



MEDITERRANEAN ACTION PLAN (MAP) REGIONAL MARINE POLLUTION EMERGENCY RESPONSE CENTRE FOR THE MEDITERRANEAN SEA (REMPEC)

REPORT

REGIONAL WEBINAR

on the Effective Implementation of

the Ballast Water Management Convention, including the Regional BWM Harmonised

Procedures and Sharing of Lessons Learned from Port Baseline Surveys

and Biological Monitoring in Mediterranean Ports

11 and 12 November 2025

Prepared by Dr. Matej David, REMPEC Consultant

This activity was financed by the Mediterranean Trust Fund (MTF), and was implemented by the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC), in cooperation with the Regional Activity Centre for Specially Protected Areas (SPA/RAC) of the Mediterranean Action Plan (MAP) of the United Nations Environment Programme (UNEP), as well as the International Maritime Organization (IMO).

The views expressed in this document are those of the Consultant and are not attributed in any way to the United Nations (UN), UNEP/MAP, SPA/RAC, IMO or REMPEC.

The designations employed and the presentation of material in this document do not imply the expression of any opinion whatsoever on the part of the UN secretariat, UNEP/MAP, SPA/RAC, IMO or REMPEC, concerning the legal status of any country, territory, city, or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

SUMMARY SHEET

Titles of the Regional Webinar:	Effective Implementation of the Ballast Water Management Convention, including the Regional BWM Harmonised Procedures and Sharing of Lessons Learned from Port Baseline Surveys and Biological Monitoring in Mediterranean Ports		
Host:	Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC)		
Venue and dates:	Online via Zoom on 11 and 12 November 2025		
Туре:	Regional		
Organised by:	REMPEC		
Supported by:	Mediterranean Trust Fund (MTF)		
Number of Participants:	47		

List of Abbreviations

BWM	Ballast Water Management	
HAOP	Harmful Aquatic Organisms and Pathogens	
IMO	International Maritime Organization	
MEPC	Marine Environment Protection Committee	
NIS	Non-Indigenous Species	
REMPEC	Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea	
SPA/RAC	Regional Activity Centre for Specially Protected Areas	

Summary

The Regional Webinar on the Effective Implementation of the Ballast Water Management (BWM) Convention, including the Regional BWM Harmonised Procedures and Sharing of Lessons Learned from Port Baseline Surveys and Biological Monitoring in Mediterranean Ports, hereinafter referred to as the Webinar focused on the following:

- 1. Day 1: a comprehensive introduction to the BWM Convention, including its adoption, amendments, and key requirements under international regulation, was held on Tuesday 11th November 2025.
- 2. Day 2: regional BWM Harmonised Procedures, practical implementation issues in the Mediterranean Sea, highlighting inspection practices, contingency measures, and decision support tools, was held on Wednesday 12th November 2025.

The target audience for the Webinar were Government officials responsible for ratification, implementation and enforcement of the BWM Convention, and other participants with relevant technical or policy expertise in BWM and related maritime environmental matters to ensure a constructive discussion.

On day one of the Webinar, a brief introduction to the BWM, including BWM Convention adoption and entry into force, the need for amendments to the BWM Convention, the ongoing work of International Maritime Organization (IMO) Marine Environment Protection Committee (MEPC) and the earliest entry into force of the amendments was provided. Then the second presentation dealt with ballast water issues – where we were, where we are, including introducing species transfer with ballast water, which organisms are of a threat/unwanted, invasions cases/harmful consequences and what is the present situation with invasions. Afterwards the presentation of BWM under the BWM Convention, including the BWM Convention overview, with specific focus on the D-2 BWM Performance standard, Ballast Water Exchange Areas, Reception Facilities, Ballast Water Reporting, Contingency Measures, Additional Measures, Warnings, Exemptions, Risk Assessment and PSC Inspections was conducted.

On day two, the Regional BWM harmonised procedures, including Ballast Water Exchange Areas, Regulation A-4 Exemptions and to support these the Protocol for Identifying Target Species and Port Survey Protocol, then Sediment Reception Facilities, Contingency Measures, Additional Measures and Warnings were introduced. This was followed by the presentation of the BWM Convention implementation issues – what to do in the Mediterranean, including Risk Assessment for targeting vessels for Port State Control inspections, Ballast water sampling as part of Port State Control inspections, Contingency planning/measures in case of a failure of the BWM system, challenging water quality and non-compliance, How can a non-compliant vessel prove compliance, BWM Decision Support System for the Mediterranean and What to do in the Mediterranean.

Dr. Matej David, REMPEC consultant, delivered the presentations, with contributions from Dr. Stephan Gollach on the first day and Dr. Romina Kraus on the second day of webinar.

Key words: Ballast water management, BWM, implementation of the BWM Convention, BWM issues, coordinated regional approach, Mediterranean, regional harmonised procedures

WBS Element No: XB/0143-02-04-01-01-2240

Coordinator: Ivan Sammut and Luke Tabone (REMPEC) in cooperation with Dr. Matej David, REMPEC consultant

Table of Contents

1.	INTRODUCTION	5
2.	OBJECTIVES	6
3.	DATES, ROLES AND PARTICIPANTS	7
4.	WEBINAR	7
	Webinar Day One 11.11.2025	7
	Brief introduction to the Ballast Water Management (BMW)	8
	Ballast water issue – where we were, where we are	9
	Ballast Water Management under the BWM Convention	11
	Day One Closing Remarks	12
	Webinar Day Two 12.11.2025	13
	Regional BWM harmonised procedures	13
	BWM Convention implementation issues – what to do in the Mediterranean	15
	What to do in the mediterranean	16
	Day Two Closing Remarks	17
5.	CONCLUSIONS	18
	ANNEX 1 – List of participants	19
	ANNEX 2 – List of speakers and subjects covered by each of them	21
	ANNEX 3 – Programme	22
	ANNEY 1 - Palle O&A	2/

