

## BIOTOPE INFORMATION SHEET

English name: <b>Boreal Baltic narrow inlets</b>		Code in HELCOM HUB: <b>1650</b>	
Characteristic species:			
Past and Current Threats (Habitat directive article 17): Eutrophication (H01.05), Construction (roads and bridges D01, dredging J02.02.02, dumping J02.11)		Future Threats (Habitat directive article 17): Eutrophication (H01.05), Construction (roads and bridges D01, dredging J02.02.02, dumping J02.11)	
Red List Criteria: <b>C1</b>	Confidence of threat assessment: <b>M</b>	<b>HELCOM Red List Category:</b>	<b>VU Vulnerable</b>
Previous HELCOM Red List threat assessments			
BSEP 75 (1998): "3" (Endangered) E – Fjords F – Fjards, fjord-like bays		BSEP 113 (2007): Regions where the biotope/habitat is under threat and/or in decline: The Bothnian Sea, Åland Sea, Archipelago Sea, Gulf of Finland, The Northern Baltic Proper, Western Gotland Basin, The Southern Baltic Proper.	
Higher concern stated by:			

### Habitat and Ecology

This natural habitat type represents a complex consisting of narrow, elongated bays surrounded mostly by rocky shores. They are often characterized by a more or less pronounced salinity and nutrient gradient caused by riverine water. The presence of a shallow (sill) at the mouth of a fjord limits the exchange of water and causes large fluctuations in salinity.

Flora and fauna in shallow areas are characterized by dense stands of common reed, pondweed and a large variety and abundance of birds and fish. The benthic fauna consists mainly of soft-sediment invertebrates, such as polychaetes, crustaceans, bivalves and insect larvae. Fjords are of Baltic-wide importance.



*Myriophyllum* spp. and pondweeds are typical underwater vegetation in narrow Baltic inlets (Photo: Mats Westerbomb, FINMARINET)

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Definition of the habitat according to the 'Interpretation manual of European Union Habitats' EUR27:

Long and narrow bays in the Boreal Baltic sea area, which are partly separated from the open sea by a submerged sill. These inlets consist usually of soft mud. The salinity varies depending on the freshwater contribution or the salinity value of the Baltic Sea. The low tidal range and low salinity of the Baltic Sea creates an ecology that is different from that of the North Atlantic coasts.

Plants: *Ceratophyllum demersum*, *Hippuris vulgaris*, *Myriophyllum spicatum*, *Phragmites australis*, *Potamogeton perfoliatus*, *Sagittaria sagittifolia*, *Schoenoplectus lacustris*, *Schoenoplectus tabernaemontani* Algae: *Cladophora aegagropila*, *Nitellopsis obtusa*  
Animals: Birds- *Anas crecca*, *Anas platyrhynchos*, *Circus aeruginosus*, *Cygnus olor*, *Podiceps cristatus*; Insects- *Chironomus plumosus* coll.; Crustaceans- *Monoporeia affinis*; Molluscs- *Macoma baltica*; Polychaeta- *Maldane sarsi* Sponges: *Axinella rugosa*, *Phakellia* spp., *Mycale lingua*, *Polymastica* spp., *Vosmeria* spp.

