



COMMISSIONED REPORT

Annex to Commissioned Report No. 271

A review of relevant experience of coastal and marine national parks

Case study (3)

Kosterhavets proposed Marine National Park, Sweden

With reference also to Ytre Hvaler, Norway



Prepared by

John Hambrey

Director Hambrey Consulting

This report should be cited as:

Hambrey, J. (2008). *Case study 3 - Kosterhavets proposed Marine National Park, Sweden.* Scottish Natural Heritage Research, Annex to Commissioned Report No. 271 - Available online at <http://www.snh.org.uk/strategy/CMNP/sr-adnp01.asp>

This report is one of a number of studies undertaken to inform the following publication:

Hambrey Consulting (2008). A review of relevant experience of coastal and marine national parks. *Scottish Natural Heritage Commissioned Report No. 271 (ROAME No. R07NC).*

This report, or any part of it, should not be reproduced without the permission of Scottish Natural Heritage. This permission will not be withheld unreasonably. The views expressed by the author(s) of this report should not be taken as the views and policies of Scottish Natural Heritage.

Sketch profile

Location and size

Northern Skagerrak/Bohuslan, including a small group of inhabited and uninhabited Islands (>300) close to the Norwegian border and abutting a second proposed marine national park (Ytre Hvaler) in Norway. Close to the old trading town of Strömstad, 150 km south of Oslo and a similar distance north of Göteborg. Area not finalised but proposal for 450 km². The resident population within the park area is approximately 320, but this swells tenfold during the tourist season primarily in July and August.

Scope

Technically marine, but substantial adjacent nature reserves on land allow for comprehensive and integrated development planning.

Objectives (short)

- Conservation in line with sustainable use;
- Protection of natural, cultural and rural heritage;
- Promote understanding and knowledge;
- Promote research and development related to sustainable use of marine and terrestrial ecosystems.



Status

Proposal, likely to be endorsed and officially designated in 2009 as the first marine national park in Sweden.

Issues and initiatives

Sustainable fisheries and protection of deep water soft and hard coral; restoration of rural landscape and traditional farming; major visitor/interpretive centre; parallel fisheries co-management initiative and MPA initiative; strong local support, though some fishermen remain wary. Good history of evolving and improving relationships between fishermen, scientists and nature conservationists.

Contents

Sketch profile	1
Contents.....	3
Key issues and lessons learned	5
Setting the scene for Kosterhavets Marine National Park	7
Legal and institutional framework	11
Site selection and boundary demarcation.....	13
Administrative arrangements	13
Relationships with other institutions and initiatives	15
Participation	16
Fisheries and fisheries management.....	18
Management procedures and mechanisms.....	22
Positive initiatives.....	25
Benefits and drawbacks.....	26
Performance indicators	27
References.....	28
People interviewed.....	29

Acknowledgements

Particular thanks go to Bengt Frizell who arranged an exceptionally informative visit to Kosterhavet and made arrangements to meet a range of local interests. Also to Laura Píriz of the Swedish Board of Fisheries who provided invaluable insights into the history of fisheries management in the areas and relations with nature conservation. Many others in Koster Islands spent time talking to me (in English) including Stefan von Bothmer; Göran Lyth; Göran Falk; Per Nilsson; Anita Tullrot; Aase Richter (Regional Government Officer, Planner, Norway); and Bernt-Erik Larsen (Municipal Officer, Hvaler, Norway).

Key issues and lessons learned

Gaining the support of fishermen

Gaining the support of fishermen for any kind of marine area designation, associated with possible restrictions on their activities, can take many years. After a shaky start in the Koster area in the '80s and 90's many factors have contributed to significant progress:

- A strong group of local fishermen with a sense of ownership of the local fisheries (and therefore the marine environment) and a tradition for establishing their own (often voluntary) rules;
- Relatively few visiting boats - especially in the areas of marine conservation interest;
- Limited investment in large new boats;
- Increasing respect for fishermen's traditions, interests and knowledge on the part of scientists, NGOs and government officials;
- A frank exchange of knowledge, opinion, and management proposals, facilitated by exceptional mapping and ROV video footage of the areas of marine conservation interest;
- Establishment of a fishing-biodiversity working group which quickly established broad areas of agreement and relatively minor areas of differing interests;
- A precedent set for *negotiating* specific protection measures for relatively small areas of marine nature conservation interest (related to Natura 2000 designation);
- Use of fisheries, rather than nature conservation legislation to apply any required restrictions;
- Support and involvement of the local mayor as a trusted representative of local interests;
- Basic ecology/biology courses at the local marine science laboratory for fishermen;
- A parallel co-management initiative which also empowers fishermen and builds respect and trust;
- The need and opportunity for fishermen to demonstrate environmentally friendly practice to a largely critical and sceptical public in Sweden;
- Juxtaposition of county conservation officer and government fisheries advisor in the same corridor in Goteburg.

Indeed progress has been so good that the local municipality awarded two of its fishermen an environmental award for promoting more environmentally friendly fishing gears and methods, and this was reinforced by a further award from Svensk Fish to six key players in promoting sustainable fishery in the Kosterfjorden, including fishermen, and representatives of local and county administrations.

Gaining support of the local community, farmers, and business

Around 80% of local people are now behind the national park, compared with less than 50% earlier. Current levels of support may be attributable to various factors:

- A strong local council, local community organisation or "trust", and local business organisation all of whom realised that traditional employment in agriculture and fisheries was in decline;
- A desire to control unfettered mass tourism, and promote something which both generated quality employment and respected the livelihood, traditions and environment of the islands - in other words sustainable tourism and sustainable use;
- The mayor of Strömstad who was broadly supportive, and who was able to play the role of "go-between" amongst the various agencies and local people, and facilitate meetings where fears, concerns and aspirations could be expressed and respected;

- The use of a professional communications/PR company to develop information materials in preparation for a public hearing;
- Fear that if a national park is established across the border in Norway, with significant regulation, that this would drive Norwegians further south to Kosterhavet where they could behave as badly as they liked!

Information and agendas?

This case study exemplifies a key dilemma in “designation” of any kind. How to balance the need for adequate and clear information on what may be involved, with the need for bottom up/stakeholder involvement in deciding what should be involved. If authorities go in with too clearly prescribed options, stakeholders will feel disempowered; if authorities go in with a “blank sheet” stakeholders will suspect a hidden agenda and mistrust may set in.

In this example the latter was the case initially. Talk of international obligations, the Convention on Biological Diversity and the ecosystem approach increased confusion and mistrust - the implications were unclear. Subsequently the county administration and Swedish Environmental Protection Agency (SEPA) put their cards clearly on the table (with the help of professional communicators) - i.e. what they envisaged - as a starting point for discussion and negotiation. Support for the proposal has since increased. People know where they stand.

The case also offers another example of a tricky information/communication issue. The value of the underwater research and associated video and graphics in facilitating discussion between scientists and fishermen was noted above. Some of this information has now been used to develop detailed bathymetric maps which are likely to be published soon. This will be a tremendous resource for visitors and researchers. However it may result in increased fishing pressure - especially from recreational fishers. Also, this kind of knowledge previously belonged to local fishers. Now it is in the public domain, and this to some degree disempowers them. They are no longer the custodians of this knowledge.

