# Real Ballast Facts Bulletin

Issue #15, 18 Mar 2025

**Stay in touch with BEMA!**

- Visit our website www.BWEMA.org
- Follow BEMA for the latest ballast water and biofouling scuttlebutt, news, and regulatory updates.
- Follow us on X: @BEMAssociation and LinkedIn: Official BEMA LinkedIn Page
- For any questions, ask the BEMA External Affairs Committee at external-affairs@bwema.org

## 2025 Is Shaping Up to Be A Big Year in Ballast and Biofouling!

With the implementation schedule for ballast water management systems ending on September 8, 2024 and the IMO finalizing their second set of guidelines for biofouling by dealing with matters relating to the in-water cleaning of ships' hulls, it would be easy to think that there would not be much to talk about in 2025. But nothing could be further from the truth! Good thing you have your friends at BEMA and all of our #ballastgeeks and #foulinggeeks to help keep you informed of the latest developments in the continued fight to prevent the spread of aquatic invasive species by ships' hulls!

### Ballast Water

On the ballast water side of things, 2025 is bringing the industry new regulatory updates, new ballast water management system (BWMS) approvals, and increased focus of Port State Control on ballast water compliance. New guidelines for operations in challenging water, the demands of the Carbon Intensity Index (or CII), and increased scrutiny over the byproducts of ballast water treatment are all creating an increasingly stringent regulatory environment for the industry to have to deal with. There are both amendments to existing ballast water regulations coming into force and the continued modification of and introduction of updates to current BWMS that can create both challenges and opportunities to improve vessel performance.

Central to the new evolution in the Ballast Water Management Convention is the adoption of new record-keeping and reporting guidelines. From February 1, 2025, amendments outlined in Circular BWM.2/Circ.80 and Resolution MEPC.369 (80) will standardize procedures for completing the Ballast Water Record Book (BWRB). Additionally, from October 1, 2025, electronic record-keeping will further transform compliance requirements, allowing electronic BWRBs as an alternative to traditional hard-copy formats.

Make sure your crews are aware of these changes as well as the IMO-approved means of validating and approving the electronic logs for Masters to prevent your ships from having their documentation out of compliance. The specific IMO documents that deal with these new changes are:

MEPC.369(80) Amendments to Appendix II (Form of Ballast Water Record Book)

BWM.2/Circ.80 Guidance on ballast water record-keeping and reporting
MEPC.372(80) Guidelines for the use of electronic record books under the BWM Convention
MEPC.383(81) Amendments to Regulations A-1 and B-2 (Use of Electronic Record Books)

## Currently Verified CMD Technologies

Also on the ballast waterfront, BEMA is pleased to announce that some of our members have recently completed testing their compliance monitoring devices in accordance with the IMO's "Protocol for verification of ballast water compliance monitoring devices" (BWM.2/Circ.78)!

During the 9th session of IMO's Sub-Committee on Pollution Prevention and Response (PPR 9), it was agreed that it would be beneficial to have a publicly available list of verified Compliance Monitoring Devices (CMDs). In response to this need, BEMA offered to host the list of verified CMDs on our website. To be included on this list, manufacturers of CMD technologies must be verified in accordance with the IMO's protocol by an independent third party then they must inform BEMA (info@bwema.org) of completing these requirements and submit information on where to access the verification documentation and/or any testing data associated with their verification process. Then BEMA adds that information to the list and shares it publicly.

BEMA does not research verified technologies to be added to this list and all technologies wishing to be included on this list and posted on BEMA's website must submit their data directly to BEMA. BEMA does not promote, endorse, recommend, or otherwise support any particular CMD technology. Also, you do not have to be a BEMA member to be added to the list (but why wouldn't you be a BEMA member??). BEMA hosts the list in order to support the IMO and to help disseminate information to all interested stakeholders about verified CMDs that are available on the market.

BEMA is proud to announce that our member MicroWISE is the first company on the list!! For more details on MicroWISE, see our Member Spotlight at the end of this newsletter. If you're interested, the list of Currently Verified CMD Technologies is located here: Ballastwater & Environmental Manufacturers' Association List of Verified Compliance Monitoring Devices (CMDs). MicroWISE has posted their information here: https://microwise.eu/ and https://microwise.eu/publications/, and you can also access this information through the link on our website.

Congratulations, MicroWISE!!

## Biofouling

One of the biggest news items over the past quarter has been that the ISO has finalized and released, ISO 20679:2025 Ships and marine technology — Marine environment protection — Testing of ship biofouling in-water cleaning systems.

