

Nets, nature and national parks



Nets, nature and national parks

Invitation to Bohuslän by Evert Taube

*Like blue-grey swell the Bohus mountains roll
in desolate majesty against the rim of the Sea.
But between its ancient bare hills
is fertile land and ancient pastures.
Here penetrates the Skagerrak with blue wedges
and strong currents flow clear as crystal.
And birch and willow stand lush
and ash and oak by the barn and stables.
Come, Rönnerdahl to Ängön now in spring!
now eider, shelduck and gulls nest.*

*Come out to the beauty of desolate beaches,
with sloe and hawthorn, bent deeply by storm,
with old wrecks moulded green,
but whose broken hulls carry the form of the wave.
Where between the sea and land, on moving sand,
on waving seaweed, you can walk alone,
and live in the furthest times of the past
and in your family's future also.*

There may no longer be cod to fish in the Koster Sea but Evert Taube would be pleased to see that local people are working together to protect and enhance this area through the creation of a new national park. As a result, both locals and visitors can continue to enjoy much of the nature

Taube described so poetically in his invitation to Bohuslän, and can ensure that the rich biodiversity in and around the park is conserved for the next one hundred years and beyond.

Evert Taube, one of Sweden's most famous folk-musicians and authors, was born and



Photo: Evert Taube memorial in Grebbestad © Gordon McInnes

lived for much of his life on the west coast of Sweden. In his *Invitation to Bohuslän*, he captures the calm, beauty, history and rich nature that attracts many people to this area. The sheltered location, rocky coast, large and small islands, rolling hills and fertile valleys of Bohuslän province on the border with Norway have been occupied for thousands of years by farmers and fishermen. It is now one of Sweden's main tourist destinations.

It is also the site of Sweden's first marine national park. The creation of this park, the Kosterhavet (Koster Sea) National Park, has been a long time in the making. Initial proposals for a marine reserve in 1979 and for a marine national park in 1989 were not pursued following opposition from local people including fishermen. Both of these proposals had been introduced top-down from the national authorities in Stockholm, and although they contained laudable conservation goals, they were drafted with little consultation with local people and without much consideration of the wider social and economic consequences of creating a marine park in the area.

The Koster Sea, its islands and surrounding coastal area have been researched for decades and protected as part of various national and European schemes since 1985. The area attracts around 100 000 visitors each year, mainly from Sweden, Norway, Denmark, Germany and the Netherlands.

The Koster Islands lie in the Skagerrak on the border between Norway and Sweden.

Due to the circulation of low temperature, salty water from the North Sea into the Skagerrak, and the 200 metre deep Koster Fjord that separates the Koster Islands from the coast, the Koster Sea is more typical of the open sea than other Swedish coastal waters, which have a far lower salt content. These conditions draw in the larvae of deep ocean species such as sponges and cold-water corals from the Atlantic continental shelf, enhancing the diversity of the Koster Sea. As a result, the Koster Sea is possibly the most diverse marine area in Swedish waters, and contains around 6 000 marine species, some 200 of which are found nowhere else in Sweden.

The Skagerrak nevertheless faces several environmental problems. Specifically, it suffers from the discharge of excess nutrients to some coastal bays and inlets from land-based activities including agriculture. The waters are also polluted by the tri-butyl tin used as an anti-fouling paint for boat hulls, and alien Japanese oysters have also been found off the Bohuslän coast. Several key fish stocks have been reduced — mainly by overfishing — to the

point where cod, halibut, pollack and spiny dogfish are listed as threatened species on Sweden's Red List. Eel and skate are listed as critically endangered. Cod fishing is limited by quotas across all of Sweden's west coast, after a rapid decline in stocks over the past 25 years (see also *The Health of the Sea*, Swedish Environmental Protection Agency, in Swedish: Naturvårdsverket, 2009 available from <http://www.swedishepa.se>). This decline was partly caused by over-fishing and partly by changing aquatic conditions — reduced oxygen, low salt and possibly higher temperatures caused by global warming — in the deeper waters where cod spawn.