Integration of terrestrial and marine nature conservation

The proposed area for Kosterhavets National Park is mainly marine, though encompassing many small uninhabited islands. However, North Koster is already designated as a nature reserve, and the agency charged with reserve management is also leading the national park development and designation process. The objectives of reserve management have now been aligned with those proposed for the marine park, effectively bringing the two together. Sustainable use will be a key element on both land and sea, and the county conservation officer has been able to demonstrate an approach to “sustainable use” on land, and gain broad based local support. Traditional meadow management and semi-open grazed landscapes are being recreated. This not only enhances biodiversity; it serves as an attractive backdrop for walking and cycling in the islands, and provides work for local people.

Development dynamics

Small initiatives make a big difference in isolated communities. Around 20 part time jobs have been created under interim arrangements (coastal litter collection; hay meadow management etc.) and this has also reinforced the standing and capacity of the local community development trust. Though these are few jobs in relative terms, to a small community they can be critical in terms of securing a future, persuading young people to stay, maintaining the school, shop and post office, and ensuring support.

Legislation

This case also illustrates the potential for flexibility even within a relatively tight legislative framework. The sustainable use objectives of the proposed park represent a departure from the more technical conservation objectives of the framing Act, and these will be ratified through an amendment to the Act relating specifically to this park. The process of developing the proposals and management plan is also somewhat different and more participatory than has been the case with previous parks and approval for this process will be sought from parliament.

It is also notable that - unlike the Brittany case study - Natura 2000 legislation was seen as providing for a more participatory approach, and this set a new precedent for partnership in developing designated areas.

Setting the scene for Kosterhavets Marine National Park

If designated, Kosterhavets will be Sweden's 29th national park and the first covering a marine area. Together with the proposed adjacent park Ytre Hvaler across the border in Norway it will represent one of the few transboundary MPAs in Europe (see the Wadden Sea cases for another example).

The Place and its people

The area of small islands in the northern Skagerrak is close to the old trading town of Strömstad, and lies 150 km south of Oslo and a similar distance north of Göteborg. The area of the proposed park is around 450 km² although areas and boundaries have not been finalised. The local population amounts to 320.

The area is representative of marine habitats in the Skagerrak, and has high diversity related to the scattering of islands, complex underwater architecture and the deep water trench or "submerged fjord" (Kosterfjord) linking the area with the Norwegian trench, North Sea and Atlantic. The area is an important breeding ground for commercial fish and shellfish species, including sharks and skates. Some researchers consider this to be the richest marine ecosystem in Sweden. Part of the area - Koster-Vadero Fjord - has already been designated as a Natura 2000 site, comprising 31 km² of reefs and 11 km² of sub-littoral sandbanks.



There is a well established trawl fishery for shrimp (*Pandalus borealis*), *Nephrops*, (trawl, and creel imported originally from Scotland) with around 50 fishermen using 30 boats mostly under 12 m operating in the area. Around 12 local (Koster based) fishermen target lobster.



The landscape of the main islands has seen significant change over the centuries. The main population centre is called *Ekenas*, meaning the peninsular of the oaks, and this was the original climax vegetation. The forest was cleared for ship building and industrial uses before a mixed forest-clearing/grazed meadow landscape was established around 100 years ago. From a biodiversity perspective this was the richest period. Small-scale farming still takes place in North and South Koster, but has been in decline for many years, along with the traditional

landscape with which it is associated. There is a nature reserve on both the main islands, related in part to biodiversity associated with traditional farming.

The area is also important for recreation - walking, cycling, sailing (with many hundreds of Norwegian yachts and motor boats staying in the area over the summer), and scuba diving. Tourism has increased 50% over the last decade with around 80,000 people visiting, mainly in July and August. Unfortunately local benefit from the increased tourism has been relatively limited - much of it is "self contained", with many visitors "commuting" from major cities to their holiday homes and pleasure craft on and off over the summer.

The local island community of around 320 persons is fragile. There are few jobs despite the boom in tourism, and house prices are high and rising, related mainly to the purchase of holiday homes by outsiders and particularly the (relatively) wealthy Norwegians.

Developing the idea

The idea of setting up a marine park here goes back some way. The nearby marine laboratory at Tjarno had highlighted the value of the waters around the Koster Islands over many years, and in 1989 there was a proposal to make the archipelago south of Koster into a national park. The idea was not supported by the local community, and the idea was abandoned. However, attitudes and relationships were slowly changing, and this was given a major boost in 2000 when agreement was reached between the authorities and fishermen on the control of shrimp trawling in the area - primarily to safeguard the soft and hard corals.

Then, in May 2004 the Chairman of the Local Koster Committee signed a plan for the development of Koster entitled "Preservation and Development in Collaboration". This local initiative recognised the key role of a sustainable tourism industry in maintaining the community and local economy in the face of declining farming and reduced employment in fisheries. To promote this, the committee envisaged a marine national park surrounding the existing nature reserve, and sustainable use and tourism to maintain the qualities of the area while at the same time generating income. This local interest - and local organisation - has been crucial to the good progress made to date.

Recognising the potential to take forward a marine park, the national environmental protection agency and the county administrative board decided to carry out a pilot study, including proposals for boundaries, general principles for fishing, and programs to catalogue the ecology, geology, land and water use. It also proposed a feasibility study for a major visitor centre. The affected communes of Strömstad and Tanum agreed to this study process - on condition that commercial fishing could continue in the deepwater fjord. Overlying all of this was the desire to establish guiding principles for sustainable use and

management - including economic, social and ecological dimensions. The process emphasised local participation - both from those on the Islands and in the two local municipalities more widely. Project officers for SEPA and the county administration were appointed.

Not everything has been easy, and there has been, and remains, some opposition, especially from older members of society, some still bitter at the process by which nature reserves were established 20-40 years ago. In contrast some of the younger members - even amongst the fishing community - see a park as the only way forward; a mechanism by which a way of life can be sustained without compromising the qualities on which it is based.

The mayor of the local municipality (Strömstad) has played a key role as a generally supportive but trusted go-between in recent years, facilitating many meetings of local people - without the national park authorities or the NGOs.

Following on from these discussions, SEPA and the Vastra Gotalands County Administration decided, in October 2005, to present the initial ideas and proposals for the park at a public hearing. Although in some ways this seemed rather top down, it was made clear that was based on initial consultations, and in any case represented negotiable proposals. The authorities had some doubts about this process, but in the end considered it to have been very constructive, since it clarified the nature of the initiative to all. The council employed a professional communications company to prepare background materials, and they are of the view that this helped hugely in terms of getting information across in a non-intimidating way.



The future

At this point in time the park seems likely to go ahead, with relatively strong support from the local community council and the local business association. Relations with fishermen are being taken forward on a new front with the Fisheries Department taking the lead. The approach is exploratory with the ultimate objective of some form of co-management process and agreement.

