



Cross-border conservation of fish stocks in the Sound – DK/SE

1. Policy Objective & Theme

- SUSTAINABLE USE OF RESOURCES: Sound use of resources and promotion of less resource intensive processes/products
- SUSTAINABLE ECONOMIC GROWTH: Developing Europe's regional seas sustainably; Balancing economic, social, cultural development whilst enhancing environment

2. Key approaches

- Participation
- Knowledge based
- Ecosystems based
- Socio-economic

3. Experiences that can be exchanged

Due to the comprehensive trans-boundary agreement and strict fishery regulations, much less technologically advanced fishery in the Sound is much more rewarding than the high-tech fishery in Kattegat. The production of cod is higher in the much smaller Sound area than in the entire Kattegat area and the recreational fishery in the Sound is also thriving.

4. Overview of the case

As a result of agreements between Denmark and Sweden on the management of the fisheries in Öresund, the populations of several commercially important fish is larger and more stable than anywhere in the Baltic, Kattegat and Skagerak. In particular the ban on towed fishing gears in the Öresund has been particularly effective in rebuilding the stocks of cod and other demersal species. The positive impacts are particularly obvious when compared to the neighboring Kattegat.

5. Context and Objectives

a) Context

The marine ecosystem in the Kattegat is considered to be rather productive. However, despite this, the commercial fish populations are in a very poor state. The decline of the fish stocks started 150 years ago, when longline fishing began to take place on an industrial scale and resources like halibut and cod were exhausted. The degradation of the ecosystem, however, became much more severe when motor trawling was introduced at the beginning of the twentieth century. Species like haddock, pollack, whiting and turbot became depleted rapidly and are no longer of commercial interest. The cod stock in the Kattegat has shrunk to a remnant population over the last two to three decades. The decline of the cod stock in the Kattegat is linked to the disappearance of separate spawning aggregations/sub-populations in the Kattegat area. Such structural changes within the stocks are very alarming, as the disappearance of stock units could effectively hinder a recovery of depleted areas even after substantial reductions in fishing activity. A near-total ban on towed fishing gear (i.e., otter and midwater trawls, Danish seine and purse seine) has been in place in the Sound sea area between Denmark and Sweden since 1932, due to its status as a heavily trafficked sea area. In contrast, no such gear limitations have ever been enforced in the adjacent Kattegat sea area.

Different studies and available data from the area were explored in this briefing paper, which clearly shows that Atlantic cod in particular was much more abundant and had higher age diversity in the Sound than in the Kattegat, the Baltic Sea or Skagerak. On the whole, a great many of formerly important fish species have either disappeared or have been reduced to remnant populations in the Kattegat, while the fish community in the Sound is in much better condition. It is reasonable to believe that the main reason for the much higher levels of productivity of cod and other demersal species in the Sound is linked to the absence of trawling within the area.

b) Objectives

1. Analyze and compare the success of the agreements between two countries on the regulation of the fisheries in the Sound and compare with the situation in adjacent areas where more effective (=destructive) fishing gear has been allowed.
2. Provide recommendations regarding the effects of different technical regulations (i.e., towed fishing gear) in the efforts to rehabilitate the fish stocks in the Baltic Sea region.

6. Implementation of the ICZM Approach (i.e. management, tools, resources)

a) Management

The fishery in the Kattegat and the Sound is managed both by Total Allowable Catches (TAC) and effort regulation. A near-total ban on towed fishing gear (i.e., otter and midwater trawls, Danish and purse seines) has been in place since 1932 in the Sound sea area between Denmark and Sweden, due to its status as a heavily trafficked navigational area. The trawling ban has not been implemented in a small part of the northern Sound area adjacent to Kattegat. In 2009, however, this trawl fishery became more restricted as trawling was banned from February to March (i.e., during the cod spawning period). This new regulation will be evaluated after three years. Aside from the professional fisheries, an extensive leisure fishery based on spinning gear is flourishing in the Sound, as it is situated in the most densely human-populated part of Scandinavia.

b) ICZM tool

Commonly agreed Total Allowable Catch (TAC) is the main ICZM tool guaranteeing the sustainable trans-boundary management of the fish stocks in the Sound.

7. Cost and resources

Complete costing is not available

8. Effectiveness (i.e. were the foreseen goals/objectives of the work reached?)

The report gives good support to the theory that the ban on trawling in the Sound is part of the reason to why fish productivity here is bigger than in Kattegat where there is no such ban. A thorough exploration of earlier studies on subject has been investigated as well as results from field surveys. An additional positive side effect is the increased availability of the fish for the recreational fishing in the Sound.

9. Success and Fail factors

The ban on trawling in the Sound from 1932 is according to the investigation the clear reason to why fish stock is higher here than in Kattegat. Despite the fact that Kattegat is approximately three times the size of the Sound and that the Sound has a heavily populated coastal area, the official total landings of cod in the Sound during 2009 was ten times as high as in Kattegat. The fisheries management of Kattegat is considered a fiasco where reported landings have fallen continuously since 2000.

10. Unforeseen outcomes

None as yet

11. Prepared by

H. Nilsson, World Maritime University, Sweden

12. Verified by

R. Povilanskas, EUCC Baltic States Office, Lithuania

A. Razinkovas, Klaipėda University, Lithuania

13. Sources

Svedäng, H. (2010). Long-term impact of different fishing methods on the ecosystem in the Kattegat and Öresund, Report submitted to the European Parliament and the European Commission (DG Internal Policies, Fisheries Department), 36 p. Downloaded from: http://www.havsmiljoinstitutet.se/digitalAssets/1308/1308186_1308170_note-kattegat---resund-en.pdf

14. Relevance for cross-border management of transitional waters

The Sound together with the Belt Sea comprises the Danish straits, and constitutes the threshold for the Baltic Sea. The surface area is about 2,000 km². The Sound is a relatively shallow area; the threshold between the Sound and the Baltic Sea is located in the southern part of the Sound and has two furrows at a depth of eight meters. The surface water usually flows northwards, and the salinity increases from about 8-9 PSU to about 15 PSU in the northern part of the Sound. Circulation in the Kattegat/Sound is influenced by exchanges with neighboring seas (the Skagerrak, the Belt Sea, and the Baltic Sea) and depends on meteorological forcing; tides are much weaker here than in the southern North Sea. The horizontal exchanges can transport fish eggs and larvae among areas. The Sound is a rather specific, yet critically important transitional water body linking the Baltic Sea with the North Sea. Therefore, the relevance of the case study showing the success of the trawling ban on the reinforcement of environmental integrity in a dynamic transitional water body is rather high.