The most recent initiative for the creation of a national park in the Koster Sea started in 2003, and has involved many people, from national representatives and officials to local people working and living on the edge of the Park. These local people include: Anita Tullrot, a marine researcher; Charles Olsson, a local fisherman; Anders Tysklind, a local planner; Göran Larsson, a local community councillor; and Helena von Bothmer, a

Sweden was in 1909 the first country in Europe to establish national parks. Kosterhavet National Park is its 29th national park, stretching over 389 square kilometres around the Koster and other islands from the border with Norway in the north to Grebbestad in the south (<http://projektwebbar.lansstyrelsen.se/kosterhavet/Sv/english/Pages/index.aspx>). Swedish national parks are designated by the Government and Parliament and must lie on state-owned land. The basis for the creation of national parks in Sweden is the National Parks Plan which was first set up by the Swedish Environmental Protection Agency in 1989 and updated in 2008. Under the plan, the Swedish EPA selects representative and unique areas that fulfil the national and IUCN criteria for national parks. Further studies are made, local views are gathered, and then the Swedish EPA initiates a regional and local consultation to consider each selection. Formal suggestions are sent to the government to put to the Swedish Parliament for a final decision on which new parks to create. The regional County Administrative Boards normally manage the national parks.

Initially the parks were designated to preserve wilderness for current and future generations. Now they are managed to both preserve nature and enable access for recreation and the sustainable enjoyment and use of nature. The state makes a long-term commitment to conserving, managing and showcasing an area. This provides reassurance for those investing in ecotourism and other visitor activities (<http://www.naturvardsverket.se/en/In-English/Menu/GlobalMenu/News/Fantastic-nature-in-the-new-National-Parks-Plan/>).

The Kosterhavet National Park was inaugurated on 9 September 2009, 100 years after the creation of the first national park in Sweden, by King Carl Gustav XVI in the presence of: EU environment ministers; participants of the Annual Europarc Conference (<http://www.europarc.org>); participants in a conference on Visions for Biodiversity beyond 2010; those involved in the preparations for the new park; locals; and tourists. At the same time, the Ytre Hvaler National Park located immediately north of Kosterhavet National Park was inaugurated by Norway.

The terrestrial environment of the Koster Islands and the surrounding islands and skerries is also rich with many rare plants and fungi, as well as endangered species of butterflies and wild bees. The Koster Islands were designated as a national nature reserve in 1985. By-laws agreed with the islanders ban cars on North Koster and limit the number of nights allowed for camping in any one site — and for berthing boats in any one harbour around the islands — to help ensure the sustainable development of life and tourism on the islands. The nature reserve is now included in the European Union's Natura 2000 network as a Special Area of Conservation (<http://eunis.eea.europa.eu/>). The islands are included in Natura 2000 because they are home to guillemots, Arctic skuas, common terns and Arctic terns, all of which are species of European interest. Part of the Koster Fjord was listed for inclusion in Natura 2000 in 2000, due to the presence there of cormorants, harbour seals, common porpoises, and the *Lophelia pertusa* corals. Only small, state-owned parts of the Koster Islands are included in the National Park. However the new National Park and Koster Islands Nature Reserve will be managed together.

local entrepreneur. They are five very different people with different perspectives but a common desire to find a more sustainable way to maintain and develop their local area and make a success of the new Park. They have been able to benefit from the past experience of others who developed proposals for national parks and sites for inclusion in the European Union's Natura 2000 Network. This experience has shown that more attention needs to be given to local demands for consultation, taking social and

economic issues into account while seeking to protect the natural beauty and natural resources of the area. The local people were more fully supported and encouraged in these consultation efforts by national officials, in line with the government's new strategy for creating national parks developed in 2008.

In the mid-1990s, the Sven Lovén Centre for Marine Science (located on Tjärnö Island on the edge of the National Park) made a major study of the Koster Sea, including video camera

surveillance, that confirmed conditions of the area. The County Administrative Board of Västra Götaland and Strömstad Municipality organised meetings with the researchers and the local fishermen to present and start to discuss how fishing could be limited through bans in the most sensitive areas, and the use of lighter, less damaging gear in other areas. These discussions led to an initial agreement in 2000 and established an ongoing dialogue between conservationists and fishermen.

When the presence of cold water coral (*Lophelia pertusa*) was confirmed by the Marine Centre in the deep water of the Koster Fjord on the Norwegian/Swedish border through the use of remote operation vehicle (ROV) video cameras, the marine researchers presented the video of the corals to the local fishermen and fisheries boards, who agreed to ban the trawl fishing in the coral areas. The fishermen also agreed to participate in a course on marine ecology that was run by the Marine Centre in 2004.

