

# RELEVANT INFO

- **Valuing Chichester Harbour Shellfisheries**

Sussex IFCA has worked with the Environment Agency to improve the evidence base for the valuation of the Chichester Harbour oyster fishery. An economic analysis of the fishery was carried out together with the creation of a model. The model predicts the potential value of the shellfishery under different water quality scenarios. The project was delivered by the New Economics foundation. The results obtained demonstrate that better water quality leads to higher gross added value (GVA) as a result of an increased oyster harvest. The evidence from this study can be integrated into future cost benefit analyses, which in turn may encourage investment in environmental protection and fisheries enhancement. The model created can be used for any shellfishery where data exists.

The full report can be viewed [here](#)

The model (Excel) can be viewed [here](#)

- Brexit and the fisheries bill [http://www.seafish.org/media/1752270/clg\\_mar2018\\_brexit\\_defra.pdf](http://www.seafish.org/media/1752270/clg_mar2018_brexit_defra.pdf)

- Adoption of detailed EU fishing rules  
[https://publications.parliament.uk/pa/cm201719/cmselect/cmeuleg/301-xxiii/30106.htm#\\_idTextAnchor014](https://publications.parliament.uk/pa/cm201719/cmselect/cmeuleg/301-xxiii/30106.htm#_idTextAnchor014)

- **Sustainable seas inquiry (Envt Audit Committee)**

<https://www.parliament.uk/business/committees/committees-a-z/commons-select/environmental-audit-committee/inquiries/parliament-2017/sustainable-seas-17-19/>

- **Fisheries Management in the Context of Shared Seas**

The NAFC Marine Centre has recently published two guides to promote effective consideration of fishing within wider marine management. The first guide, aimed at fishermen, explains how information on fishing activity can be used, and where in the development process it should be provided. The second document aimed at developers, provides a description of fishing practices and is designed to promote a better understanding of how developments might impact on fishing, and how to engage with the fishing industry.

[https://www.nafc.uhi.ac.uk/t4-media/one-web/nafc/research/document/marine-spatial-planning/fis/Shelmerdine-et-al-\(2017\)-Report-on-FIS014-Managing-shared-seas.pdf](https://www.nafc.uhi.ac.uk/t4-media/one-web/nafc/research/document/marine-spatial-planning/fis/Shelmerdine-et-al-(2017)-Report-on-FIS014-Managing-shared-seas.pdf)

- **UK fleet sees highest fishing revenues on record despite fuel cost increases.**

The UK fishing fleet earned a record £950 million last year as the volume of landings rose by 10,000 tonnes. However, the figures, compiled by Seafish, also show that higher fuel costs are starting to eat into operating profits. Seafish's preliminary estimates reveal that skippers and vessel owners are reporting that spending on fuel is now taking up 12% of total income, 2% higher than the previous year. Despite this, the UK fleet saw an increase in the number of active fishing vessels. And early estimates are pointing to a positive year for the UK fishing industry in 2017, with the average price per tonne the same as 2016, which was one of the highest on record. As a result, operating profits last year declined by six per cent. The annual value of landings, both nominal and adjusted for inflation, was the highest recorded in the past 12 years. Volume increased by 10,000 tonnes, reaching 710,000 tonnes. The average price per tonne landed was £1,338, the same as in 2016.

<https://bit.ly/2EQScZU>

# EVENTS

- **Futures Summit: Designing Innovations for Sustainable Community Wellbeing**

Futures Summit is a must for anyone interested in sustainable development and the circular economy! On 18-19 June 2018, Canterbury Christ Church University & The Bay Trust will host two days of talks, workshops and creative thinking with architects, green energy specialist, thinkers, and doers all coming together to make a difference to how we live and work and create vibrant communities. The event will be held at the award winning The Pines Calyx eco-venue in St Margaret's Bay <https://baytrust.org.uk/event/futures-summit-designing-innovations-for-sustainable-community-wellbeing/>

- **Poole Maritime Day** June 2018 <https://www.poolemaritimefestival.co.uk/>
- Upcoming **NEF Consulting training events:** [https://www.nefconsulting.com/training-capacity-building/training-calendar/?dm\\_i=2HRL,17WPF,2EZME8,3UZ3R,1](https://www.nefconsulting.com/training-capacity-building/training-calendar/?dm_i=2HRL,17WPF,2EZME8,3UZ3R,1)
  - Commissioning for Outcomes & Co-production
  - Communicating Impact: Storytelling.
  - Communicating Impact: Data Visualisation
  - Valuations & Proxies
  - Creating a Theory of Change

