

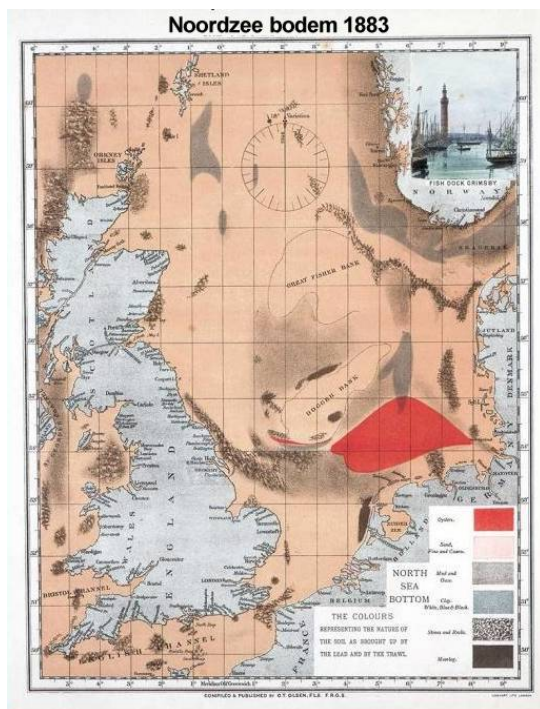
The Living North Sea Initiative

A catalyst for ecosystem restoration and sustainable use of the North Sea

The North Sea, a showcase of innovative approaches

The North Sea is the largest nature area in North-Western Europe and is one of the most varied and productive marine ecosystems in the world. Until the early 20th century, the North Sea was a very different ecosystem from what it is now. The bed of the Southern North Sea, which is now characterised by sand and mud, was largely covered with boulders and oyster beds, creating large natural reefs and fields of sea grass. Further north, kelp forests formed the basis for diverse ecosystems, making effective use of the nutrient rich waters of the North Sea. Marine life in the North Sea was rich and abundant, allowing for a large and thriving fishing sector.

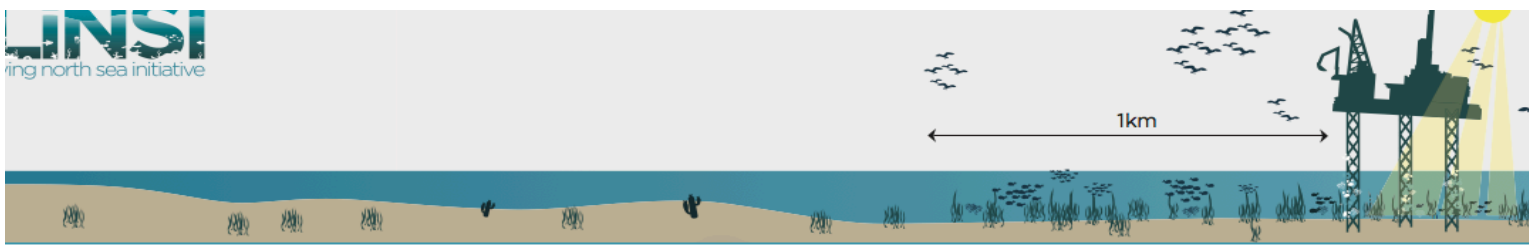
Close to 200 million people, from seven different countries, benefit from their North Sea coastlines. Access to its shores provides them with bountiful food resources, a transport thoroughfare for trade and industry and a vast energy reservoir. As the North Sea ecosystem has been intensively and unsustainably used for more than a century, it is under pressure from a variety of sources. As a result of seabed-disturbing activities, over-fishing, pollution and eutrophication, large areas of the reef-dependent habitats have almost disappeared, along with many of the species dependent on these habitats. In the coming decades the intensity of offshore activities is expected to grow further while the effects of climate change are likely to reduce the resilience of the ecosystem.



