is something that Kate and Karen are investigating. If we can do it, we will be in touch with all the details nearer the time. Whatever happens, we will make sure that when we can meet again in person (hopefully next March) we will have a really good day catching up on Solent activities and planning for the future with you all.

Recently, we have been asking for Forum members' views on current and future issues as part of our horizon scanning work. I want to thank all of you who have responded so constructively and helpfully. We will be preparing the final report and uploading this to our website soon. The findings will be a major discussion point for the steering group in planning the Forum's work in the coming months and years.

As I have mentioned before, I was very pleased to be part of an independent panel set up to advise Government on the need for Highly Protected Marine Areas (HPMAs). Details of this work are in the lead article in this publication. In

short, we believe that HPMAs would make a valuable contribution to the management of our marine environment, as we would see what happens if we allow the seabed to be fully restored through banning all damaging activities. The knowledge we would get from monitoring would also be invaluable in helping us to manage the wider marine environment, but we have said to Government that any site designated as an HPMa must be properly managed and resourced.

I am sorry that we will not be meeting in person in the near future, but rest assured we are staying very busy. I hope that you are all well and staying safe and I really look forward to meeting up with you all when it is safe to do so.

Theory of Change Project

The Solent Forum is involved in a new national project being delivered by the Coastal Partnerships Network (CPN) called the 'Theory of Change'. The CPN has been awarded funding for this project, which will support the strategic development and evolution of this Network. The plan is to move the CPN from a voluntary body to a professionalised one, with a clear strategy and legal status. This will ensure it can effectively support local Coastal Partnerships in their evolution and build capacity across the whole network. The work includes the following aspects:

- Identifying where capacity needs or is desired to be built, what, how and why.
- Reviewing what campaigns and/or projects each Coastal Partnership is working on or aspires to work on.
- What relationships with which sectors already exist or there is an aspiration to create.
- What topics CPs are working on that can be promoted as best practice or innovative.
- Partnership approaches internationally and networks we can join and/or create.

The project commenced in May 2020 and will run until the end of January 2021.

Solent Forum Annual Horizon Scanning Exercise

The Solent Forum Business Plan will be informed by a new annual Horizon Scanning exercise, undertaken by Forum staff, it takes the form of an online survey. It supplements our five year business planning cycle, and ensures that we can stay abreast of shorter term developments to meet members' needs.

As part of this exercise, we asked people for their opinions on how they would like the Solent Forum to work in the future. We are considering all our material being placed online (such as this newsletter which has been printed in the past), running online meetings and filming our bi annual members meeting so those that cannot attend can watch them at a later date. Forum staff currently have the capability to set up on line meetings with our members if they so wish.

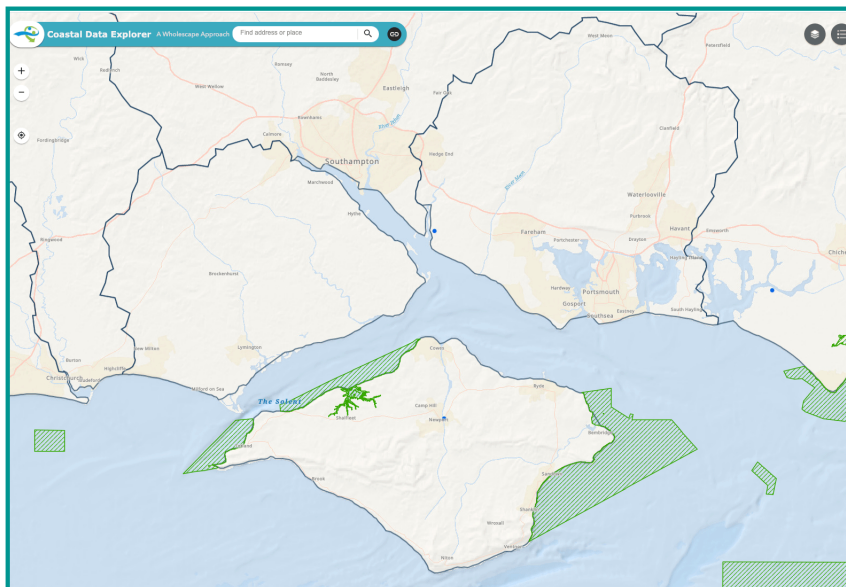
Details of the Business Plan and the findings of the Survey will be published at: http://www.solentforum.org/about/business_plan/.

News from the Forum

Coastal Data Explorer

The Solent Forum, and other Coastal Partnerships, have been learning about the new Coastal Data Explorer package. This is being developed by The Rivers Trust under the Catchment Based Approach (CaBA). It helps us to build closer links with our local catchment partnerships, to ensure that coastal and transitional waters are considered alongside the freshwater environments that drain into the Solent.

The online Coastal Data Explorer enables access to a national evidence base of over 150 environmental datasets without the need for specialist GIS software. By bringing coastal and catchment data together, the Explorer aims to support Coastal and CaBA partnerships to take a Wholescape Approach. It looks to identify opportunities for collaboration and develop multi-benefit projects built on a sound evidence base.



You can use the Explorer to add and overlay datasets, create your own maps and extract data for your area of interest. The data layers are also available to pull into your own mapping software. For more information please go to <https://data.catchmentbasedapproach.org/pages/working-groups>. The CaBA Data Package is continually being developed so if you are aware of other datasets you think would be valuable to share please get in touch with the developers via info@catchmentbasedapproach.org.

Development of the Explorer was supported by the WAMM (Wholescape Approach to Marine Management) project with funding from the European Maritime and Fisheries Fund (EMFF). The Solent Forum is part of this WAMM project.

Solent Forum Meeting, March 2020

The spring Solent Forum meeting was held in March in Southampton and was very well attended with 55 delegates.

We had presentations on nutrient issues, climate change and heritage assets, natural capital and water quality and mitigating the erosion and disturbance impacts on the seabed. Presentations are available at: <http://www.solentforum.org/networking/meeting/>.