This document provides detailed and rigorous procedures for the independent performance testing of all forms of ship in-water cleaning (IWC), including on all types of biofouling (i.e. biofilms/microfouling and macrofouling), all external submerged surfaces (i.e. hull and niche areas), and both proactive and reactive IWC systems with or without the capture, processing, and disposal of debris. The document also includes testing protocols and describes how to produce data and report on the efficacy and safety of IWC systems to clean various ship surfaces and for the capture and disposal of cleaning debris.

For more details on the requirements, you can pick up the standard through the ISO.

---

## Release of Draft Guidelines for Matters Relating to In-Water Cleaning to Prevent Biofouling

At PPR 12, the IMO also finalized the draft text of their Guidance on Matters Relating to In-Water Cleaning of Ships' Hulls to Prevent Biofouling which has been sent to MEPC 83 for finalization and publishing. These guidelines are the companion document to the 2023 Biofouling Guidelines and are intended to help ship owners in planning and conducting cleaning of their vessels to maintain their hull conditions and address issues found during biofouling inspections. A few key points from the draft guidelines include:

- cleaning of areas with a biofouling risk level of 1 may be done without capture. Areas with a risk of 2 and above should be cleaned with a process that includes capture;
- for systems with capture included, all particles greater than 10um should be captured by the system and either removed from the aquatic environment and disposed of ashore or should be treated prior to reintroducing into the marine environment; and
- inspection of the areas cleaned can be accomplished during the cleaning provided the equipment and divers are capable of both inspecting and cleaning with the tools at hand

For more details about the final Guidelines, look for our next newsletter which will be published after MEPC 83.

---

## Release of Biofouling Management Guidance for Recreational Craft

Additional guidance was published regarding the biofouling management options for recreational boaters, boating associations, marinas, and administrations in the OSPAR and HELCOM regions for both, freshwater bodies and marine waters. The primary aim of this guidance is to draw attention to the problems associated with biofouling on recreational craft and trailers, as well as to raise awareness and offer solutions to minimize the following targets:

- the risk of transferring NIS via biofouling of recreational craft and trailers;
- decreased performance of recreational craft and increased fuel consumption and CO2 emissions due to hull fouling; and
- discharge of hazardous substances and waste particles from anti-fouling systems (AFS) into water bodies.

Report is available here: **"Biofouling management guidance for recreational craft. HELCOM (2025)"**

# Regulatory Updates & Info

### ★ IMO

**PPR 12 Update**


BEMA again sent a delegation to participate in the IMO's 12th meeting of the Pollution Prevention and Response Subcommittee (PPR), held from January 27th through January 31st.

This time the delegation consisted of: BEMA Technical Director Mark Riggio and a selection of BEMA's Biofouling Subcommittee members: Anjali D. Boyd of Fleet Robotics, Petter Korslund of Jotun and Karl Lander of Subsea Global Solutions.

One of the key outcomes of PPR 12 was the approval of draft guidance for the in-water cleaning of ships' biofouling (see more details above). This guidance was developed by the Correspondence Group, led by Canada, and reviewed by the Working Group. The final version was proposed and approved by the Subcommittee for finalization at MEPC 83.

The Working Group also approved an amendment to the inventory of hazardous materials to clarify the measurement of cybutryne, distinguishing between measurements in paint with dry film and in the paint container. These amendments were approved by the Subcommittee.

Lastly, the Working Group briefly discussed the submission to MEPC 83 from Norway, Canada, Australia, and others, proposing a mandatory instrument on biofouling management (MEPC 83/14/1). This would involve developing a legally binding framework for controlling and managing ships' biofouling to minimize the transfer of invasive aquatic species. More information on this development will be shared as it becomes available, but you can be sure that your #foulinggeeks are already preparing for these exciting developments.

With IMO looking to continue work on biofouling management, BEMA is perfectly poised to bring our members' experience and knowledge to the building of the Convention, should it be decided to move ahead at MEPC 83. So make sure you do not miss out! Join BEMA today and make sure you have a voice at the table.

## ★ UNITED STATES REGULATORY DEVELOPMENTS

The U.S. Coast Guard Office of Commercial Vessel Compliance released a warning through their Maritime Commons blog regarding the use of unauthorized chemicals for ballast water management systems.

