INTERNATIONAL MARITIME ORGANIZATION

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SUB-COMMITTEE ON POLLUTION PREVENTION AND RESPONSE
13th session
Agenda item 5

PPR 13/5/8
5 December 2025
Original: ENGLISH
Pre-session public release: ☒

DEVELOPMENT OF A LEGALLY BINDING FRAMEWORK FOR THE CONTROL AND MANAGEMENT OF SHIPS' BIOFOULING TO MINIMIZE THE TRANSFER OF INVASIVE AQUATIC SPECIES

Proposal for encouraging submission of further data on biofouling management to support the development of the legally binding framework

Submitted by Republic of Korea, BEMA and Global TestNet

SUMMARY

Executive summary:	This document proposes encouraging the submission of additional information to support the development of a legally binding framework for the control and management of ships' biofouling.
Strategic direction, if applicable:	7
Output:	7.16
Action to be taken:	Paragraph 19
Related documents:	MEPC 83/14/1, MEPC 83/17; resolution MEPC.378(80) and MEPC.1/Circ.918

Background

1 The eightieth session of the Marine Environment Protection Committee (MEPC 80) adopted the *2023 Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species* (hereinafter referred to as the "2023 Biofouling Guidelines"), and MEPC 83 approved the *Guidance on in-water cleaning of ships' biofouling* (hereinafter referred to as the "In-Water Cleaning Guidance").

2 Following consideration of a proposal in document MEPC 83/14/1 (Canada et al.), MEPC 83 agreed to include in its post-biennial agenda a new output to develop a legally binding framework to minimize the transfer of invasive aquatic species via biofouling and assigned it to the Sub-Committee on Pollution Prevention and Response (PPR), with agreement to complete discussions within four sessions, from 2026 to 2029.

Need for additional data

3 During MEPC 83, some delegations expressed the view that more experience with the recently developed 2023 Biofouling Guidelines and In-Water Cleaning Guidance was needed prior to the development of a mandatory instrument on biofouling. MEPC 83 agreed to proceed with the development of a mandatory instrument on biofouling but also welcomed additional information as it comes available to help inform the development of the mandatory instrument.

4 As a benchmarking case, the BWM Convention was developed based on earlier Guidelines, notably Assembly resolutions A.774(18) of 1993 and A.868(20) of 1998, which aimed to control and manage ships' ballast water in order to minimize the transfer of harmful aquatic organisms and pathogens. Similarly, a forthcoming legally binding framework is expected to be developed based on the 2023 Biofouling Guidelines and the In-water Cleaning Guidance. According to the terms of reference of the new output, as set out in paragraph 32 of document MEPC 83/14/1, these Guidelines and Guidance should also be considered when developing the legal framework.

5 During the recent international forum on ship biofouling management, held in Seoul, the Republic of Korea, as a part of Korea Maritime Week, the importance of additional data was discussed. The presentations and panel discussions from the forum are summarized in document PPR 13/INF.10 (Republic of Korea).

6 Following the completion of the international forum on ship biofouling management, and after a comprehensive review of the 2023 Biofouling Guidelines and In-water Cleaning Guidance, the co-sponsors have noted a number of gaps which would benefit from the collection and submission of additional data as well as relevant technical and scientific information to support the development of a practical and implementable legal framework for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species.

Biofouling rating

7 Chapter 4 of the 2023 Biofouling Guidelines states that the primary objective of biofouling management is to minimize the transfer of invasive aquatic species. Although a clean hull is not clearly defined, the Guidelines recommend cleaning when the biofouling rating is ≥ 2 and specify that the rating should be reduced to ≤ 1 after cleaning. Scientific data, such as biofouling risk assessment, are needed for evaluating whether the proposed rating system is appropriate and whether a rating of 1 is sufficient to meet the objectives for biofouling management.

Preventive measures

8 Chapters 5, 6 and 9 of the 2023 Biofouling Guidelines emphasize a preventive approach to biofouling management. Ship design, installation and maintenance of anti-fouling systems and proactive cleaning should be prioritized over reactive cleaning. Scientific data or information assessing the effectiveness of these preventive measures would be valuable for developing relevant provisions and/or guidelines (e.g. criteria for verification procedures and approval of preventive measures). While preventive measures are encouraged, it is also important to recognize that many in-water cleaning technologies are still emerging. Therefore, the framework should also ensure that reactive cleaning remains a viable, safe and environmentally sustainable contingency option, particularly in cases where proactive measures are not feasible due to operational or technical constraints.

