

Interreg
Baltic Sea Region



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BLUE ECONOMY

BaltSusBoating 2030



Gulf of Finland Science Days 2023

Estonian Academy of Sciences, Kohtu 6, Tallinn

Towards sustainable biofouling management for recreational boating in the Baltic Sea Region

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Multi-level governance

According to “European code of conduct on recreational boating and invasive alien species” (2016) the Invasive Alien Species are currently identified as a major risk for native species and ecosystems on a global scale

In general, the biofouling management actions shall follow the requirements of “International Convention on the Control of Harmful Antifouling Systems on Ships” (IMO AFS Convention, 2001)

In case of leisure boats less than 24 meters in length, the challenge is addressed by “Guidance for minimizing the transfer of invasive aquatic species as biofouling (hull fouling) for recreational craft” (IMO Biofouling Guidance, 2012).

<https://rm.coe.int/1680746815>

<https://www.imo.org/en/About/Conventions/Pages/International-Convention-on-the-Control-of-Harmful-Anti-fouling-Systems-on-Ships-%28AFS%29.aspx>

https://www.imorules.com/MEPCCIRC_792_ANN.html

IMO. NO. 7344364

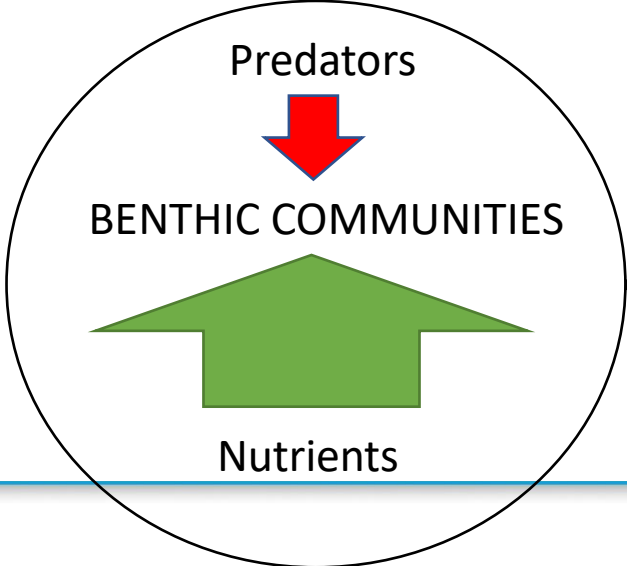
SAFETY
+
FIRST

8
6
4
2

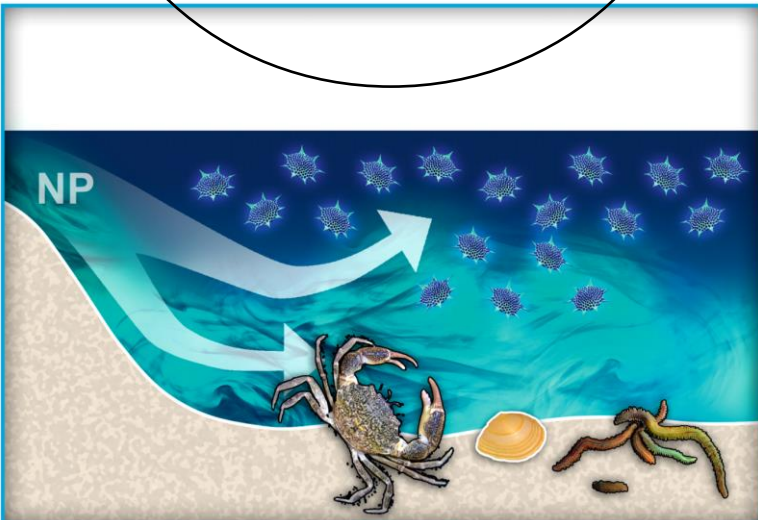
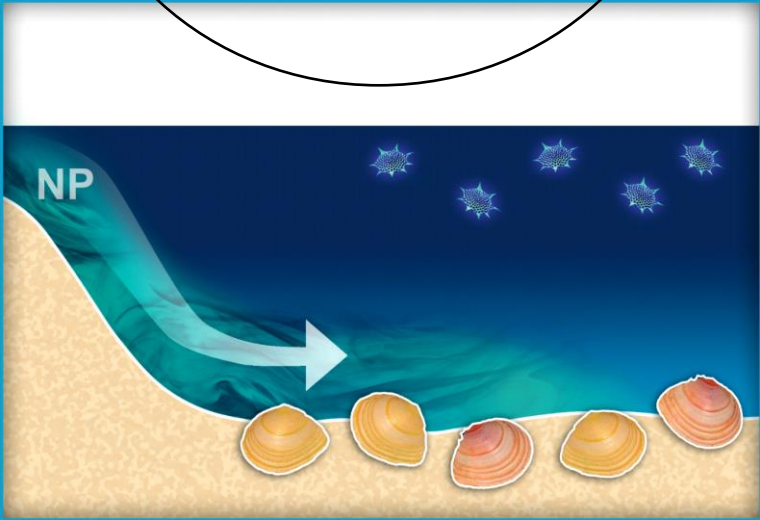
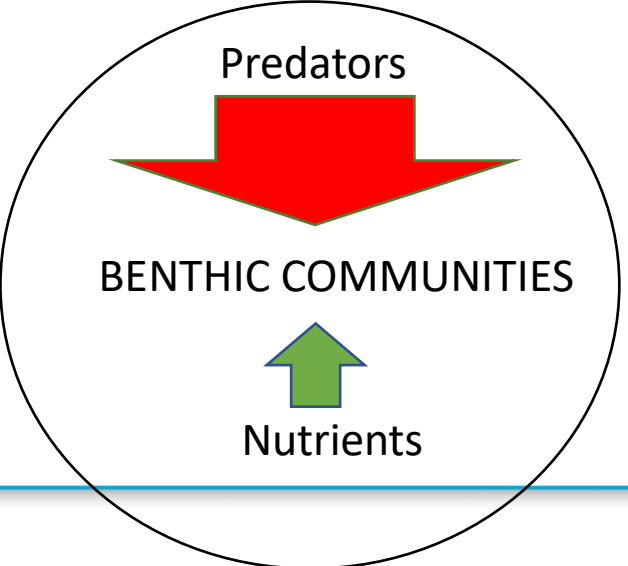


