

Reassessing the management criteria of growing seal populations

The case of Baltic grey seal and coastal fishery



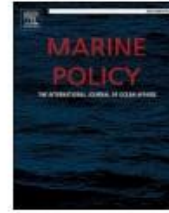
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Reassessing the management criteria of growing seal populations: The case of Baltic grey seal and coastal fishery

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RESOCO

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ABSTRACT

The unintended consequences of marine mammal recoveries have created complex issues for resource managers to solve. In the Baltic Sea, the grey seal (*Halichoerus grypus*) population has increased rapidly during recent decades, and the conflict between seal conservation and fishery has escalated. Although the magnitude of economic losses varies depending on the type of fisheries, there is strong evidence that the grey seal population negatively impacts coastal fisheries and indirectly threatens the cultural heritage connected to it. The current management paradigm is biased towards the preservation of seal populations and it is failing to adequately consider socio-economic impacts of seal population. There is a need to strike a balance between seal conservation and the viability of coastal fisheries, taking into consideration local circumstances. This paper contributes to resolving this problem by assessing the existing governance arrangement. We conclude that the inconsistencies between and within different regulatory frameworks in HELCOM recommendations and European Union law are a structural constraint to tackling the problem. Further to that, some of the existing management criteria applicable to Baltic grey seal population need to be revisited by giving more consideration to regional conditions within the Baltic Sea. For instance, if the data shows that the Baltic grey seal population in its core distribution area has reached a sustainable status and is no longer at risk, then the use of peripheral areas as an indication of inadequate state of the entire Baltic Sea grey seal population is questionable.



Introduction

- Baltic grey seal population → rapid increase → escalating conflict.
- Affects economic viability of coastal fishery and aquaculture sectors.
- Some technological solutions have been developed to mitigate seal-induced damage (*often very expensive and often not adequate*).
- Management has mandated protection but failed to adequately consider socio-economic impacts of that policy.
- The conflict is complex and increasingly more difficult solve.



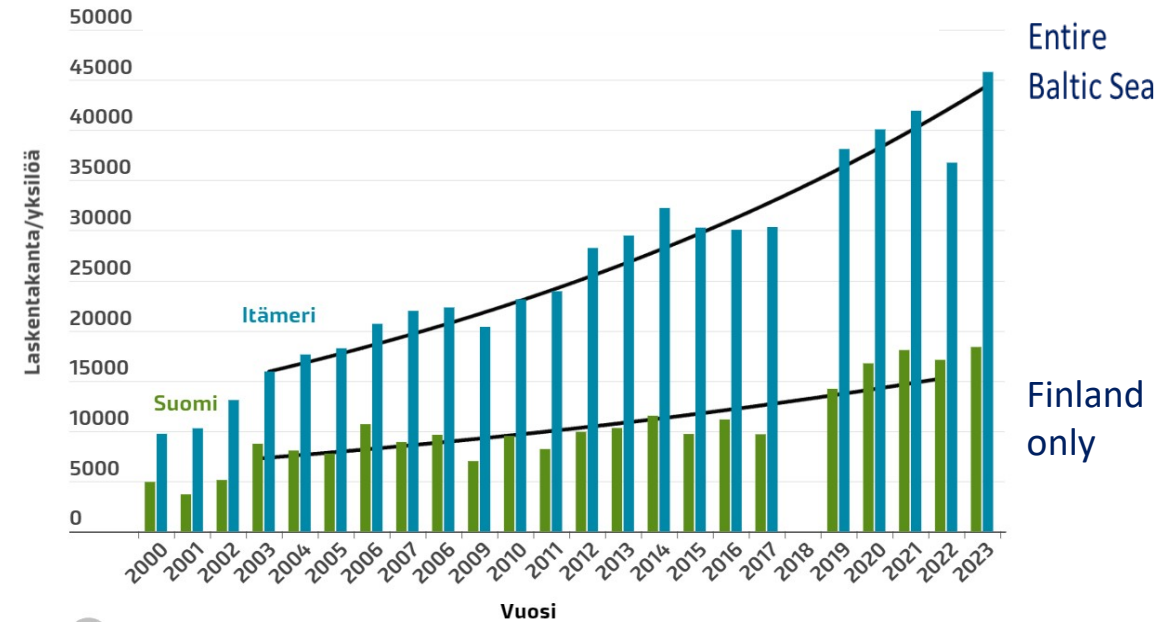
Population is growing – a conservation success

