



**Royal
HaskoningDHV**
Enhancing Society Together

Delivering Environmental Outcomes: Ballast Water Management Convention

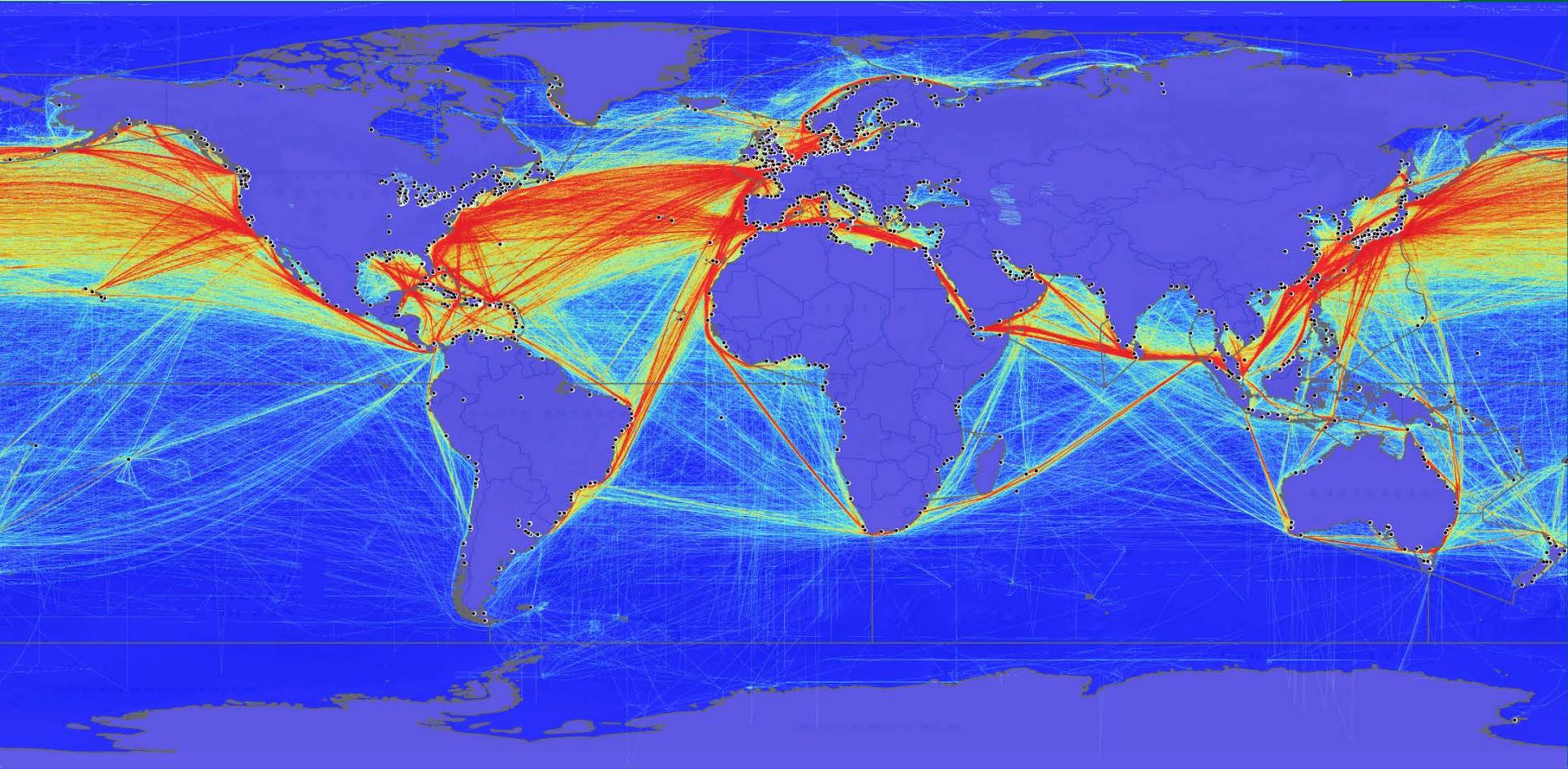
June 2014

A Partnership between EBRD, IMO, GloBallast and Royal HaskoningDHV

Introduction

- The Ballast Water Issue
- The Ballast Water Management Convention
- The European Bank for Reconstruction and Development and International Maritime Organization (IMO) Partnership
- The Workshops: Delivering Transition EBRD/IMO Outcomes (2010-13)
- The Ballast Water Management Infrastructure Investment Guidance
- Future BWM Opportunities
- Areas of Enhancement for Future Opportunities/Investments