Harris mud crab (Rhithropanopeus harrisi)

BEFORE

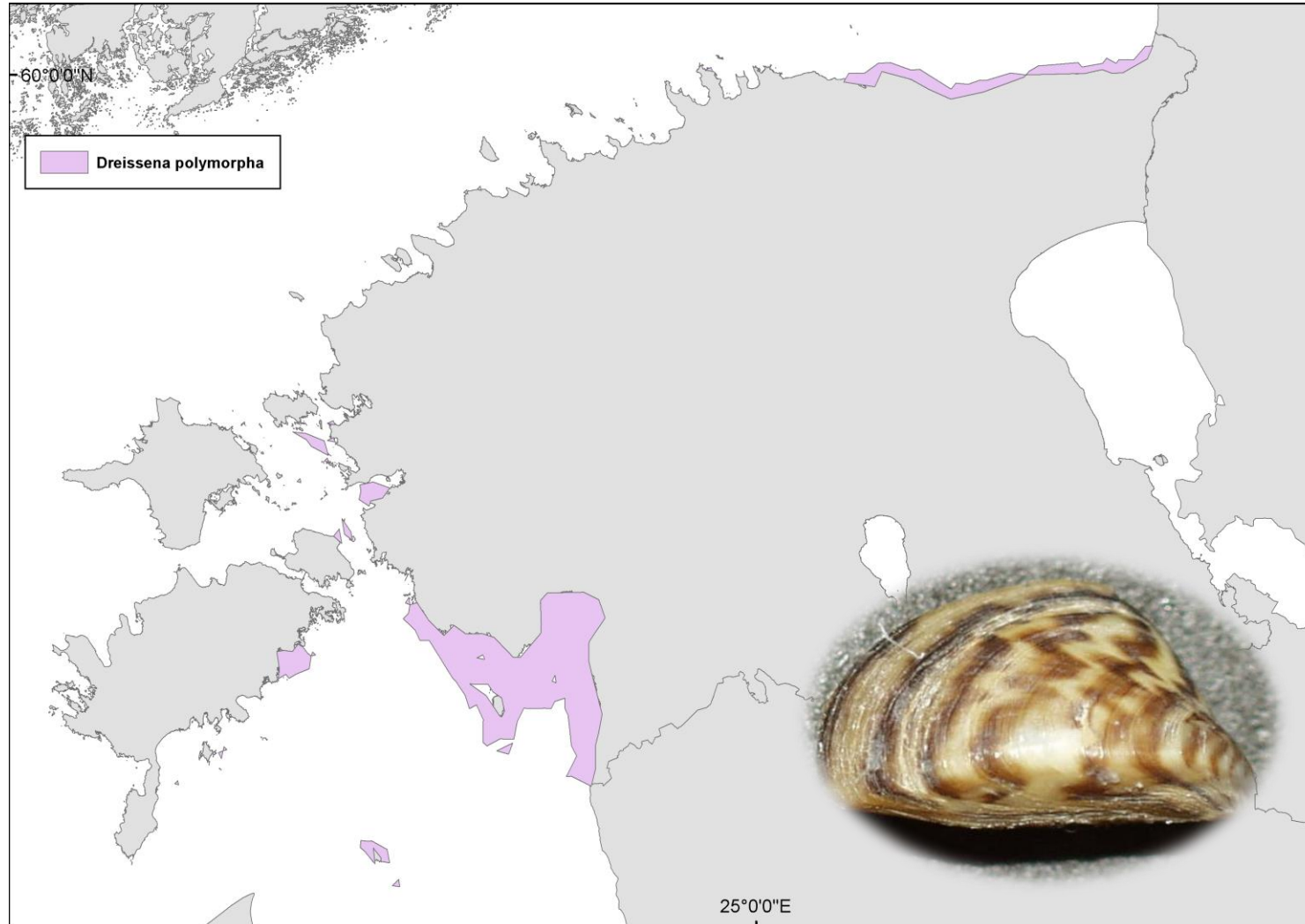


AFTER



Maps of non-indigenous species

Zebra Mussel (Dreissena polymorpha)



Maps of non-indigenous species

Tiger scud (Gammarus Tigrinus)



Maps of non-indigenous species