9 Deviations from the biofouling management plan, such as changes in operational profiles (e.g. extended anchorage, change in operating region from temperate to tropical waters, expansion into brackish or freshwater areas, intentional reduction of speed) or damage to anti-fouling systems, may affect biofouling management. Experience and data on such deviations are useful for developing practical guidelines to update or revise the biofouling management plan.

Inspection

10 Chapter 8 of the 2023 Biofouling Guidelines recommends inspections, which are more like monitoring biofouling and differ from traditional inspections as understood and required under other conventions (i.e. for port State control). Biofouling inspections are conducted at fixed intervals to assess the condition of anti-fouling systems and the extent of biofouling. Relevant data is useful for determining whether the recommended intervals of 12 or 18 months are appropriate for monitoring biofouling and the condition of the anti-fouling system.

11 Biofouling inspections should cover the entire wetted surface of the hull, including niche areas, from bow to stern. Inspection methods include diver-based visual and camera inspections as well as the use of underwater drones. Inspections should be conducted efficiently and accurately during port stays or idle time (berthed, anchored and moored). Data on practical inspection methods and verified technologies for assessing biofouling ratings and hull condition are valuable to support future implementation of biofouling management.

In-water cleaning operations

12 The In-Water Cleaning Guidance outlines procedures for selecting in-water cleaning systems (IWCS), facilitating information exchange between ship and service provider, preparing and inspecting before cleaning, planning, conducting in-water cleaning, and performing post-cleaning activities. These procedures are expected to be developed as future guidelines under a legally binding framework.

13 Since the In-Water Cleaning Guidance was only approved in 2025, there is limited experience regarding practical challenges in its implementation. Data are needed on equipment compatibility with anti-fouling systems, effectiveness of information exchange and the ability of service providers to carry out all procedural steps. It is also essential to consider the practical realities of ship operations, including trading patterns, coating compatibility and crew intervention limitations. Gathering best practices will help develop realistic and effective guidelines for in-water cleaning operations.

14 For ships engaged in international voyages, hull cleaning is regularly performed using remotely operated vehicles (ROVs) to improve fuel efficiency. However, current ROV technologies face challenges in accessing and cleaning niche areas, such as propellers, sea chests and bow thrusters. When in-water cleaning is conducted manually by divers using hand tools, there is uncertainty as to whether in-water cleaning can be completed within the time frame required by the ship, and whether the waste substances and debris can be effectively captured during the operation. If these issues are discussed and taken into consideration during the development of a legally binding framework, scientific and technical information and data will be helpful.

Verification of in-water cleaning technologies

15 At a practical level, it is necessary to establish the most conservative targets for minimum performance standards for removal and capture, and discharge water quality of

IWCS, particularly when these systems incorporate separation and treatment units, taking into account the global availability of in-water cleaning technologies.

16 Although various in-water cleaning technologies are commercially available, no IWCS has yet been validated in line with the In-Water Cleaning Guidance. The availability of verified IWCS is essential for effective biofouling management. The future legally binding framework may include regulatory provisions for effluent discharge standards where removal, capture and post-treatment systems are used.

17 The In-Water Cleaning Guidance references ISO 20679 as a test standard for IWCS verification. The applicability and effectiveness of ISO 20679 should be reviewed, including the potential role of land-based testing facilities. Gathering relevant scientific data will be valuable to support the verification of innovative, practical and reliable IWCS, thereby informing the development of related provisions and guidelines.

Proposals

18 The gathering of data for biofouling management will be instrumental in developing a scientifically sound and objective legal framework and associated guidelines. The co-sponsors propose the encouragement by the Sub-Committee of the submission of data to future sessions based on the identified gaps discussed in paragraphs 7 to 17.

Action requested of the Sub-Committee

19 The Sub-Committee is invited to encourage the submission of data as proposed in paragraph 18 in the context of discussions on the development of a legally binding framework for biofouling management.