- Population has been growing the last 35 years:

- many people believe that grey seal is still endangered!
- strong public empathy associated with seals
- population growth rate 3 – 5 % at the core distribution area

- Urgent need to find a balance between:

- grey seal population
- viability of fisheries
- overall fish production in the Baltic Sea

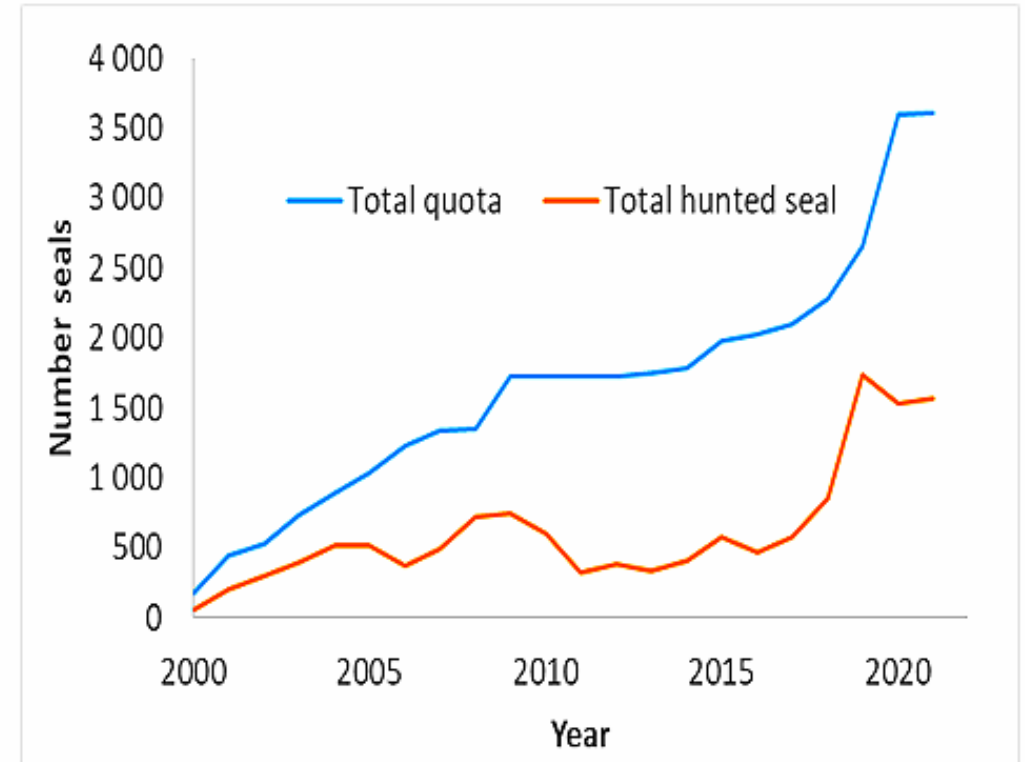


Number of grey seals counted in joint inventories in **2000–2023** in the entire Baltic Sea and in Finland only.

- **Most recent inventory showed a total of 46 000 grey seals (means a population size of 55 000 – 65 000 ind.)**
- **Population growth rate has recently been higher in the southern Baltic Sea than in the northern Baltic.**

Current hunting pressure is moderate

- Grey seal is hunted in Finland, Sweden, Åland Island and Estonia:
 - overall hunting quota fulfilment has been 38 %
 - hunting rules are strict and hunting has high costs
 - EU trade ban → reduced motivation for hunting
- Grey seal population has been growing despite hunting:
 - hunting occurs mainly in the core distribution area where the seal-impacts are most severe



Total yearly quota and the total number of grey seals yearly hunted in **1998-2021** in the Baltic Sea.

