

Consultation – new Regulations on the management of hull biofouling

I. General information on the proposal

1. Deadline and contact details

The Norwegian Maritime Authority (NMA) hereby circulates for review the proposed Regulations on the management of hull biofouling.

The deadline for comments is set for **6 June 2024**. Please submit any comments to post@sdir.no.

The proposal is available on the NMA's website www.sdir.no. For inquiries regarding the proposed Regulations, please contact the project leader Linda Dehlin Fluvåg at ldfl@sdir.no. We encourage consultative bodies and other affected parties to provide their comments.

2. The proposal in brief

The proposed Regulations apply to the management of hull biofouling on ships and mobile offshore units certified for international voyages entering Norwegian waters.

These Regulations aim to prevent the introduction of hazardous invasive species to Norway through hull biofouling resulting from international shipping, and to prevent the further spread of hazardous non-indigenous species in Norwegian waters. Two provisions of the Regulations will also apply to ships solely certified for domestic voyages.

The proposed Regulations require shipping companies to establish an overall system and a biofouling management plan, as well as maintain a biofouling record book. Additionally, specific requirements are outlined for conducting in-water hull cleaning to prevent the spread of hazardous non-indigenous species to the greatest extent possible. Furthermore, the Regulations allows for supervisory authorities to mandate the removal of biofouling in exceptional cases.

The proposed Regulations are based on the IMO's *2023 Biofouling Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species* (hereafter referred to as the Guidelines). These Guidelines are accessible on the [IMO website](#) and offer guidance on the management of biofouling. The industry can use these Guidelines as a supplementary resource alongside the Regulations on the management of hull biofouling.

3. The background for the proposal

Since receiving the allocation letter of 2021, the Norwegian Maritime Authority (NMA) has been tasked with considering and proposing a possible implementation of the IMO's Biofouling Guidelines. Over this period, we have been developing new Regulations on the management of hull biofouling, coinciding with the update of



the IMO Guidelines. The revised Guidelines were adopted in July 2023. As per the NMA's allocation letter of 2024, Norwegian provisions for biofouling must be circulated for review and adopted by the end of June 2024.

Hull biofouling presents several negative consequences, with environmental and financial impacts being among the most significant. Hazardous non-indigenous species are introduced through hull biofouling, and many have already established themselves in Norwegian waters. The introduction of non-indigenous species to new marine environments poses a major threat to biodiversity maintenance. Norway must try to limit the harmful effects of environmental threats at sea.

Identifying introduced hazardous non-indigenous species is challenging, and it is difficult to control their introduction without also controlling harmless accompanying species. Additionally, predicting the extent of the effects of non-indigenous species on our environment is often challenging. Therefore, it is essential that we follow a precautionary approach.

Moreover, our understanding of how effectively different methods of in-water hull cleaning prevent the spread of hazardous non-indigenous species is limited. There is currently no universally accepted standardised method for managing biofouling resulting from hull cleaning. These challenges complicate the regulation of hull cleaning practices while adequately safeguarding the environment. Therefore, based on the precautionary principle, the NMA considers it appropriate to regulate in-water hull cleaning requirements with a requirement for capture.

Various methods for in-water hull cleaning, both with and without capture, are under development. This is why exemptions have been granted from the main provision of the Regulations on cleaning with capture, and why cleaning without capture has been allowed, provided that evidence can be provided that the method employed prevents the spread of hazardous non-indigenous species.

Despite the challenges associated with the regulation of biofouling, there is a clear need for a regulatory framework to address hull biofouling on ships and mobile offshore units. Currently, there are no regulations specifically aimed at preventing the spread of non-indigenous species from international waters and further spread within Norway. Therefore, specific regulations are needed to actively prevent the introduction and further spread of non-indigenous species to Norway via hulls.

The proposed Regulations is based on the IMO's 2023 *Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species*, which were revised and adopted by the IMO in July 2023. It should be noted that the draft Regulations are stricter than the recommendations in the IMO Guidelines (see sections 9 and 10).

4. Legal basis, scope of application and obligated party

The legal basis for these Regulations is found in sections 31 to 33 of Ship Safety and Security Act. This Act applies to both Norwegian and foreign ships, as stipulated in section 2 first paragraph. The Ship Safety and Security Act applies to Norwegian ships irrespective of their location. The Act applies to foreign ships in Norwegian territorial waters, in the Norwegian economic zone and on the Norwegian Continental Shelf, within the constraints specified by international law, as outlined in the first and second paragraphs of section 3.