Worldwide Commercial Shipping Activity



The Issue

- Ballast water is an essential component for the structural integrity and stability of modern ships when emptied or partially emptied of their load.
- It is defined by the International Maritime Organization (IMO) as:

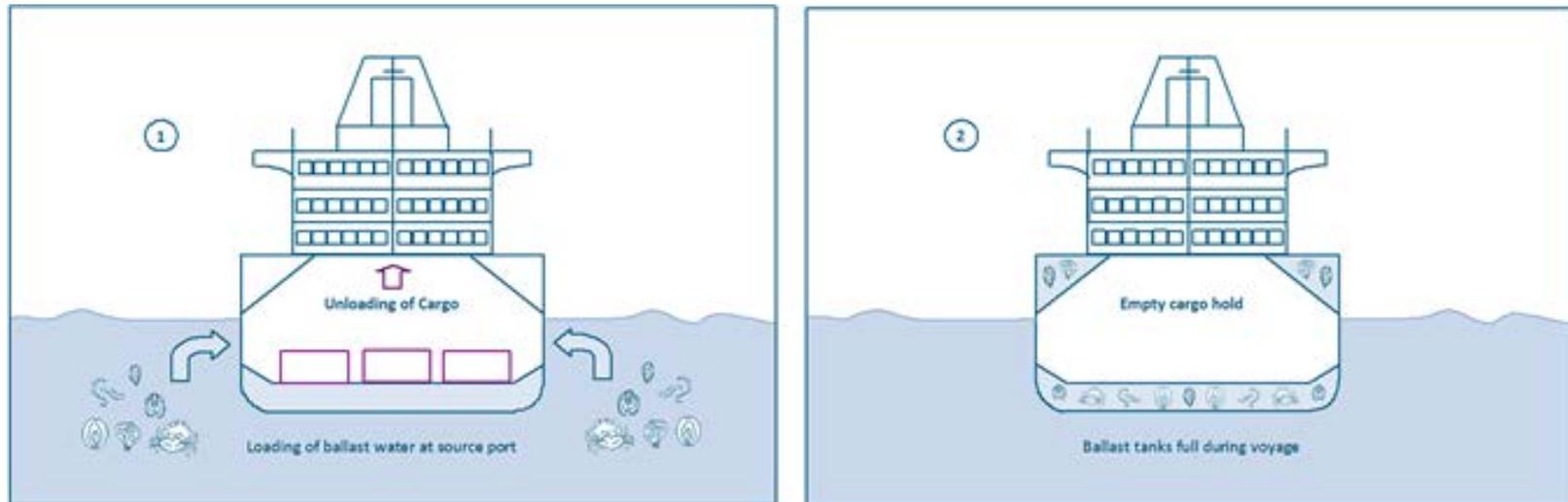
“

Water with its suspended matter taken on board a ship to control trim, list, draught, stability or stresses of the ship ”

- While the use of ballast water is critical to maintaining the operational safety of ships, especially when unladen, its discharges can cause significant economic, environmental and health implications.