Incidentally caught grey seals

- In early 2000s, numbers of incidentally caught grey seals was estimated at ca 2000 ind. annually:
 - gillnets and traditional trap-nets most dangerous
 - incidentally caught seals often pups (in spring)
 - trap-net caught grey seal mostly adult males (*higher risk taking*)
- No reliable assessments recently done on incidental captures but it is known that:
 - seal-safe pontoon traps have a low incidental capture rate of adult seals
 - special gillnet-fishing (e.g. trammelnet) has increased in the southern Baltic Sea → high incidental capture of seals
 - seals have a fairly high reproductive rate and can withstand relatively large incidental capture



Core questions

- Is the Baltic grey seal population under threat?
- What is the optimal size of the population?
- How to manage the population size?
- How to effectively mitigate damages and losses?
- Why there is a trade ban on grey seal products?
- Why is an increase of seal population still prioritized at the expense of socio-economic sustainability?



Two institutions are giving the norms

1. Baltic Marine Environment Protection Commission (**HELCOM**)
2. European Union (**EU**)
 - their role is critically important in the formulation of management criteria



HELCOM 2006 recommendations

- HELCOM (2006): Baltic grey seal population remains below the theoretically calculated population level of early 1900s, and the current carrying capacity level is not known.
- For all seal populations in the Baltic Sea, HELCOM (2006) proposed three key management objectives:
 - i. Populations sizes should recover to carrying capacity levels
 - ii. Populations should expand to **suitable** breeding distributions in all Baltic regions
 - iii. Seals should attain a health status that secures the continued existence of the populations

HELCOM Specific Reference Levels

For population size, these reference levels are defined as:

- **Target Reference Level:** the level where the growth rate starts to level off and the population asymptotically approaches the carrying capacity level;
- **Limit Reference Level (*Safe Biological Level*):** the Minimum Viable Population Size which is to be defined for each of the management units;
- **Precautionary Approach Level** where the populations are at maximum productivity level
 - Below the **Limit Reference Level**, no allowances for deliberate killing should be issued.
 - For populations above the **Target Reference Level**, licenses for removals can be issued provided that the long-term objectives of the management principles are not compromised.

Inconsistencies in HELCOM recommendations

The goals and the recommendations of HELCOM do not match the current situation.

There are potential inconsistencies that are linked among others to the following issues:

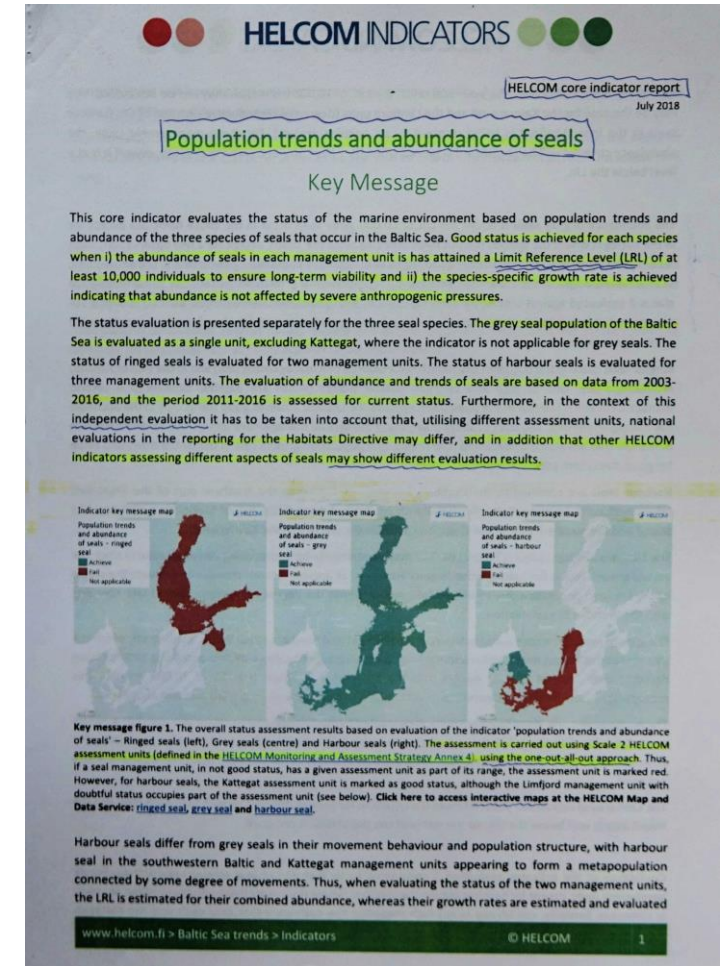
- 1. Population size and distribution**
- 2. Population growth rate**
- 3. Population carrying capacity**