North Sea Oysterbanks 1883 (Olsen, O.T. 1883. The piscatorial atlas of the North Sea)



Skate at Ijmuiden fish market ca. 1890 (Roberts, C. 2007, The unnatural history of the sea)



The North Sea is a major asset for the neighbouring countries and the transition to sustainable use of marine resources provides unique opportunities for regional collaboration: the North Sea could become a showcase of sustainable ‘blue growth’ for other regions around the world, creating worldwide opportunities for innovative businesses.¹ To create the necessary conditions for sustainable ‘blue growth’ strategies that support sustainable growth in the marine and maritime sectors as a whole, we need to find ways in which economic activities and natural ecosystems become mutually supportive. With one of the major economic activities in the North Sea - energy production - undergoing a major shift in the coming decades, we are presented with an opportunity to develop new policy and business models that will create room for both North Sea users and marine ecosystems.

Challenges and opportunities in decommissioning of oil and gas structures

For centuries, man-made structures have - often unintentionally - provided reef-like habitats to the North Sea ecosystem. Once artificial structures, like ship wrecks, coastal defences, oil and gas installations and most



Interocean II; a sunken oil rig in the North Sea. Source: Duik de Noordzee Schoon, 2013.

recently a rapidly growing number of offshore wind installations, are placed on the seabed, they become part of the ecosystem. Ship wrecks have been found to host a unique diversity of species that are increasingly scarce in other places in the North Sea and oil and gas installations are home to hard and soft corals, anemones, tubeworms, mussels and oysters, various kinds of algae and fish. All these structures serve as shelters for commercial and non-commercial fish and as feeding grounds for marine mammals.

According to current regulations, installations that have been placed in the North Sea with an economic purpose must be fully removed when they no longer serve that purpose or another ‘legitimate purpose’. OSPAR 98/3 dictates that all installations are fully removed to shore to make sure that the space occupied may be given back to other users of the sea and the seabed may be restored in its ‘original’ state. As a result, more than 500 offshore oil and gas installations will have to be removed in the North Sea in the coming decades, when oil and gas production comes to an end. The same applies for offshore wind installations when their permits expire.

¹ Blue Growth is the European Commission’s long term strategy to support sustainable growth in the marine and maritime sectors as a whole (http://ec.europa.eu/maritimeaffairs/policy/blue_growth/).



The Living North Sea Initiative for a rich and sustainably used North Sea

The Living North Sea Initiative (LiNSI) is a North Sea wide, science-based, multi-stakeholder project that aims to explore and facilitate implementation of new opportunities for restoring a healthy and rich North Sea ecosystem. LiNSI is inspired by Rigs-to-Reef and ecosystem restoration programmes elsewhere in the world. It explores whether it might be possible to both reduce decommissioning costs and protect the ecosystems that have developed on and around oil and gas structures (steel jackets), and then to use part of these cost-savings to invest in active ecosystem protection and the transition to sustainable use of marine resources.

The mission of the LiNSI programme is to:

1. Catalyse protection, restoration and the transition to sustainable use of the North Sea
2. Allow for decommissioning to be done in the best way for environment and safety
3. Facilitate open collaboration and knowledge sharing between stakeholders across the North Sea to develop innovative policies and business models.

The programme was initiated in 2010 by IUCN, Shell and IMSA Amsterdam and has since then received funding from a large group of oil and gas organisations and by Dutch think tank IMSA. A number of NGOs also participate in the project: IUCN International, the North Sea Foundation and Forum for the Future as partners; Scottish Wildlife Trust and WWF-the Netherlands as observers, bringing in their own knowledge. Several other NGOs and academics have also joined LINSI discussions over the years. Anne-Mette Jørgensen, former IMSA and now Eco-Effective Strategies, is responsible for the overall programme management. Stakeholder engagement in the UK is being led by Forum for the Future and in Germany by Ecologic.