Marenzelleria spp *Marenzelleria* is a genus of annelids belonging to the family Spionidae



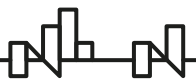
Maps of non-indigenous species

Round goby (Neogobius melanostomus)



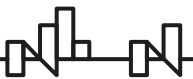
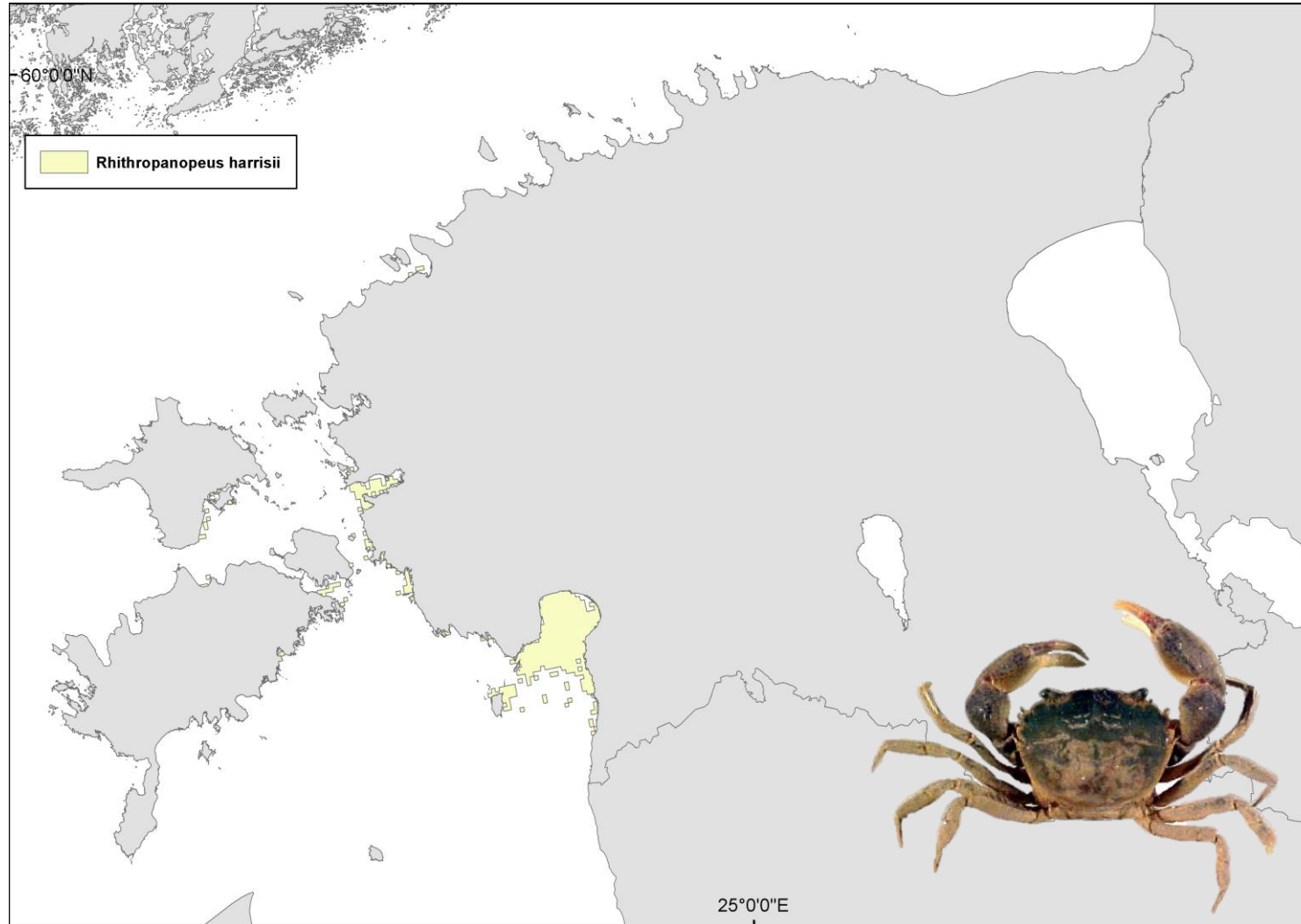
Maps of non-indigenous species