1. INTRODUCTION

- 1.1 REMPEC engaged consultancy services for the provision of targeted technical support to Contracting Parties for the implementation of the Ballast Water Management (BWM) Convention and the Ballast Water Management Strategy for the Mediterranean Sea (2022-2027), with the focus on the Activity No. 2.4.1. Update and implement the regional action plan on non-indigenous species (NIS) and species introductions, as well as targeted measures of the Mediterranean Strategy on Ships' Ballast Water Management and Action Plan, 2022-2027.
- 1.2 The overall objectives of the Mediterranean BWM Strategy (2022-2027) are to:
 - 1. Establish a framework for a regional harmonised approach in the Mediterranean on ships' ballast water control and management that is consistent with the requirements and standards of the BWM Convention, as outlined in Article 13(3) thereof;
 - 2. Initiate some preliminary activities related to the management of ships' biofouling in the Mediterranean region; and
 - 3. Contribute to the achievement of Good Environmental Status with respect to NIS as defined in the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria.
- 1.3 Under Strategic Priority 3 (Action 9) of the Mediterranean BWM Strategy (2022-2027), the Contracting Parties to the Barcelona Convention called for the development and implementation of a capacity building programme. This remains particularly important, as several Mediterranean States have not yet ratified the BWM Convention, and in some cases, even where ratification has occurred, it has not been fully transposed into national legislation. Coupled with the limited number of technical initiatives related to BWM, these gaps highlight the continued need for targeted capacity-building activities. In addition, under Strategic Priority 4 (Action 10), the Contracting Parties agreed to promote efforts, individually and through regional cooperation, to raise awareness among decision-makers and the wider public about the impacts of, and the need to effectively manage, NIS in the Mediterranean Sea.
- 1.4 Furthermore, Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC), in cooperation with Regional Activity Centre for Specially Protected Areas (SPA/RAC), conducted a Mid Term Review of the Mediterranean BWM Strategy (2022-2027) which found that immediate action is required to initiate pending activities and update the work plan to ensure the Strategy's successful implementation. The Mid Term Review acknowledged that the Secretariat should continue to offer targeted technical support to Contracting Parties to the Barcelona Convention for the ratification and implementation of the BWM Convention through capacity building activities. This keeps on building on the momentum of recent regional workshops and expert meetings on BWM.
- 1.5 It is also to be noted that based on the responses provided by Contracting Parties to REMPEC Circular Letter No. 08/2025 on the BWM Strategy Questionnaire, the majority of respondents agreed that further capacity building and training on the subject matter should be offered. In this regard, this Webinar served to provide targeted technical support to Contracting Parties for the implementation of the BWM Convention and to ensure that they have the necessary capacity to implement the Regional BWM Harmonised Procedures.
- 1.6 The Regional Webinar focused on the following:
 - 1. Day 1: a comprehensive introduction to the BWM Convention, including its adoption, amendments, and key requirements under international regulation, which was held on Tuesday 11th November 2025.

2. Day 2: Regional BWM Harmonised Procedures, practical implementation issues in the Mediterranean Sea, highlighting inspection practices, contingency measures, and decision support tools, which was held on Wednesday 12th November 2025.

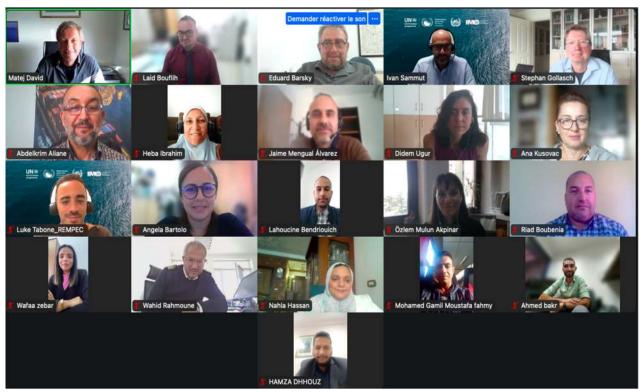


Figure 1: A snapshot of some the participants at the Regional Webinar.

2. OBJECTIVES

- 2.1 The main objective of this webinar was to provide targeted technical support to Contracting Parties for the implementation of the BWM Convention and to ensure that they have the necessary capacity to implement the regional BWM harmonised procedures with more defined scope of the assignment.
- 2.2 The specific objectives were the following:
 - 1. A brief introduction to the BWM, including BWM Convention adoption and entry into force, the need for amendments to the BWM Convention, the ongoing work of IMO MEPC and the earliest entry into force of the amendments.
 - 2. Ballast water issue where we were, where we are, including introducing species transfer with ballast water, which organisms are of a threat/unwanted, invasions cases/harmful consequences and what is the present situation with invasions.
 - 3. BWM under the BWM Convention, including the BWM Convention overview, with specific focus on the D-2 BWM Performance standard, Ballast Water Exchange Areas, Reception Facilities, Ballast Water Reporting, Contingency Measures, Additional Measures, Warnings, Exemptions, Risk Assessment and PSC Inspections.
 - 4. Regional BWM harmonised procedures, including Ballast Water Exchange Areas, Regulation A-4 Exemptions and to support these the Protocol for Identifying

Target Species and Port Survey Protocol, then Sediment Reception Facilities, Contingency Measures, Additional Measures and Warnings.

5. BWM Convention implementation issues – what to do in the Mediterranean, including Risk Assessment for targeting vessels for Port State Control inspections, Ballast water sampling as part of Port State Control inspections, Contingency planning/measures in case of a failure of the BWM system, challenging water quality and non-compliance, How can a non-compliant vessel prove compliance, BWM Decision Support System for the Mediterranean and What to do in the Mediterranean.

3. DATES, ROLES AND PARTICIPANTS

- 3.1 The Regional Webinar over two days was held online via Zoom meeting platform.
- 3.2 The Regional Webinar was held on 11 and 12 November 2025. According to the timetable both days started at 10.30 hours and closed at 13.45 hours CET.
- 3.3 Zoom proved to be a satisfactory platform to deliver the presentations. Technical support was provided by a REMPEC contractor (PremC) who assisted with the delivery of polls taken during the presentations. The handling of Questions and Answers worked satisfactorily and about 70% of participants provided answers to all polls. The Q&A facility was also provided and there was very active engagement by participants. Presenters provided all answers to the posed questions.
- 3.4 REMPEC conducted all the logistics for the Webinar including the opening and closing remarks, arrangements of technical support, REMPEC consultants and speakers.
- 3.5 The target audience for the Webinar were Government officials responsible for ratification, implementation and enforcement of the BWM Convention, and other participants with relevant technical or policy expertise in BWM and related maritime environmental matters to ensure a constructive discussion during the Webinar.
- 3.6 Mr Ivan Sammut, Head of Office, REMPEC, supported by Mr Luke Tabone, Junior Programme Officer, REMPEC, oversaw the organisation and coordination of the webinar. Preparation of the webinar was undertaken with Dr. Matej David, REMPEC consultant who delivered the presentations. On the first day, Dr. Stephan Gollach, Marine Biologist and Scientist from GoConsult, Hamburg, Germany, participated in the second presentation on Ballast water issues where we were, where we are. On the second day, Dr. Romina Kraus, Marine Biologist and Senior Research Associate/Associate Professor from Ruđer Bošković Institute, Center for Marine Research, Rovinj, Croatia, participated in the presentation on Regional BWM harmonised procedures, delivering the part on the Port Survey Protocol.
- 3.7 The list of participants and final programmes for both webinar days are set out in Annex 1 and Annex 3 to the present report.

