

The Waters West of Sylt - A Potential MPA

Location/Potential Reasons for Selection

The sea area west of the island of Sylt in the northern German Bight displays the highest densities of harbour porpoises and grey seals compared to other areas in the southern North Sea and Wadden Sea. It is probably the most important breeding and nursery area for harbour porpoises in the North Sea and an internationally highly important resting area for several species of migratory seabirds.

Site Description

Sylt is the northernmost German Wadden Sea island with a shallow, sandy beach and dune-characterized coast stretching 35 km from north to south. From the coast, the sandy bottom, alternated by some stony fields and erratic boulders, slowly declines to a depth of 20 m. Probably enhanced by less intensive fishery, the hard bottom gives rise to a large variety of bottom fauna and a highly productive food web based on the nutrient-rich effluents of the river Elbe which mix into the coastal current.

Recent cetacean censuses led to an estimate of more than 4,500 harbour porpoises residing in the area. Among these, the number of mother-calf groups is higher than anywhere else in the North Sea, up to 15 % of the sightings being calves.

Since 1983, births of grey seal pups have been observed in a newly formed colony on an

offshore tidal

bank off Amrum

and on the southern tip of Sylt. A group of up to 70 grey seals now resides in the area. Off the coast of Sylt, at times, up to 200,000 scoters assemble for moulting. The densities of black- and red-throated divers which stop here on their seasonal migration are unique world-wide. Unfortunately, the most important breeding, resting and moulting period coincides with the tourism season in spring and summer.

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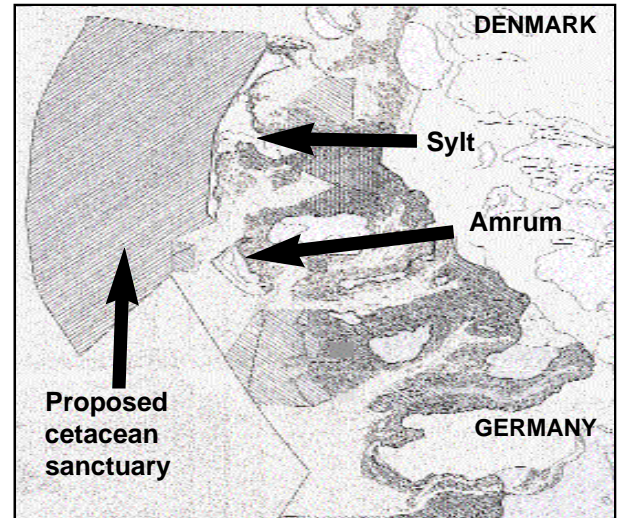


Fig. 1: Location of the proposed cetacean sanctuary off the islands of Sylt and Amrum in the German Bight, North Sea.

Harbour Porpoise (*Phocoena phocoena*)

The harbour porpoise is the best known among the 20 cetacean species occurring in the North Sea. It used to be sighted frequently in the big river mouths and in the Wadden Sea. The large variety of popular names testifies its former prominence. Today, the population seems to be far smaller although a comparison is difficult due to the lack of figures on its former density. Year round, the highest densities of harbour porpoises are found off the North Frisian coast between the Amrum Bank north to Horns Reef.



Harbour porpoise

Harbour porpoises, attaining a length of ca. 1.80 m and a weight of up to 80 kg, are the smallest whale species. They are long-lived (15-20 years) and reach maturity at an age of 3-5 years. Females may give birth to one calf every year or two after 11 months of pregnancy. The newborns are 70-80 cm in length and weigh 5-8 kg. They are nursed for up to 8 months.

Harbour porpoises are mammals and thus warm-blooded animals. Living in a rather cold medium, water, they depend heavily upon a good insulation (their blubber) and a sufficient supply of energy (food) to keep warm. The blubber of porpoises is two to four cm thick and may make up to 20 % of the weight of a whale. If food is scarce, the blubber is used as an energy resource - thus the blubber thickness is an indicator of the feeding situation.

