Baltic Marine Environment Protection Commission

Working Group on the State of the Environment and Nature Conservation

STATE & CONSERVATION 3-2015

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Background

HELCOM's Initial Holistic Assessment of Ecosystem Health of the Baltic Sea (BSEP122) considers dredging and marine sediment extraction as pressures, which can have large impacts on local marine environments. Such impacts include smothering of benthic organisms, abrasion of the sea bottom, as well as increased siltation and resuspension of contaminated bottom sediments caused by dredging/extraction activities. Scientific studies, underwater observations and hydrographic surveys have shown that impacted bottom sites can take decades to recover, if at all do so.

Unlike dredging, that is mainly applied for safety of navigation (maintenance) and port development (capital), mineral extraction is targeted at specific seabed types, such as sand or gravel bottoms. The Baltic Sea mineral resources have created an increasing interest in the seabed. However, the sand, gravel, boulder, shell gravel and maerl bottoms are habitats hosting rich animal and plant communities (BSEP76, BSEP140). Within period 2000–2014 almost all HELCOM Contracting States have extracted sand or gravel from the seabed either for construction or beach nourishment purposes. The table below, compiled from annual reports of the ICES WGEXT, demonstrates relative amounts of extracted sediments in m^3 (*n.a. – no information available/reported*).

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
DE	1296986	1595872	n.a.	438397	n.a.	388509	1397411	n.a.	n.a.	n.a.	2521730	n.a.	360798	n.a.	178261
DK	n.a.	n.a.	2070000	2500000	n.a.	7310000	1570000	3660000	2400000	n.a.	2200000	2300000	3000000	n.a.	n.a.
EE	n.a.	n.a.	n.a.	2237000	1400000	n.a.	n.a.	n.a.	732700	n.a.	179000	n.a.	n.a.	n.a.	n.a.
FI	n.a.	n.a.	n.a.	n.a.	1600000	2388000	2196707	n.a.	n.a.	n.a.	n.a.	n.a.	5800	n.a.	n.a.
LT	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	110000	119000	n.a.	n.a.	n.a.
LV	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
PL	1463875	368003	718500	438414	1042896	1043925	548856	977358	401698	702590	970923	1526968	884086	739932	1808994
RU	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
SE	n.a.	n.a.	n.a.	12000000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Spatial distribution of these activities is concentrated in the southwestern sea areas of the Baltic Sea, but activities are increasing in other sea areas as well, while proper geo-refernced spatial data is missing. These activities are of special concern because they may affect biotope types and habitats assessed as being threatened and/or declining in the Baltic Sea area such as reefs, gravel bottoms and shell gravel bottoms (BSEP138). Regional knowledge on these ecosystem values is still to be obtained, e.g. within BalticBOOST Project. Beach nourishment is a common activity in southern Baltic coastal areas, whereas it is rarely or never practiced in northern areas of the Baltic Sea. However, it can have adverse impacts both on sea bottom, but also on coastal habitats. If perfomed without due precautions, e.g. thourough EIA and examination of both deposit, as well as placement sites, it can pose not only environmental risks, but also health and safety hazards, and consequently economic losses. Within summer 2015, several German beaches in Mecklenburg-Vorpommern were closed due to finding of munition articles (grenades, shells), brought up to the shore by beach nourishment operations (cf. reports in media and in local Parliament).

Marine sediment extraction and dredging operations should also be considered in ecosystem-based MSP, based on due precautions and impact assessments (EIA/SEA), as well as transboundary cooperation and public participation.

Baltic NGO community has raised the concerns on environmental aspects of marine sediment extraction at national level (cf. attached brochure by one of CCB Member Organizations, Friends of the Earth - BUND, Germany) and therefore calls for the urgent need to address this anthropogenic pressure thoroughly within HELCOM's work.

Action required

In line with HOLAS II preparation, the Meeting is invited to consider the need to

- update HELCOM Status Report on Marine sediment extraction in the Baltic Sea (1999), based on reliable, comprehensive, geospatial national data;
- revise HELCOM Recommendation 19/1 "Marine Sediment Extraction in the Baltic Sea Area" and, as deemed necessary, consider revision of HELCOM Recommendations 15/1, 16/3 and 24/10.

A lower level sea

Sand and gravel extraction is by no means only an on-land activity. In coastal regions a large share of the demand is covered by utilizing marine aggregates, dug away from the sea floor. Though well concealed from view, this activity generates serious environmental problems. Wide sea areas on our coast are affected, and they are consistently becoming more extensive.

Lumpfish

Vibrant underwater world

Sea bottom habitats on our coast are refuge to a unique biodiversity. Seaweed thickets and seagrass beds provide cover and nourishment for animals of all sizes, and billions of seashells, gastropods, worms and other creatures dwell in the sea bottom. This diversity is the basis for the natural abundance of fish in our waters, it provides a protective habitat for fish fry and varied, compatible food for the lavish marine wildlife.

Only in recent years has the importance of these communities been fully understood. Some reserves and protected areas have been designated, but most marine habitats are still without protection - and often highly endangered.