Table 1 Time line for the evolution and possible designation of the Kosterhavets Marine National Park

Date	Event
1930s-80s	Strong local (shrimp) fisheries group with part voluntary rules and regulations to maintain prices and conserve stock in Koster-Fjord and adjacent areas. Tolerated (barely) by national fishermen organisations and outside fishermen.
1979	Nature conservation review based on IUCN criteria. Much concern, opposition, especially from fishermen.
1983	Nature reserves established. Very little consultation/participation. Resented initially, but people have come to terms with it and learned to benefit from it.
1989	First proposal for a marine park to the south of Koster (urged by marine scientists) rejected by local communities.
1994	Swedish nature conservation NGO raises profile of proposal. Fishermen feel threatened.
1995	Meeting between fishermen, scientists and NGO to discuss conservation of soft and hard corals and possibility of marine reserve.
1995	Fishermen create Koster-Fjord Group to ensure user interests taken into account.
1996-2000	Natura 2000 process - more participatory.
1997	The archipelago of Koster-Väderö and the Trench identified by Swedish Environmental Protection Agency (SEPA) as a priority area for marine nature reserve under EU Habitats Directive. Prawn trawling identified as a direct threat, along with shipping and nutrients.
1997	Tjarno Marine Lab. ROV survey in Kosterfjord initiated by WWF. Later also supported by SEPA and the provincial government of Bohuslän.
1997	An assessment of the sustainable development of the archipelagos of Sweden commissioned by the Swedish parliament (SOU 1996:153) - emphasis on sustainable use by local fishermen rather than exclusive reserve; i.e. a kind of MPA.
1997/8	Preliminary report produced by the WWF-Tjarno Marine Lab. identified specific physical effects of trawling the sea bed and impacts on corals.
	Public meetings (convened by County administration/Tjarno Marine Lab./municipalities) with strong emphasis on biodiversity preservation. Fishermen felt increasingly alienated, isolated and disempowered.
	Local fishermen disappointed by lack of support and lobbying at national level from national fishermen's association.
	Koster-Fjord Fishermens Group becomes formally organised and became official representatives of local prawn fishermen.
	Group engages local politicians and raises local and national awareness of rights and socio-economic importance of local fishermen.
	Group takes robust and pro-active stance in stakeholder meetings.
	Fishermen agree to limit the total length of the trawl wing and the weight of the trawl board; to adopt the use of sorting grids and to ban the use of double and triple trawls in the area. Alternatives discussed with the marine research laboratories of the National Board of Fisheries.
	Under the framework of the Habitats Directive, County administration propose establishing a Special Area of Conservation (SAC) (Natura 2000 initiative).
1999	Fishery and biodiversity working group established.
2000	Agreement between County administration, Swedish Fishery Department, Strömstad and Tanum Municipalities, local fishermen and their organisations. The agreement regulates size of gears, banned areas for trawling etc which improves the environmental conditions in the Kosterfjord.
2001	Koster Vadero Fjord - 42 km ² area of reef and sub-littoral sandbanks proposed as Natura 2000 site.
2002?	2 shrimp fishers receive Strömstad Environmental Award for their work in promoting a sustainable fishery.
May 2004	The chairman of the Local Koster Committee signs plan for the development of Koster entitled " <i>Preservation and Development in Collaboration</i> ".

Date	Event
September 2004(?)	Swedish Environmental Protection Agency and Vastra Gotalands County Council propose pilot study for Kosterhavet marine park.
2004	Proposal accepted by local municipalities subject to continued commercial fishing.
Summer 2005	Park Project Plan.
2006	Presentation of initial proposals and public hearing.
Future	
October 2007	Views presented at public hearing will be synthesised.
November 2007	Environmental protection agency (SEPA) will decide whether or not to proceed with proposal.
2008	Development of detailed proposal, including focus, vision, objectives, guidelines and regulations and management plan.
Autumn 2008	Broader local public hearing.
December 2008	Government and National Assembly asked for approval.
January-February 2009	Government sponsored final public hearing.
Early Spring 2009	Appraisal by Environmental and Land-use Council of the National Assembly.
Late Spring 2009	Final government decision and final agreement on management responsibilities and structure, through an amendment of National Park Law.
	SEPA makes final adjustments to development and management plan.
Post designation	SEPA will remain responsible for ensuring that the park develops in line with the Park Development Plan.

Legal and institutional framework

Legislation and designation procedure

Sweden designated the first national park in Europe as long ago as 1909. The Nature Conservancy Act 1964, replaced by the National Environmental Code 1999, now offers the framework, but each new park requires a separate Act, allowing for tailor made approach. National parks are afforded the highest protection status of any designation, including nature reserves.

National parks in Sweden are representative biotypes preserved in their natural state, but also beautiful unique environments which have experiences to offer. They should meet the following criteria:

- Consist of areas with representative or unique types of landscape in a system covering whole country;
- Consist of untouched natural, or nearly natural landscape;
- Contain landscape formations, features or natural environments that are magnificent or highly unusual and which have high scientific value;
- Cover a large area, normally at least 1,000 hectares;
- Can be used within reasonable limits for outdoor recreational purposes and research provided natural values not threatened.

The **aims** of national parks in Sweden, as set down in the Act, are to ensure an ecologically sound management of resources, so that national productivity and species diversity can be maintained for future generations. They are also created to provide for and encourage outdoor recreation interests, employment, and tourism and to promote international goodwill.

The Government (in the form of the Swedish Environment Protection Agency) must own or buy land or sea if it is to be designated as national park. Considerable time and resources are put into negotiating ownership, and ownership issues may influence final boundaries.

The official sequence of events leading to designation is fairly complex with the main stages summarised in the latter part of Table 1. Essentially SEPA develops a prospectus/initial plan for the area, negotiates purchase of land where necessary, seeks approval of national government and parliament, then develops a detailed management plan and seeks approval of regional and local government, following which a specific amendment to the Act is made to designate the park in line with the management plan.

However, in this case, SEPA has committed itself to proposing to the government an amendment of the national park law, stating that the local communes must be involved in the development and approval of the management plan. This represents a clear shift in approach, from top down technical management, to a sustainable use approach, taking full account of local stakeholder interests.

Relations between any park regulations and existing laws

Under the 1999 Swedish Environmental Code, a county administrative board (provincial government) or a municipality has the authority to designate valuable natural environments as habitats deserving special protection, and establishing nature reserves. The code entitles these bodies to regulate economic activities such as fishing. However, this new delegation of responsibilities has been challenged by the fishery associations National Board of Fisheries.

In practice, in relation to the Kosterhavet National Park, national fisheries legislation is likely to be used to introduce any changes to fisheries management. This is seen as being at least as effective, and less controversial with the fishermen.

It is possible that some existing coastal land-use regulations may be modified within the park. Thus there is a rule of no building within 100 m of the sea. This rule could actually be applied more leniently within some park zones to allow for service development - as in the case of the visitor centre.

The 1950 Fisheries Act formalises open access rights for all fisheries in Sweden, with the exception of some specific landowner rights, and this is reinforced by the CFP which gives European professional fishermen the right to fish common waters, provided the fisherman's member state has been allocated quotas in the area. This allocation is based on historical fishing records.

In the Skagerrak Sea, Norwegians and Danes may fish to within 4 nautical miles of the baseline. Within Swedish territorial waters (12 nautical miles) the Swedish Board of Fisheries can issue fisheries regulations, based on the Fisheries Act, provided these are not discriminatory or less restrictive than the European regulations.

Of particular relevance to the proposed park area is the trawling limit. This was originally an old and non-formal regulation adopted by the Swedish Fishermen's Federation which prohibited trawling inside 4 nautical miles (Piriz, 1994). The limit originally aimed at avoiding physical interference between the trawlers and static gear. Over time, the limit became legally codified, and permits are now required for fishing inside the limit, subject to specific provisions, such as the use of selective panels or sorting grids in the trawls.