Atlantic Rangia (Rangia cuneata)



Maps of non-indigenous species

Harris mud crab (Rhithropanopeus harrisi)



Baltic Sustainable Boating 2030

In a course of implementation of INTERREG BSR project “**Baltic Sustainable Boating 2030 - making leisure boating in the Baltic Sea fit for the post-pandemic boating tourism market**” (BSB 2030) the attention is paid to outlining the issue of sustainable biofouling management for recreational boating in the Baltic Sea Region with aim to provide general guidance to policy and decision makers, experts, academicians, stakeholders, boaters and harbour operators in improving the competitiveness and effectiveness of existing maritime antifouling activities

CO-CREATING THE 2050 VISION

FOR THE SUSTAINABLE BOATING IN BALTIC SEA REGION

ENGAGING

Boaters Behaviour

"CARING" FOR THE SEA SHOULD BE MADE ATTRACTIVE

ESTABLISHING an AWARD FOR MOST SUSTAINABLE BOATERS

CITIZEN SCIENCE

INVOLVING BOATERS ACTIVELY

SAFE DISTANCE
NO LITTER
KEEP OUT INVASIVE SPECIES
SLOW TOURISM

NATURE THE SEA LOCAL COMMUNITIES & EVERYONE!

INVEST IN SOCIAL ACTIVITIES

ADAPTING & INFORMING

sustainable marinas

INCLUDING & REUSING

sustainable boats

SHALL WE EVEN OWN?

CAN WE SHARE a BOAT?

ACCESSIBLE
YOUNG PEOPLE 'ADOPT' OLD BOATS, REFURBISH THEM & USE THEM!

CHARTER

SILENT

WE ALL ARE THE BALTIC!
STRONG BALTIC COMMUNITY

INCLUSIVE

- SEPTIC STATION
- EASY DISH WASHING
- GIVE INFORMATION TO BOATERS SO THEY KNOW WHAT TO DO!

LOCAL SERVICES

ENERGY SELF-SUFFICIENT

CLIMATE CHANGE-READY!
DEVELOPING a BALTIC SEA REGION ADAPTATION PLAN FOR SECTOR



SMALL

DIGITALLY-CONNECTED
SUSTAINABLE MATERIALS FOR BUILDING & MAINTAINANCE

PETROL

HYDROGEN
ELECTRICITY
EFUELS
BIO DIESEL

BOATS THAT TALK & TEACH ABOUT CONSERVATION IMPORTANCE

TOWARDS RESPECTFUL

QUALITY VERSUS QUANTITY

BOATING IS PART OF THE IDENTITY

REALLY LOVE NATURE

CIRCULAR APPROACH



CARBON NEUTRAL

ACCESSIBLE MARINAS NEED TO INVEST



SOLAR



FUELS

POSITIVE FOR LOCAL COMMUNITY

TO EVERYBODY

Biofouling of leisure boats

It is stated in **Proposal for a Regional Baltic Biofouling Management Roadmap (COMPLETE, 2021)** that leisure boats may act, to a large degree, as a vector of secondary spread of NIS between adjacent harbours, marinas and other coastal regions. It is further added that marinas play a similar role as ports, acting as recipient areas for new species, which can be introduced there and spread further to other regions by fouled leisure boats.