# PUBLICATIONS

- **Bridging the divide: Social–ecological coherence in Marine Protected Area network design**  
Marine Protected Areas (MPAs) and networks of MPAs are being implemented globally as a spatial management tool for achieving conservation objectives. There has been considerable progress in reaching the prescribed 10% protected area target for 2020, outlined in the Convention on Biological Diversity Aichi Target 11 and the United Nations Sustainable Development Goal 14. The application of MPA network design principles (e.g. Representative, ecological connectivity), which underpin ecological coherence, is still lacking or insufficient in many regions. Poor ecological coherence hinders the ecological performance of MPA networks, leading to dysfunction in the flow of ecosystem services and reduced ecosystem benefits, with potentially negative consequences for human well-being. This paper presents four pivotal focus points for future progress that can bridge the gap between ecological and social systems. The aim is to shift the discourse of 'ecological coherence' further into the social sphere, and hence support the alignment of the process of designating ecologically coherent MPA networks with the 'triple bottom line' of economic development, environmental sustainability, and social inclusion, as described in the Sustainable Development Goals (SDGs), to achieve social–ecological coherence in MPA network design.  
<https://onlinelibrary.wiley.com/doi/epdf/10.1002/aqc.2885>
- **Assessing trade-offs in large marine protected areas**  
Large marine protected areas (LMPAs) are increasingly being established and have a high profile in marine conservation. LMPAs are expected to achieve multiple objectives, and because of their size are postulated to avoid trade-offs that are common in smaller MPAs. However, evaluations across multiple outcomes are lacking. We used a systematic approach to code several social and ecological outcomes of 12 LMPAs. We found evidence of three types of trade-offs: trade-offs between different ecological resources (supply trade-offs); trade-offs between ecological resource conditions and the well-being of resource users (supply-demand trade-offs); and trade-offs

between the well-being outcomes of different resource users (demand trade-offs). We also found several divergent outcomes that were attributed to influences beyond the scope of the LMPA. We suggest that despite their size, trade-offs can develop in LMPAs and should be considered in planning and design. LMPAs may improve their performance across multiple social and ecological objectives if integrated with larger-scale conservation efforts.

[https://www.openchannels.org/sites/default/files/literature/assessing\\_trade-offs\\_in\\_large\\_marine\\_protected\\_areas.pdf](https://www.openchannels.org/sites/default/files/literature/assessing_trade-offs_in_large_marine_protected_areas.pdf)

- **Missing native oyster (*Ostrea edulis* L.) beds in a European Marine Protected Area: Should there be widespread restorative management?**

Anthropogenic pressures on the marine environment have escalated and shellfish habitats have declined substantially around the world. Recently, Marine Protected Areas (MPAs) have rapidly increased in number, but management baselines rarely account for historical conditions. Marine examples of habitat restoration are therefore unusual. An interdisciplinary review of management baselines was undertaken for the Dornoch Firth protected area (NE Scotland) as well as three adjacent inlets and 50 km of open coastline. The protected area has low levels of industrial development, is sparsely populated, and previously achieved management objectives. Here we systematically searched for historical evidence of native oyster (*Ostrea edulis*) beds, a habitat now rare and of conservation importance throughout Atlantic Europe. Archaeological records, navigational charts, historical maps, museum collections, land-use records, fisheries records, public online databases and naturalists' records were searched. We conducted intertidal and subtidal surveys and sample oyster shells were radiocarbon dated. The combined interdisciplinary sources showed that *O. edulis* occurred in the inlets and open coast areas of NE Scotland, and specifically in the protected area: Probably since the end of the last glaciation to the late 1800s when they were likely over-fished. Present environmental conditions are also suitable for oyster restoration. Habitat restoration in protected areas is an emerging global theme. However, European oyster restoration effort is currently confined to remnant populations with a clear history of exploitation or dwindling associated fisheries. An interdisciplinary review of baselines will probably show scope for the restoration of *O. edulis*, for nature conservation, in many other European MPAs.

