



PEBERHOLM

and its surrounding waters





Peberholm, around the time just after the opening of the Bridge. Photo: Søren Madsen



Peberholm year 2014. Photo: Martin Kielland



Photo: Martin Kielland

Peberholm

The artificial island of Peberholm between Denmark and Sweden connects the motorway and the tunnel of the Øresund Fixed Link. The island occupies an area of approx. 160 ha with a length of approx. 4 km. Peberholm was constructed during 1995–1999 from dredged seabed material (approx. 8 mill. m³), and the island is circumvented by stone revetments (appr. 2 mill m³). The material consists of clayey chalk sediments with stones and pebbles. No landfill or soil from land has been made, and the island has not been planted. The island was left bare, and all species have immigrated from either Denmark or Sweden.

Flora

The flora on Peberholm has developed by natural succession, beginning with a few opportunistic species. Today, after more than 15 years, Peberholm houses more than 400 plant species. Some of them are quite rare in Denmark and Sweden e.g. Purple milk-vetch (*Astragalus danicus*) and Early marsh-orchid (*Dactylorhiza incarnata*). Some have the nearest population more than 100 km away. Today Peberholm consists of a mosaic of open, dry grassland, ponds and minor lakes, shrubs (mostly willow) and marsh-like areas.



Photo: Steen Brogaard





Peberholms marsh-like areas benefits wildlife. Photo: Peter Brinch



Danish astragal. Photo: Martin Kielland



Photo: Peter Brinch



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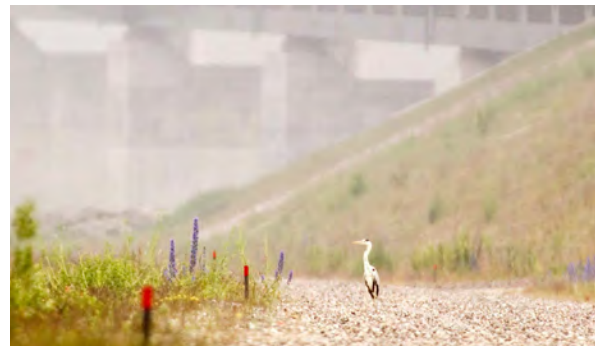
Kødfarvet gøgeurt. Photo: Martin Kielland.



Photo: Martin Kielland.

Birds

Peberholm is a breeding place for approximately 30 bird species, of which several are rare and protected. Up to 6 species of gulls and 3 species of terns regularly form colonies in the open areas, together with a number of waders and geese. Numbers of warblers and sparrows are increasing as the vegetation gradually becomes more bushy and dense. A large number of cormorants rest on the stone revetments, and the species also have formed a breeding colony in the dense shrubbery. In the winter, a number of White-tailed sea eagles normally reside on Peberholm.





Rough-legged buzzard.



Cormorant.

Other species

The mammals hare and mouse have immigrated to the island. A population of rabbits has also established itself on the island, probably due to release of pets. No carnivores have yet been observed. More than 500 species of insects and 30 species of spiders have been observed, of which some are rare and endangered. Furthermore, the protected amphibian green toad (*Bufo viridis*) has a large population on the island.



Amphibian green toad. Photo: Martin Kielland



Tadpoles of Amphibian green toad. Photo: Steen Brogaard



Tangsnarre. Photo: Martin Kielland

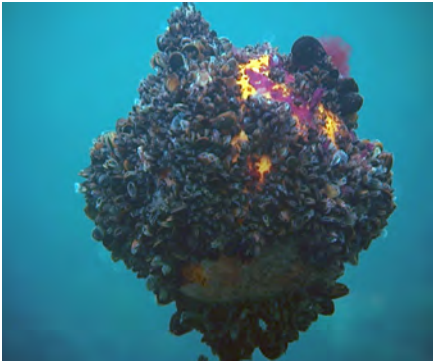
The marine life

Before the construction phase, the public and NGO's were concerned that the bridge would have a permanent harmful impact on the vulnerable marine life in Øresund (The Sound). During the construction phase the contractor had to comply with strict environmental requirements minimizing noise and sediment spill. Measures were also taken to ensure natural hydrography and water flow through Øresund. All environmental requirements were fulfilled, and the marine life around the bridge has fully recovered. The introduced artificial structures have actually resulted in an increased biomass and diversity of the marine life around the alignment.