HELCOM Core Indicator Report (2018)

Good status is achieved for grey seal when:

1. Abundance of seals in the management unit has attained a Limit Reference Level of at least **10,000 individuals** to ensure long-term viability; and
2. Species-specific population **growth rate (7%)** is achieved.



Supplementary recommendations

HELCOM 2018: Grey seal population does not have a good status

The current abundance of grey seal population is way above the LRL of 10,000 individuals:

- **However, population does not achieve good status when evaluated against the HELCOM criteria of a minimum 7% annual increase.**
 - **The population does not have a good status!**
- HELCOM's requirement is at conflict with reality and with its own remarks:
 - Current grey seal population is close to its carrying capacity and **cannot grow at a 7 percent annual rate.**



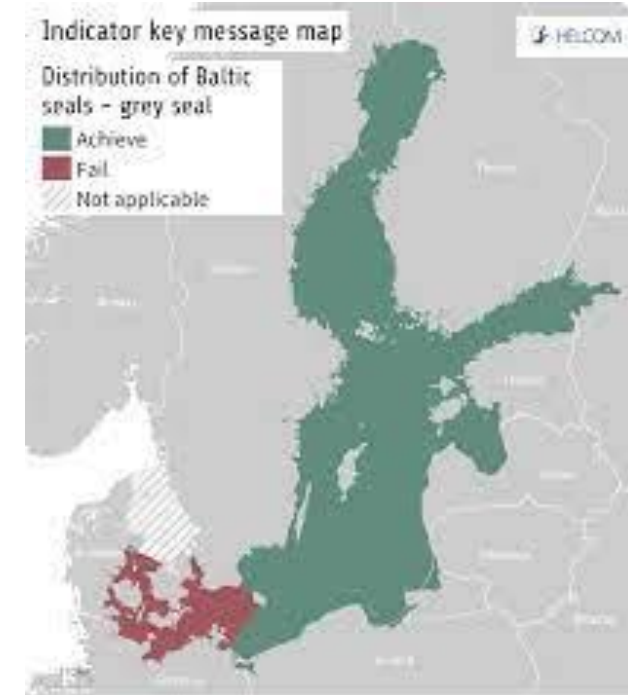
Carrying capacity depends on conditions

- **HELCOM (2006):** Grey seal population size should recover to carrying capacity level:
 - carrying capacity depends on conditions
 - not clear what the population size should be (*HELCOM has not specified*)
 - in core distribution area the carrying capacity may have been reached
- **HELCOM recommendation is not in line with the EU Habitats Directive (HD):**
 - HD does not require that a seal population should increase to carrying capacity
 - HD promotes the maintenance of biodiversity by also considering economic, social, cultural and regional requirements.
 - HD demands a **favourable conservation status** with a long-term viability (*in each member country*)