Box 1: The potential of Rigs-to-Reefs

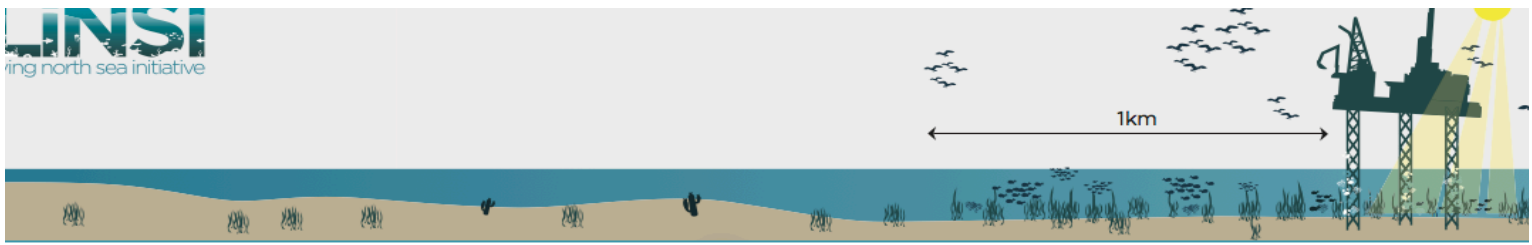
LiNSI asks whether removal of disused structures should necessarily be seen as the preferred option or if we might better serve the environment and the North Sea ecosystem by leaving part of the cleaned structures (jackets) offshore. Elsewhere in the world Rigs-to-Reefs are already a proven practise, among others in the Gulf of Mexico, California, Australia, Brunei, Malaysia and Gabon. If combined with proper fisheries management programmes, Rigs-to-Reefs can have a positive ecological impact as they:

- reduce the environmental impact of decommissioning
- provide habitat for ecosystems and species dependent on hard substrate
- support a wide variety of species, including threatened, protected and commercially-valuable species
- serve as a shelter, breeding and feeding grounds for marine mammals, fish, sharks and rays
- enhance local biodiversity
- could create hard physical boundaries for Marine Protected Areas
- could result in improved fish stocks for fisheries
- enable innovative reuse and multi-use concepts, e.g. for carbon capture & storage or aquaculture

To guide decision-making on decommissioning or reefing of specific structures decision-making models and guidelines need to be developed together with experts and stakeholders.

An exciting journey to build momentum for change

LiNSI is engaging with a growing group of stakeholders, including NGOs, scientists, oil and gas industry, offshore industry, (renewable) energy, fisheries, aquaculture, shipping, tourism, ports, coastal communities



and governments. Together with industry experts and scientists we are putting together a knowledge base on the environmental, health and safety impacts and costs of different decommissioning options for the North Sea. We are identifying potential implications for OSPAR and secondary policies of member states and international regulators.

Box 2: The potential of a North Sea Fund

If a Rigs-to-Reefs approach would be allowed, governments and oil & gas companies might save several billions of euros. A significant part of the cost reservations made for decommissioning could be invested in a North Sea Fund, providing a funding mechanism for innovative approaches to ecosystem restoration & sustainable use. Imagine what we could do with that money, if we could use it as seed money to catalyse a large, revolving investment fund:

- develop and invest in new business models for fishermen that guarantee sustainable catches (and restoration of fish stocks) in the long term;
- restore kelp forests, oyster banks and other 'hard substrate habitats' that provide shelter for fish, take up excess nutrients, help clean the water and potentially offer opportunities for commercial use;
- invest in efficient, multi-functional use of marine space, combining energy production with protein production or facilitating reuse of current infrastructure in order to reduce the need for new pipelines, cables and installations;
- invest in coastal protection that is both effective in the wake of climate change and supports the development of rich coastal ecosystems;
- invest in improved safety and reduced environmental impact from shipping activities;
- invest in coastal recreational activities like sport fishing and diving reefs.

A North Sea Fund could offer inspiring opportunities for sustainability initiatives in the North Sea, and stakeholders are invited to engage with LiNSI in order to shape the fund and bring in new ideas.

In parallel, we are developing a business case for a North Sea Fund in which potential decommissioning cost savings could serve as a catalyst for ecosystem restoration and sustainable use. This fund should be embedded in a broader market development strategy stimulating innovative, profitable economic activities and supporting ecological recovery of the North Sea. Engaging with wide groups of stakeholders is crucial to challenging our thinking about what the North Sea could be like and to work towards innovative ways to realise this vision and to gain momentum for change.

Motivations of some participants

'The Living North Sea initiatives provides companies with the opportunity to leave the North Sea in a better state than when we found it - to create a positive legacy.' (Oil & Gas company)

'We have forgotten about the richness of the North Sea, but we might be able to bring back its natural reefs and restore some of this richness with a little help.' (NGO)

Want to know more or join in?

If you would like to join us on our exploration towards a healthy and living North Sea, please contact:

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