4. WEBINAR

Webinar Day One 11.11.2025

4.1 The Webinar opened on Tuesday, 11 November 2025 at 1030 hours (CET).

- 4.2 The Head of Office of REMPEC, Mr. Ivan Sammut, opened the Webinar by welcoming participants from across the Mediterranean and emphasising the shared regional commitment to protecting the Mediterranean Sea from the threat posed by harmful aquatic organisms transferred through ships' ballast water. He highlighted that the Mediterranean is one of the busiest maritime regions in the world, where intense shipping activity supports economies but also increases the risk of NIS disrupting ecosystems and local livelihoods. He stressed that addressing this risk is both a regional responsibility and a global obligation.
- 4.3 He outlined the goals of the two-day webinar, namely, to:
 - Strengthen understanding of the BWM Convention;
 - Translate the BWM Convention into practical action;
 - Harmonize implementation across the Mediterranean, particularly in monitoring, inspections, and enforcement; and
 - Share national experiences, port surveys, and capacity-building efforts.
- 4.4 He noted that significant progress has already been made, recalling that:
 - The first Mediterranean Ballast Water Strategy was adopted in 2009, serving as a global model for regional cooperation; and
 - A new Regional BWM Strategy for 2022–2027 was adopted in 2021 under the Barcelona Convention, aligning regional efforts with the IMO framework.
- 4.5 Mr. Ivan Sammut also highlighted the ongoing role of REMPEC, together with the IMO, SPA/RAC, and the Contracting Parties, in organizing expert meetings, workshops, and training programs to build national capacities and develop harmonized procedures. He concluded by:
 - Encouraging active participation and regional cooperation,
 - Thanking key partners and contributors, including the IMO, SPA/RAC, the Mediterranean Trust Fund, and the consultants, and
 - Explaining the interactive format of the webinar (Q&A sessions, live polls),
- 4.6 Mr. Ivan Sammut handed over the floor to Dr. Matej David, recognizing his technical expertise and role in conducting the webinar.
- 4.7 Dr. Matej David introduced himself and the Webinar program. He further introduced Dr. Stephan Gollasch, who provided his expertise during the presentation "Ballast water issue where we were, where we are".

Brief introduction to the Ballast Water Management (BMW)

- 4.8 Dr. Matej David introduced the main subjects covered in the presentation:
 - BWM Convention adoption & entry into force
 - Need for amendments to the BWM Convention
 - Earliest entry into force of the amendments
 - Ongoing work of IMO MEPC
- 4.9 Dr. Matej David noted that the presentation gives an overview of the development, adoption, and current status of the BWM Convention.
- 4.10 He explained that concerns about invasive species in ballast water date back to early 20th-century publications, but formal scientific and institutional discussions only began in the 1970s. The IMO first acknowledged the problem in 1973, followed by increasingly structured action:
 - 1991: First IMO resolution on preventing the transfer of harmful aquatic organisms;
 - 1993/1997: First BWM guidelines;

- 2004: Adoption of the BWM Convention;
- 2008: Adoption of 14 supporting guidelines;
- 2017: Convention entered into force; and
- 2024: D-2 performance standard entered into force.
- 4.11 Dr. Matej David noted that in total, it took roughly 50 years from initial awareness to actual implementation measures.
- 4.12 He pointed out that the early-ratifying States highlighted major implementation difficulties, and the BWM Convention is viewed as one of the IMO's most challenging instruments. To address this, the IMO launched an experience-building phase in 2017 to identify issues and potential amendments. This work produced 86 objectives, of which 57 remain unresolved.
- 4.13 Dr. Matej David highlighted that current IMO work prioritizes amendments to the Convention itself and the Ballast Water Management Systems Code, with all changes to be adopted as a package. Mandatory amendments are expected in 2026, entering into force in 2028; updates to non-mandatory guidelines are targeted for late 2026, entering into force in 2027.
- 4.14 He further highlighted that given the large number of open issues, the review process will likely need to be extended, requiring continued correspondence group work, prioritization of items requiring in-person discussion, and a revised timeline.
- 4.15 Dr. Matej David concluded by emphasizing the ongoing importance of understanding the ballast water issue itself for a successful implementation of the BWM Convention.

Ballast water issue - where we were, where we are

- 4.16 Dr. Matej David introduced the main subjects covered in the presentation:
 - Species transfer with ballast water
 - Which organisms are of a threat/unwanted?
 - Invasions cases / harmful consequences
 - What is the present situation?
- 4.17 Dr. Matej David explained that the transfer of species through ballast water is a serious environmental, economic, and human health issue. Ballast water is essential for ship stability and safe operation, both in ports and at sea, and is used by all types of vessels, including cargo ships, naval vessels, and yachts. However, it also serves as a major vector for the global transfer of aquatic organisms, which can survive long voyages and establish themselves in new environments.
- 4.18 Dr. Matej David highlighted that these transfers can cause significant:
 - environmental impacts (predation, competition, parasitism),
 - economic damage (to fisheries, aquaculture, tourism, and industrial water systems),
 and
 - human health risks (such as the spread of cholera and shellfish poisoning).
- 4.19 He further highlighted that unlike oil spills, which are visible and trigger immediate responses, bio-invasions occur silently and continuously, often becoming noticeable only when the damage is already severe.

- 4.20 The presentation emphasized that the BWM Convention does not focus only on NIS or invasive species. Instead, it addresses a broader category of "harmful aquatic organisms and pathogens" (HAOP), including:
 - Potentially harmful NIS,
 - Cryptogenic species (of unknown origin),
 - Impactful native species,
 - · Pathogens.
- 4.21 Dr. Matej David concluded that this highlights that the Convention targets a much wider range of biological risks than commonly assumed.
- 4.22 Dr. Stephan Gollasch continued the presentation with a more biological perspective on ballast water and species transfer, emphasizing that the IMO term "harmful aquatic organisms and pathogens" goes far beyond just exotic or invasive species and includes a much wider range of potentially damaging organisms.
- 4.23 Drawing on decades of sampling work, he explained that almost all types of aquatic organisms are found in ballast water tanks, ranging from microscopic algae to fish up to 15–20 cm long. Organisms observed included algae, shrimps, crabs, jellyfish-related species, mussels, snails, and occasionally more fragile organisms such as sea urchins. This demonstrated that ballast water transports entire ecosystems, not just single species.
- 4.24 He illustrated the impacts using three major case studies of invasive species likely transferred by ballast water:
 - Nomad jellyfish (Rhopilema nomadica)
 - o Native to the Indo-Pacific; first recorded in the Mediterranean in 1986 (Israel).
 - Spread rapidly across the Mediterranean through secondary spread, including ballast water and natural currents.
 - Causes human health impacts (painful stings), ecological damage (predation on zooplankton), and industrial disruption by clogging power plant cooling water intakes, forcing shutdowns.
 - Sea walnut (*Mnemiopsis leidyi*)
 - Native to the Western Atlantic; introduced to the Black Sea in the 1980s and the Mediterranean in 1992.
 - o Now present in the Mediterranean, North Sea, and Baltic Sea.
 - Its blooms caused up to a 90% collapse of anchovy fisheries in the Black Sea, creating catastrophic economic impacts on coastal communities.
 - Blue crab (Callinectes sapidus)
 - Native to the Western Atlantic; first European record in 1900 and Mediterranean record in the 1940s.
 - A strong predator causing severe damage to shellfish farming, especially Manila clam fisheries in the Northern Adriatic, with harvest losses up to 100%.
 - Although now exploited commercially in some areas, it continues to expand and disrupt native ecosystems.
- 4.25 He then provided a global and Mediterranean-scale overview:
 - The Mediterranean Sea is one of the world's most heavily invaded marine regions, with over 1,000 marine NIS recorded, nearly 800 in the Eastern Mediterranean alone.
 - The rate of invasion is increasing, with more than 10 new species recorded per year in the Mediterranean.
 - Globally, about 14,000 NIS are established, with aquatic species responsible for around 5% of the total global economic cost, equivalent to hundreds of billions of US dollars.