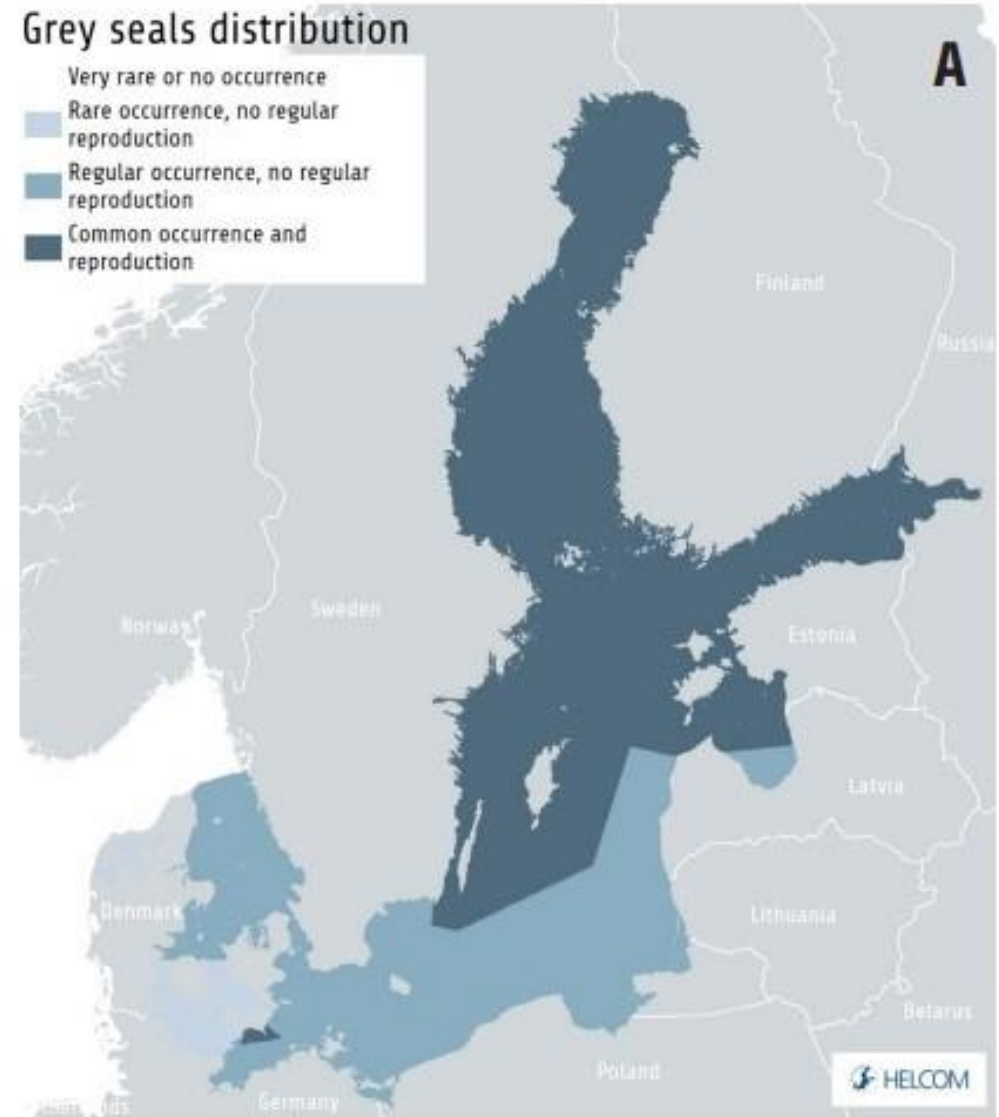
Grey seal population in the southern Baltic Sea

- HELCOM (2006): Baltic grey seal population should expand to all suitable breeding areas in the Baltic region:
 - **population is not healthy as long this has not taken place**
- HELCOM (2018) notes that many traditional breeding sites in the southern Baltic Sea have been lost, but:
 - **in 2023 inventory several thousands grey seals were counted in the southern Baltic Sea**
 - **the number of grey seals is increasing at fairly high rate (>10 %)**
- In the southern Baltic Sea various human activities, such as vessel traffic, are intensive.
- **Use of southern Baltic situation as an indication of inadequate state of the entire Baltic Sea grey seal population is questionable.**



HELCOM 2023: Grey seals are increasing in some areas, but the indicators for population growth rates, as well as reproductive and nutritional status, do not reach the threshold values.

Justification ????????????