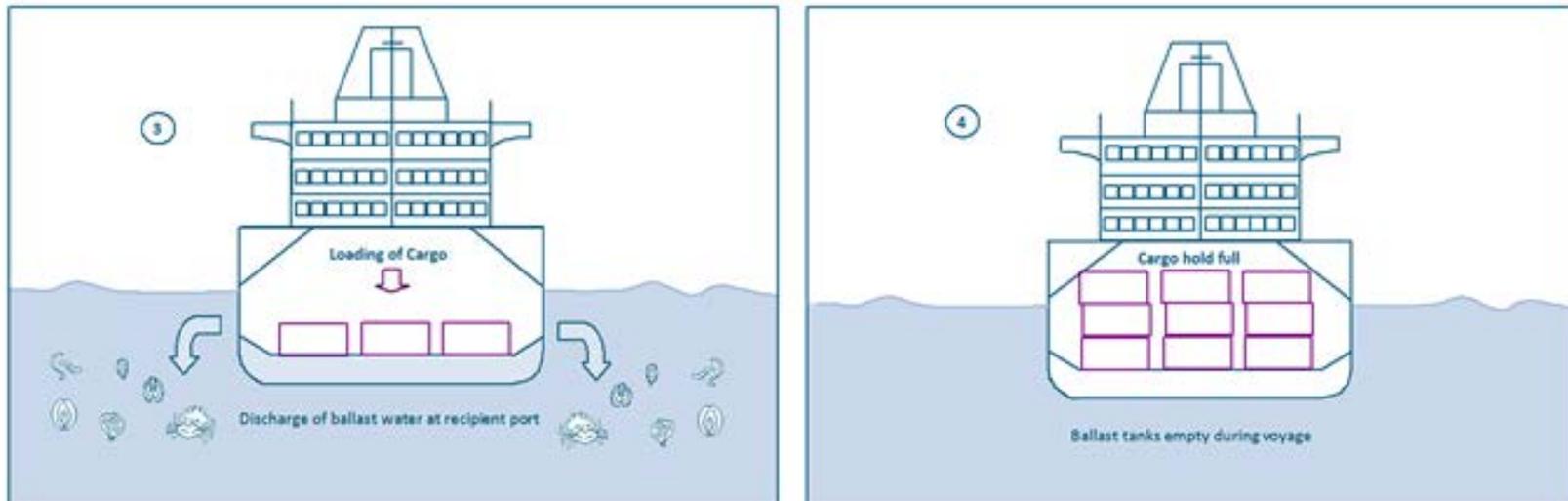
The Issue

- Ballast water is usually taken on at ports, within coastal waters or at sea.
- As ballast water is drawn into a ship's ballast tanks, organisms living in that water are also taken on board.
- This water therefore becomes “biotic”; the larvae and spores of marine animals can survive the long journeys taken by cargo ships.



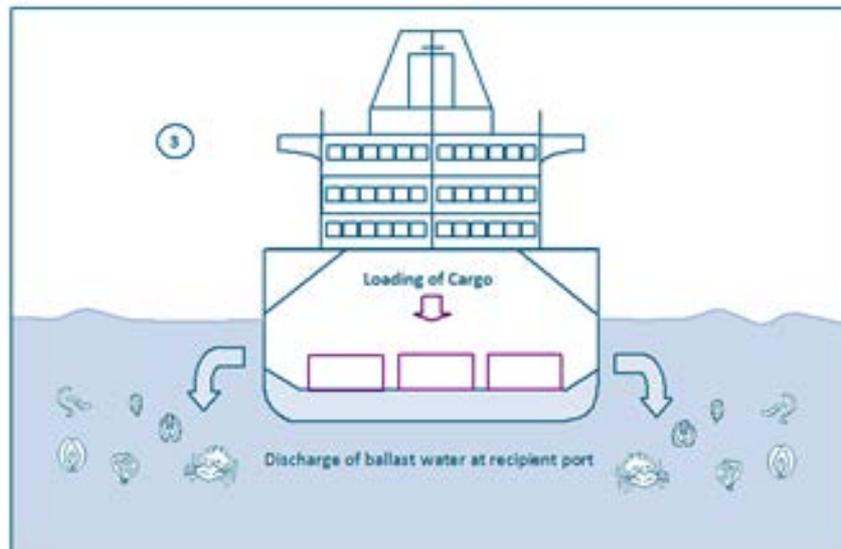
The Issue

- Many of these organisms remain alive inside the ballast tanks and are subsequently returned back to the sea when ballast water is discharged for stabilisation purposes.
- Any sediment which settles within the ballast tanks is removed manually, and returned to the sea over the side of the ship, or disposed of in shipyards and repair facilities during cleaning of the ballast tanks.
- Through this activity organisms (including fish, crustaceans, molluscs, polychaetes & algae) are transported and released by ships into new environments where they are not indigenous. These organisms are referred to as **alien species**.



