

Beach wrack

Beach wrack is the material (organic and man-made) that is washed ashore onto a beach. It consists mainly of torn off sea grass and algae. The consistency and quantity of wrack that lands on any particular stretch of beach depends on the coastal landform, offshore substrate (determining algae/ seagrass growth), currents, wind and wave action.

Organic wrack has important functions on a beach. Drift deposits serve as a habitat for invertebrates that are in turn prey for seabirds. Wrack also helps to maintain the beach structure as it is often the only source of nutrients on a beach for dune stabilizing vegetation. In fact, beach wrack itself is a natural coastal defense mechanism, reducing wave energy and wind-induced sand transport processes.



Beach Wrack Management

Beach wrack is often perceived as being a 'dirty and smelly' nuisance, particularly for coastal resorts where local economies rely on beach tourism. To meet public demand for 'clean' beaches and to comply with the EU Directive (2006/7/EC) concerning bathing water quality, local authorities are under pressure to remove it.

Wrack removal and ultimately its reuse/disposal are costly operations and still problematic for many coastal authorities. Gone are the days when a valuable, nutrient rich biomass, such as beach wrack, can just be sent to a landfill. Instead, authorities require sustainable recycling options.

Contact

Lead Partner

University of Rostock

Mail: hendrik.schubert@uni-rostock.de



Partners



EUCC - The Coastal Union Germany
KS-VTCtech GmbH
Hanseatic Environment CAM GmbH



University of Southern Denmark
Municipality of Køge



Estonian Ministry of Environment
University of Tartu



Institute of Oceanology of the Polish Academy of Sciences
Association of Polish Communes Euroregion Baltic
Gdańsk University of Technology



Linnaeus University
Krinova AB



Atlantic Branch of Shirshov Institute of Oceanology
of Russian Academy of Sciences

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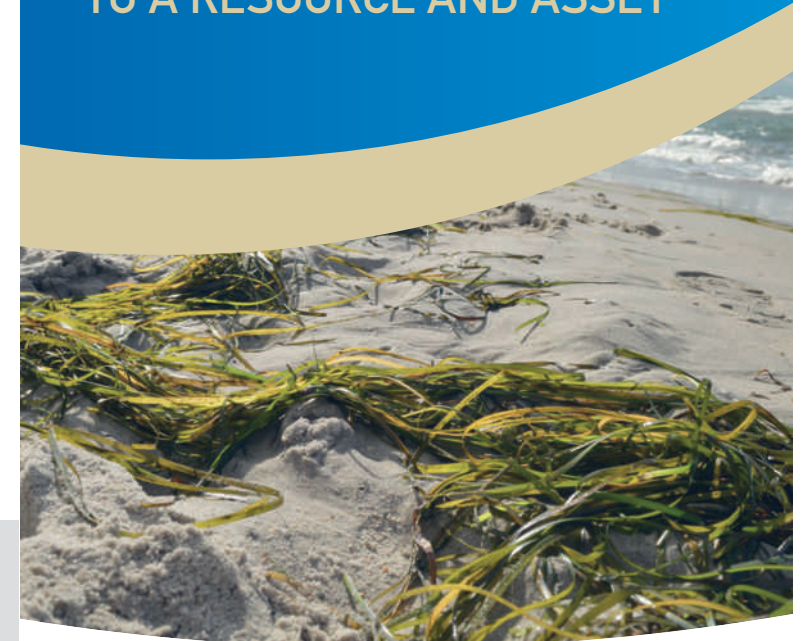
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BALTIC BEACH WRACK

CONVERSION OF A NUISANCE TO A RESOURCE AND ASSET



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Challenge

The challenge is to find a balance between public demand for 'clean' beaches, environmental protection and the local economy.

CONTRA aims to change how coastal municipalities see and deal with beach wrack and help convert this nuisance into a resource and asset.

What we want to achieve

- A 'Toolkit' of innovative & sustainable beach wrack recycling options for pollution & nutrient remediation
- Guidance for local authorities on legal issues, value chains & market opportunities for wrack based products.
- Improve knowledge about the natural role of beach wrack and the impact of beach cleaning operations.
- Establish a transnational & cross-discipline stakeholder support network

Expected Result

Coastal authorities adopt beach wrack management strategies that are environmentally sound and include sustainable recycling options for pollution & nutrient remediation that provide blue growth opportunities.



Case Studies

CONTRA is working at 6 case study sites around the Baltic Sea region to conduct a fair and sound evaluation of the environmental, economic and social aspects of beach wrack management and to test the most promising recycling options:

1. WRACK4SOIL

Fertilizer & soil improvement products
(Bad Doberan/Poel, DE)

2. Bio-coal

Optimization of carbonization technologies
(Island of Rügen, DE)

3. WRACOVER

Composting for landfill bio-covers
(Køge Municipality, DK)

4. WRACK4COAST

Dune restoration using beach wrack
(Kaliningrad Oblast, RU)

5. ALREA

Waste-to-energy incl. gasification & anaerobic digestion
(Kalmar, SE)

6a. WAIT

Nutrient & pollutant removal via algae/seagrass
(Puck Bay, PL)

6b. FERTIWRACK

Waste water treatment - wrack & reed bed system
(Puck Bay, PL)