Site selection and boundary demarcation

The area was originally selected primarily because of its biodiversity, which the nearby Tjarno Marine Research Station had been exploring for many years. It is both representative of all the major habitats on Sweden's west coast, and also contains species not found elsewhere in Swedish waters. The 200 m deep Koster trench (also known as Kosterfjord) which separates the islands from the mainland is characterised by cold high salinity waters with walls and gullies particularly suited to the development of soft and hard corals, similar to those found to the west and north of Scotland. The shallower habitats around the islands and inlets serve as spawning and nursery grounds, and seabirds and seals thrive in the area. Crucially also, the area is important for outdoor recreation, including camping, cycling, kayaking, sailing and scuba diving. The islands are comprised mainly of ancient gneiss granite.

The park as proposed now includes 3 inhabited islands: Northern Koster, Southern Koster and Saltö with a total resident population of 320, although this swells to more than 3,000 during the tourist season. The planned area is approximately 450 km², mainly sea.

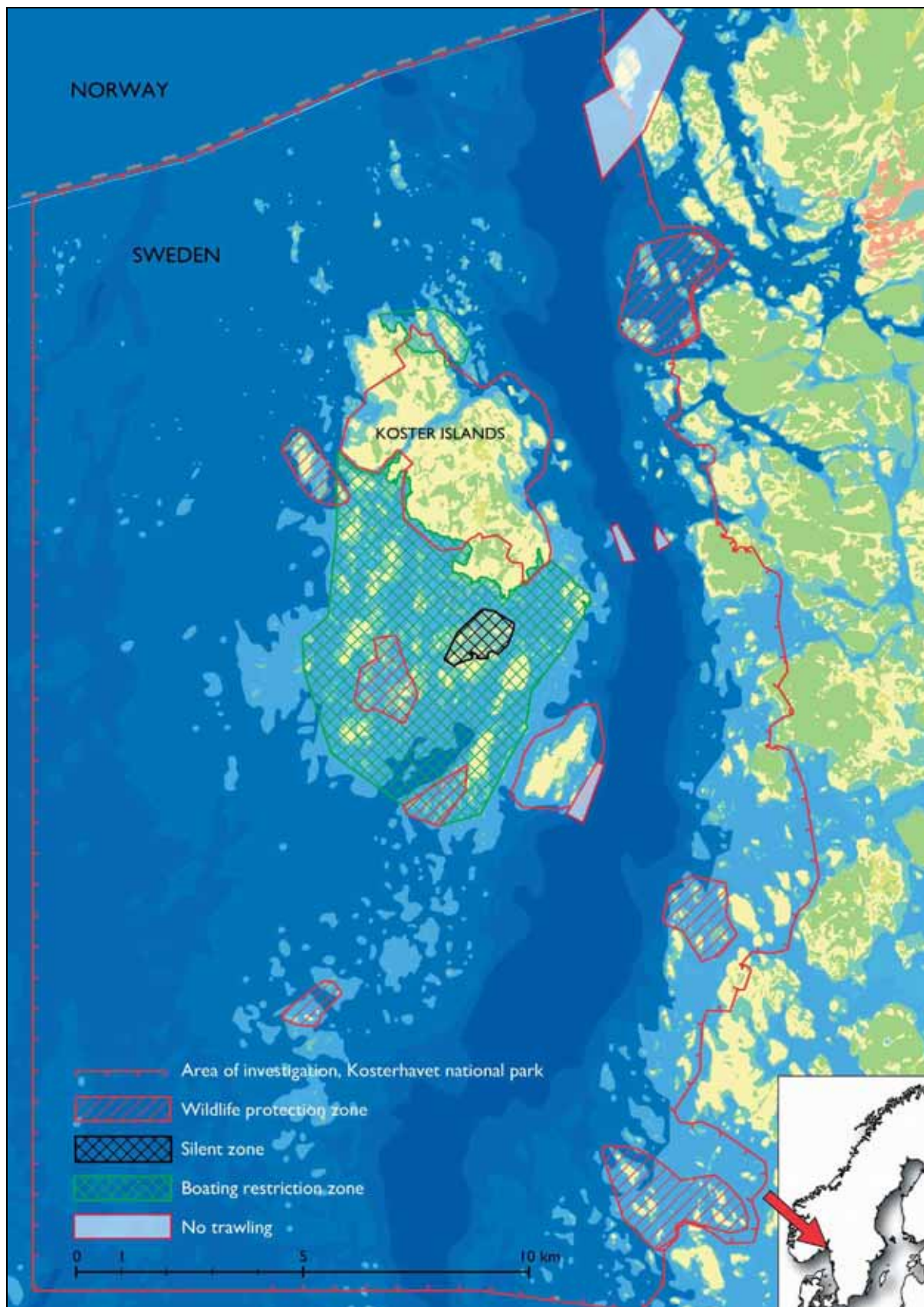
Demarcation of the proposed boundary is both strategic and pragmatic. Key marine and terrestrial habitats of interest have been included in the proposed park (including the old meadows and clearings associated with traditional farming) as have areas of importance for recreation - mainly sailing. The outer boundary has been proposed pragmatically as the "trawl line" inside which trawlers are not allowed to operate, although this may be modified subject to findings from the marine survey. Significant parts of N and S Koster are not included in the park because of lack of ecological interest and/or land ownership issues.

The extent of the northern boundary to the Norwegian border is not only pragmatic, but also allows for full continuity with the proposed Norwegian park of Ytre Hvaler. Jointly they are likely to cover approximately 800 km².

Administrative arrangements

The Swedish Environmental Protection Agency (SEPA) is the responsible agency for the development and management of national parks in Sweden, and administers the "Nature Conservation Fund". However it is required to consult county administrations. In this case it has largely delegated the park development process to Västergötland County Administrative Board, and specifically to the project leader, Bengt Frizell, who works in partnership with SEPA. In addition to dealing with issues such as survey and land acquisition, Bengt has also been closely involved with developing ideas for management and administration.

Figure 1 Tentative boundaries of the proposed Kosterhavets Marine National Park



It is proposed that, once the park is established, there should be a locally based administration concerned with management, follow up activities and information/communication, with clear stakeholder input. The nature of the proposed local management board and administration is currently under discussion and should be clarified before the end of the summer 2007. However, initial suggestions are for a core staff of around four:

- A park manager/centre manager responsible for implementing the development plan, dealing with financial management, maintaining buildings and other park infrastructure, and demarcating boundaries;
- An operations and maintenance officer;
- An education and interpretation specialist;
- A secretary.

Some form of park guide service will also be established, but this is likely to be contracted out to local people, as will other supporting services. It is possible that the local trust will play a role in practical implementation issues and the delivery of appropriate services.

A management board or steering/advisory committee is also likely to be established with representatives of stakeholders, local community, local municipalities, county administrative board and SEPA. It is not clear whether scientists will be represented, although it is felt by some that their role should be purely advisory - i.e. they would lack voting rights and serve as resource persons rather than decision makers. These issues are currently being explored and a clearer picture should emerge over the coming months.

Costs

The costs of interim arrangements relating to activities such as restoration of traditional farmed landscapes and beach litter removal amount to SEK 5million per year over three years and provide part time employment for around 20 local people. Operational costs (including visitor centre) once the park is established are estimated at SEK 10million.