Two officers from Defra attended the meeting. They used it as a vehicle to reach out to the coastal local authorities in the Solent to encourage them to sign up to the coastal concordat. They presented at the meeting and had an opportunity to chat with coastal stakeholders. The Solent Forum also used its stakeholder network to send out further information on the concordat to the local authorities after the meeting. Defra staff have also been placed on our monthly enews list, so that they can keep up to date with what is happening around the Solent.

Solent Forum members, if you would like to use a Forum meeting to help you with your consultations or find partners to work with then please let us know. Our meeting speaker slots are always in high demand so please give us plenty of notice.

SEMS and NEG Update

The Solent European Management Scheme (SEMS) management group met in September 2019 and agreed the Annual Management Report for 2019 (AMR) and its actions. This year, we had a great response from the Solent's local authorities to the SEMS Annual Survey 2020, with twenty nine returns. This information is being used to draft the AMR 2020, which will identify if activities are impacting on the Solent's designated sites and what management measures may be required.

The Forum's Natural Environment Group (NEG) takes forward the actions from the AMR. One key piece of work is the development of a Solent Mudflat Disturbance Group. The inaugural meeting looked at the Poole Harbour bait collection model, Natural England's condition assessment work and the intertidal mapping being undertaken as part of the Temith project by the University of Portsmouth. The outputs from this group will be published later in the year.

The spring NEG meeting also agreed to fund two projects, saltmarsh passive regrowth promotion at Lands End, Old Bursledon and using height markers on lamp columns to raise flood awareness and encourage climate action in Portsmouth. See: http://www.solentems.org.uk/natural_environment_group/NEG_Projects/.

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.

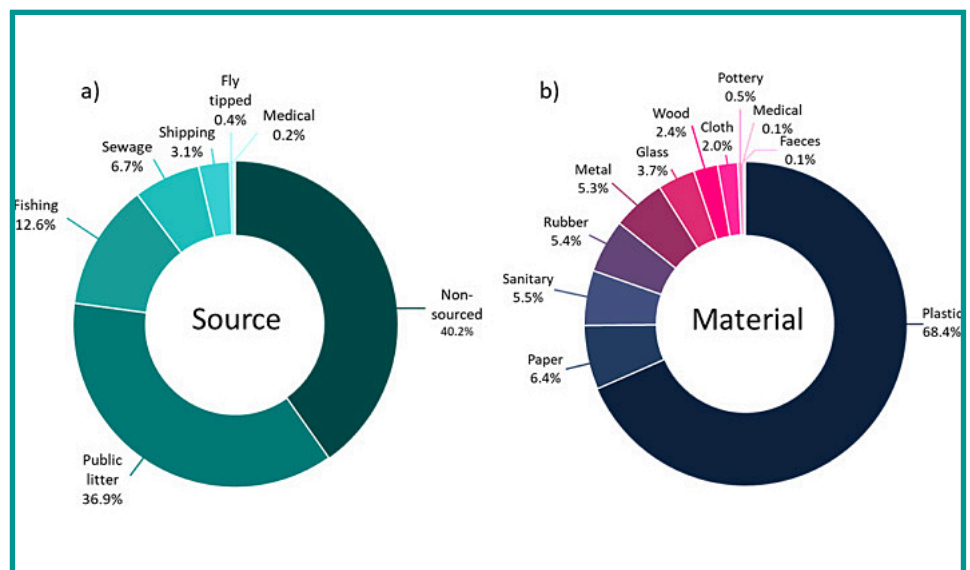
The study was directed by Professor Richard Thompson OBE, Head of the International Marine Litter Research Unit at Plymouth University. It is available on the Defra Research pages at: <http://randd.defra.gov.uk/>.

Marine Protected Areas – No Escape from Litter

Beaches that lie in or near Marine Protected Areas (MPAs) around the English coast have the same levels of rubbish as beaches in unprotected areas. Those are the findings of a study by the Marine Conservation Society (MCS), the University of Exeter and Natural England. They found “no difference” in the amount of this anthropogenic litter present inside and outside MPAs.

The data was collected by MCS volunteers in September of each year, as part of the Great British Beach Clean programme, between 1994 and 2018.

The study included 91 Marine Conservation Zones, 256 Special Areas of Conservation and 89 Special Protection Areas. Plastic was the main form of litter found, and “public littering” the most common identifiable source. The research highlights how marine plastic pollution respects no boundaries.



Composition of shore-based litter recorded inside MPAs during beach clean surveys. Ring plots showing a) source and b) material for litter items recorded during 25 years (1994–2018) of MCS beach cleans.

The study found that marine anthropogenic litter originates from a variety of sources, including shipping, commercial and recreational fishing, aquaculture, sewage, agriculture and industry, poor waste management and public littering. Inputs to marine ecosystems from these sources can vary regionally, due to factors such as proximity to areas of high population density, degree of fishing effort and concentration of shipping traffic. Additionally, the distribution and accumulation of litter is influenced by environmental factors such as wind, tides, currents, terrestrial hydrology and coastal morphology.

The study also concluded that as litter is considered by the public to be an indicator of an unhealthy coastal environment, its presence may alter the public perception of the condition and effectiveness of MPAs.

The study was funded by Natural England and ExeMPLaR, a multidisciplinary plastics research hub led by the University of Exeter. Read the study in full at: <https://www.sciencedirect.com/science/article/pii/S0269749119358361>.

Coastal Change

Climate Change Adaptation Manual

Natural England has published an update to its Climate Change Adaptation Manual. It seeks to support practical and pragmatic decision-making, by bringing together recent science, experience and case studies; it is intended to be an accessible entry point to a range of available resources and tools. It explains the impacts of climate change on habitats, adaptation responses and gives links to further resources and case studies.

It includes sections on the following marine and coastal habitats, detailing how sensitive they are to climate change:

- Coastal floodplain and grazing marsh - medium sensitivity
- Coastal saltmarsh - high sensitivity
- Coastal sand dunes - medium sensitivity
- Coastal vegetated shingle - high sensitivity
- Maritime cliffs and slopes - high sensitivity
- Saline lagoons - high sensitivity



View at: <http://publications.naturalengland.org.uk/publication/5679197848862720>.

