



Klaipeda
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BALTVIB IN A NUTSHELL

Pathogenic *Vibrio* bacteria in the current and future Baltic Sea waters: mitigating the problem

CONTEXT: *Vibrio* – microbes that are part of the natural bacterioplankton in temperate marine waters – have in recent years flourished in the Baltic Sea, probably stimulated by elevated surface water temperatures. Several *Vibrio* species are human pathogens. It is hence of great concern that *Vibrio*-related wound infections and fatalities have increased dramatically along the Baltic coasts. Future climate change is predicted to escalate this problem, posing a significant threat to human health and the Baltic tourism. The projections do not yet take into account the influence of characteristic habitats such as eelgrass meadows or blue mussels beds on *Vibrio* diversity and abundance. Recent data indicate that in some of these ‘ecosystem engineers’ habitats the abundance of pathogenic *Vibrio* spp. is reduced.

EXPECTED SCIENTIFIC IMPACT: Analysis of the regulation effect of selected habitat types and of abiotic environmental factors on *Vibrio* distribution and pathogenicity across the Baltic Sea salinity gradient. Identification of the *Vibrio* mitigation extent of selected habitat types (ecosystem engineers). Transfer into a knowledge-based management plan to conserve or expand these habitats and their associated beneficial ecosystem functions.

EXPECTED SOCIETAL & POLICY IMPACT: National authorities of the partner countries with responsibility for public health, bathing water quality, MSFD and WFD will be actively included in the decision-making process. Politicians, stakeholders and the general public will be actively engaged to foster understanding of the need to protect and restore the biodiversity of seagrass meadow habitats as potential biofilters to conserve or reach a good ecological status and protect human health.

PROJECT DURATION: 2021 – 2024

PROJECT BUDGET: ~ 1.45 mln. euros. Funded by the European BiodivERsA programme*.

PARTNERS: The BaltVib project, coordinated by the Leibniz Institute for Baltic Sea Research Warnemünde (IOW). Other participating scientific institutions are GEOMAR Helmholtz Centre for Ocean Research Kiel, the Marine Research Institute of the Lithuanian University of Klaipėda, the University of Copenhagen, Denmark, the Estonian University of Life Sciences, the Royal

Institute of Technology Stockholm, Sweden, the Finnish Åbo Akademi University and Poland's National Research Institute of Marine Fisheries.



KU MRI is a leader of a WP1 “*Vibrio* – ecosystem engineer relations in the past”

WP1 tasks:

1. Identification and mapping of pathogenic *Vibrio* presence in the Baltic Sea.
2. Linking cases of *Vibrio* infection with water temperature and salinity.
3. Linking *Vibrio* infection cases and the presence of ecosystem engineers.

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*BiodivERsA (www.biodiversa.org) is a network of national funding organisations that promotes Europe-wide research on biodiversity and ecosystem services. In this context, BaltVib is funded by the EU, the German Federal Ministry of Education and Research, the Innovation Fund Denmark, the Estonian Research Council, the Research Council of Lithuania, the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning, the Polish National Science Centre and the Academy of Finland.