INTERNATIONAL MARITIME STATISTICS FORUM (IMSF)
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IMO Ballast Water Management Convention
(shipping, port management and environment protection)

Urszula KOWALCZYK - Maritime Institute in Gdansk
Economics and Law Department
Baltic Master II
is an international project which aims to improve maritime safety by integrating local and regional perspectives. The focus is on the Baltic Sea Region and issues concerning pollution prevention, coastal zone management and on-land response capacity to an oil spill at sea.

Main Objectives:

– Improved on-land response capacity to oil spills
– Enhanced pollution prevention from maritime transport
– Highlight the local and regional perspective
WP 4 - Enhanced prevention of pollution from maritime transport

WP leader - Maritime Institute in Gdansk

- Port Waste Management
- PSSA and new APM’s
- Modelling of navigational pollution
- Ballast water - Port of Gdynia
BALTIC MASTER II INPUT
TO THE IMPLEMENTATION TO THE BSR STRATEGY

Priority area 4: To become a model region for clean shipping
- Research brief on maritime conventions
- Recommendations for improved and harmonized waste management onboard and in ports
- Guidelines on how to implement the Ballast Water Convention
- Suggestions of new APM’s within the PSSA-classification, including local and regional priorities

Priority area 14: To reinforce maritime accident response capacity protection from major emergencies
- Many local and regional authorities are developing oil contingency plans, also including regional cooperation. One of the results from the project will be to integrate coastal management into oil contingency planning
IMO CONVENTIONS
GOVERNING SHIP SOURCE MARINE POLLUTION

1969 - Convention on invention of the High Seas in Cases of Oil Pollution Casualties
1992 - Convention on Civil Liability for Oil Pollution Damage (CLC)
1996 - Convention on Liability and Compensation Damage in connection with Carriage of Hazardous and Noxious Substances by Sea (HNS)
2001 - Convention on Civil Liability for Bunker Oil Pollution Damage (Bunkers)
2001 - Convention on the Control of Harmful Anti-fouling Systems on Ships
2004 - Convention for the Control and Management of Ships Balast Water and Sediments (BWM)
International Convention on Ballast Water Management

- IMO Convention adopted on 13th of Feb. 2004
- 21 countries are Parties by March 2010
- Ratification process through parliament in a number of other countries
- Entry into Force – Needs 30 Countries / 35% World GT
Current status of the Convention

- Entry into Force: 30 States/35% of the world’s merchant shipping gross tonnage
- To date - ratified by 21 countries representing 22.63% of the world Tonnage
- Other countries have indicated their intention
BWMC RATIFICATION PACE

Gross tonnage (million)

Year

Ratification pace
Contracting Parties by February 2010

- Albania
- Antigua and Barbuda
- Barbados
- Egypt
- France
- Kenya
- Kiribati
- Liberia
- Maldives
- Marshall Islands
- Mexico
- Nigeria
- Norway
- Saint Kitts and Nevis
- Sierra Leone
- South Africa
- Spain
- **Sweden**
- Syrian Arab Republic
- Tuvalu
BALLAST WATER USE

1. At source port
   - Loading ballast water
   - Cargo hold empty
   - Ballast tanks full

2. During voyage
   - Cargo hold full
   - Ballast tanks empty

3. At destination port
   - Discharging ballast water
   - Cargo hold empty

Source: www.globallast.imo.org
OBJECTIVE OF THE BWM CONVENTION

At the global level, the Convention for Control and Management of Ships’ Ballast Water and Sediments (BWM Convention) was adopted by IMO in 2004.

The Convention’s aim is to prevent, minimise and ultimately eliminate the transfer of harmful aquatic organisms and pathogens via shipping, through the control and management of ships’ ballast water and sediments (Preamble).

The entry into force of BWM Convention would be the most important step towards the reduction of spreading non-indigenous species.

The discharge of ballast water into the sea shall be managed according to the provisions of the BWM Convention.

Out of 9 the Baltic Sea countries only Sweden has ratified the Convention so far.
STRUCTURE OF THE IMO BWM CONVENTION

Preamble

22 Articles

Annex (regulations)

Guidelines
ARTICLES HIGHLIGHTS

Article 5 - Sediment Reception Facilities
Article 6 - Scientific and Technical Research
Article 7 - Survey and Certification
Article 9 - Inspection of Ships
Article 13 - Technical Assistance, Co-operation and Regional Agreements
Article 18 - Entry into Force
REGULATIONS HIGHLIGHTS

Section A - General Provisions
Section B - Management and Control Requirements for Ships
Section C - Special Requirements in Certain Areas
Section D - Standards for Ballast Water Management
Section E - Survey and Certification Requirements for Ballast Water Management
Management