*How do we ensure the Solent's saltmarshes can adapt to climate change?
Photo courtesy of Wez Smith*

Marine Climate Change Impacts (MCCIP): Report Card 2020

The MCCIP Report Card 2020, summarises the latest evidence from 26 topics regarding the physical, ecological, and social and economic impacts of climate change on UK coasts and seas. New topics include oxygen concentration, cultural heritage, transport and infrastructure.

More than 150 scientists from over 50 leading research organisations contributed to this Card, producing twenty six scientific reports. These give detailed information regarding the evidence base on UK marine climate change impacts.

Key headlines include:

- There is clear evidence that warming seas, reduced oxygen, ocean acidification and sea-level rise are already affecting UK coasts and seas. Increasingly, these changes are having an impact on food webs, with effects seen in seabed-dwelling species, as well as plankton, fish, birds and mammals.
- The upper range for the latest UK sea-level rise projections is higher than previous estimates, implying increased coastal-flood risk. The likelihood of compound effects from tidal flooding and extreme rainfall is increasing, which can greatly exacerbate flood impacts.
- Oxygen concentrations in UK seas are projected to decline more than the global average, especially in the North Sea.
- Fisheries productivity in some UK waters has been negatively impacted by ocean warming and historical over exploitation.
- Impacts of climate change have already been observed at a range of heritage sites. Coastal assets will be subjected to enhanced rates of erosion, inundation and weathering or decay.

View the card at: <http://www.mccip.org.uk/impacts-report-cards/full-report-cards/2020/>.



Fisheries

Fisheries Bill Progresses

Legislation, creating the powers for the UK to operate as an independent coastal state and manage its fish stocks outside the EU, is being introduced into Parliament. It delivers a legal guarantee the UK will leave the Common Fisheries Policy at the end of the Transition Period, in December 2020. It will allow the UK to control who may fish in its waters, and on what terms, for the first time since 1973. In future, access to fish in UK waters will be a matter for the UK to negotiate on the rules that foreign vessels must follow.

As well as powers to implement new deals negotiated with the EU and other coastal states, it sets quotas, identifies fishing opportunities and allocates days at sea. It provides for a single set of UK-wide fisheries objectives so that fish stocks, and the marine environment, should be better protected.

Changes to funding rules, will mean the UK government will provide financial support for work that was once funded by the EU's European Maritime and Fisheries Fund, such as training and port improvements.

New provisions in the Bill mean the UK will also take into account climate change impacts on its fisheries, with a new objective to move towards 'climate-smart fishing' in UK waters.



Photo courtesy of Southern IFCA

Biodegradable Fishing Gear and Clothing

Glaukos, a European funded project, will develop biodegradable and biorecyclable textile fibres and coatings to be used in fishing gear and clothing.

Abandoned, lost or discarded fishing gear accounts for nearly a third of all marine litter found in European oceans, the equivalent of 11,000 tons entering the marine environment each year. Evidence has been mounting that the synthetic fibres, which make up much of clothing and fishing gear, are also a major source of textile-related microplastic pollution.

The Glaukos project will redesign these textiles. It will build in biodegradability to increase the degradation rate from Glaukos materials compared to conventional microplastics.

In parallel, a bio-recycling process will be developed to incentivise collection of the textiles at the end of their life, thereby further reducing litter pollution.

The project will also develop eco-friendly fishing gear coatings with increased bio-based content.

The project will run for four years and commenced in June 2020. It brings together a partnership of 14 partners from nine European countries. It is financed with over 4.1 million Euro from the Bio-based Industries Joint Undertaking, a public-private partnership between the European Commission (Horizon 2020 programme) and the Bio-based Industries Consortium (BIC).

Maritime Fisheries Fund (MFF)

A three year £14.7 million Maritime and Fisheries Fund has been opened for applications from English fishermen and those working in the seafood sector. The fund is designed to encourage the take up of innovation and technology and support jobs in coastal communities. The scheme is administered by the Marine Management Organisation.

It can be used to help fund the following:

- Support innovation in technologies to enhance economic growth, increase energy efficiency, reduce environmental impact and improve fishing safety.
- Improve port infrastructure, so more fish can be landed in UK ports, and help the sector take advantage of new export opportunities after Brexit.
- Boost coastal communities by providing benefits to areas that depend on a vibrant and profitable industry.
- Help the sector adjust to new arrangements on access and fishing opportunities by improving capacity and capability to exploit new export opportunities and markets.
- Improve safety on fishing vessels or on shore by funding safety measures that prevent accidents such as new handrails and ladders.

Find out more at: <https://www.gov.uk/guidance/maritime-and-fisheries-fund-mff-apply-for-funding>.

Marine Industries

Cross Solent Medical Drones

Solent Transport is trialling an innovative and fast UAV (Unmanned, Aerial, Vehicle) drone transportation service in response to the Covid-19 outbreak. The trial is the first of its kind and aims to benefit patients on the Isle of Wight by speeding up the delivery of medical supplies.

Funded by the Department for Transport, it is part of the Solent Transport Future Transport Zone project. It uses a UAV drone, designed and built by the University of Southampton for Windracers, to transport medical supplies to St Mary's Hospital from the mainland via Solent Airport.



The drone is a large twin engine fixed wing device, with a carrying capacity of up to one hundred kilogrammes in a space around the size of an estate car boot. In the initial operation, it will be carrying loads of not more than forty kilogrammes and the type of cargo will depend on the needs of the hospital and be subject to permissions granted by the Civil Aviation Authority.

Solent Transport won £28m from the Department for Transport in March 2020, to implement innovative future transport solutions around personal mobility and freight movements, including this Drones project. The four-year programme proposes to address local challenges such as high levels of car usage and the environmental impacts of freight movement within the Solent's urban areas. The partnership comprises Hampshire County Council, Southampton City Council, Portsmouth City Council and the Isle of Wight. Find out more about Solent Transport at: <https://www.solent-transport.com/>.

