

## Profile of project group members

The project group consists of:

- ◆ The Royal Netherlands Institute for Sea Research (NIOZ), lead-partner: responsible for testing of ballast water treatment systems (in co-operation with BSH)
- ◆ The Federal Maritime and Hydrographic Agency of Germany (BSH): responsible for regulatory aspects while co-ordinating the contributions of the North Sea countries
- ◆ GoConsult in Germany: leading sampling for shipboard compliance tests with IMO standards and review of organism inspection tools including sample processing technologies
- ◆ World Maritime University (WMU), Sweden: co-ordinating development of future strategies
- ◆ CaTO Marine Ecosystems (CaTO), the Netherlands: co-operation between scientists and policy makers and coordinating the dissemination

The project group is joined by 33 partners and sub-partners representing:

- ◆ The shipping industry
- ◆ Ports
- ◆ BWB and organism detection tool developers
- ◆ Scientists
- ◆ Policy makers of the North Sea states' interest organisations
- ◆ Educational and environmental NGO's

The NSBWO project is an excellent platform for co-operation between the various stakeholders in ballast water management in the North Sea region.

## Information and contact details

Website: [www.northseaballast.eu](http://www.northseaballast.eu)

E-mail: [info@northseaballast.eu](mailto:info@northseaballast.eu)

Twitter @NSBWO



The NSBWO project is co-funded by the INTERREG IVB North Sea Region Programme of the European Regional Development Fund (ERDF).

European Union The European Regional Development Fund

### The Interreg IVB North Sea Region Programme

*Investing in the future by working together for a sustainable and competitive region*

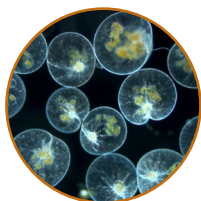


NORTH SEA BALLAST WATER

## The North Sea Ballast Water Opportunity project



*Investing in the future by working together for a sustainable and competitive region*



Pictures: NIOZ, Stephan Gollasch, Port of Gothenburg  
Drawings: Ysbrand Galama

## The introduction of invasive species

Invasive species are one of the four greatest threats to marine and coastal ecosystems. When a newly introduced species encounters a favourable environment without natural enemies, its' population can grow without limits, having serious consequences for marine ecosystems worldwide. Species introduction, through ballast water from sea-going ships, has become one of the most important sources of introduced species across the world.



## Ballast Water Management

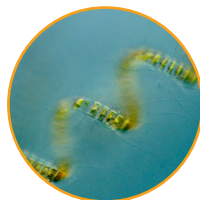
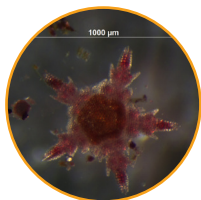
New regulations for management of ships' ballast water are described in the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWMC). This convention was adopted by the International Maritime Organization (IMO) in 2004. The BWMC is expected to come into force soon.

The BWMC aims to minimise the transfer of harmful organisms through ballast water from ships. Currently, ballast water can be managed in two ways: by ballast water exchange and by ballast water treatment. After 2016, the BWMC will require all ships to treat their ballast water according to the IMO D-2 Standard.

### The D-2 Standard

Organism category	Regulation
$\geq 50 \mu\text{m}$	$< 10$ viable org./m <sup>3</sup>
$< 50 \mu\text{m}$ and $\geq 10 \mu\text{m}$	$< 10$ viable org./ml
Toxicogenic <i>Vibrio cholerae</i>	$< 1$ cfu*/100 ml
<i>Escherichia coli</i>	$< 250$ cfu*/100 ml
Intestinal <i>Enterococci</i>	$< 100$ cfu*/100 ml

\*Colony forming units



## Regional cooperation

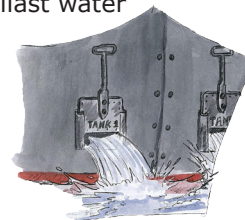


The success of the BWMC depends on its (regional) implementation. Several organizations in the North Sea have combined forces and are working together to promote ratification and implementation of the BWM Convention. The North Sea region hosts several important institutes in science and water management technology, and thus has a tradition of developing joint marine environmental policies.

## The NSBWO project

In support of ballast water policies and ballast water management, the North Sea Ballast Water Opportunity (NSBWO) project strengthens regional cohesion, encourages innovation and develops future strategies.

The NSBWO project started in January 2009 and will run until the end of 2013. All project activities focus on coherence and harmonisation in implementation, monitoring and enforcement of ballast water management policies.



## How does the project realise its goals?

- It encourages innovation through an open programme of research and innovation
- It stimulates innovative technology to solve BWM problems, focusing on national certification of ballast water treatment systems
- It explores possibilities of compliance control for use by port states in BWM practice
- It advances future strategies to reduce ship-borne bioinvasions
- It involves all stakeholders in the North Sea region and stimulates an open exchange of knowledge, ideas and expertise
- It promotes transparency and aims to disseminate the results widely

## Project achievements

The achievements of the NSBWO project range from encouraging discussions on ballast water issues by hosting expert conventions, sending submissions to agencies responsible for the execution of the BWM Convention, advancing knowledge on ballast water treatment methods and detection technologies to outreach activities:

- Europeport Conference 2011: Ballast Water Management "Threat or Treat?" (190 participants)
- Numerous expert workshops
- Several policy papers that help shaping international BWM policies
- Target group-oriented activities to raise awareness and stimulate involvement and action, including information to the general public
- IMO-MEPC submissions
- Raising awareness of importance of organisms  $< 10 \mu\text{m}$
- Influence of organism concentrations at uptake on efficiency and efficacy of treatment
- Development of test for BWT systems



The international maritime community has shown an interest in the outcomes of the project, as these will provide a basis of knowledge and material for education, training and research.