The Issue

- Depending upon the environmental conditions into which they are discharged, organisms may not only survive but establish themselves and become dominant.
- These organisms are referred to as **invasive alien species (IAS)**, and are now globally recognised as one of the greatest threats to biodiversity.
- IAS have the potential to sufficiently affect ecosystems to the extent that serious economic, environmental and health implications occur.



The Ballast Water Management Convention

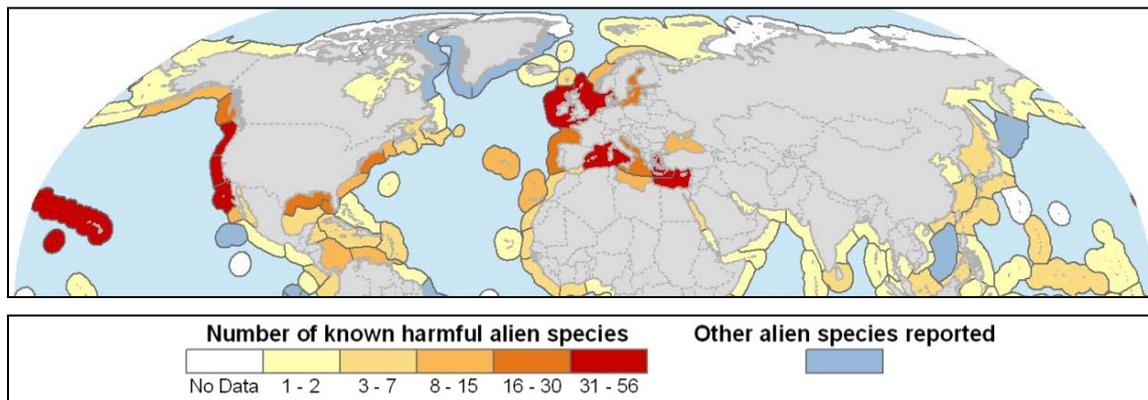
- In 2004, the IMO adopted the:

International Convention for the Control and Management of Ships' Ballast Water and Sediments (the BWM Convention)

- The BWM Convention will come into force 12 months after ratification by 30 states, which represent 35 percent of the world merchant shipping tonnage.

The Ballast Water Management Convention

- Once the BWM Convention comes into force, member states will undertake to “prevent, minimise and ultimately eliminate the transfer of Harmful Aquatic Organisms and Pathogens (HAOP) through the control and management of ships ballast water and sediment”.
- Member states have the right to take more stringent measures consistent with international law, ensuring practices do not cause greater harm than they prevent, to their environment, human health, property or resource, or those of other states.