Bio-based Thermoplastic Composite Materials for Marine Applications

SeaBioComp, a collaborative project developing and producing novel bio-based thermoplastic composite materials for marine applications, has produced its first 3D printed biopolymer fender profile. It was printed by Poly Products, a Netherlands based composite production and specialist engineering business. It is a partner in the SeaBioComp project, in collaboration with de Klerk Waterbouw who specialise in the installation of products for the marine environment.

This EU Interreg 2 Seas funded project, researched the adaptations required to enable the 3D printing machine to process biopolymers. Research and testing into temperature control, natural fibre selection and corrosion of extruder parts were all reviewed and more information is available on the SeaBioComp website.

De Klerk Waterbouw wanted to investigate the design and production of a bio-composite vertical fender profile for the berthing and guiding of ships, in order to replace traditionally used tropical hard woods and synthetic plastics. The findings from the material testing, led by the University of Portsmouth, and mechanical testing by de Klerk Waterbouw show very promising results and further optimisation of designs, materials and production may lead to future full-scale production.



SeaBioComp 3D Printed Fender

Organisations interested in bio-based materials for the marine environment are invited to join the SeaBioComp Interest Group at www.seabiocomp.eu/interest_group/. The reports into the adaptations required for 3D printing of biocomposites and details of the 3D printed fender are available as downloads at: <http://www.seabiocomp.eu/downloads/>.

Natural Capital

Nature Based Interventions to reach Net Zero Emissions by 2050

The Natural Capital Committee, has published a report making recommendations for using nature based interventions to reach net zero greenhouse gas emissions by 2050. It notes the importance of biodiversity in a changing climate as it underpins the maintenance of ecosystem functions and services; it is very hard to replace once depleted below certain thresholds. Almost all evidence shows declines in biodiversity.

The report shows that marine ecosystems are important for climate regulation, and are responsible for an estimated fifty five percent of the world's biologically sequestered carbon. The ocean has taken up between twenty to thirty percent of total anthropogenic CO₂ emissions since the 1980s, as well as more than ninety percent of the excess heat in the climate system since 1970.

Benefits from better management of marine natural capital include:

- Greater biodiversity
- Improved recreation and well being
- Carbon storage and sequestration
- Food production
- Waste management
- Flood water storage and protection from extreme weather events

Find the Committee's reports at:

<https://www.gov.uk/government/collections/natural-capital-committee-documents>.



North Devon Marine Natural Capital Plan

The North Devon Marine Natural Capital Plan was commissioned by the North Devon UNESCO Biosphere Reserve and the North Devon Marine Pioneer. Its aim is to pilot a Natural Capital Approach to the management of the marine environment. It is a Pioneer project for the government's 25 Year Environment Plan.

It will draw out implications and useful lessons to feed into the delivery of the UK Marine Strategy (to meet the requirements of the Marine Strategy Framework Directive). This aims to achieve good environmental status for the marine environment.

Natural capital refers to all of the parts of nature that produces value or provides benefits to people; this might be direct such as the food we eat or indirect like the regulation of our climate. Damage to these natural capital assets can not only impact ecological functioning, but also our economy that relies on them, and our cultural or societal well-being.

The main purpose of the Plan is to support decision-making groups to help them incorporate the marine natural environment into their decision making. It provides supplementary guidance for existing plans (Local Plans, Marine Plans) on applying a Natural Capital Approach. View the Plan at: https://www.northdevonbiosphere.org.uk/uploads/1/5/4/4/15448192/north_devon_marine_natural_capital_plan__draft_for_consultation_.pdf.

The project has also developed a Natural Capital Asset and Risk Register that considers:

1. The extent and condition of the natural capital assets
2. The stocks and flows of ecosystem services
3. Threats to natural capital
4. Recommendations on key natural capital assets on which future management opportunities could be focussed to achieve the greatest gains

Find out more at: <https://www.northdevonbiosphere.org.uk/>.

Coastal Management

Seas, Oceans and Public Health

Funded by the European Union's Horizon 2020 programme, the Seas, Oceans and Public Health project (SOPHIE) is helping to build new research capacity for the emerging scientific discipline of oceans and human health. The project will be considering how to:

1. Ensure food from the oceans is healthy, nutritious, safe and accessible to all, while ensuring sustainability of fisheries and aquaculture.
2. Improve individual and community physical and mental health and well-being through enhanced interactions with healthy blue spaces that are sustainably managed.
3. Target approaches to the use of marine biodiversity in disease prevention while preserving marine ecosystems.
4. Achieve transdisciplinary and trans-sector collaborations across many stakeholder groups.

Almost one hundred coastal and marine tourism operators are helping to support SOPHIE research. Groups in Greece, Ireland, Portugal, Spain and the UK are enrolling their customers and professional teams in two ongoing citizen science initiatives.

Find out more at: <https://sophie2020.eu/>.

FCERM Policy Statement

In July, government published its 'Flood and coastal erosion risk management: policy statement'. This sets out its long-term ambition to create a nation more resilient to flood and coastal erosion risk. The Environment Agency has a statutory duty to develop, maintain, apply and monitor this strategy. The risk of flooding and coastal erosion is predicted to increase due to climate change and development in areas at risk.

The strategy seeks to:

- Ensure a clear understanding of the risks of flooding and coastal erosion, nationally and locally.
- Set out clear and consistent plans for risk management, so that communities and businesses can make informed decisions about the management of the remaining risk.
- Manage flood and coastal erosion risks in an appropriate way, taking account of the needs of communities and the environment.
- Ensure that emergency plans and responses to flood incidents are effective and that communities are able to respond effectively to flood forecasts, warnings and advice.
- Help communities to recover more quickly and effectively after incidents.

Read the Strategy at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/900094/flood-coastal-erosion-policy-statement.pdf.

Hurst Spit to Lymington Project

The Environment Agency in partnership with New Forest District Council, Hampshire County Council and Natural England, with support from JBA Consulting, are exploring a sustainable future for the coastal frontage between Hurst Spit and Lymington in relation to flood and coastal erosion risk management.