Financing

There have been various discussion on models for raising the necessary finance. The "problem" is that entry to national parks must be free, and this limits opportunities for self financing, such as entrance charge or some form of visitor tax. As noted by the local business association it would not take much - around 20kroner per visitor, to pay for a good park administration and associated services. Harbour trusts have been proposed as an excellent model - a locally based organisation which is allowed to charge for basic services provided.

Relationships with other institutions and initiatives

Although SEPA is ultimately responsible for the designation and management of national parks in Sweden, this case is characterised by close relationships with a range of government and non-government organisations.

A close relationship between the county conservation officer and the national fisheries board has been particularly important, as described in the section on fisheries below.

The local municipalities have also played a key role - in organising and facilitating public meetings, and in the backing the project in general terms.

The Tjarno Marine Laboratory has also been influential - originally through identification of the exceptional marine wildlife interests of the area (which was controversial), and subsequently through development of effective communication tools relating to this marine interest, and especially ROV footage and three dimensional mapping, which served to ease the controversy and focus discussion on practical issues and positive negotiation. More recently they have run very successful short (4-day) courses on ecology and biology for local fishermen, which appear to have significantly increased mutual understanding and respect.

Local organisations have played a key role in facilitating information exchange between the authorities and local people. In particular the islands boast three active organisations: a local business association with 53 members; a local “development trust”; and a local community council. The trust has directly benefited from funding related to coastal litter clearance and farmland/landscape restoration. The business association has strong interests in sustainable tourism and is therefore also supportive. The council is more representative of the wider local population, but nonetheless strongly influenced by the other local organisations and is also supportive of the idea. These organisations have served as key conduit for the exchange of ideas and information and have effectively undermined unfounded rumours and fears.

Linking in with other initiatives

The County Administrative Board of Vastra Gotaland is a lead partner in CREST - an EU Interreg IIIB North Sea Programme project to define and promote sustainable tourism and generate appropriate guidelines. This links in well with promoting sustainable tourism in the park. Other partners include the Community of Strömstad (adjacent to the park), Laeso Municipality in Denmark (see Laeso case study), the Municipality of Hvaler, Norway (see Norway case study), Orkney Boat Museum and Whitby Beacon Town Forum in England. To date there has been limited progress and impact from this initiative, but this may change as the ideas associated with “sustainable tourism” take root.

Participation

Participation in the broadest sense is the key issue for national park designation and successful management. If well intentioned but badly managed, enormous damage can be done. This case is a classic example of mixed experience - with difficult and largely negative experiences early on, and much more positive experiences since 2000. Much of this experience relates to engagement with the fishing community and this is dealt with separately below, but some general points can be drawn out here.

The initial identification of marine conservation interest in the area by scientists, and the awareness raised by national and international environmental NGOs was immediately seen as a threat to local interests, including the local municipalities. Public meetings at this time did not go well, and the first attempts at designation were abandoned.

Power relations

This negative experience probably relates to established power relations and previous experience. The designation of nature reserves on the 60's-80's had been very top down and highly controversial, and significant bitterness remained. The designation legislation gives SEPA significant powers, and there is little legal requirement for participation and consensus building. It is not surprising therefore that the identification of nature conservation interest was considered a threat to local interests.

Fortunately the Natura 2000 legislation provided for a more participatory approach (although this has not been the experience in all countries - see Brittany case study), and as discussed below this, together with a much clearer identification of specific, and relatively small areas of concern led to much higher levels of mutual understanding and trust. However, there remained significant concerns, and many people felt they did not understand the full implications of designation. This lay behind the decision to employ professional communicators and to hold a preliminary public hearing, at which fairly clear initial proposals were presented.

Information

This highlights the classic dilemma for participation: limited information about the implications of designation allows for more participation in developing ideas in partnership, but may also be seen as reflecting either incompetence or a hidden agenda - especially where there is a history of mistrust. Too much information will be seen as top down and restrictive, and will be resented. It is a fine balance which the Koster project now (and after many years experience) seems to be getting about right.

Public meetings vs. bilateral discussions

Another issue here is the “public meeting problem”. These are often dominated either by representative organisations taking up a negotiating or risk minimisation stance, or by lone representative individuals with particular agendas, and this seems to have been the case during the earlier meetings in the area. While such meetings may be politically necessary, they require very skilled chairing by someone seen as trusted and neutral, who has already engaged in discussions with individual parties, and is therefore aware of all concerns and is able to bring out areas of agreement and opportunity. This was precisely the case when the Mayor of Strömstad decided to facilitate a series of “independent” (i.e. without SEPA) local meetings to discuss designation, and determine specific questions and concerns which would be put to the authorities for clarification. The project leader considers this intervention to have been invaluable in building trust and understanding of what the park is all about.

It is notable that across the border in Norway (Ytre Hvaler) they are suffering from significant local resistance, despite support from the municipal government. The authorities there feel that they should probably have spent more time talking to individual local interests before engaging in public meetings.

Local organisations

The people of the Koster Islands are relatively well represented - by a community council and a local “development trust”. These organisations serve as a strong contact point with the local community, and have recognised the potential of designation for the local economy and society. They have also been brought in to deliver interim arrangements - for example with respect to farmland restoration and litter - thus demonstrating, rather than talking about potential, and again building trust and understanding.

Embedding participation

The relevant communes and fishing interests have requested reassurance that those who partake in the process to develop the park will also have influence over the objectives and management. In response, SEPA has now committed itself to proposing to the government an amendment of the National Park Law, stating that the local communes must be involved in the development and approval of the management plan. This represents a clear shift in approach, from top down technical management, to a sustainable use approach, taking full account of local stakeholder interests.

Fisheries and fisheries management

A brief introduction and history of fisheries management in the area

Fisheries management has a long history in Northern Bohuslan, and particularly the shrimp (*Pandalus borealis*) fishery in the area of interest - the Koster-Vadero underwater fjord or trench.

Most of the fishermen who fish here are local, often related, and have a tradition of local management derived originally from agreed mechanisms to maintain a steady year round flow of product to the local market in Strömstad. These included “rations”, or the allocation of weekly quota (related to specific catch areas), limiting the number of fishing days and prohibiting night-time trawling. In the 60s the scope of these mechanisms was extended to conservation measures - limiting the size of trawl and the number of meshes. This was proposed in order to conserve the stock, especially in the face of increasing use by larger trawlers (Piriz, 2004). In Sweden, trawling is allowed within certain limits subject to local regulation, and - although this was not supported by the National Fishermen’s Association - it was therefore possible to codify these proposals under the existing law.



Despite the informal nature of many of the rules, and the practical difficulties of enforcement, compliance has been high. This probably relates to the close knit community of local fishers, and the need - before the days of hi-tech sonar - for local knowledge to successfully trawl in these hazardous (for the gear) waters. It is also notable that investment in the local fleet has been relatively limited. Most boats are relatively old. It may be that the self imposed restrictions to maintain market price also discouraged heavy investment. This in turn has probably reduced the incentive to break the rules.

The practical effect of these rules has been to exclude larger outsider trawlers, for whom the cost of compliance is too high. This in turn has allowed for the long-term survival of these rules.