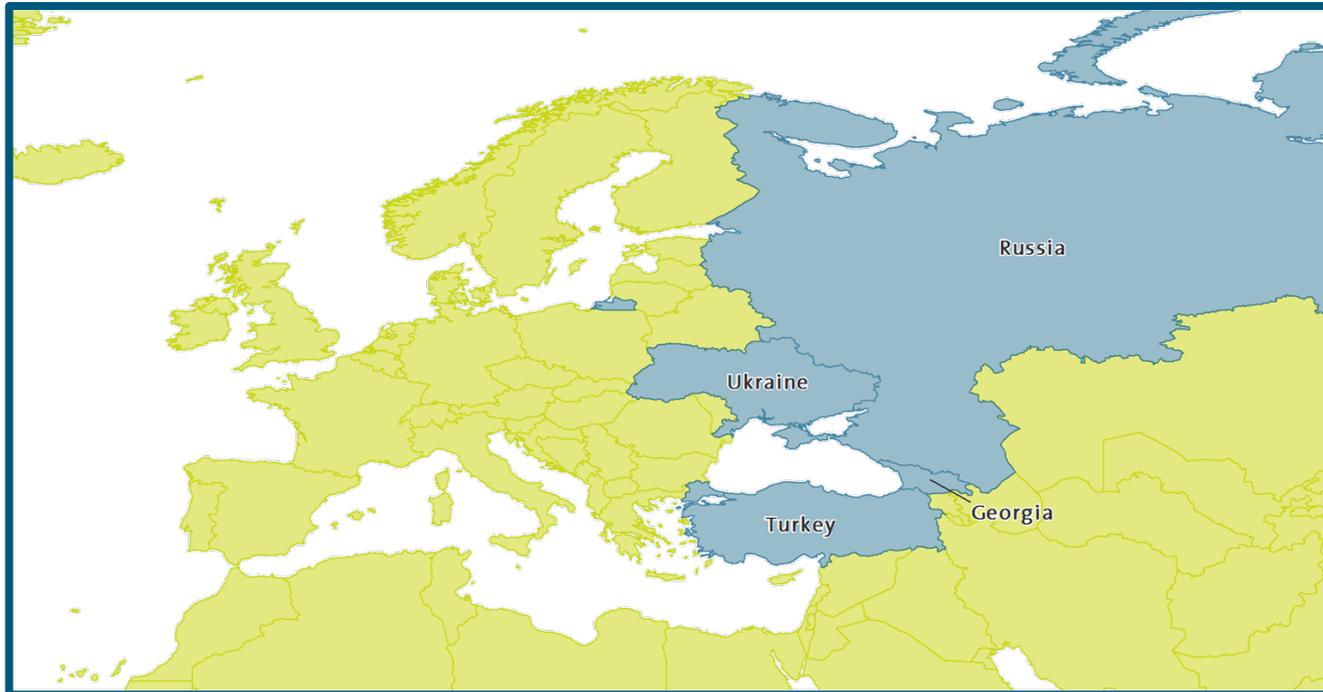


The Marine Biosafety Initiative

- The European Bank for Reconstruction and Development (EBRD), the IMO and the GEF-UNDP-IMO GloBallast Partnerships have come together to deliver a number of capacity building activities for ships' BWM within the shipping and port industry sectors in selected countries.



The Workshops



- The partnership led by the IMO-GloBallast and financially supported by the EBRD will continue to build capacities in EBRDs countries of operation to address the transfer of invasive species from ships' ballast water and sediments.
- The highly successful BWM workshops have been undertaken in Ukraine, Russia, Turkey and Georgia.

The Workshops



- The previous workshops have focussed on specific aspects of BWM from each of the perspectives of ports authorities, port state control, maritime administrations, shipping industry, technology providers and reception facility operators.
- Each training programme has been organised to involve local government authorities, where possible, to encourage continued and maintained support for the convention following the trainings.

The Workshops

Region	Public & Private Industry Representatives
Ukraine	75
Russia	60
Turkey	54
Georgia	35

“The participants were confident about the different topics; they received sufficient information and were happy about the organisation and logistics of the training and the expertise provided by the instructors”



The Workshops

“The training was very necessary and excellent!!!”

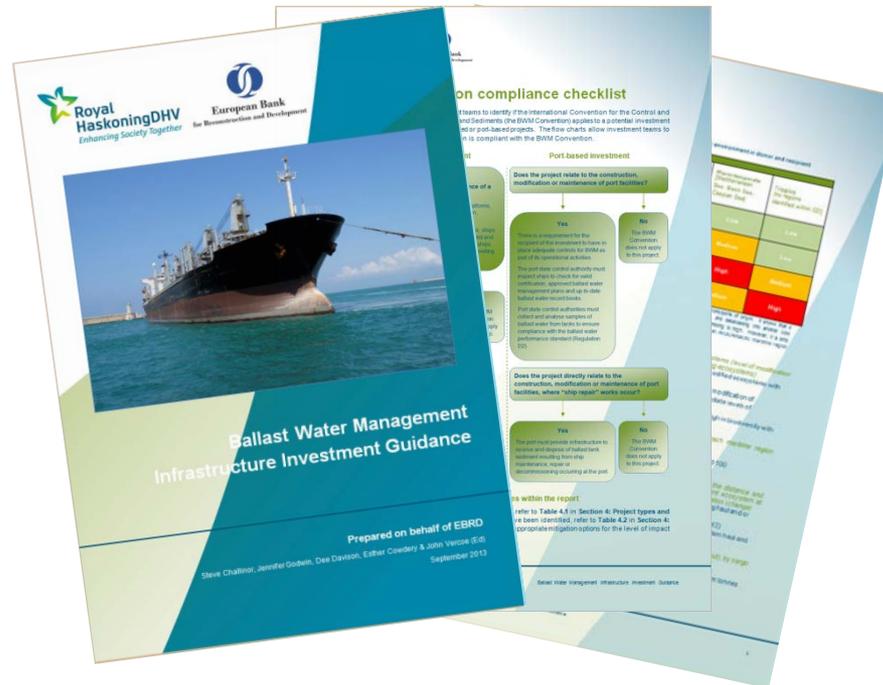
“All parts of training were very informative and useful”