The Hurst Spit to Lymington coastline is characterised by large areas of low-lying coastal habitats, including mudflats, saltmarsh and vegetated shingle. The existing defences, as well as protecting local communities, protects large areas of coastal grazing marsh and coastal lagoons.

The predominant flood risk is from the sea; however risk of river flooding is also present, as well as surface water flood risk in the more built up areas.

The project is in its very early stages and it will take several years to develop ideas and options through consultation before any final scheme is proposed.

If you would like further information regarding the project please email: HurstSpit2Lymington@environment-agency.gov.uk.

Marine Technology Roadmap

The National Oceanography Centre has published the National Marine Facilities (NMF) Technology Roadmap 2020-21. This outlines current capabilities, and looks to the future of oceanographic science and the technology that will take us there.

The Roadmap acts as a focus for the interactions between science and technology in developing the National Marine Equipment Pool (NMEP) and associated supporting infrastructure. The NMEP is the largest centralised marine scientific equipment resource in Europe, with a diverse range of scientific instruments and equipment capable of sampling from the sea surface to the deep ocean.

Research vessels will continue to be the primary means of enabling data collection and physical sampling. They will also continue to deploy, recover and service autonomous instruments, such as moorings. They will also deploy and recover Marine Autonomous Systems, such as floats, gliders and Autonomous Underwater Vehicles (AUVs).

The NMF currently operates the two global class research vessels, the RRS James Cook and the RRS Discovery.

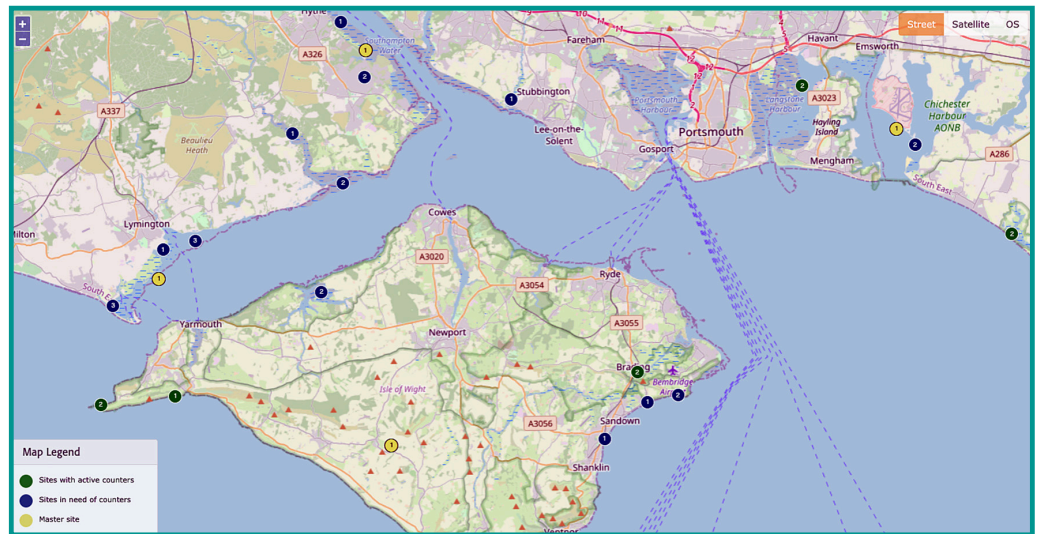
View the roadmap at: <https://www.noc.ac.uk/news/national-marine-facilities-technology-road-map-published>.

Conservation

Seabird Monitoring Programme Online Database

JNCC and the Seabird Monitoring Programme (SMP) partnership have launched a new online database. It contains data from over 11,000 breeding seabird colonies, comprising a 85,000 colony count and 18,600 breeding success records.

The web-interface allows users to search and view breeding seabird data from throughout Britain and Ireland using a map browser.



*Seabird site counters in the Solent
Map courtesy of the SMP Online Database*

The SMP is an ongoing annual monitoring programme.

Established in 1986, it monitors twenty five species of seabird that breed regularly in Britain and Ireland. The programme is a partnership of nineteen organisations and is co-ordinated by JNCC. It aims to ensure that data on breeding numbers and breeding success of seabirds are collected, both regionally and nationally, to enable their conservation status to be assessed. View the database at: <https://jncc.gov.uk/news/smp-database-launch/>.

25 Year Environment Plan Progress Report & UK Marine Strategy

In June, Defra published its first annual 25 Year Environment Plan (YEP) Progress Report. In 2018, this Plan set ten goals for long-term environmental improvements; this annual report provides a snapshot of progress towards those goals. For marine environments, the more detailed aspects of this Plan are contained within the UK Marine Strategy.

The updated UK Marine Strategy (Part 1) showed that progress has been made towards achieving 'good environmental status'. The findings of the 60 indicator assessments, covering marine species and habitats and the key pressures affecting them, have enabled assessment as to whether 'good environmental status' has been achieved. They also identify gaps in knowledge and appropriate next steps. It also sets out updated high level objectives and targets to be used for the period to 2024. See: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/841246/marine-strategy-part1-october19.pdf.

For the marine environment, the YEP sets the following goals:

- Publish an update to the UK Marine Strategy (Part 2) in December 2020 which will set out how we will monitor progress against the updated targets and indicators proposed in Part 1.
- Publish a comprehensive Seabird Conservation Strategy which will help address the current declines in some UK species.
- Launch a work programme on 'protected, endangered and threatened species' bycatch', which will support a more ecosystem-based approach to fisheries management and monitoring.
- Publish the UK Cetacean Bycatch Initiative, which will outline the actions that will be taken to tackle cetacean bycatch in UK waters through the implementation of practical and effective risk-based mitigation.
- Develop policies and programmes to implement the Fisheries Bill, including the new provisions for Fisheries Management Plans.

The YEP Annual Report can be accessed at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/891783/25yep-progress-report-2020.pdf.

Harbours & Business

Innovative New Nesting Site for Oystercatcher

The ongoing replacement of end-of-life timber mooring piles presented a new challenge this winter for the River Hamble Harbour Authority, The Crown Estate and its agent Knight Frank.