Mecca for ducks

Every autumn our coast sets the scene for an impressive natural spectacle. Tens of thousands of ducks from Scandinavia and Siberia collect in the coastal waters. They make up a good share of the world population especially of long-tailed ducks (*Clangula hyemalis*), common scoters (*Melanitta nigra*), greater scaups (*Aythya marila*) and common eiders (*Somateria mollissima*). The ducks stay for many months. Completely wind- and weatherproof, they brave storms and rains, permanently staying out on sea. They face the rough conditions because they can ensure their survival in these coastal waters: sand banks off the coast with an abundant bottom life sustain them throughout the hard winter. These important feeding grounds lie in a depth of only five to twelve meters.

Menace for a paradise

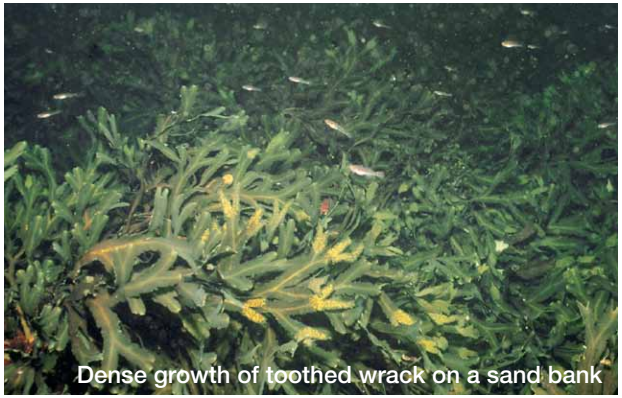
Aggregate extraction destroys this paradisiacal environment. The dredge devours the complete seafloor with all life on and within it. Even neighbouring environments are often harmed, buried and suffocated by stirred mud and turbidities.

After such a disaster some animals still can return before long. But it takes a long time until diverse life communities may regenerate. Even then some species may be missing. In many cases the original habitats are destroyed forever.

When a two meter layer of aggregates is dredged away, the seafloor will invariably lie two meters lower thereafter. Every dive of the foraging ducks will now need substantially more energy. If they need to descend ten instead of eight meters this requires an additional effort of 25% to get down. Additionally, the conditions for plant growth are more difficult in deeper waters, making the regeneration of seagrass and seaweed beds problematic.

Dredge and destroy?

Dredges rip enormous craters in seafloor and biodiversity, every year again and again. These have totally different dimensions than we know from on-land excavations. Football fields don't suit for a comparison: the permitted extraction grounds dwarf most coastal villages in terms of their extent. The giant areas are needed because the extraction depth at sea is much lower than on land. And because effective environmental regulations are still waived, marine sand and gravel extraction promises juicy profits. The extraction industry therefore demands drastic further expansions, and furthermore public authorities themselves like to exploit this seemingly low-priced resource.



Dense growth of toothed wrack on a sand bank

Much of the sand and gravel from the Baltic Sea is consumed in the building and construction industry. But a lot of material is also used for beach nourishment and coastal land reclamation. The multi-million euro beach nourishment projects are aimed to defy natural erosion processes. Every few years such a nourishment has to be repeated. And every time a part of the sea's natural diversity dwindles away, each of these expensive ventures financed by the taxpayer.

BUND calls for action:

No aggregate extraction in marine reserves

No marine aggregate extraction may be undertaken in marine reserves and protected areas. A large part of these have their conservation status because of the occurrence of sandbanks and shallow water areas, and any sand or gravel extraction will spoil just these.

Effective environmental regulations

Compensation measures have to countervail all resulting damage from the extraction activities. In cases where compensation is not possible extraction must not be permitted.

No building development on coastlines prone to erosion or flooding

The practice of granting building permits at such locations has to end. Any house construction at these sites demands expensive and environmentally destructive sea defense measures with high costs for taxpayers and nature.

Beach nourishment with a sense of proportion

Beach nourishment can only be an option at locations where built-up areas lie behind. Sea sand may only be used for this when its extraction is ecologically harmless and environmentally compatible.

Secure raw material supply fron land sources

Sand or gravel pits on land certainly arouse conflicts of interest and planning efforts. But extraction at sea is not less conflicting and additionally often associated with long transport distances.

The sea must not any longer be misused as a source for supposedly cheap building material

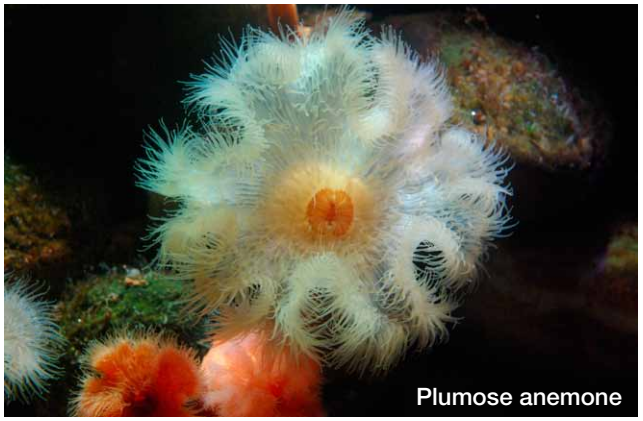
Moving ahead

Detailed information on how you can contribute to the conservation of our endangered coastal nature is available on BUND MV's web pages:

www.balticgreenbelt.de www.bund-mv.de

Additional information in English:

www.balticgreenbelt.net



Plumose anemone

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Marine gravel extraction in the Baltic Sea

How valuable shallow water habitats are dredged away

BUND FREUNDE DER ERDE

Bund für Umwelt und Naturschutz Deutschland