- Recent estimates indicate over USD 4 billion in damages and management costs from marine invasive species alone since the 1970s, with costs rising rapidly and still widely underestimated.
- 4.26 Finally, he addressed the limitations of ballast water treatment systems (BWTS):
 - Even when systems meet the D-2 performance standard, complete organism removal is not achieved.
 - In joint testing of 200 samples, only 24% of treated samples were completely organismfree.
 - The D-2 standard was not met in about 14% of samples, despite certification.
 - Surviving organisms included larvae and adult crabs, polychaete worms, and other species.
 - Some organisms were found to physically squeeze through filtration systems, showing that technical treatment alone cannot fully eliminate biological risks.
- 4.27 Overall Dr Stephan Gollasch highlighted that ballast water transfers large and diverse biological communities, causes severe ecological, economic, and human health impacts, and that even modern treatment systems cannot fully prevent species survival, making strict prevention, monitoring, and regional cooperation essential.

Ballast Water Management under the BWM Convention

- 4.28 Dr. Matej David introduced the main subjects covered in the presentation:
 - D-2 BWM Performance standard
 - Ballast Water Exchange Areas
 - Reception Facilities
 - Ballast Water Reporting
 - Contingency Measures
 - Additional Measures
 - Warnings
 - Exemptions
 - Risk Assessment
 - PSC Inspections
- 4.29 The first part of the presentation, focused on the BWM Convention structure, key standards, and practical implementation issues. The BWM Convention's framework was outlined: it contains 22 articles defining obligations, applications, inspections, and compliance requirements. These are complemented by annexes A–E, which provide technical and management requirements, and two appendices covering the Ballast Water Management Certificate and the Ballast Water Record Book. Supporting these are 15 guidelines (G1–G15), which offer detailed technical instructions and procedural clarifications for implementation, as well as numerous circulars and documents providing further guidance.
- 4.30 He further pointed out that the central element of the BWM Convention is the D2 performance standard, which defines the acceptable limits of viable organisms in discharged ballast water. Viable organisms are defined as living and intact, without broken body parts. Two main size classes are regulated: organisms ≥50 µm, primarily zooplankton, and 10–50 µm, mostly phytoplankton. In addition, indicator microbes such as *Vibrio cholerae*, *E. coli*, and intestinal *Enterococci* are monitored for human health risks. While the BWM Convention sets discharge standards, it does not mandate a specific treatment method; however, compliance generally requires installation of Ballast Water Management Systems.

- 4.31 Dr. Matej David emphasised that even with treatment systems, some organisms may survive, and contingency measures are necessary to handle non-compliance or equipment failure. The concept of ballast water exchange areas was explained, which are generally defined as locations outside 200 nautical miles and 200 meters depth. When exchange is conducted closer to shore, regional consultation, risk assessment, and monitoring are required to minimize environmental impact. Designation of such areas involves evaluating legal, ecological, navigational, and operational factors, and monitoring is necessary to ensure ongoing suitability.
- 4.32 The presentation also described the roles of reception facilities, which handle both sediments and ballast water. Sediment facilities manage tank deposits removed during maintenance, while ballast water reception facilities can receive water from ships unable to meet D2 standards, whether due to system failure or as a contingency measure. Proper design, capacity assessment, personnel training, and monitoring are critical to ensure these facilities operate safely and effectively.
- 4.33 An introduction to risk assessment as an important element in BWM Convention implementation was provided. This is required for granting exemptions, designating additional measures, establishing ballast water exchange areas, and supporting early warning systems. Exemptions may be granted for vessels operating solely between the same ports or locations, provided there is no mixing of ballast water from other sources. Such exemptions are valid for a maximum of five years and require intermediate review. Early warning systems are used to notify mariners of areas with harmful aquatic organism outbreaks, high sediment loads, or other environmental risks, helping prevent uptake of unsafe ballast water.
- 4.34 Finally, Dr. Matej David focused on port State control inspections, one of the most challenging aspects of enforcement. Inspections follow multiple tiers: initial verification of certificates and ballast water record books, followed by detailed inspection if there are "clear grounds" of non-compliance, including crew unfamiliarity with procedures or issues with equipment. Ballast water sampling is a key component, with two levels of analysis: indicative (rapid, on-board assessment) and detailed (laboratory-based, often using microscopy and incubation for microbes). Non-compliant vessels must be prevented from discharging until they meet the standard, and reporting to IMO and subsequent ports is essential to maintain environmental protection.
- 4.35 Overall, Dr. Matej David emphasised that successful implementation of the BWM Convention requires careful coordination, thorough monitoring, and proactive communication among ships, ports, and regulatory authorities. Risk assessment, contingency planning, and the integration of early warning and reception facilities are central to preventing the spread of harmful aquatic organisms and protecting marine ecosystems.

Day One Closing Remarks

4.36 Mr. Ivan Sammut highlighted that the Mediterranean Strategy for implementing the BWM Convention, under the Barcelona Convention, prioritises improving data sharing and information systems among contracting parties. REMPEC's current focus is to assess existing databases at national, regional, and international levels to make recommendations for a regional system that ensures effective data exchange while avoiding duplication, considering limited resources and capacities. Initial assessments are planned in the near future, with results to be discussed with Contracting Parties for possible regional implementation.

4.37 Finally, he thanked participants for their contributions, confirmed that further discussions and practical sessions on inspections and sampling would continue the following day, and encouraged continued participation.

Webinar Day Two 12.11.2025

- 4.38 The second day opened on Wednesday, 12 November 2025 at 1030 hours (CET).
- 4.39 Mr. Luke Tabone, REMPEC Junior Professional Officer, welcomed participants to the second session of the Webinar, expressing appreciation for their engagement during day one. He reviewed the previous session's focus on the BWM Convention's fundamentals, global and Mediterranean context, and current implementation. He outlined the day's agenda, including the regional harmonized procedures adopted by COP23 (exemptions under Regulation A4, port surveys, reception facilities, and contingency measures), practical implementation methods, port State control approaches, non-compliance assessment, and the Mediterranean decision support system for BWM.
- 4.40 Dr. Matej David briefly introduced the programme for Day Two and Dr. Romina Kraus, who provided her expertise in the presentation "Regional BWM harmonised procedures Port Survey Protocol".