“The training was well organised and ran very smoothly”

“Overall the training was a success”

The Guidance Document

- On behalf of the EBRD, Royal HaskoningDHV have produced guidance for BWM Infrastructure Investments.
- The guidance provides information and an assessment of the potential inclusion of BWM infrastructure within a broader financial investment.



The Guidance Document

- The guidance identifies whether, and how, a given project will be subject to the requirements of the BWM Convention and enables investment teams to identify and appraise practical and viable BWM implementation measures to be incorporated into an overall Financial Investment Decision (FID).

Investment scale	High Risk Maritime Region	Medium Risk Maritime Region	Low Risk Maritime Region
New Infrastructure	<ul style="list-style-type: none"> • On site ballast water treatment and/or reception facilities and installation of ballast tank sediment reception and disposal facilities at shipyards/docks; • Regular water monitoring within port waters; • Undertake/support scientific research in relation to ballast water treatment and IAS; • Port state control authorities to inspect BWMPs and Record Books, and undertake sampling of ballast water; • BWMP and restricting access from any ships which do not comply with the BWM Convention; • On-board ballast water treatment systems; and • BWM contingency provisions. 	<ul style="list-style-type: none"> • On site ballast water treatment facilities and installation of ballast tank sediment reception and disposal facilities at ports; • Regular water sampling within port waters; • Port state control authorities to inspect BWMPs and Record Books, and undertake sampling of ballast water; • BWMP restricting access from any ships which do not comply with the BWM Convention; • On-board ballast water treatment systems; and • BWM contingency provisions. 	<ul style="list-style-type: none"> • On site ballast water treatment facilities and installation of ballast tank sediment reception and disposal facilities at ports; • Port state control authorities to inspect BWMPs and Record Books, and undertake sampling of ballast water; • BWMP, restricting access from any ships which do not comply with the BWM Convention; • On-board ballast water treatment systems; and • BWM contingency provisions.
Retro fit of Existing Infrastructure	<ul style="list-style-type: none"> • BWMP, restricting access from any ships which do not comply with the BWM Convention; • Port state control authorities to inspect BWMPs and Record Books, and undertake sampling of ballast water; and • Regular water sampling within port waters; and • Training/Increased awareness within port facility. 	<ul style="list-style-type: none"> • BWMP, restricting access from any ships which do not comply with the BWM Convention; • Regular water sampling within port waters; and • Training/Increased awareness within port facility. 	<ul style="list-style-type: none"> • Implementation of a BWMP, restricting access from any ships which do not comply with the BWM Convention; and • Compliance with BWM Convention.
Minor/Indirect Investment	<ul style="list-style-type: none"> • Implementation of BWMP; and • Monitoring of BWM in waters under port's jurisdiction. 	<ul style="list-style-type: none"> • Implementation of a BWMP; and • Monitoring of BWM in waters under port's jurisdiction. 	<ul style="list-style-type: none"> • Compliance with BWM Convention.

BWM Convention Opportunities

Next Stages

- Delivery of new infrastructure at the water's edge
- Increasing access to investment for infrastructure
- Valuing environmental benefits from infrastructure investment
- Capacity building as a form of transition impact
- Geography
 - SEMED – Morocco, Tunisia, Egypt, Jordan
 - Emerging growth of Arctic trade routes

Areas for Future Investments

- Modernisation of ships by equipping them with BWT technologies
- Inclusion of BWM Infrastructure into ECO Ports/ PERS (public sector)
- Model for detailed marine infrastructure investment risk (EBRD/IMO)
- Integrated global risk model for invasive alien species (IMO)
- Terminal portfolio assessments (private sector)
- Monitoring/response programmes for major incidents (public and private sector)