Prevention – not 100% effective
Early detection & rapid response
Initial containment
Eradication
Control
Mitigation
Monitoring
Risk assessment
TOOLS/GUIDELINES ON IMPLEMENTATION OF BWMC BEING DEVELOPED

- National Status Assessments
- Economic Assessments
- Developing a National BWM Strategy
- Guidelines for Legal Implementation of the Convention
ECONOMIC IMPACT

• Reduction/collapse in fishery production
• Closure of fish-farms
• Physical impacts on coastal infrastructure
• Reduction in efficiency of shipping
• Impacts on recreational areas (e.g. beach)

€ 162 million / year in damage costs in the EU
(EC 2008 IAS Impact Assessment)
RISK FACTORS IDENTIFICATION

QUANTITATIVE

- Volume of discharged ballast water.

QUALITATIVE

- Quantity of viable organisms,
- Salinity of ballast water,
- Origin of ballast water from climatic zone (temperature conditions),
- Duration of voyage.
RISK ASSESSMENT METHODS

IMO

„Guidelines for risk assessment under regulation A-4 of the BWM CONVENTION, 2004”

(G7) Res.MEPC.162(56)

- Environmental matching risk assessment
- Species’ biogeographical risk assessment
- Species-specific risk assessment
EMSA’S REVISED BALLAST WATER ACTION PROGRAMME

1. Prepare a review of the Ballast Water Risk Assessment Methodologies and the different ballast water management measures available to the Member States and the Regional Sea Conventions;

2. Review the need for further guidance on: data collection on ship’s ballast water exchange and on invasive species in ports; the granting of exemptions; and, identification and implementation of additional measures,

3. Produce a joint briefing note (EMSA/DG Environment/DG TREN) on the relationship between approval for ballast water technologies that use active substances under the Biocides Directive, the proposed Biocides Regulation and the Ballast Water Management Convention’s Guidelines (workshop to identify how a joint EU ballast water sampling strategy can be developed);

4. Investigate funding availability ( “Develop a technical co-operation and short term programme to enhance cohesion and parity on ballast water sampling and analysis within the Member States”);

5. Investigate how ballast water management information and best practice can be shared electronically between all Member States;

6. Participate in the North Sea Ballast Water Opportunity project;

7. Maintain cooperation with DG Environment and the EEA over the introduction of non-indigenous species through ballast water discharge;

8. Assist IMO in developing programs within the Member States and contribute to implementing the Regional Sea Conventions.

Source: EMSA – European Maritime Safety Agency
THE BALTIC SEA REGION IS ENVIRONMENTALLY VULNERABLE IN MANY RESPECTS – AMONG THEM THE EXPOSURE OF THE BALTIC SEA TO MARITIME TRAFFIC WITH FREQUENT PASSAGE OF OIL AND CHEMICAL CARRIERS.
ALIEN ORGANISMS INTRODUCED INTO BALTIC SEA WATERS

Source: HELCOM
**SHIPPING INTENSITY IN THE BALTIC**

- Over 15% world’s cargo transportation
- 2000 ships at any given moment
- 3500-5000 ships monthly

**The World:**
More than 80% of World’s cargo
10 billion tons of ballast water per year
More than 3000 species per one time

All ships entering the Baltic Sea need to comply with the anti-pollution regulations of the Helsinki Convention and MARPOL Convention, including those resulting from the designation of the Baltic Sea area as a Special Area for the prevention of pollution by oil (Annex I of MARPOL) and garbage (Annex V).
Even though strict controls over ships discharges have been established by the Baltic Sea countries, illegal spills and discharges continue to happen.
Status of ratification BWM Convention
Baltic Sea Countries

• Sweden ratified the BWMC on 23.11.2009
• Denmark ready to ratify BWMC by 2011
• Germany preparations going on to ratify the Convention
• Finland started the process of ratification aiming for 2010,
• Estonia estimation for ratification year is 2012,
• Latvia estimated ratification year is 2011,
• Poland a target date for ratification approx. 2013.
MAJOR CHALLENGES OF THE BWMC IN THE BALTIC SEA

Ballast Water Exchange zones: Specific requirements for depth (200m) and distance (50 nm) from the shore can not be met in the Baltic

High probability of organisms once introduced into Baltic port spreading to other Baltic regions by their natural means

Distances within the Baltic Sea are generally short, in comparison to oceanic shipping voyages, and invasive species have a higher likelihood of surviving on intra-Baltic voyages

No BWE zones in the Baltic Sea
HELCOM/OSPAR REQUEST FOR VOLUNTARY BALLAST WATER EXCHANGE

Request for voluntary ballast water exchange outside the Baltic Sea and the North Sea for vessels:

-transiting the Atlantic or entering the North-East Atlantic from routes passing the West African Coast and heading to OSPAR and/or HELCOM maritime area (from 1 April 2008, as in IMO circular BWM.2/Circ.14)

-leaving the Baltic and transiting through the OSPAR maritime area to other destinations (from 1 January 2010)
NATIONAL STRATEGY OF BWMC
POLISH EXAMPLE

• Analysis of the text of BWMC and regulations considering implementation in accordance with Polish law
  - the objectives of BWMC and additional measures, certificates and surveys
  - BWMC in the light of other international agreements and statements prior to the Convention (UN documents, guidelines and resolutions of MEPC),
  - The scope of implementation of BWMC
  - BWM in accordance with supplement to the regulations to BWMC,
  - Standards of control and procedures of dealing with BW and periods of implementation

• Analysis of technical guidelines (IMO Guidelines) in accordance with Polish law
  - the scope of IMO Guidelines
  - analysis of requirements and obligations
  - efficiency of implementation of BWMC and regulations according to IMO guidelines

• Proposal of implementation of BWMC and regulations according to IMO guidelines and conception of alterations of existing or introducing new national legal acts and regulations
  - procedure of ratification of BWMC and regulations in accordance with national procedure (National Act on International Agreements) and in the context of „recommendation for ratification” by 2013 the latest by EU countries,
  - analysis of cohesion of national legal acts with international law within the scope of BWMC and regulations
  - legislative proposals,

• Analysis of socio-economical impact of proposed solutions (draft assessment of the effect of introducing new regulations)
  - risk assessment of hazards (alien species migration)
  - assessment of impact on the coastal community and business
  - estimation of environmental impact

• Comparison of BWMC implementation with other countries
• Conclusions
According to the Port of Gdynia Authority rules - ships calling the port are obliged to fill up a special Ballast Water Form and e-mail or fax it to the Environmental Protection Department in the port of Gdynia.

The BW form contains the most important information of ships journey, ballast water management on the ships, and also information of ballast water management plan on the ships and info if the ship is going to discharge ballast water in Port of Gdynia and clean their ballast tanks in the port.

- water form
- electronic database
- statistical information based on electronic database
Data forms are stored in the port electronic database, where all actions connected with ship traffic are registered. Data are used for statistics and to provide information about ballast water.
BALAST WATER REPORTS
(PORT OF GDYNIA EXAMPLE)

Source: Port of Gdynia
EVALUATION OF BALLAST WATER VOLUME

Inward ships traffic data supplied by Environmental Protection Department, Port of Gdynia Authority S.A. The data included 3 years, e.g.:

- 2005
- 2006
- 2007

Ballast water discharged at the Port of Gdynia at the Port of Gdynia

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of ships in ballast</th>
<th>Estimated quantity of ballast water [million tons]</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>1008</td>
<td>1,9</td>
</tr>
<tr>
<td>2006</td>
<td>997</td>
<td>1,8</td>
</tr>
<tr>
<td>2007</td>
<td>1286</td>
<td>2,6</td>
</tr>
</tbody>
</table>

Source: Port of Gdynia
BALLAST WATER ORIGIN

Ships in ballast calling at the Port of Gdynia – rate of ballast from different seas [%]

Source: Port of Gdynia
**DISCHARGING BALLAST WATER IN PORT OF GDYNIA BY SHIP TYPE**

**2008**
- ro-ro: 48%
- general cargo: 21%
- bulk carrier: 14%
- tanker: 17%

**2009**
- container: 2%
- tanker: 22%
- bulk carrier: 17%
- general cargo: 55%

Approximate amount of ballast water discharged in **94,754 cbm**

Approximate amount of ballast water discharged **97,533 cbm**

*Source: Port of Gdynia*
REQUIRED ACTION

• A tailored-made regional plan to solve challenges of ratifying BWMC in the Baltic Sea region

• Designation of clear national responsibilities for BWMC

• Development of common criteria for risk assessments and of a unified Baltic Sea exemption system (Regulation A-4)

• Developing a regional monitoring programme for alien species that would serve various international regulations, including BWM Convention
CONCLUSIONS

Not all already developed and prospective ballast water treatment methods are suitable for short voyages and brackish water, nor could all ports receive, or all ships deliver, ballast water in reception facilities.

Some challenges remain with identifying ships which are on a low risk voyage and can be exempted from ballast water management.

Voluntary ballast water treatment, provision of port reception facilities and exemptions are the available options, although this holds some challenges for the future.
MARITIME INSTITUTE IN GDANSK
Długi Targ 41/42
80-830 Gdańsk, Poland
phone +48 58 301 16 41
fax +48 58 301 35 13
e-mail: im@im.gda.pl

Prepared by: Urszula KOWALCZYK
Head of Economics and Law Department