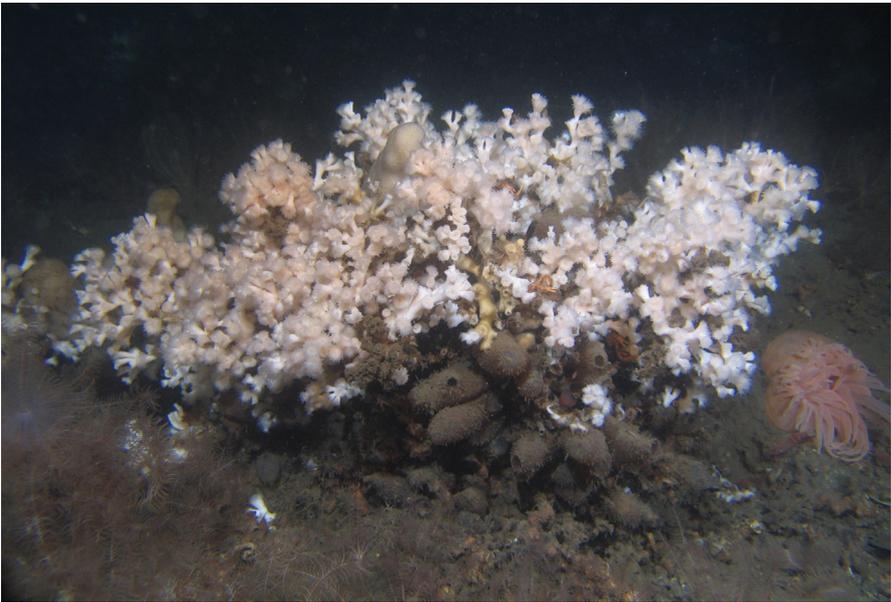


Photo: *Lophelia pertusa* © Tomas Lundälv and Lisbeth Jonsson

By now more than 80 local fishermen have been educated in marine ecology.

The fishermen have then organised courses for local researchers and politicians to inform them on their experience, life-style, and the fish and sea-food they were currently fishing. The fishermen also take the researchers and politicians on fishing trips to show how shrimp are caught with the less damaging



Photo: *Ferder* fishing gear showing aluminium grid designed to reduce by-catch © Gordon McInnes



Photo: Charles Olsson beside his fishing boat *Ferder* © Gordon McInnes

trawl gear. This quite unique development brought together several groups of people with different perspectives into a network that helped develop awareness and understanding between these different groups as well as to build up contact and trust between them.

Charles Olsson, who was born in Krossekärr near Grebbestad and has been shrimp fishing in the Koster Sea for nearly 30 years, was one of the fishermen who took part in the marine ecology course and

The Koster Agreement, which was reached in 2000, is regulated by the Swedish national law governing fishing. The agreement banned trawling in highly sensitive areas, restricted trawling for shrimp and lobster to boats with lighter trawl boards (less than 350 kg) and aluminium grids to reduce by-catch by up to 80 %. The agreement also required nets of at least 35 millimetre mesh for prawns. In addition, the agreement established an ongoing dialogue between fishermen, researchers and authorities, and encouraged the further development and testing of less-damaging fishing gear. In 2004, the Swedish Government agreed to set up co-management trials in six areas, including the Koster Sea. Under the trials, responsibility for the fishery is shared between local authorities, national authorities and local fishermen. The agreement and trials are not part of the regulations and responsibilities of the National Park.

suggested that the fishermen develop their own course. Charles and his brother Robert own *Ferder*, a typical trawl-fishing boat built in the North East of Scotland in the early 1970s. They were heavily involved in the negotiations for the Koster fishing agreement (see box below). Charles is convinced that this agreement helps maintain a limited fishing capacity and hence jobs in the area. Around 200 tonnes of shrimp are caught in the Koster Sea each year, which is about 10 percent of the annual catch in the Swedish part of the Skagerrak. He sees the supply of locally caught shrimps to the many tourists and local

people as part of the attraction and traditions of the area. Strömstad is known locally as 'Shrimp Town'.