Bridge pylons and piers

Bridge piers and pylons constructed in 1997–1999. A survey of the marine growth on the piers and pylons was conducted in 2003 and 2004. The dominating flora was red algae (*Ceramium* and *Polysiphonia*). The dominating fauna is blue mussels that cover more than 90 % of the piers and pylons with a biomass of 10–14 kg pr. m². Total biomass on piers and pylon is approx. 170 tons. Other fauna consists of barnacles, amphipods and bryzoa. The marine growth also houses a rich fauna of fishes and crabs.



Blue mussels. Photo: Martin Kielland



Photo: Michael Palmgren

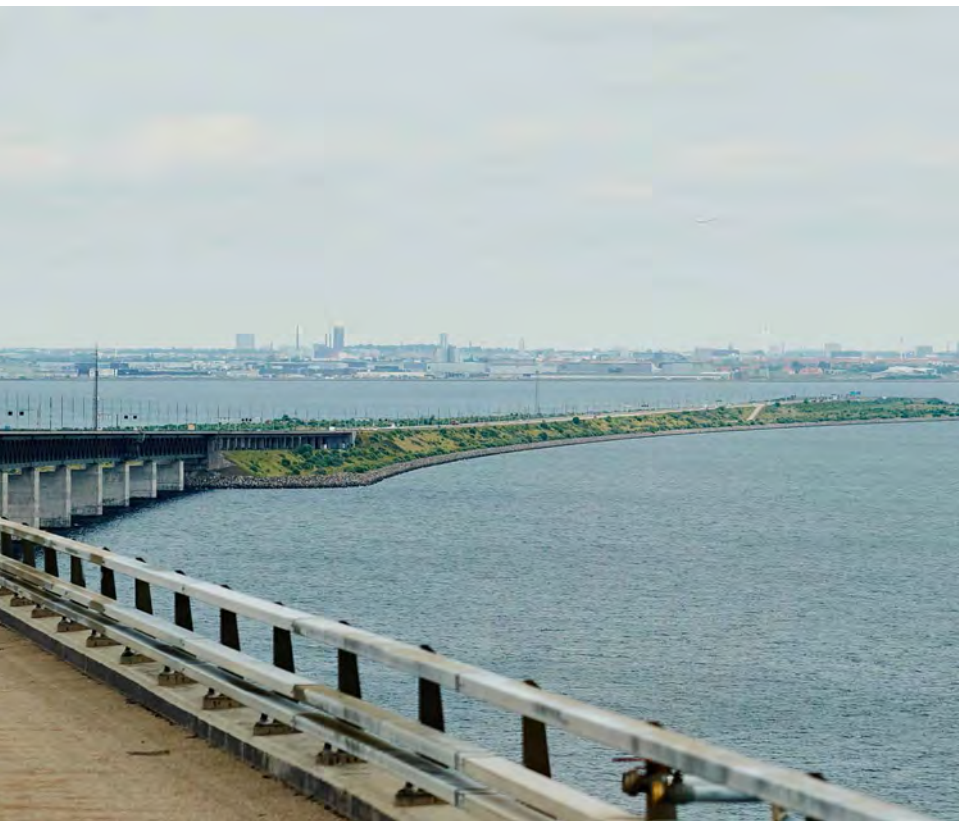


Photo: Peter Brinch

Sound tunnel

The tunnel between Amager and Peberholm is 3,5 km long and is covered with scour protection consisting of sand, gravel and large boulders (>1m), which have created a large artificial reef. A marine survey above the tunnel was conducted in 2011. The deep parts with boulders houses Oarweed (*Laminaria digitata*) and Sugar kelp (*Saccharina latissima*). In the shallower parts the algae mostly consist of annual red and brown algae. Near Peberholm there are smaller patches with eel-grass. Local fishers usually place their fykenets on the reef, since there are more fish here.



Photo: Drago Prvulovic



Goby. Photo: Michael Palmgren.



Sukkertang. Photo: Martin Kielland.



Common seal. Photo: Martin Kielland.

Marine mammals

The waters between Saltholm and Peberholm are teeming with harbours seals. The seals breed on Saltholm and use the waters around the bridge and Peberholm as foraging areas.





Photo: Patrick Olofsson