Current exploitation and state of the fishery

In 2005 there were roughly 140 fishermen registered in the municipalities of Tanum and Strömstad, and most own their own boats - mainly in the 10-25 m range. Professional

fishers from further south, and from Norway and Denmark also fish these waters, especially for lobster and Norway lobster, although the majority of them operate outside the trawling limit. There is also a significant subsistence or “for the house” fishery amongst local people (lobster, eel and mackerel), and recreational fishing, including a fishery for lobster which has increased substantially in recent years. Indeed, it is likely that subsistence and recreational fisheries now comprise a significant proportion of the catch of some species. Despite this there are few management initiatives or rules related to these groups.

While cod and other demersal species are outside safe biological limits, shrimp and Norway lobster stocks are within these limits, and catches of shrimp in particular have been stable for many years, amounting to 200 tonnes in the Koster area and 2,000-3,000 tonnes in the Skagerrak as a whole.

Fisherman organisation and representation

Local professional fishermen are all members of the local branch (Tanum- Strömstad) of the Swedish Fishermens Association. Various associations also represent subsistence fishers and anglers.

In 1995 the local fishermen created the Koster-Fjord Group to ensure that local fishermen’s interests were taken into account during discussions about marine conservation and a possible marine reserve. They felt support from the national fishermen’s association was inadequate and the voice of environmental NGOs needed to be balanced by a voice for local interests. This group became formalised as representing local fishery interests in 1998. This group has been effective in mobilising support for local fishermen from the local municipalities, has raised local awareness of the socio-economic contribution of fishermen and has been robust and pro-active in meetings relating to nature conservation and fisheries management issues.

Evolving relations between fishermen and conservation interests

Despite the successes of local fisheries management noted above, these measures have never been fully supported by national fishermen organisations, and many outside fishermen resented them. The advent of Europe and the CFP further threatened to undermine their status, since they may be regarded as discriminatory. Furthermore, historic catch by local boats was relatively low, providing them with limited “track record” with which to negotiate.

Ironically they found a new ally in the form of the old enemy - nature conservation.

A surprising alliance? Local fishermen and nature conservation in Northern Bohuslan

“Although the entrance in the European system discouraged the prawn fishermen a lot, more recently their participation in the selection and protection of Natura 2000 sites has empowered them and revived their belief that it is worthwhile getting involved in co-management. Through the Natura 2000 experience the County Administration Board and the prawn fishermen, together with the Swedish Board of Fisheries, the municipalities and the Tjarno Marine Biological Station were successful in defining a number of hotspots where trawling is now forbidden and in gaining legal support for exclusion of harmful technology and larger trawlers from the areas. This process legitimated the value of their local management” (Píriz, 2004 and 2006).

The county administration identified the Natura 2000 process as a way forward for marine nature conservation in the late ‘90’s, recognising that the process for designation and management was more participatory and flexible than the national nature conservation legislation. Specifically it requires that local interests be involved in both the designation and management process. The initial proposal identified 10 conservation “hotspots” - based on

the work of the local marine science laboratory, and established a fishery-biodiversity working group to take forward the initiative. This group comprised representatives of the county administration, the Strömstad and Tanum Municipalities, the National Board of Fisheries, and the local and national fishermen's associations.

A variety of factors then contributed to a successful agreement in 2000 between the fishermen and the county administration. Firstly the scientists had concrete information and a clear objective: to conserve the best of the soft and hard corals in some critical areas of the Kosterfjord trench. They were able to show the fishermen exactly where these were on 3-dimensional bathymetric graphics and using ROV video footage. They were also able to show the impact of the trawls. This information and technology was a striking visualisation of much of their own local knowledge and more, and stimulated intense - and informed - debate about how these hotspots might be avoided. Needless to say there was little problem agreeing on those areas of limited value to the fishermen, but agreement was soon reached in respect of all areas. This involved closure of some small areas, and specific provisions or practices in respect of others. In addition there were agreements on sorting grids and other technical measures to reduce by-catch and reduced size and weight of gear. Depth limits for trawling increased from 50 to 60 m to protect many valuable soft bottoms within the SAC area. In 2001 these measures were incorporated officially into Swedish legislation.

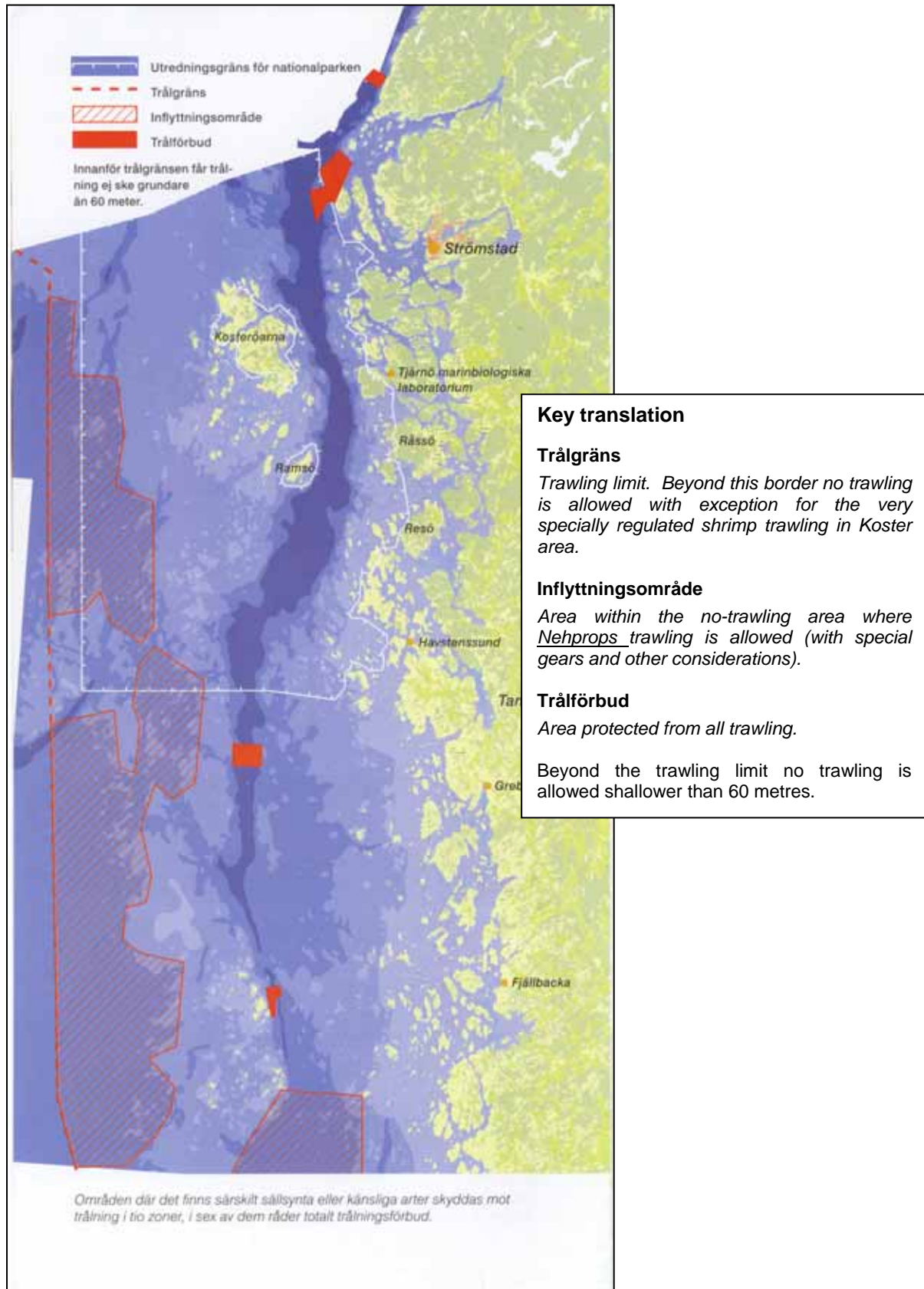
Agreement was also eased by the willingness of the county administration to accept voluntary compliance in most cases. This demonstrated trust and allowed for flexibility. When, subsequently the ROVs found evidence of trawling in one of these areas, the fishermen tackled the problem themselves through effective "peer pressure".