Regional BWM harmonised procedures

- 4.41 Dr. Matej David introduced the main subjects covered in the presentation:
 - Ballast Water Exchange Areas
 - Regulation A-4 Exemptions
 - Protocol for Identifying Target Species
 - Port Survey Protocol
 - Reception Facilities
 - Contingency Measures
 - Additional Measures
 - Warnings
- 4.42 He highlighted the need for harmonized procedures in the Mediterranean supporting the effective application of the BWM Convention. He explained that while the Convention and its guidelines define the global framework, regional harmonization is necessary to ensure consistent, practical, and coordinated implementation across Mediterranean states, especially given the region's dense traffic and sensitive ecosystems.
- 4.43 An introduction to Ballast Water Exchange Areas (BWEAs) was provided. Under the BWM Convention, exchange normally takes place more than 50 nautical miles from shore and in waters deeper than 200 meters. However, it was showed that in many Mediterranean and especially Adriatic ports, accessing such areas is operationally difficult. For this reason, harmonized procedures provide a structured process for identifying and designating alternative exchange areas and using ballast-water exchange as a contingency measure when treatment systems fail or ballast water is non-compliant.
- 4.44 Dr. Matej David then explained the exemptions under Regulation A4, which allow certain vessels operating repeatedly between the same ports to avoid conducting BWM, i.e., installing BWTS, provided that a rigorous two-step risk assessment demonstrates low environmental risk. The first step examines environmental compatibility (such as salinity differences), while the second evaluates the presence and behaviour of target species, i.e., organisms known to be transferable by ballast water and capable of causing harm. He

emphasised that exemptions are strictly controlled, time-limited, and dependent on reliable biological data.

- 4.45 It was also highlighted that the success of these procedures depends heavily on accurate port biological data and well-conducted port surveys, noting that data gaps remain a major challenge in the Mediterranean. Importantly, he stressed that even compliant BWTS do not deliver zero risk, as some organisms can survive treatment. This makes preventive measures, including attention to where ballast water is taken onboard and the use of warning systems, increasingly important.
- 4.46 The presentation concluded by emphasizing that BWM must be treated as a dynamic, adaptive process, continuously updated as new species, scientific knowledge, and operational experience emerge. It underlined that the effective protection of the Mediterranean requires both strong regulation and close regional cooperation.
- 4.47 Dr. Romina Kraus continued with the presentation whereby it was emphasised that the Port Survey Protocol is a key technical tool used to support ballast-water exemptions by providing standardized, scientifically reliable data about port environments and target species. Its main purpose is to ensure that biological and environmental data are collected in a consistent and comparable way, so they can be stored in central databases (such as the Mediterranean regional database) and used confidently in risk assessments.
- 4.48 She described how sampling design must reflect the life cycles of target species, meaning surveys should be carried out at least in two seasons per year, during periods when species are most likely to be detected. If species have planktonic larval stages, plankton sampling must be included. Settlement plates are deployed in the first season and retrieved in the second. All major benthic habitats in a port must be sampled, with priority given to high-traffic berths and ballast-water discharge areas, while ensuring that port operations are not disrupted. New technologies such as eDNA analysis and remotely operated vehicles (ROVs) may also be used, provided they are properly validated.
- 4.49 Dr. Romina Kraus outlined the three standardized data sheets used in surveys. The first collects general port information, including location, infrastructure, shipping activity, environmental conditions, and connections to other ports. The second records environmental parameters at each sampling site, such as water temperature, salinity at different depths, dissolved oxygen, sediment characteristics, and weather conditions. The third focuses on species data, documenting detailed sampling methods, volumes, gear used, and the presence, absence, and abundance of NIS.
- 4.50 She detailed the sampling methods for different organism groups:
 - Phytoplankton and zooplankton using water samples and plankton nets of different mesh sizes.
 - Mobile epifauna using crab traps, minnow traps, and artificial habitats,
 - Fouling organisms using settlement plates and scraping of hard surfaces, and
 - Benthic infauna using benthic grab samplers.
- 4.51 She noted that if all organism groups are sampled correctly, a full survey includes about 22 individual samples to ensure scientific reliability.
- 4.52 Dr. Romina Kraus then compared this exemption-oriented protocol with the Port Baseline Survey (PBS) used in the BALMAS project in the Adriatic. Unlike the exemption protocol, PBS is designed to create a comprehensive baseline of both native and non-native species, includes seasonal sampling, human pathogen monitoring, chemical residue analysis from ballast-water treatments, and hydrodynamic studies to understand species spread. She

emphasized that, from a biological perspective, the best approach is to first establish a baseline survey and then conduct continuous monitoring, so that new introductions and environmental changes can be detected as early as possible.

- 4.53 Dr. Matej David then continued by highlighting key differences between existing Survey Protocols and the BWM Convention, noting in particular that pathogens and chemical residues are not always sufficiently addressed in current standards. He stressed that many ballast water treatment systems rely on chemicals or UV, and chemical systems can leave residual substances in discharged water. A major concern he raised was the failure of TRO (Total Residual Oxidant) sensors, which in some cases allowed chemically treated ballast water to be discharged without proper neutralization, posing environmental risks. He therefore emphasized the importance of including chemical monitoring in port survey protocols, an issue also under consideration at the IMO level for amending the D-2 Standard.
- 4.54 He then discussed the need for sediment reception facilities in the Mediterranean. Since sediment discharges at sea are extremely restricted in this region, hence ports and shipyards, where tank cleaning and repairs take place, must ensure the availability of nearby reception facilities to avoid operational delays. Once provided, such facilities must be reported to IMO and recorded in GISIS, and managed according to IMO G1 Guidelines.
- 4.55 On contingency measures, Dr. Matej David explained that failures of ballast water treatment systems may require alternative actions. While IMO Circular 62 provides only limited technical guidance, it requires that contingency measures be predefined in ships' Ballast Water Management Plans. Possible options include on-board containment, use of reception facilities, or BWEAs. The Mediterranean harmonized procedure mainly strengthens the communication process between ship, company, flag State, and port State, supported by a standardized contingency request form.
- 4.56 Regarding additional measures under Regulation C-1 and G13 Guidelines, he outlined the six-step process used in the harmonized procedure: assessing the need, identifying measures, evaluating impacts, consulting affected States, seeking approval, and finally notifying all relevant parties including IMO.
- 4.57 Finally, he addressed the procedure for issuing warnings, explaining that authorities must inform mariners of areas where ballast water uptake is prohibited, specify geographic coordinates, duration, and any alternative arrangements. Notifications must also be updated when conditions change.

BWM Convention implementation issues – what to do in the Mediterranean

- 4.58 Dr. Matej David introduced the main subjects covered in the presentation:
 - IMO Objectives for amendments of the BWM Convention after Experience Building Phase
 - Risk Assessment for targeting vessels for Port State Control inspections
 - Ballast water sampling as part of Port State Control inspections
 - Contingency planning/measures in the case of a failure of the BWM system and challenging water
 - Contingency measures when a vessel is found not compliant
 - How can a non-compliant vessel prove compliance
 - BWM Decision Support System for Mediterranean
- 4.59 It was emphasized that the implementation of the BWM Convention remains complex and contains significant practical gaps. He highlighted key unresolved challenges, particularly in port State control targeting, ballast water sampling, contingency planning, and proving

compliance in cases of non-compliance. A major concern is that current inspection targeting does not adequately consider environmental risk, even though the Convention's main purpose is environmental protection. Inspectors often lack information on whether a specific vessel's ballast water actually poses a threat to the local marine environment.