One of the old timber piles owned by The Crown Estate, that was earmarked for replacement, was a known regular nesting site for oystercatchers. Ordinarily, each new steel pile would be topped with a standard conical pile cap but these are not accommodating to our feathered visitors.

Not wishing to lose a nesting site, the Harbour Authority sought a bespoke bird-friendly pile cap, designed by Conbury Composites Ltd, installed by Baker Trayte Marine Ltd and funded by The Crown Estate. A shallow dish with drainage holes was produced and a couple of handfuls of local beach gravel added to improve its appeal. At the time of writing, an oyster catcher has been in situ nesting on the pile cap for a month now so it appears to have been a success.

With a couple of tweaks to the drainage design, the intention is to use more of these in the future for similar mid-stream piles that have previously been attractive roosting and nesting sites. These might also provide an idea for those seeking opportunities for biodiversity gains.

Enquiries to: harbour.office@hants.gov.uk.



Photo courtesy of River Hamble Harbour Authority

Port Energy Systems Optimisation (PESO)

Portsmouth International Port, working with a consortium of three other organisations, will be piloting a smart energy system to significantly decarbonise their port energy operations. It is part of a new project named PESO (Port Energy Systems Optimisation).

The PESO project, co-funded by Innovate UK, the UK's innovation agency, will show how ports can use smart grid technology and sophisticated management software to reduce atmospheric emissions and improve air quality whilst optimising energy costs.

The PESO pilot system, to be deployed at Portsmouth International Port, will integrate local electricity generation, novel energy storage and smart energy management. It will demonstrate how ports can meet emerging on-shore power demands, and the requirements of ships as they increasingly use shore power and adopt electric propulsion, whilst minimising the need for expensive grid upgrading and optimising the use of variable tariffs.



Portsmouth Port, photo courtesy of Portsmouth International Port

Three main areas of innovation will be explored in the pilot; the design and construction of novel dual-chemistry battery technology, advanced management software to optimise onsite energy generation and storage, and the development of smart port grid infrastructure.

Recreation

England Coast Path Progresses in the South

Natural England's work to establish the coast path is progressing around the Solent. The Path aims to improve public access to the English coastline by creating clear and consistent public rights along the coast for open-air recreation on foot. It allows existing coastal access to be secured and improved and new access to be created in coastal places where it did not previously exist. The stages of the Path at its various locations is shown below:

- Highcliffe to Calshot - Stage 4: Determine
- Calshot to Gosport - Stage 4 and 5: Partially approved (not yet available for public use - work to establish the route is currently taking place on approved lengths)
- Isle of Wight - East Cowes to Wootton Bridge - Stages 2 and 3: Develop and Propose
- Isle of Wight - Wootton Bridge to the Medina - Stage 4: Determine
- Gosport to Portsmouth Stage 4 and 5: Partially approved (not yet available for public use - work to establish the route is currently taking place on approved lengths)
- Portsmouth to South Hayling - Stage 4: Determine
- South Hayling to East Head - Stages 4 and 5: Partially approved (not yet available for public use - work to establish the route is currently taking place on approved lengths)
- East Head to Shoreham - Stage 4: Determine

For more detailed information on specific locations, please see:

<https://www.gov.uk/government/publications/england-coast-path-in-the-south-of-england>.

Anchoring with Care

Since October 2019, the RYA, along with other organisations, have partnered with Natural England as part of a four year EU LIFE funded project known as the ReMEDIES Project. As part of this project, The Green Blue programme is campaigning to raise awareness of the importance of seagrass and maerl seabed habitats and the best practice recreational boating can adopt to help preserve and restore them. Seagrass and Maerl beds are the habitats most at risk from damage from boat anchors. Advice includes, to:

- Choose an anchorage away from the most sensitive areas wherever possible (e.g. away from seagrass, reefs, shellfish beds, etc.).
- Deploy your anchor correctly to avoid drag.
- Use the appropriate length of chain and warp to help reduce scouring of the seabed.
- If your anchor is dragging, raise it and re-anchor; and if it continues to drag, choose a different anchorage.
- Even if you think the anchor is holding well, check it periodically to make sure it is not dragging.
- Raise your anchor correctly when leaving.
- Check to see how the boat is lying.
- If the boat is pulling back away from the anchor, you may need to slowly motor towards the anchor as the crew pulls in the slack and raises the anchor.
- Good crew communication is essential to avoid overrunning and fouling the prop.
- Bring the anchor and line on-board, and stow it away ready for immediate redeployment.



Solent seagrass
Photo courtesy of Bird Aware Solent

Find out more about this campaign and other environmental awareness resources at: <https://thegreenblue.org.uk/you-your-boat/info-advice/wildlife-habitats/anchoring-with-care/>.

Heritage

Gosport Heritage Action Zone

Gosport's Heritage Action Zone is pooling the skills and resources of partners to save the town's military heritage including barracks, trenches and green spaces. In the late-17th century Portsmouth began to grow rapidly, and the Navy created a significant demand for beer, meat, bread and other goods. Tradesmen in Gosport supplied some of these needs. Many of Gosport's historic buildings are now derelict and in need of a new use and lease of life. Forthcoming projects under the Action Zone include:

- A survey will be carried out by Historic England to define the extent of the surviving remains of the first world war trenches, to inform their future management and presentation. It will also seek to engage the local community.
- Royal Clarence Yard is home to a number of historic buildings dating back to the 17th century. An assessment will be made to put a plan in place to help manage future development to facilitate economic opportunities along the waterfront.



*Cleared bomb sites (in pink) in Gosport, 1945
Photo courtesy of Historic England*

The project partners are Gosport Borough Council, Defence Infrastructure Organisation, Hampshire County Council and Gosport Society. See: <https://historicengland.org.uk/services-skills/heritage-action-zones/gosport/>.

Steamship Shieldhall wins Grant

Steamship Shieldhall will benefit from a grant from the National Lottery Heritage Fund of £6,800, for a project enabling it to meet international environmental requirements for exhaust emissions. Based in Southampton, Shieldhall is subject to a limit of 0.1 percent sulphur in her fuel to minimise the emission of sulphur dioxide.