Charles and Robert were the first fishermen in the area to get the Njord trademark for their catch. Named after the Norse god of fertility closely associated with the sea and fishing, the trademark was developed by the fishermen of Tanum and Strömstad as a guarantee of traceable, environmentally friendly and locally sourced produce. The logo of the trademark incorporates the 'Njord' name over a picture of fishing boat inspired by the ancient rock



Photo: Charles' and Robert's fishing boat *Ferder* moored at Grebbestad © Gordon McInnes

carvings in the area. Charles would like to see the Koster Sea area develop a reputation for quality food. He is pleased to have received approval for the Njord trademark to reflect that his shrimps are locally sourced, and landed within 24 hours of catching using more environmentally friendly fishing methods.

Although it takes up a lot of his time, which might otherwise be spent fishing, Charles is pleased with the results of the agreement, in particular the increased understanding it has

brought between fishermen, researchers and policymakers. However, he is also concerned with the longer-term prospects for the area and hence for his livelihood as a fisherman. He has seen many changes in the Koster Sea in the past 10 years, as fish like cod have disappeared from the shallower coastal waters and been replaced by other fish, which have also subsequently disappeared. Like many marine researchers who study these changes, he is not sure what is causing them but believes that rising sea temperatures caused

The coastal region now forming the border between Norway and south-west Sweden has some 5 000 sites with rock carvings made by early Bronze Age people around 3 000-3 500 years ago. The carvings are usually found on sloping ground on the edge of what is now agricultural land but was probably water or water meadows at the time. The purpose of the rock carvings is not known for sure but they were probably made as religious or sacred motifs. Many of the carvings are of ships, but people, animals, weapons and other implements and symbols also feature. The carvings of ships and boats suggest that the people of the time were exploiting the sea for fishing and trade. However, some of the carvings may also be more symbolic, as they appear to depict ships drawing the sun across the sky or transferring the living to the after-life. Several of the sites are included in the World Heritage Site located south of the village of Tanum and lying close to the coast of the Koster Sea (http://www.vitlyckemuseum.se/Kultur_Default.aspx?id=45677).

by global warming are at least partly responsible. He is also aware that not everybody in the area wants fishing to continue, and that restrictions on fishing may be increased in the coming years as information grows and attitudes change.

After the discovery of the cold water corals, a series of discussions was started by Strömstad Council in 2003 with the Koster islanders on the restoration and development of the islands for the islanders and as a tourist destination. During these discussions, it



Photo: Njord quality label inspired by the rock carvings at Tanum © Gordon McInnes

Cold water coral usually lives in deep waters, typically below 80 metres. It is also much less colourful than tropical coral, which lives in shallower waters in symbiosis with zooxanthellae, a type of algae that provides most of the coral's energy requirements and helps form spectacular coloured coral reefs. Cold water coral can produce extensive reefs, some of which are thousands of years old, and which provide varied habitats for a wide range of other marine species. It grows very slowly and is readily damaged or destroyed by trawling. Examples of *Lophelia pertusa* coral can be seen in the attached video (http://www.lansstyrelsen.se/media/kosterhavet/Under_ytan.wmv) and at the aquarium attached to the Sven Lovén Centre for Marine Science (http://www.loven.gu.se/english/contact_us/). In addition, the Centre together with the National Park runs boats during the summer months to show the diverse marine life using ROV video cameras.



Photo: South Koster Island waterfront © Gordon McInnes



Photo: Koster Trädgårdar © Gordon McInnes

became clear that most of the islanders were now in favour of a National Park. Nevertheless, given the opposition to the earlier proposals for a national park, the mayor of Strömstad recognised that local consultation and engagement of the islanders and others around the Koster Sea would be essential to make the case.

Anders Tysklind, who was born on Tjärnö and grew up on nearby Saltö, became closely involved in these discussions as Head of the Planning Department of Strömstad

Council and coordinator of the process for the creation of the Kosterhavet National Park. He organised the meetings, and set up several working groups involving representatives from local businesses, fishermen, and town and community councils, to consider specific questions and issues that would need to be addressed before any agreement could be reached. A pre-study, carried out in 2005 (<http://www.snh.org.uk/pdfs/marine/CR271%20-%20Case%20Study%203%20-%20Sweden%20Kosterhavets%20Final.PDF>), helped make the

case for the marine national park, which was officially created by an act of the Swedish Parliament in 2006.

Anders is convinced that the engagement of local people through meetings and working groups enabled confidence and trust to be built between the different representatives, allowing the latest initiative to succeed where earlier attempts had failed. In early 2009, he was appointed as the first Director for the Park. He is assisted by Anita Tullrot, who is the Park's Deputy Director with special responsibilities for the implementation and follow-up of the management plan.