- 4.60 He explained that even D-2 compliant systems can discharge living organisms, especially when ballast water is taken up under critical conditions. This creates a contradiction: detailed inspections require sampling that usually involves ballast water discharge, yet the Convention also states that discharge should not occur when a threat is suspected. Without risk-based tools, authorities are forced to make decisions with limited scientific grounding.
- 4.61 To address this, Dr. Matej David strongly recommended a risk-assessment-based approach to vessel targeting and decision-making. This approach considers environmental matching, origin of ballast water, presence of NIS, pathogens, toxic algae, and outbreak conditions, allowing authorities to classify discharges as low, medium, or high risk. Risk assessment can then guide whether to allow discharge, require additional measures, order exchange, or prohibit discharge entirely.
- 4.62 He also underlined that ballast water sampling and analysis are still at an early technical stage, with limited standardized protocols and evolving analytical tools. Reliable sampling methods, analysis protocols, and data quality control are essential for credible compliance monitoring.
- 4.63 On contingency planning, he explained that failures can occur at any stage—during ballast uptake, along the voyage, or at discharge. Ports must therefore be prepared with predefined contingency measures, such as ballast water retention, exchange areas, or diversion to reception facilities. A persistent problem remains: how a vessel can prove compliance if discharge is prohibited but no contingency option is available.
- 4.64 A major part of his presentation focused on the need for a regional BWM Decision Support System for the Mediterranean. Such a system would:
 - Integrate advance ballast water reporting.
 - Support risk-based inspections and exemptions,
 - Enable early warning systems,
 - Assist with handling non-compliant vessels, and
 - Improve transparency, consistency, and speed of decision-making.
- 4.65 He noted that similar systems have already been developed and tested nationally, at European level, and in the Adriatic region, but were never fully implemented due to institutional and coordination gaps. The Mediterranean now presents a new opportunity to operationalize such a system.
- 4.66 Finally, Dr. Matej David stressed that high-quality, reliable data is the foundation of all risk-based decisions, poor data leads to poor outcomes. Continuous monitoring, scientific input, feedback from inspections, and system improvement are essential. He concluded that risk assessment must become the core principle of BWM, as it underpins inspections, contingency measures, exemptions, warnings, and enforcement.

What to do in the mediterranean

4.67 Dr. Matej David outlined a practical roadmap for how BWM should move forward in the Mediterranean, stressing that the first and most crucial step is the full ratification of the Convention by all Contracting Parties to the Barcelona Convention. He emphasized that countries should not delay ratification due to uncertainty, no country worldwide has all the answers, and implementation must begin even while challenges remain.

- 4.68 He highlighted the critical role of REMPEC as a regional coordination platform, noting that it already enables information exchange, support for national legislation, capacity building, and regional cooperation. Countries must strengthen their national capacities, especially for port State control, ballast water sampling, analysis, compliance monitoring, and inspections.
- 4.69 Dr. Matej David strongly emphasized the need for coordinated scientific research across the Mediterranean to address major data and knowledge gaps. Many implementation problems still lack technical solutions, and research cooperation is essential for generating missing environmental, biological, and operational data. He cited the Adriatic cooperation experience as a successful model where close collaboration between governments and scientists significantly accelerated progress.
- 4.70 He proposed that REMPEC consider appointing a dedicated ballast water focal point, given the technical complexity and growing workload in this field. He also encouraged stronger inter-regional cooperation, particularly with HELCOM and OSPAR, noting that no region has fully solved all ballast water challenges and that continuous knowledge exchange is essential.
- 4.71 His central recommendation was to develop a Mediterranean-wide Decision Support System for BWM, building on existing draft systems created over the past decade. This system should integrate:
 - Ballast water reporting,
 - Risk assessment for targeting vessels,
 - · Additional measures and early warning systems,
 - Contingency measures, and
 - Support for port State control decisions.
- 4.72 He further stressed the urgency to prepare a:
 - Ballast Water Sampling Protocol for PSC, and
 - Ballast Water Analysis Protocol for PSC.
- 4.73 Dr. Matej David also called for agreement at Mediterranean level on:
 - Port baseline surveys and monitoring protocols for HAOP,
 - Port-specific contingency measures, and
 - Assessment and planning of ballast water and sediment reception facilities.
- 4.74 He concluded by stating that the Mediterranean is not starting from zero, as many tools, studies, and draft systems already exist. What is now required is political commitment, regional cooperation, technical coordination, and sustained funding to turn these elements into an operational regional system. He expressed strong hope that, with REMPEC's support, concrete progress and active cooperation will now follow.

Day Two Closing Remarks

4.75 Mr. Luke Tabone thanked all participants on behalf of REMPEC, expressing appreciation for the contributions of Matej, Romina, and Stefan, as well as the organizers and technical staff who made the webinar possible. He noted that the discussions were detailed and beneficial for all Mediterranean countries. He confirmed that the presentations and meeting report would be shared with participants and closed the webinar.

5. CONCLUSIONS

- 5.1 The Regional Webinar was successfully delivered with a reasonable level of participation from delegates from Contracting Parties of the Barcelona Convention. The polls used to test whether participants understood the information and remained engaged with the webinar were well received and responded to by the majority of participants (~70%).
- 5.2 It is recognised that virtual/remote learning has limitations for active participation. Presentations were delivered timely, however online participation limited more detailed discussion of questions raised.

ANNEX 1 – List of participants

Name of Participant	Contracting Party	Organisation
Abdelkrim Aliane	Algeria	Compagnie Maritime /Cnaneldjazair
Bendaoud Mohammed	Algeria	Ministère des Transports
Melissa Mahmoudi	Algeria	Direction Générale de la Marine Marchande et des Ports
Mohamed Yazid Bourkaib	Algeria	ENTMV
Samir Bendjedi	Algeria	Minsitère des Transports
Ahme Mohamed Mohamed Hussein selim	Egypt	Suez Canal Authority
Ahmed bakr	Egypt	Egyptian Authority for Maritime Safety
Heba Ibrahim (Heba Moaty)	Egypt	Egyptian Environmental Affairs Agency
Hend Shafik	Egypt	Maritime Transport & Logistics Sector
Magda Mostafa	Egypt	Egyptian Ministry of Environment, The Environmental Affairs Agency
Mennat-Allah Yousri Sobhy Ibrahim	Egypt	Alexandria Port Authority
Mohamed Gamil Moustafa fahmy	Egypt	Egyptian Environment Agency Affairs
Nahla Hassan	Egypt	Alexandria Port Authority
Reham Elrefaei	Egypt	Damietta Port Authority
Wafaa zebar	ENTMV	ENTMV
Laid Bouflih	ERENAV Shipyard	ERENAV
Dimitrios Petrakis	Greece	Ministry of Maritime Affairs and Insular Policy / Hellenic Coast Guard / Marine Environment Protection Directorate / International Co- operation Unit
Eleftherios Poriotis	Greece	Ministry of Maritime Affairs and Insular Policy / Hellenic Coast Guard / Marine Environment Protection Directorate / International Co- operation Unit
Nikolaos Loutsovos	Greece	Ministry of Maritime Affairs and Insular Policy/Hellenic Coast Guard/Marine Environment Protection Directorate
Eduard Barsky	Israel	Shipping and Port Authority
Merav Gonen	Israel	Administration of Shipping and Ports, Ministry of Transport
Taufik Elkhaldi	Libya	Libyan ports & Maritime Transport Authority