The steamship is one of the UK's most significant historic ships. She is the country's last and largest cargo steam ship. Her significance is underscored by her listing as one of just 200 vessels forming the National Historic Fleet (equivalent to a Grade I listed historic building).

The project will consist of seal welding the rivets in Shieldhall's fuel tank areas and welding the seams where hull plates overlap. Externally, the "as built" appearance of the hull will be preserved. This will prevent any seepage of the compliant diesel fuel passing the rivets or plate seams and working its way into the sea. Previously, fuels were more viscous and the potential for this risk did not exist.

This challenge and the ongoing issues of operating an historic ship will be communicated to passengers and wider audiences.

When the project has been completed, Shieldhall will continue to offer a full excursion programme. This is open to all, and includes popular 'Heritage Adventure Training Days' offered to young people, enabling them to enjoy time on board one of Britain's last sea-going steamships.

Fever Ships

The CITIZAN project have written an excellent blog on fever hulks; ships that are used to quarantine travellers and sick people from a population when they display symptoms, or have confirmed cases of a particularly contagious and deadly disease. For this reason, they are more commonly referred to as quarantine ships, hospital ships or isolation ships.

The earliest date of the practice is unknown, however, the term quarantine is believed to come from the Italian quaranta giorni meaning forty days. Forty days is the time that ships coming from infected ports were expected to lie at anchor prior to being granted access in 14th century Venice during a bubonic plague epidemic.

In the UK, one early mention from the famous Samuel Peeps, writing in 1666, talks about ships "performing quarantine" for thirty days in the Thames Estuary.

The practice of quarantining people on ships, was used fairly consistently to combat outbreaks from the 14th century onwards until it was deemed largely ineffective by the 20th century when it was only used in extreme circumstances. The practice is simple, isolate and slow the rate of infection, it has been used frequently to combat various infections over the course of human history. By the 18th and 19th centuries the attention had swung to cholera and yellow fever. By the early 20th century, yellow fever was still prevalent and the focus also turned to control the spread of Spanish influenza in the early 1900's.

Found out more at: <https://citizan.org.uk/blog/2020/Apr/29/you-give-me-fever/>.

More News

Enhancing Built Coastal Infrastructure

Many UK coastlines are highly urbanised with residential and commercial infrastructure, roads, railways, marinas, steelworks, aquaculture facilities and renewable energy facilities. The impacts of climate change from rising sea levels, coastal erosion, and increased storminess will increase the need to protect this infrastructure. Coastal defences such as sea walls, breakwaters and groynes can, however, have a significant impact on the biodiversity of the intertidal zone.

Replacing natural rocky or sandy shores with artificial structures composed of concrete, wood, metal or granite blocks can reduce the complexity of intertidal habitats, eliminating rockpools and creating smooth surfaces which can be difficult for intertidal organisms to colonise. The Ecostructure project is exploring eco-engineering approaches that improve the value of artificial structures as habitats for intertidal wildlife. It is a collaborative research project involving scientists from three universities in Wales (Aberystwyth, Bangor and Swansea) and two in Ireland (University College Dublin and University College Cork). Together, they are identifying features of natural shores that are positively associated with biodiversity and ecosystem functioning, and looking at ways these can be incorporated into the design of new coastal structures as well as ecological enhancements retrofitted to existing structures.

They would like to know what you value about your coast and what you think of various eco-engineering designs through their online survey. If you're interested in finding out more about new and existing eco-engineering designs and how they might be applied to an existing structure or development project, they are encouraging developers, regulators and community groups to contact them. Access the Survey at: <https://www.surveymonkey.co.uk/r/PQLL88L>.

Ecostructure is part-funded by the European Regional Development Fund (ERDF) through the Ireland Wales Cooperation Programme 2014-2020.

Find out more at: <http://www.ecostructureproject.eu> or follow [www.twitter.com/ecstructure](https://twitter.com/ecstructure).

Bird Aware Solent Visitor Survey

A visitor survey was undertaken over the winter of 2019/20 on behalf of Bird Aware Solent by Footprint Ecology, as part of their ongoing monitoring programme. Fieldwork included tally counts of all visitors seen, and face-to-face interviews with a sample of visitors. Interview questions covered a range of topics including visitor origins, access patterns and behaviour. Ten survey locations were used.

Key results and findings include:

- At most survey locations, the most common activity was either dog walking (sixty one percent of recorded activities overall) or walking (twenty five percent overall).
- Only seven percent of interviewees said that they accessed the intertidal zone (below the strandline) as part of their route and only three percent accessed the water.
- Around half (forty eight percent) of interviewees were aware of the development of the England Coast Path, and sixty eight percent said that they expected its development would lead to them exploring new sections of the coast.
- Thirty four percent of interviewees were unaware of any habitats or species at the interview location which could be affected by recreation.

The full report can be accessed at: https://solent.birdaware.org/media/33629/Coastal-Visitor-Survey-2019-20-report/pdf/Coastal_Visitor_Survey_2019-20_report.pdf.

Future of Our Inshore Fisheries

The industry-led steering group of the Future of Our Inshore Fisheries project has released a report, detailing discussions from a conference held last year and an associated action plan. It sets out the first stage of practical actions to reform the management of UK inshore fisheries.

Key actions include:

- Mapping inshore fisheries by species, stock and management status, and creating a database where this information is stored and updated annually.
- Establishing a formal process that enables scientists, industry and policy makers to collectively 'peer review' the science that is used to inform management decisions.
- Developing a 'harvest strategy standard' that will guide how inshore fisheries will be managed, with each fishery having a management target that helps set fishing effort and a series of triggers to guide if new management measures are needed. (New provisions for Fisheries Management Plans set out in the UK Government's Fisheries Bill will allow for such new approaches to management.)
- Reviewing access across priority inshore fisheries to determine the optimal arrangements to prioritise sustainability, deal with excess capacity, address technological development and test new ways of allocating fishing opportunities.