The Coast Guard has been made aware of instances of the use of unauthorized chemical products in Ballast Water Management Systems (BWMS). Companies and vessels must ensure they use chemicals that are listed in the Operations, Maintenance, and Safety Manual (OMSM) for their particular BWMS. Use of the incorrect chemical product for treatment invalidates the type approval for the BWMS and could result in ineffective treatment. During BWMS checks, Coast Guard Inspectors verify that the chemical manufacturer and type on the chemical storage tank matches that required through the OMSM. Operators must ensure that the properly listed chemicals are being used for the BWMS to prevent the issuance of deficiencies or fines for not operating the type-approved BWMS in accordance with the system's OMSM.

The use of non-approved chemicals can result in safety concerns for the crew, vessel and inspectors. Further, it could result in the BWMS failing to meet system testing standards in 46 CFR 162.060 or the discharge standards in 33 CFR 151.

Here is a link to the article: Use of Unauthorized Chemicals for Ballast Water Management Systems

## Recent & Upcoming Industry Events

**CMA Shipping** - April 1 - 3, Stamford, CT

**IMO MEPC 83** - April 7 - 11, IMO Headquarters, London

**NORSHIPPING** - June 2 - 6, Oslo (60th Anniversary). Save the date for the Annual Meeting

## Member Spotlight

*Disclaimer: The Member Spotlight expresses the opinion of the contributing Member. BEMA is not responsible for the statements nor does BEMA endorse individual persons or companies.*

*Each publication of the Real Ballast Facts Bulletin shines a spotlight on a featured BEMA Member. We're proud of our Members and are happy to share their accomplishments, industry developments and latest news. All BEMA Members have equal opportunity to be featured and are encouraged to contact external-affairs@bwema.org for details.*

This edition's Member Spotlight is on Associate Member, MicroWise.

MicroWISE is a company developing test equipment for automated testing and sampling of live organisms in ballast water samples. MicroWISE was officially founded in 2017, and the aim was from the beginning to develop rugged and user-friendly ballast water compliance test equipment that can be used by everyone.

The test equipment is available in the form of BallastWISE, a portable Compliance Monitoring Device (CMD) and the BallastWISE Sampler unit.

The BallastWISE CMD is the first CMD that has been successfully validated according to the IMO verification protocol BWM.2/Circ.78 (Protocol for Verification of Ballast Water Compliance Monitoring Devices). BallastWISE can verify that ballast water complies with IMO and USCG standards. The test results are published in the IMO paper MEPC 83/INF.23 (Denmark).

The BallastWISE sampler unit concentrates organisms ≥50µm to test for concentrations as low as 10 organisms per $m^3$ with minimal stress on organisms during collection.

The BallastWISE CMD is basically an automated tracking microscope. It counts and measures live organisms individually in the two size fractions ≥10 to < 50 µm and ≥50 µm based on motion detection and active fluorescence (imaging PAM). Photo documentation is available in the form of

fluorescence images and plots of swimming tracks, and it is even possible to perform a Video Expert Review on the results. Some key characteristics:

- No addition of chemicals or other forms of sample preparation are required
- Operable by anyone, no lab training is necessary
- Patented technology
- Validation in accordance with the BWM.2/Circ.78 (Protocol for Verification of Ballast Water Compliance Monitoring Devices), which is a rigorous testing regime including both laboratory and field tests.

*BallastWISE portable CMD (left), and the BallastWISE Sampler during shipboard test (right).*

Since September 8, 2024, all ships must meet the D-2 ballast water discharge standard. To ensure compliance with the D-2 standard ballast water sampling equipment and compliance monitoring devices are highly practical pieces of equipment for the maritime industry, both for commissioning test service providers and port state control.

Like all technical installations Ballast Water Management Systems (BWMS) are subject to wear and tear and can fail. Recent studies have shown that if a BWMS failed, the >50µm fraction was the main cause of non-compliance. BallastWISE can measure and document this size fraction.

Ship owners may also find it beneficial to monitor their own ballast water quality. Regular testing of the efficacy of ballast water treatment systems (BWTS) onboard ships can be a great help in revealing problems early enough to avoid failed tests causing delays in port. In recognition of the potential value of this, MicroWISE has recently been rewarded a grant from the Danish Environmental Agency and from the Danish Maritime Fund to develop and fully test a robotic sampling unit using the same measurement technology but with the possibility of fixed installation on board vessels or in conjunction with shore-based ballast water treatment systems.

We make continuous efforts in improving our technology, with a keen eye for innovation and the changing needs of our customers. More information about the company and the products is available at microwise.eu

*Nick Blackburn (CTO at MicroWISE and Pia Haecky (CEO) with the BallastWISE Inline robot for installation on board of vessels or in conjunction with shore-based ballast water treatment systems, at the Port of Aarhus, Denmark.*