EU legal framework

- There are three EU legislative acts that are relevant for seal population management:
 - EU Habitats Directive (**HD**)
 - EU Marine Strategy Framework Directive (**MSFD**)
 - Regulation on trade in seal products (**Trade ban**)
- The legal regime of EU is binding to all the Baltic coastal states (*except the Russian Federation*)

Inconsistencies in the EU legal framework (1)

- **EU Habitat Directive (HD)**
 - **Baltic grey population largely meets EU Habitats Directive's criteria**
 - **However, it may not reach “Favourable Conservation Status” in the southern Baltic countries**
 - **There is only one Baltic grey seal population! → There is no “German grey seal population”.**
 - the spatial scale of HD is limited to the national boundaries
 - it is a major cause of confusion with species such as grey seal

Inconsistencies in the EU legal framework (2)

- **EU Marine Strategy Framework Directive (MSFD)** has a regional approach, and accepts that ecosystems are not pristine and that human activities exist:
 - **MSFD criteria are in many cases in contrast with the reference values of HD → How all these criteria are aligned is not clear!**
 - **At the same time, HD provides little information on how many animals are needed to achieve the goal**
- There is a lot of confusion in practical application of EU Directives:
 - **in practice, almost all wild animals would show causes of concerns under the multiple criteria of EU directives and other instruments**
 - **target levels should be realistic and account the real situation!**

Why do we have a trade ban on seal products?

In EU, seals cannot be utilized in any other way than in the hunter's own household:

- **Limits the socio-economic benefits of seal hunting**
- **Contributes to underutilization of hunting quotas**
- **Prevents the sustainable utilization of a valuable natural resource**

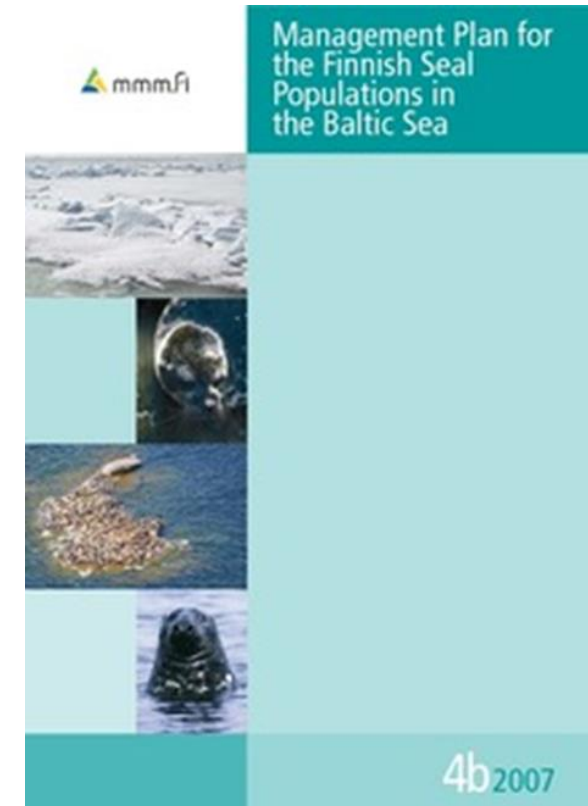
Key questions:

- **Does the glorification of all marine mammals make sense?**
- **Could utilization of sustainable seal populations be the most rational and cost-effective method to reduce seal impacts and support local livelihoods?**
 - for example, like we use our moose resources?
 - why we have to waste such a valuable resource such as grey seal?
 - with endangered seal species/populations a trade ban makes more sense



National management plans

- HELCOM 2006 recommendations as an umbrella, many Baltic Sea countries have adopted national seal management plans.
 - general objective is that the seal populations should have a favourable conservation status.
- National decision making has a significant impact on hunting possibilities:
 - yearly hunting quotas
 - hunting seasons and hunting rules
 - seal protection areas
 - potential economic compensations for seal damages
 - etc



Balancing of conflicting interests

- Management criteria need to be revisited and more attention should be given to local conditions and viability of fishery sector.
- A sustainable solution requires balancing the views and perceptions of fishing sector, coastal communities, and the conservation sector.
- Protection and restoration of lost breeding habitats in the southern Baltic Sea should have a high conservation priority.
- EU trade ban should be reconsidered in case of Baltic grey seal:
 - grey seal is abundant at the core distribution area - it is a highly valuable natural resource that could provide wide societal, cultural and economic benefits
- Management and utilization should follow the principles of **ecosystem-based management**
 - EU common fisheries policy (CFP) seeks to ensure a reasonable standard of living for those dependent on the fishing industry



Thank you!