Find out more at: <https://www.seafish.org/article/next-steps-for-the-future-of-our-inshore-fisheries-project-outlined>.

News & Snippets

AI Water Quality Monitoring

Bournemouth Christchurch and Poole Council is undertaking a pilot project to utilise artificial intelligence (AI) technology to monitor, protect and improve the water ecosystem in Poole Harbour. It will be undertaken in association with Poole Harbour Commissioners, the Environment Agency, Digital Catapult's Things Connected Bournemouth, Southern IFCA and Barclays Eagle Labs.

The new project will see AI Technology provide a network of water quality sensors to continuously monitor the harbour for real-time analysis. This will enable the detection of a much wider range of physical, chemical and biological indicators to help understand, manage and predict events such as bacterial build up, sewage, fertiliser run-off and industrial discharges. These can be harmful for aquatic ecosystems, creating a build up of algae which can be detrimental to water quality.

The project will commence with a pilot in the Poole Park lake, which is connected by a sluice channel to Poole Harbour. With more shelter around the lake, it makes it easier to access the AI and the pilot will utilise existing water quality data to help to train the technology ahead of its deployment in Poole Harbour.

Preventing Plastic Pollution

Working in partnership with 18 organisations from across France and England, the Preventing Plastic Pollution (PPP) project seeks to understand and reduce the impacts of plastic pollution in the marine environment. It will look at the catchment from source to sea, identify and target hotspots for plastic, embed behaviour change in local communities and businesses, and implement effective solutions and alternatives.

Research suggests that around eighty percent of marine plastic pollution comes from rivers.

PPP is a €14million funded EU INTERREG VA France (Channel) England Programme project co-financed by the European Regional Development Fund. It will work across seven pilot sites: Brest Harbour, Bay of Douarnenez, Bay of Veys, Poole Harbour, Medway, Tamar, and Great Ouse estuaries.

It will run until 2023 organising one hundred and sixty river clearance community events. It will also work with the agriculture, fishing and maritime industries on ways to capture and remove plastic waste from their respective activities. Find out more: <https://preventingplasticpollution.com/>.

Snippets

- In January 2020, the Ocean Conservation Trust hosted the third workshop on Environmental Friendly Moorings (EFMs), now re-branded as Advanced Mooring Systems (AMS). The workshop emphasised their benefits from a technical as well as an environmental point of view. It was held under the auspices of the EU LIFE ReMEDIES project. Please see: <https://www.rya.org.uk/knowledge-advice/planning-environment/Pages/efm-documentation.aspx>.
- Natural England have published a pilot study project to investigate the feasibility of monitoring inshore fish communities using a large-volume marine eDNA sampler. It is hoped that this method will provide an independent and unbiased method for the continuous monitoring of inshore fish communities. See: <http://publications.naturalengland.org.uk/publication/6293055965757440>.
- UKSA, the non-profit maritime training charity, is delighted to announce it has been pledged a \$1.9 million donation, enabling the progression of plans to enhance and expand facilities with the building of a new accommodation centre. The gift is the largest single amount ever received by UKSA since its founding in 1987. It has been made by The TK Foundation, a Bahamas based foundation that supports non-profit and youth programmes across the globe.
- The Wildlife Trusts have published 'Let nature help - how nature's recovery is essential for tackling the climate crisis'. Drawing on the latest research, the report shows how a variety of natural landscapes in the UK can store carbon and could absorb emissions if these habitats were restored. See: <https://www.hiwwt.org.uk/news/kick-start-natures-recovery-and-absorb-third-uk-emissions>.
- In 2017, CITiZAN and the Marine Archaeology Trust worked together to record the archaeological remains on Oyster Island, Langstone Harbour. The site was last surveyed in the mid 1990's as part of the Langstone Harbour Project. At the time the remains were interpreted as a WWI Observation Post and Searchlight base. However, further research suggests that the building foundations actually relate to the 'Oyster Catchers House', thought to have been built in 1819 by the Russel family as part of their oyster business. It is unclear whether the house was demolished in the 1950's, or if it was destroyed in WWII as the area was used as a decoy site.
- The Home & Dry campaign aims to engage with fishermen on the issues of staying safe at sea. It acts as an information hub, to help the commercial fishing industry get access to sea safety training, guidance and technical expertise. View at: <https://www.homeanddry.uk/>.
- The Marine Management Organisation (MMO) has launched its strategy for its aims and ambitions for the future of our seas, coasts and communities over the next ten years. See: <https://www.gov.uk/government/publications/our-mmo-story-the-next-ten-years>.

Solent News

Nitrates Calculator for the Solent

Natural England has launched a nitrates calculator to allow for assessment and mitigation of nutrient impacts for proposed new developments in the Solent. The nutrient neutrality approach applies to developments where the treated effluent discharges into any Solent international sites:

- Solent Maritime Special Area of Conservation
- Solent and Southampton Water Special Protection Area (SPA) and Ramsar,
- Portsmouth Harbour SPA and Ramsar
- Chichester and Langstone Harbours SPA and Ramsar
- Solent and Dorset Coast SPA
- Solent and Isle of Wight Lagoon SAC
- Any water body (surface or groundwater) that subsequently discharges into such a site.

Access at: <https://www.push.gov.uk/2020/06/11/natural-england-published-nutrient-calculator-and-updated-guidance-on-achieving-nutrient-neutral-housing-development/>.

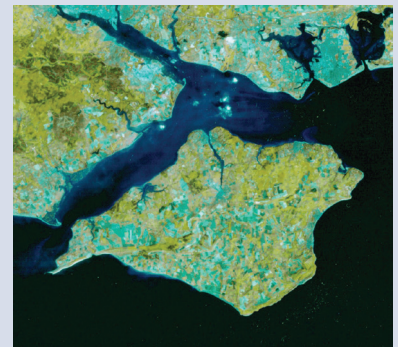
The Solent Forum

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 on 14 October 2020.

Solent News is prepared and edited by the Solent Forum Officers. It is a biannual publication and issue 49 will be produced in winter 2020/21. 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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