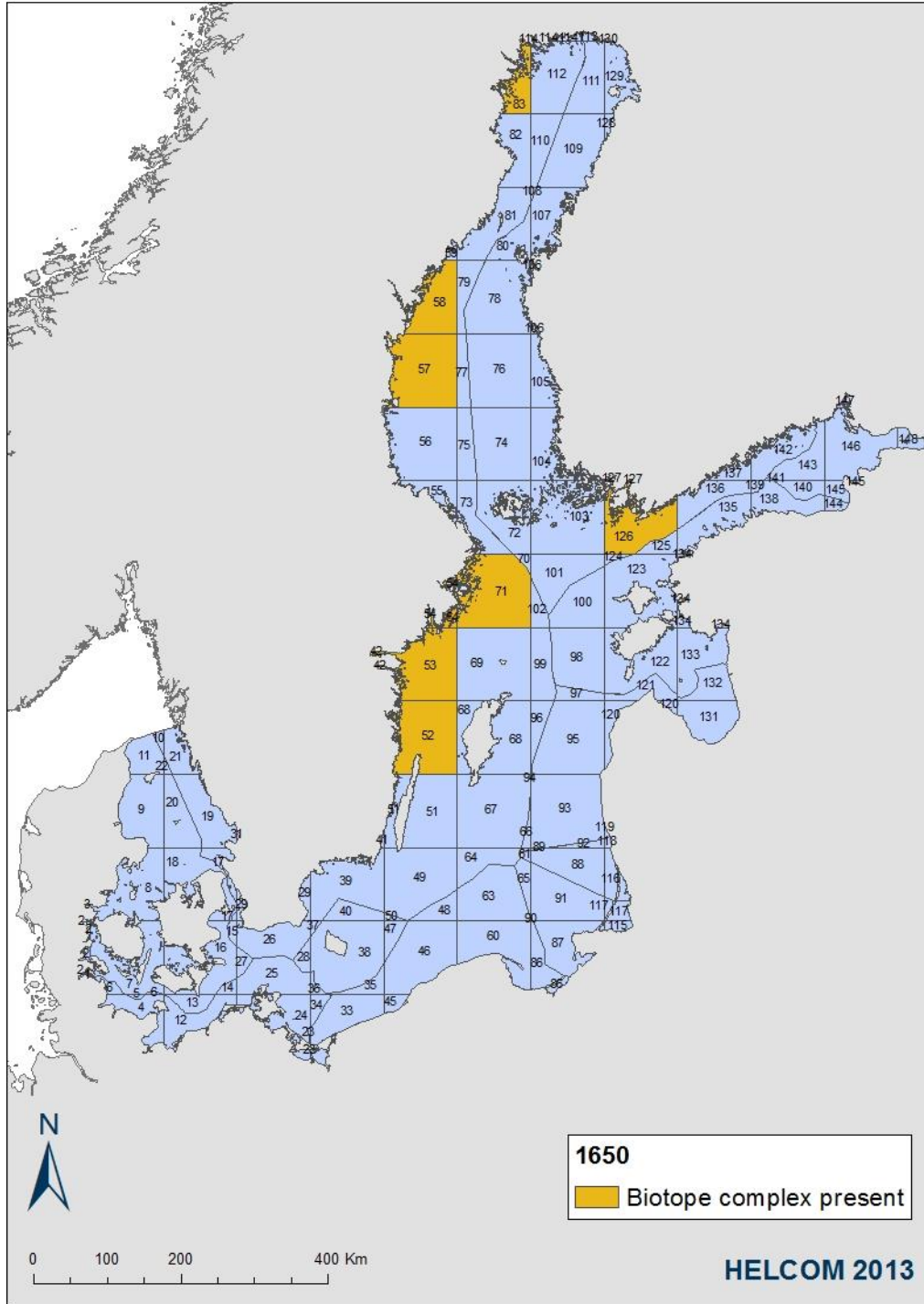


Boreal Baltic narrow inlet in the Åland archipelago (Photo: Tore Lindholm)

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### Distribution and status in the Baltic Sea region

Fjords are present in Swedish and Finnish coastal areas of the Bothnian Sea, the Gulf of Finland and the Baltic Proper. The present and past distribution is in areas of crystalline bedrock. The distribution map indicates the area in the 100 x 100 km grid where biotope is known to occur (Naturvårdverket 2011)





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### Description of Major threats

Nutrient run-off from the catchment area causing eutrophication of the biotope complex is the most severe threat of the biotope complex. The nutrient run-off mainly stems from agriculture and forestry. The biotope is further considered to be threatened by physical modification due to construction of roads and bridges (European Commission 2007). Dredging of the entrance may pose a threat to the integrity of the biotope complex in some locations.

### Assessment justification

C1

The number of localities where the complex occurs is relatively low. A severe quality decline is assumed to have taken place in more than half of these biotope complexes during the past 50 years. Since only a few number of locations in the Baltic Sea area provide geological structures necessary for the biotope complex to form, regeneration after a collapse is considered to be difficult. Sampling has not been carried out in all boreal narrow inlets. It is assumed that sampling inside the inlets instead of the outside sea-area, would indicate a higher percentage of the biotope complexes having experienced severe to moderately severe quality decline.

Increasing nutrient loads in the catchment areas of the inlets have led to a degradation of water clarity due to eutrophication. In some locations eutrophication is also known to have created semi-permanent anoxic conditions in the deeper parts of the narrow inlets where water turnover is slow.

The entrance of the inlet has been modified through construction activities in several locations, changing the community composition. Construction activities along the shorelines has further caused the quality of the biotope complexes to decline.

### Recommendations for actions to conserve the biotope

In a long-term perspective anoxia and other impacts of eutrophication can be alleviated by reduced input of nutrients to the sea. For the boreal Baltic narrow inlets the measures to reduce eutrophication are needed mainly within the drainage basin of the inlet. Local and regional reductions will have a more pronounced effect since the water exchange with the larger Baltic Sea basins is reduced.

Protection and possibly even recovery of this habitat type can be achieved by restricting coastal constructions, dredging and dumping of dredged material. Reconstruction of the complex could possibly be achieved by restoring thresholds that have been dredged.

### Common names

Denmark: Boreale smalle havarme i Østersøen, Estonia: -, Finland: Itämeren boreaaliset kapeat murtovesilahdet, Germany: Kleine, enge Buchten des borealen Baltikums, Latvia: -, Lithuania: -, Poland: -, Russia: -, Sweden: Smala vikar i boreal Östersjö kust

### References

- European Commission (2007). Guidelines for the establishment of the Natura 2000 network in the marine environment. Application of the Habitats and Birds Directives. (EU interpretation manual)  
Available at:  
[http://ec.europa.eu/environment/nature/natura2000/marine/docs/marine\\_guidelines.pdf](http://ec.europa.eu/environment/nature/natura2000/marine/docs/marine_guidelines.pdf) (viewed 4 June 2013)
- Naturvårdsverket (2011) Vägledning för svenska naturtyper i habitatdirektivets bilaga 1, Blottade sand- och lerbottnar. Available at: [http://www.naturvardsverket.se/upload/stod-i-miljoarbetet/vagledning/natura-2000/naturtyper/kust-och-hav/vl\\_1650\\_Smalaostersjovikar.pdf](http://www.naturvardsverket.se/upload/stod-i-miljoarbetet/vagledning/natura-2000/naturtyper/kust-och-hav/vl_1650_Smalaostersjovikar.pdf) . (Viewed July 19 2013)