<https://balticcomplete.com/publications/project-reports/320-proposal-for-a-regional-baltic-biofouling-management-roadmap>

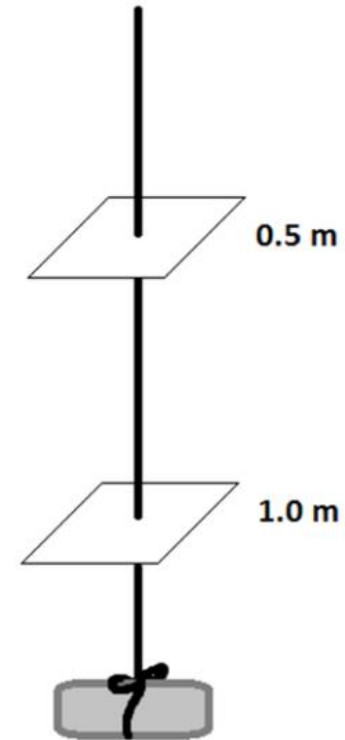
Biofouling assessment protocol

Referring to “**Biofouling assessment protocol for leisure boats and marinas**” (COMPLETE, 2019) the sampling in marinas by settling plates and scraping samples is addressing the question to what extent marinas represent a risk in introducing invasive species via leisure boats through biofouling in the Baltic Sea.

<https://balticcomplete.com/attachments/article/298/Complete%20WP%202.2%20protocol%20final.pdf>

<https://www.balticcomplete.com/publications/project-reports>

Settling plates and a settling plate set



<https://balticcomplete.com/attachments/article/298/Complete%20WP%202.2%20protocol%20final.pdf>

Recommendations for mitigating potential risks related to biofouling of leisure boats (Keep the Archipelago Tidy Finland, 2020)



Cleaning scrape for the removal of barnacles and other biofouling organisms

(Photo: Keep the Archipelago Tidy)

https://balticcomplete.com/attachments/article/299/recommndations%20for%20biofouling%20managem ent_KAT.pdf

HELCOM vision

“A healthy Baltic Sea environment with diverse biological components functioning in balance, resulting in a good ecological status and supporting a wide range of sustainable economic and social activities.”

<https://helcom.fi/wp-content/uploads/2021/10/Baltic-Sea-Action-Plan-2021-update.pdf>

HELCOM Action

Minimize the release of biocides from antifouling products to the marine environment, and preferably by 2027 replace the use of biocidal antifouling products with biocide-free alternatives on structures, equipment and recreational craft in cases not already subject to the International Convention on the Control of Harmful Anti-fouling Systems on Ships when available and environmentally and technically feasible.

<https://helcom.fi/wp-content/uploads/2021/10/Baltic-Sea-Action-Plan-2021-update.pdf>

HELCOM Action

Promote the development and use of effective, environmentally sustainable biofouling management techniques and antifouling systems on ships and recreational craft, including biocide-free alternatives to prevent biofouling by supporting related research and development activities in the Baltic Sea region

<https://helcom.fi/wp-content/uploads/2021/10/Baltic-Sea-Action-Plan-2021-update.pdf>

HELCOM Action

Promote environmentally sustainable recreational boating, including the use of best environmental practices through education and raising awareness of boat users and the personnel of marinas and guest harbours. Promote also “green” marinas and guest harbours by e.g. introducing eco-labelling of marinas and developing guidance and best practice documents by 2025 as a help for the marinas to reach criteria.

<https://helcom.fi/wp-content/uploads/2021/10/Baltic-Sea-Action-Plan-2021-update.pdf>

HELCOM Action

Strengthen cooperation with stakeholders in the development and implementation of sustainable biofouling management options by 2026 to minimize the introduction of invasive aquatic species, the release of hazardous substances and microplastics from anti-fouling systems, as well as enhancing energy efficiency.

<https://helcom.fi/wp-content/uploads/2021/10/Baltic-Sea-Action-Plan-2021-update.pdf>

Participatory argumentation and mutual learning

“Proposal for a Regional Baltic Biofouling Management Roadmap” (COMPLETE, 2021) is providing the COMPLETE project outputs and deliverables related to biofouling management in the Baltic Sea Region.

Guidance provided by this publication is used by **BSB 2030 project related participatory argumentation and mutual learning workshops** to evaluate the biofouling management proactive and reactive best practices for conducting proactive inspection of the hull and cleaning to minimise the attachment and accumulation of biofouling.

<https://balticcomplete.com/publications/project-reports/320-proposal-for-a-regional-baltic-biofouling-management-roadmap>

Sustainable biofouling management

Participatory argumentation and mutual learning processes are facilitating the **common understanding** among managers, scientists, regulators, decision makers, volunteers, and others of the social dimensions of recreational boating **as a basis for Baltic sustainable biofouling management**

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Thank you very much for your attention!

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