Name of Participant	Contracting Party	Organisation
Angela Bartolo	Malta	ERA
Ana Kusovac	Montenegro	Ministry of Maritime Affairs
Ahmed Sassa	Morocco	Direction de la Marine Marchande
Atmane Hanane	Morocco	Merchant Marine Directorate
Er-Rachdi Mohamed	Morocco	Tanger Med Port Authority
Hamza Dhhouz	Morocco	Secrétariat d'État chargé de la Pêche Maritime
Lahoucine Bendriouich	Morocco	Merchant Marine Directorat
Mustapha Chaye	Morocco	Merchant Marine Directorate
Naoual Zoubair	Morocco	Ministère de la Transition Energétique et du Développement Durable
Nezha Damnati Adib	Morocco	Département de l'Environnement
Nourreddine Mouajab	Morocco	Moroccan Authority Maritime
Wahid Rahmoune	Morocco	Tanger Med Port Authority
Ivan Sammut	REMPEC	REMPEC
Luke Tabone	REMPEC	REMPEC
Mary Grace Pisani	REMPEC	REMPEC
Matej David	REMPEC Consultant	REMPEC Consultant
Romina Kraus	REMPEC Consultant	REMPEC Consultant
Stephan Gollasch	REMPEC Consultant	REMPEC Consultant
Jaime Mengual Álvarez	Spain	Dirección General de la Marina Mercante
Yassine Marzougui	Tunisia	Agence Nationale de Protection de l'Environnement
Didem Ugur	Türkiye	Ministry of Environment, Urbanisation and Climate Change
Osman Erener	Türkiye	DG Maritime Affairs - Ministry of Transport and Infrastructure
Özlem Mulun Akpinar	Türkiye	DG Maritime Affairs - Ministry of Transport and Infrastructure
Linda Churcher	Witherby Publishing Group Ltd	Witherby Publishing Group Ltd
Riad Boubenia		Ecole National Superieure Maritime

ANNEX 2 – List of speakers and subjects covered by each of them

SPEAKER NAME	GENDER	PRESENTATIONS	
Dr. Matej David (REMPEC Consultant)	Male	Brief introduction to the Ballast Water Management (BMW) Ballast water issue – where we were, where we are	
		(first part) Ballast Water Management under the BWM	
		Convention Regional BWM harmonised procedures (all but Port	
		Survey Protocol part)	
		BWM Convention implementation issues – what to do in the Mediterranean	
Dr. Stephan Gollasch	Male	Ballast water issue – where we were, where we are (second part)	
Dr. Romina Kraus	Female	Regional BWM harmonised procedures – Port survey protocol	

ANNEX 3 – Programme Day 1: Tuesday 11 November 2025 All times CET

10:00 – 10:30	Registration of participants	
10:30 – 10:45	Welcome & Opening session	REMPEC
	Introduction of speakers and host	Representatives All Participants
	Goals of the webinar Tachnical beyonkering (chat, O.S.A. nell tools)	All Participants
10:45 10:55	Technical housekeeping (chat, Q&A, poll tools) Priof introduction to the Balloct Water Management	Dr. Matai David
10:45 – 10:55	Brief introduction to the Ballast Water Management (BMW)	Dr. Matej David (REMPEC
	BWM Convention adoption & entry into force	Consultant)
	 Need for amendments to the BWM Convention 	
	Earliest entry into force of the amendments	
	Ongoing work of IMO MEPC	
10:55 – 11:20	Ballast water issue – where we were, where we are	Dr. Matej David
	Species transfer with ballast water	(REMPEC
	Which organisms are of a threat/unwanted?	Consultant), Dr.
	Invasions cases / harmful consequences M/s at is the agree and situation 2.	Stephan Gollasch
11.00 11.00	What is the present situation?	
11:20 – 11:30	Q&A and Polls on the Ballast water issue – where we	All Participants
	were, where we are	
11:30 – 12:00	Ballast Water Management under the BWM Convention	Dr. Matej David
	D-2 BWM Performance standard	(REMPEC
	Ballast Water Exchange Areas	Consultant)
	Reception Facilities	
	Ballast Water Reporting	
	Contingency Measures	
	Additional Measures	
	Warnings	
	Exemptions	
	Risk Assessment	
12:00 42:20	PSC Inspections Petrophysia brook	
12:00 – 12:30	Refreshment break	
12:30 – 13:15	Ballast Water Management under the BWM Convention	Dr. Matej David
12.00	(continues)	(REMPEC
	(Consultant)
13:15 – 13:30	Q&A and Polls on the Ballast Water Management under	All Participants
	the BWM Convention	, and antioiparito
13:30 – 13:45	Wron up 9 Novt Stone	Dr. Matai David
10.00 - 10.40	Wrap-up & Next Steps	Dr. Matej David (REMPEC
	Key takeaways of day 1	Consultant)
	Introduction to the 2 nd day of	Jon Bullant)
13:45	End of Day 1	

Day 2: Wednesday 12 November 2025

All times in CET

10:00 – 10:30	Registration of participants	
10:30 – 10:45 10:45 – 11:45	Welcome & Opening session Introduction of speakers and host Goals of the 2 nd day of webinar Technical housekeeping (chat, Q&A, poll tools) Regional BWM harmonised procedures Ballast Water Exchange Areas Regulation A-4 Exemptions Protocol for Identifying Target Species Port Survey Protocol Reception Facilities Contingency Measures Additional Measures Warnings	REMPEC representatives Dr. Matej David (REMPEC Consultant), Dr. Romina Kraus
11:45 – 12:00	Q&A and Polls on the Regional BWM harmonised procedures	All Participants
12:00 – 12:30	Refreshment break	
12:30 – 13:15	 BWM Convention implementation issues – what to do in the Mediterranean IMO Objectives for amendments of the BWM Convention after Experience Building Phase Risk Assessment for targeting vessels for Port State Control inspections Ballast water sampling as part of Port State Control inspections Contingency planning/measures in the case of a failure of the BWM system and challenging water Contingency measures when a vessel is found not compliant How can a non-compliant vessel prove compliance BWM Decision Support System for Mediterranean 	Dr. Matej David (REMPEC Consultant)
13:15 – 13:30	Q&A and Polls on the BWM Convention implementation issues	All Participants
13:30 – 13:45	Wrap-up & Next Steps • Key takeaways of day 2 • Closing remarks	Dr. Matej David (REMPEC Consultant) REMPEC Representatives
13:45	End of Webinar	

ANNEX 4 - Polls Q&A

POLLS Q&A ON THE BALLAST WATER ISSUE – WHERE WE WERE, WHERE WE ARE (correct answer)

Question (Q) 1: Which species is the ballast water management convention addressing?

Answer (A) 1: Alien species

A 2: Non-indigenous species

A 3: Harmful aquatic organisms and pathogens

A 4: Exotic species

Q 2: Which sectors are impacted by alien species?