Justification for the Potential Selection of the Waters West of Sylt as an Offshore Marine Protected Area

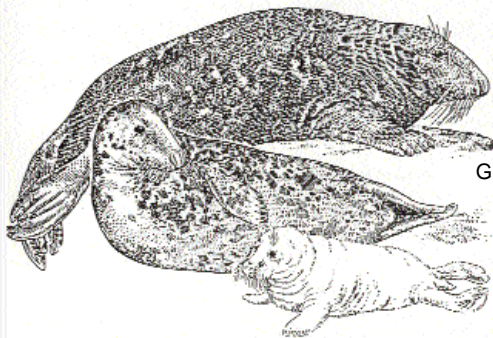
Because of their relatively large body surface exposed to the sea relative to their body volume (weight) small cetaceans need more food than large whales to compensate for the loss of warmth. Harbour porpoises mainly feed on fish (flatfish, herring, whiting) which should not exceed 25 cm length, but also on squid or crustaceans. Their dives usually last less than 2 minutes and while surfacing, a gentle blow is heard.

Grey Seal (*Halichoerus grypus*)

The main distribution centre of grey seals in the North Sea is on the rocky shores of the British Isles. However, in the old to middle ages, these seals were very common in the Wadden Sea. In recent years, a new population has established and now stabilizes in the northern Wadden Sea again, using offshore tidal flats between the islands of Amrum and Sylt for mating, nursing and

moulting. Grey seals are large (males up to 3 m length and 300 kg weight) and preferably live in large groups of females dominated by an alpha male. Unlike the harbour seals, grey seals give birth to their young in winter between November and February.

They require high-level tidal flats which are neither regularly submerged, nor disturbed, so the seals are not forced to leave the flats. Although the pups are able to swim soon after birth, their survival is at risk if they are forced to swim in the cold water before having moulted their white baby fur at the age of four to five weeks. Grey seals are opportunistic feeders and thus take first what's most abundant and closest by: adults feed mostly on flatfish and gadoid fish, the young prefer smaller fish or shrimps.



Grey seal

Naturally, the population densities of cetaceans and seals are regulated by the abundance of prey which they take as direct competitors to the fishermen and for seals also by the availability of appropriate resting areas.

- The healthy development of the seal pups is threatened by two different factors: the increasing submersion of the sand banks due to sea level rise and the erosion reduce resting time and space; various tourism activities potentially cause the seals to be disturbed from their sand banks.
- The enormous under- (and above) water noise impact of high-speed ferries and jet skis as well as oil drilling activities consist considerable threats to the cetaceans' sonar orientation and intraspecific communication.

- Cetaceans and seals, as top predators, are also particularly sensitive to the impact of pollution: It is suggested that the negative impact of chlorinated hydrocarbons in the water and in their food leads to a general weakening of the immune system which may increase the infection rate with pathogens.

Existing/Proposed Protection

The offshore area west of Sylt fulfils the requirements of a protected area according to the Ramsar Convention (waterfowl) and according to the EU Habitats

Directive, which requires the designation of habitats particularly important to harbour porpoises and grey seals (Annex II). Hopefully, in November 1999, the National Park *Schleswig-Holstein Wadden Sea* will be extended seawards to the 12 nm territorial limit. However, so far no definite measures are agreed to reduce or prevent use of the area by fisheries, shipping, tourism or coastal protection.

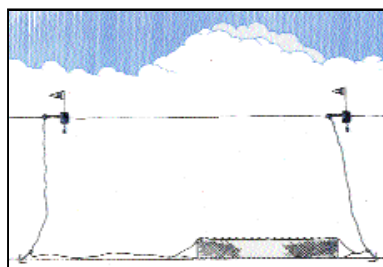
Management Issues

Breeding and resting mammals and birds urgently require undisturbed resting places and low-level noise. Therefore boat speed should be restricted to 12 knots. Jet skis and other motorized equipment should be prohibited. The traditional shrimp fishery seems to be acceptable, however, gill and drift nets have to be banned. An evaluation of impacts from extraction of mineral resources, military activities, offshore wind parks, power cables and large touristic events should result in appropriate measures.

Text prepared by Sabine Christiansen

Threats/Human Impact

• Fisheries, in particular gill nets, present the most significant threat to the harbour porpoise populations of the North Sea: about 7,000 individuals per year are drowned in Danish gill nets for the fishery on turbot and cod alone. Together with other fisheries, incidental mortality



of harbour porpoises in the central and southern North Sea has reached a level of up to 3 % of the population which is no longer viable to maintain the present population density, abundance and reproduction rate. Under the Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS) an annual by-catch rate of 2% of the actual stock has been defined as "unacceptable".

References/Further Reading

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