Reinforcing the agreement has been a programme of training in biology and ecology for fishermen at the local marine laboratory which has increased interest and sharpened mutual respect and trust. Sixty fishermen have now been through the 4-day course - many persuaded by strong peer pressure! Indeed, the fishermen are now proposing training as a requirement under a new co-management agreement (see below).

So successful has been this strengthening alliance, that two Koster fishermen have recently been given an environmental award by the local municipality for promoting environmentally friendly fisheries management, and this has been followed up by a second award from Svensk Fish to six key players in promoting sustainable fishery in the Kosterfjorden, including fishermen, and representatives of local and county administrations. This is likely to boost the image of the Koster fishermen - something they are striving to achieve at a time when public perceptions of commercial fisheries are rather negative.

Although some fishermen see this process as "selling out", local fishermen have in fact achieved an excellent compromise. Instead of a marine reserve possibly closing all trawling in the area, they have been able to discuss issues site by site, and arrive at agreement which was acceptable to both parties, and which appears to have had no negative impact on their income. Indeed skates and rays seem to be increasing in numbers, possibly as a result of the measures taken.

Figure 2 Trawling restrictions within the proposed Kosterhavets Marine National Park



The way forward for fisheries management within the park - co-management

The Swedish Board of Fisheries recently invited to submission of applications for pilot co-management projects at the regional and local level. Six applications out of 17 have been selected for in-depth follow up, including a proposal from the Strömstad and Tanum fishermen. The management unit is defined as the coastal waters of the municipalities of Tanum and Strömstad out to the 4 nautical mile limit.

The county administrative board is taking a pro-active role in promoting and supporting these initiatives, but SEPA, and other relevant stakeholders will also be involved.



The application identifies the need to extend the local management model developed by the prawn fishermen to all commercial fisheries. Their goal is to “manage the fisheries resources in a sustainable way so that it provides good returns to commercial fishing activities and safeguards the local marine culture passed on through generations” (Piriz, 2006). Specific management issues to be addressed will include an evaluation of the effects of the banning of trawling in the Natura 2000 sites; dissemination of knowledge about the biology of the area and information about its importance for

the local fisheries; education for all fishermen operating in the area combined with an “environmental license”; training on fishing technology and practice for other partners involved in management; continuous development of gear to maximise economic returns and reduce impact on the environment; review of fishing licenses and registered vessels in the area; review of numbers and selectivity of static gear.

SEPA has agreed that the co-management process should provide the basis for discussing and preparing management options for the park.

An outstanding issue - recreational fisheries

These provisions do not cover subsistence or recreational fisheries which comprise a significant proportion of the pressure on some stocks. It may be necessary to bring in some form of licensing for these forms of fishing and associated management regimes.

Management procedures and mechanisms

The management of the proposed park will follow the provisions set down in the official management plan which will include focus, vision, objectives, guidelines and regulations which must be approved by government and parliament, by various parliamentary committees, and revised following a final government sponsored public hearing (see Table 1). The Swedish Environmental Protection Agency is responsible for the development of this plan, although this is being undertaken in close collaboration with the county administrative board, local municipalities and local stakeholders. The procedures and regulations relating to fisheries management will be developed through the existing co-management initiative. Appointments in respect of park management and administration will be made by central government.

Vision, objectives and guidelines for the proposed park have already been developed as part of the preparations for the recent preliminary public hearing. These are somewhat different from those used for previous national parks, and reflect a shift to “sustainable use” and a more participatory “co-management” approach. This shift will have to be specifically approved by parliament in the required amendment to the Nature Conservancy Act. The following is taken from the briefing documents relating to the public hearing.

Vision

The vision for Kosterhavets National Park is:

‘to preserve its uniqueness and attractive sea and fjord environment as well as adjacent land area.’

Development Objectives

- Long term protection and conservation of the areas natural marine biotopes and species in line with sustainable utilisation of the areas marine resources;
- Protection of the areas natural and cultural rural heritage including its biodiversity;
- Allow visitors to gain an insight and knowledge of the areas nature and cultural heritage and how these can be utilised sustainably;
- Promote research and development concerning sustainable utilisation of marine and terrestrial ecosystems.

Principles and mechanisms

- Commercial fisheries legislation consistent with the development objective for the national park. Trawling will adhere to the existing Koster/Väderfjords agreement;
- In the national park recreational fishing for lobster and other species will be allowed consistent with the sustainable utilisation objectives of the park;
- New business ventures utilising land or sea (agriculture, fisheries, aquaculture) or of potential harm to these will not be granted permission to operate;
- Aquaculture will only be conducted in areas which do not affect the marine environment of the national park;
- Tourism will only occur in designated areas;
- Commercial transportation will be consistent with the Sea Transportation Law; recreational marine transport will be allowed as long as it does not pollute the water nor disturb the local community and fauna. Quiet zones will be established;
- Hunting for seabirds will be restricted to the local community in the areas bordering the national park;
- Recreational activities will be steered through zones to avoid excessive disturbance of the flora and fauna, ensuring a quiet and tranquil environmental experience;
- Nature information will be disseminated through a nature guide or ranger scheme;
- A local management organisation will be established;
- The proposed objectives will be streamlined to be coherent with the environmental law and the various sector regulations before finally establishing a national park.

Activities likely to be subject to regulation or restriction within the park

- New buildings and infrastructure;
- Development of quays or harbours;
- Mooring facilities for small vessels;
- Dredging;
- Cutting the forest;
- Construction of new roads;

- Removal of gravel etc.;
- Cable or wires on land and sea will be prohibited;
- Hunting in the red zones;
- Other activities which are not in line with the development plan for the national park.

Specific restrictions on recreational activities

- To camp or have open fires outside the designated areas;
- Bring a dog without a lead,
- Pull boats ashore;
- Bike and horse ride outside road and paths;
- Collect or rearrange stones;
- Moor a vessel more than two days in the same natural harbour;
- Use motor vessel in areas not designated for this.

Exceptions to these restrictions

relating to the management and administration of the park

- Establishment of park buildings and infrastructure;
- Minor mooring facilities in natural harbours;
- Dredging for the purpose of maintaining previous harbour facilities;
- Thinning and management of woodland according to the development plan for the park may commence with the consent of the park administration;
- Persons which the park administration allows to conduct activities for the benefit of the park;
- Reasons for motor vehicle to maintain road and roadsides and well as wires & cables;
- Water pipe from the mainland to South Koster;
- Other activities which are consistent with the development plan.

A number of companies will need a dispensation from the above regulations and these may be given in line with the environmental law i.e. dredging or freshwater exploitation. In addition the effect of such activities on Natura 2000 area must be assessed.

