

# BEACH WRACK AS A RESOURCE IN THE SOUTH-EASTERN BALTIC

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## **Abstract**

Problem of Beach Wrack (BW) is present in the Kaliningrad Oblast of Russia, South-Eastern Baltic. From time to time, large amounts of BW appear in various places along its seashore. At the same time the questions about conditions and sites of BW release as well as an estimation of beach wrack quantity at the seashores of Kaliningrad Oblast are still open. A survey of the Baltic Sea seashore within the Kaliningrad Oblast was conducted in March 2019-March 2020 with the aim of quantity and quality characteristic of BW emissions. The BW emissions were recorded (measured, described and geo-referenced using GPS navigation) and sampled on two model sites (managed and unmanaged) monthly and the alongshore survey was carried out seasonally. It was found that the distribution of BW was characterized by significant spatial and temporal variability. In general, large amounts of BW emissions were observed on the northern coast of the Sambian Peninsula, in contrast to the western coast and Curonian and Vistula spits. The largest accumulations of BW were local and mainly near the coastline protrusions as capes (natural) and breakwaters, slipways, groins (man-made). Seasonal dynamics of algae species in the composition of the BW was observed. BW mainly contains Rhodophyta algae in the early spring and autumn-winter periods, in contrast to summer, when there are also Chlorophyta and Phaeophyta. The preliminary estimations show that the industrial use of BW is limited by the spatial and temporal irregularity of their emissions in the Kaliningrad Oblast. However, the problem of BW collection and utilization exists. A possible solution could be use of BW for coastal protection greenery as nutrients that is similar to a natural process. In this way BW could be involved in soft engineering techniques to manage the coastline.

**Keywords:** Beach Wrack, Resource, South-Eastern Baltic