<https://www.sciencedirect.com/science/article/pii/S0006320717308030>

- **Comparing the cost effectiveness of nature-based and coastal adaptation: A case study from the Gulf Coast of the United States**

Coastal risks are increasing from both development and climate change. Interest is growing in the protective role that coastal nature-based measures (or green infrastructure), such as reefs and wetlands, can play in adapting to these risks. However, a lack of quantitative information on their relative costs and benefits is one principal factor limiting their use more broadly. Here, we apply a quantitative risk assessment framework to assess coastal flood risk (from climate change and economic exposure growth) across the United States Gulf of Mexico coast to compare the cost effectiveness of different adaptation measures. These include nature-based (e.g. oyster reef restoration), structural or grey (e.g., seawalls) and policy measures (e.g. home elevation). We first find that coastal development will be a critical driver of risk, particularly for major disasters, but climate change will cause more recurrent losses through changes in storms and relative sea level rise. By 2030, flooding will cost \$134–176.6 billion (for different economic growth scenarios), but as the effects of climate change, land subsidence and concentration of assets in the coastal zone increase, annualized risk will more than double by 2050 with respect to 2030. However, from the portfolio we studied, the set of cost-effective adaptation measures (with benefit to cost ratios above 1) could prevent up to \$57–101 billion in losses, which represents 42.8–57.2% of the total risk. Nature-based adaptation options could avert more than \$50 billion of these costs, and do so cost effectively with average benefit to cost ratios above 3.5. Wetland and oyster reef restoration are found to be particularly cost-effective. This study demonstrates that the cost effectiveness of nature-based, grey and policy measures can be compared quantitatively with one another, and that the cost effectiveness of adaptation becomes more attractive as climate change and coastal development intensifies in the future. It also shows that investments in nature-based adaptation could meet multiple objectives for environmental restoration, adaptation and flood risk reduction.

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0192132>

- **Mechanisms matter for evaluating the economic impacts of marine reserves**

Large areas of marine and coastal environments have been protected to satisfy diverse policy goals, but there has been limited work understanding the economic impacts of such closures. While methods for establishing causal impacts are prevalent, less attention has been paid to explaining the mechanisms through which the causal relationship came to be. Understanding mechanisms is crucial for designing policies that foster the mechanisms that achieve the intended objectives of marine reserves and mitigate the mechanisms that do not. We estimate the treatment effect of a large marine reserve on the net earnings of a commercial fishery using difference-in-differences and synthetic-control designs, and decompose the treatment effect into its constituent mechanisms through structural equation modeling. We find minimal evidence that closing the marine reserve to fishing had a significant economic cost for the industry; however, several counteracting mechanisms are critical for explaining the effect and for generalizing to other settings.

<https://www.sciencedirect.com/science/article/pii/S0095069617304175>

- **Fuel use and greenhouse gas emissions of world fisheries**

Food production is responsible for a quarter of anthropogenic greenhouse gas (GHG) emissions globally. Marine fisheries are typically excluded from global assessments of GHGs or are generalized based on a limited number of case studies. Here we quantify fuel inputs and GHG emissions for the global fishing fleet from 1990–2011 and compare emissions from fisheries to those from agriculture and livestock production. We estimate that fisheries consumed 40 billion litres of fuel in 2011 and generated a total of 179 million tonnes of CO<sub>2</sub>-equivalent GHGs (4% of global food production). Emissions from the global fishing industry grew by 28% between 1990 and 2011, with little coinciding increase in production (average emissions per tonne landed grew by 21%). Growth in emissions was driven primarily by increased harvests from fuel-intensive crustacean fisheries. The environmental benefit of low-carbon fisheries could be further realized if a greater proportion of landings were directed to human consumption rather than industrial uses.

<https://www.nature.com/articles/s41558-018-0117-x>

## UPDATE ON MSEP

- **BLUE NEW DEAL Action Plan** – ‘Turning back to the sea’ <http://neweconomics.org/turning-back-to-the-sea/>
- **MSEP legacy: A marine economics handbook for NGOs**  
[http://b.3cdn.net/nefoundation/fd13ca36cea4cb53b7\\_xhm6b9tzq.pdf](http://b.3cdn.net/nefoundation/fd13ca36cea4cb53b7_xhm6b9tzq.pdf)
- **The Infographic Impact Assessment for MCZs** <http://www.mseproject.net/infographic-ia>
- **Poole Rocks MCZ-** [www.poolerocksmcz.uk](http://www.poolerocksmcz.uk) <https://www.youtube.com/watch?v=68dly3ofgMU>
- **NEF Economics in policy making briefings** <http://neweconomics.org/2013/05/economics-policy-making/>
- **NEF ‘A fair fishing deal’** [http://neweconomics.org/2017/09/fish/?\\_sft\\_latest=research](http://neweconomics.org/2017/09/fish/?_sft_latest=research)
- Find out more about **NEFs work with the fishing community in Eastbourne.** [Film here](#)

## OVER TO YOU

- **Follow the MSEP on twitter @MarineEconomics**
- If you have any research, articles or information that relates to socio-economic studies in the marine environment please share them with the network

Thanks, Chris @ NEF