A 1: Environmental sectors

A 2: Economical sectors, including tourism

A 3: Human health

A 4: All the above

Q 3: Why worry about introduced species?

A 1: Exactly, there is nothing we can do as these species will come anyway

A 2: Some species need time for a successful introduction and invasion, and they succeed with continuing spread

A 3: Most species show no impact so that the funds should better be spend elsewhere

A 4: New species findings are a natural process and nothing can be done about it

Q 4: Species introductions occur since humans sail the seas, so why bother now?

A 1: The invasion rate increased to record high levels. Each new species has the potential to cause disastrous changes to the recipient environment

A 2: True, most species will come anyway and cause no trouble

A 3: We do not need to worry about this because all species will die in ballast tanks during the voyage and during the pumping in and/or out of ballast water

A 4: We do not need to worry about this because all species will die when released in the new environment as they are foreigners not adapted to the local conditions

POLLS Q&A ON THE BALLAST WATER MANAGEMENT UNDER THE BWM CONVENTION

Q 5: What is the D-2 BWM Performance standard about?

A 1: D-2 standard defines how much ballast water needs to be exchanged

A 2: D-2 standard defines how much ballast water needs to be treated

A 3: D-2 standard limits the concentration of viable organisms in the discharged ballast water

A 4: D-2 standard limits the discharge of ballast water

Q 6: What is the use of Reception Facilities for BWM?

A 1: To receive sediments from tank cleaning

A 2: To receive discharged ballast water with sediments inside

A 3: Different reception facilities may receive sediments from tank cleaning or discharged ballast water with sediments inside

Q 7: Why are Contingency Measures for BWM needed?

A 1: To find a solution for not compliant ballast water to be managed that discharges do not pose any unacceptable risks to the environment, human health, property and resources.

A 2: To find a solution for not compliant ballast water when it has been discharged to the environment to remove the risks.

A 3: To find a solution for compliant ballast water to be discharged

A 4: To provide that ballast water is being discharged to a reception facility

Q 8: Why may Additional Measures for BWM be needed?

A 1: To charge more for management of ships ballast water.

A 2: To have better and more effective BWM requirements implemented

A 3: To remove harmful aquatic organisms or pathogens from the recipient environment

A 4: To provide for higher protection from harmful organisms discharged with ballast water which pose a higher threat to the recipient environment, economies and/or human health

Q 9: Why warning of ships may be needed?

A 1: Warnings are not needed because ships have their ballast water management systems

A 2: To prevent ships to load ballast water in critical conditions with outbreaks of harmful species, bacteria or very high turbidity

A 3: To prevent ships' ballast water management systems get dirty.

A 4: To prevent ships to discharge ballast water in critical conditions

Q 10: What may ships be exempted from?

A 1: Ships may be exempted from regular (Reg. B-3) and additional (Reg. C-1) ballast water management measures

A 2: Ships may be exempted from loading of ballast water in critical conditions

A 3: Ships may be exempted from compiling the ballast water record book

A 4: Ships may be exempted from using ballast water

POLLS Q&A ON THE REGIONAL BWM HARMONISED PROCEDURES

Q 11: Do we need harmonised BWM approaches in a region?

A 1: No, time will tell what needs to be done

A 2: Unsure if this would really be helpful

A 3: We should not interfere too much with the sovereignty of the shipping industry.

Remember, more than 80% of worlds cargo comes with ships

<u>A 4: Yes, because we like to avoid the situation that different countries in the same region implement different BWM rules as this adds burden on shipping</u>

Q 12: Do we still need ballast water exchange areas?

A 1: No, D-2 kicked in and has to be followed

A 2: Yes, some countries (may) require exchange plus treatment or these areas may be used for contingency measures

A 3: No, all vessels have to use BWMS

A 4: Ballast water exchange was phased out by the now required D-2 standard

Q 13: What may Risk Assessment under the BWM Convention be used for?

- A 1: Risk Assessment may only be used for Exemptions
- A 2: Risk Assessment may only be used for Ballast water Exchange Areas
- A 3: Risk Assessment may be mainly used for Warnings.
- A 4: Risk Assessment is needed for multiple uses, including Exemptions, Additional measures, designation of Ballast Water Exchange Areas, Warnings and targeting ships for PSC

Q 14: Where are sediment reception facilities needed?

- A 1: In ports where ships discharge ballast water with sediments
- A 2: In Ports where sediments are separated from ballast water
- A 3: Wherever cleaning or repair of ballast tanks occurs
- A 4: Only in shipyards where ballast tanks are cleaned

Q 15: What is the Port Survey Protocol focused on?

- A 1: Port information
- A 2: Environmental information
- A 3: Target species
- A 4: All of the above

Q 16: What is the difference between a Port Baseline Survey (PBS) and Monitoring of HAOP in ports?

- A 1: Monitoring of HAOP is more comprehensive than a PBS
- A 2: PBS for HAOP is conducted as a first comprehensive survey and is followed by continuous Monitoring of HAOP at some regular frequency
- A 3: Monitoring of HAOP is to be done first followed by an occasional PBS
- A 4: PBS and Monitoring of HAOP are both needed at the same time

POLLS Q&A ON THE BWM CONVENTION IMPLEMENTATION ISSUES

Q 17: What should a PSC Officer do when a responsible crew member is not familiar with BWM procedures?

- A 1: Inform the responsible crew member(s) what he should do
- A 2: Take note and inform them that they should learn the procedures until the next port of call
- A 3: Not allow ballast water discharge until this can be done without presenting a threat
- A 4: Provide for adequate sanctions/fines and let the ship discharge ballast water

Q 18: Why is ballast water sampling needed?

- A 1: To avoid that marine water is discharged in freshwater ports and vice versa
- A 2: To check if the water is contaminated with pollutants from ballast water uptakes in previous port(s)
- A 3: To prove compliance with the D-2 standard
- A 4: To create awareness in shipping crews which organism they bring in

Q 19: What to do when PSC finds out that the ballast water does not meet D-2

- A 1: Discharge it anyway as what can you do?
- A 2: No problem, D-2 is only a recommendation
- A 3: Follow the contingency measure implemented in that port
- A 4: Ensure to meet D-2 when your vessel will call again for this port

Q 20: What to do when Maritime Authorities receive information about a vessel showing non-compliance in a previous port?

- A 1: Not allow ballast water discharge until this can be done without presenting a threat
- A 2: Provide for adequate sanctions/fines and let the ship discharge ballast water
- A 3: Conduct ballast water sampling to prove compliance with the D-2 standard
- A 4: Take note and inform the vessel that they should pay more attention to correct BWM procedures

Q 21: What would a BWM Decision Support System for the Mediterranean Sea be useful for?

- A 1: To take decisions instead of Maritime Authorities in the Mediterranean
- A 2: Provide information about how ships conducted BWM
- A 3: Take the decision what a ship should do for appropriate BWM
- A 4: Provide supporting information to Maritime Authorities including risks related to ballast water to be discharged and other important information for their effective decision making in BWM