Zoning

Recreational activities will be managed in order to minimize impact on the nature and at the same time maximise the visitors' nature experiences. This is why the park is sectorised in zones:

- **Green Zone:** *Consideration zone* within the Koster archipelago. Motorised vessels may not travel above 5knots during 1/5-31/8;
- **Blue Zone:** *Quiet zone* at the Tjälleskären. Motorised transport is only allowed to an from the area;
- **Red Zone:** *Animal protection zone* (both bird and seals). It will be prohibited to access the island and reefs in the period 1/4 to 15/7. For the Torgrimmen area the period is 1/4 to 15/8.

The above rules do not apply to commercial fishermen or traffic, nor officials or persons hired by the county conducting tasks for the national park management.

Positive initiatives

Visitor centre

A major initiative proposed under the park will be a visitor centre, called *naturum*, will serve as the entry to the park and interpretive centre. This will be built according to ecological principles, and sited at the ferry terminal in Koster Sundet on South Koster Island.

Funding for traditional farming

Farmland is already owned by the state as part of the land based nature reserve, and local people are currently hired and managed through the local trust to restore and manage the farmland and landscape. Much information is available relating to practices around 1935 and restoration of landscape to this period is envisaged in the longer term. This period was associated with exceptionally high biodiversity and pleasing accessible landscapes. This funding is likely to be given a boost - or at least longer term security - if the park goes ahead.

Existing developments

There are a range of privately run visitor facilities already established in the nature reserve, including a campsite and eco-chalets. In other words although restrictions may be relatively strict, this should not constrain sustainable use and development.



New opportunities

Those in the local business association see many opportunities associated with park designation.

Existing scuba diving and snorkelling activities are likely to be given a boost. Remote cameras in the visitor centre may present visitors with a rare sight of the underwater corals. Guided fishing and marine wildlife tours are likely to take off - indeed some commercial fishermen may find this an attractive alternative to existing fishing activities. Cycling is already popular, but again this may be supplemented with guidance on local history, ecology and geology. The future of the traditionally built wooden church is also likely to be assured.

There are also now plans to build 10 more small locally affordable houses, reflecting optimism that the community will survive and jobs will be sustained or increase.

On a more strategic note there are plans to soften restrictions off-season to encourage a better spread of tourism pressure and income over the year.

Benefits and drawbacks

Benefits

1. It is anticipated that there will be increased employment within the islands and adjacent coastal communities related to sustainable tourism, and in particular as guides/rangers, in recreational fishing; accommodation and associated services, and in traditional farm management.
2. It is anticipated that these employment benefits will “turn the community around” securing the local school, shops, and offering a more attractive and dynamic place for young people to live. It is anticipated that this will be achieved without degradation to the environment.
3. Preparations for park designation and interim measures have raised the profile and probably strengthened local organisations, such as the trust and business association. The islands have already benefited from a new cable ferry link between N and S Koster - funding for which was heavily dependent on effective local organisation.
4. Fishing regulations and protocols within the park may serve as a model for more sustainable fisheries based on a co-management approach. Rays and skate have already come back in some soft coral areas, probably related to the agreement drawn up under SAC designation. It is also anticipated that sustainable fisheries management will allow for improved image and branding of fisheries products from the area.
5. The whole process of developing the park initiative, and previous SAC, has resulted in far better information on marine resources and greater understanding and trust between fishermen and scientists.
6. On a more general note, a recent national study in Sweden has shown that local governments/municipalities appreciated parks and thought they brought benefits.

Drawbacks

Drawbacks appear rather few, though we did not undertake a comprehensive survey! However, some possible problems might be identified:

1. House prices may continue to rise related to the quality of the environment - and the guarantee of this quality into the future.
2. Recreational fisheries are likely to increase, especially given the excellent information on bathymetry now available. This may put pressure on lobster stocks in particular.
3. The proposed regulations are relatively strict in some areas - for example pulling boats ashore and barbecues only in designated zones. Some may see this as a loss of a basic right of access and activity.
4. Although the process for developing the management plans and regulations has been relatively participatory to date, the existing national legislation remains geared toward a very exclusive and protective approach to nature conservation. Sustainable use is not an aim or objective in this legislation and it remains to be seen whether the legislation and management arrangements can be amended to take forward the ideals associated with the objectives proposed for this park.

Performance indicators

Performance indicators have not yet been proposed or discussed in any detail for this park.



References

- Swedish Environmental Protection Agency/Vastra Gotlands County Administration (2006).** *Public hearing concerning a proposal for Kosterhavets National Park. Focus area, goals, vision, regulations and management.* (translation by Hambrey Consulting).
- Píriz, L. (2004).** *Hauling home the co-management of coastal fisheries: A study on institutional barriers to fishermen's involvement in the management of coastal fisheries on the West Coast of Sweden.* Ph.D. Thesis at Department of Environmental and Regional Studies of the Human Condition. Göteborg University.
- Píriz, L. (2006).** *Trials of local co-management in Sweden.* Working paper presented at the ICES Symposium on Fisheries Management Strategies, Galway, Ireland 2006.
- Neumann, C. (WWF Germany) (2007).** *The legal basis for managing transboundary marine protected areas.* An overview of existing European and international legal and policy frameworks for the management of transboundary marine protected areas. WWF Germany.

Other

WWF Koster Ytre Hvaler - a potential MPA. WWF briefing.
Stakeholders managing Natura 2000 area. El Anzuelo.

Web links

www.internat.naturvardsverket.se/documents/press/2006/p06019.htm
www.kosteroarna.com
<http://www.kosteroarna.com/eng.htm> - tourist information on islands - in English
<http://www.internat.naturvardsverket.se/index.php3?main=/documents/press/2006/p060919.htm> SEPA pages - press release in English
<http://www.o.lst.se/o/Projektwebbar/Kosterhavet>
<http://tmbl.gu.se/gis/kosterhavetTMBL/> - in Swedish
<http://tmbl.gu.se:16080/kosterhavet/> - in Swedish
<http://www.tmbl.gu.se/> - marine biology lab info - in English

Vastra Goteland

http://www.o.lst.se/o/In_English/Vastra_Gotland_County.htm - in English
http://www.o.lst.se/NR/rdonlyres/2C6117CA-D957-4A12-935D-0D9BB0D89BA4/0/050323_lansfaktablad_eng.pdf - in English

Map

<http://infovisaren.lantmateriet.se/projekt/koster/InfoVisaren.asp?prodnr=1> - map of area

WWF: general doc. with para on K/YH

http://www.panda.org/about_wwf/where_we_work/europe/what_we_do/ne_atlantic/our_solutions/projects/mpa_network/mpa_network_map/index.cfm

CREST

<http://www.crestproject.com/sa/node.asp?node=1962>

Pan Parks

<http://www.panparks.org/>

People interviewed

Bengt Frizell (National Park Project Leader, Västtra County Administration)

Laura Piriz (National Board of Fisheries)

Stefan von Bothmer (Kosters Trädgårdar)

Göran Lyth (campsite and eco-lodges owner)

Göran Falk (boatman)

Hotel manager

Per Nilsson (Researcher, Tjärnö Marine Lab.)

Anita Tullrot (Researcher, Tjärnö Marine Lab)

Aase Richter (Regional Government Officer, Planner, Norway)

Bernt-Erik Larsen (Municipal Officer)