The management, development and budget of the park are overseen not by the local county authority — Västra Götaland county administration — but by a new type of committee designated by the county administration, the Koster Sea Delegation ('Kosterhavetdelegationen' in Swedish). This consists of representatives from the towns of Strömstad and Tanum, the local communities within and around the park, interest groups, non-governmental organisations, fisheries



Photo: Göran Larsson with Susanne Liljenström © Gordon McInnes

organisations, the Marine Centre, a Norwegian observer and the county administration. The Delegation is able to propose further legislation or regulation for state approval if needed. Special working groups have also been set up to consider issues such as fisheries, tourism, information and education programmes.

Anders is enthusiastic that the inclusive, participatory approach developed over the past few years will continue

through the Koster Sea Delegation, providing a good basis for a collaborative and balanced approach to the protection and development of the area.

The consultations for the Park also included a representative of the Koster Board ('Kosternämnden' in Swedish), a distinctive nine-member community council in the Koster Islands elected by all islanders over the age of 16. The Board's task is to bring together important local community issues and analyse



Photo: Helena von Bothmer
© Gordon McInnes

them. One or two times a year, the Koster Board arranges a local hearing to raise issues and discuss them openly together. It also has a communication role with the authorities in Strömstad. Most of the issues are delegated to local groups such as the harbour, community and business associations.

Göran Larsson was chair of the Koster Board at the time of my visit. He has lived on South Koster all his life, running various businesses on the island for 24 years. He is clear that the National Park should develop more sustainable tourism and create jobs in the area, since this will help maintain the local population and its school. The jobs would help maintain the islands as a nature reserve, for example through restoring meadows, and developing tourism, both during the main summer season and throughout the year. Göran is well aware of the need to find alternatives to fishing, knowing that the number of fishermen on the islands had dropped from over 30 in the 1930s to only 4 in 2009. He is focussed more on the socio-economic aspects of the islands than its

ecology, but he remains very supportive of the integrated management of the Park and Nature Reserve through the Delegation.

Helena von Bothmer moved with her partner Stefan to South Koster in 1993. They decided to move out of scientific careers, avoid the daily commute to work and take up a new way of life. After looking at options as far away as Australia and New Zealand they decided to come back to southern Sweden, where they found an eight hectare plot of land on South Koster that they have developed into a garden centre (Kosters Trädgårdar).

Helena describes in animated, practical terms how she and Stefan are developing the centre in line with the principles of permaculture, one of several approaches to more sustainable agriculture that focuses on reducing energy and resource consumption, and taking time to learn, experiment and adapt (see <http://permacultureprinciples.com>).

Helena is developing the centre by adding market gardens, green-houses, an art gallery, and a café-restaurant for

summer visitors. She is also providing work for the islanders and holding events and courses throughout the year to help develop the social network on the island.

In the past 100 years, Sweden's national parks have broadened their role from nature protection into providing access for the sustainable and equitable enjoyment and use of nature, building on the expertise and experience of government, NGOs, and local people. The Kosterhavet National Park is a fantastic example of how consultation and engagement with local people can create lasting commitment to the goals of conservation and biodiversity management. The creation of Sweden's 29th national park has brought together a wide range of motivated people to raise awareness, build trust at all levels and help manage the area through an inclusive, participatory approach.

Although nobody in the Koster Sea area described what they were doing as such, this is the ecosystem approach in action:

an expansion of traditional resource management into integrated management of land, water and living resources involving a broad range of stakeholders. This approach helps to ensure the long term ecological and human sustainability of the area, respecting the area's heritage and environmental history while also safeguarding its resources for future generations. In this way, the area around Bohuslän is truly preserving the vision of Ebert Taube that it is a place where one can 'live in the furthest times of the past, and in your family's future also'.

Acknowledgements

This story was prepared with Ninni Borén (Swedish EPA), Göran Larsson, Charles Olsson, Anita Tullrot, Anders Tysklind, Helena von Bothmer and Susanne Liljenström (Kosterhavet region), Anna Fyrlund Jönsson, Charlotta Colliander and John James O'Doherty (EEA).

European Environment Agency
Kongens Nytorv 6
1050 Copenhagen K
Denmark

Tel.: +45 33 36 71 00
Fax: +45 33 36 71 99

Web: eea.europa.eu
Enquiries: eea.europa.eu/enquiries