Section 1 of the Ship Safety and Security Act stipulates one of the Act's purposes as the prevention of pollution from ships. In section 31, it is set out that pollution "*of the external environment by the discharge or dumping from ships [...] or pollution in any other way in connection with the operation of the ship is prohibited, unless otherwise decided by law or regulation laid down pursuant to law*". According to the preparatory works for the Norwegian Ship Safety and Security Act, the term "external environment" encompasses all elements in nature, including air, sea and earth. Consequently, the prohibition applies to pollution by discharge, dumping or in any

other way.¹ The phrase “in any other way” suggests that virtually any form of pollution “in connection with the operation of the ship” is covered, provided it results in damage or inconvenience.

The Norwegian Maritime Authority suggests that the term “pollution of the external environment” pursuant to sections 31 to 33 of the Ship Safety and Security Act encompasses both biofouling itself and residues from the removal and cleaning of hull biofouling.

Section 33 second paragraph stipulates that the Ministry may issue regulations containing additional requirements for ship operation to prevent pollution, including discharge, as outlined in subparagraph a. The NMA has been delegated authority to prepare and issue such regulations in accordance with section 33 second paragraph pursuant to Formal Delegation of 29 June 2007 No. 849. This provision provides the legal basis for Regulations on biofouling.

II. Details of the proposal

1. General

The legislation concerning the management of biofouling will initially establish a regulatory framework requiring the implementation of an overall system to enable the crew on board the ship or the mobile offshore unit to efficiently control and manage hull biofouling. These proposed Regulations may be amended as we gain more knowledge of methods for handling biofouling and the damage potential of different types of biofouling.

A requirement for a biofouling management plan is introduced. The intent of the plan is to describe measures to ensure that the biofouling of the ship or mobile offshore unit is limited and kept at a minimal level. Additionally, a biofouling record book is required, in which all biofouling-related activities must be recorded.

Moreover, the Regulations encompass specific requirements related to hull that are to be cleaned in Norwegian waters. In addition, the supervisory authority is given the opportunity to mandate the removal of biofouling that presents a particular risk of spreading hazardous non-indigenous species.

The NMA has prioritised the establishment of a regulatory framework to assist ships and mobile offshore units in safeguarding themselves against undesired biofouling conditions. The proposed Regulations set forth requirements aimed at achieving a preventive effect concerning biofouling. Implementing effective preventive measures can be crucial in avoiding biofouling.

The Regulations are set to come into effect on 1 July 2024, but a delayed entry into force on 1 July 2025 is preferable. This delay would afford all parties time to acquaint themselves with and adhere to the Regulations. Additionally, such a transitional period would facilitate necessary preparations by the authorities for enforcing the Regulations.

2. Legislative limitations

Ships certified solely for domestic voyages are not subject to the requirements concerning a biofouling management system, plan, record book and inspection. This exclusion is primarily motivated by the duty of due care outlined in section 18 of the Regulations on alien organisms², which often addresses situations involving the spread of non-indigenous species within Norwegian waters. Additionally, the highest risk of introducing hazardous non-indigenous species occurs during international voyages.

¹ Ot. prp. No. 87 (2005–2006) on the Act relating to ship safety and security pages 121 to 122

² Regulations of 19 June 2015 No. 716 on alien organisms

The NMA assesses that the provisions outlining requirements for cleaning in Norwegian waters (see section 9) and mandating hull cleaning in exceptional cases of biofouling (see section 10) will adequately address the spread of hazardous non-indigenous species on a national level.

In introducing a new set of regulations to manage hull biofouling, the NMA considers it most pertinent to prioritise ship traffic posing the greatest risk. Subsequently, additional provisions of the Regulations may be extended to vessels certified solely for domestic voyages at a later stage.

3. Parts of the proposal where input is particularly desirable

The NMA values feedback on all aspects of the proposed Regulations, however, we are particularly interested in feedback on specific sections.

Due to our limited knowledge of the environmental effects of biofouling and non-indigenous species, and in line with the precautionary principle, we believe that establishing hull cleaning with capture as a general rule is important. Section 9 of the Regulation proposes allowing hull cleaning in Norwegian waters, provided it is conducted with capture. During the consultation process, we invite detailed input on in-water hull cleaning, especially if supported by well-documented research. This includes insights on available technologies for hull cleaning with capture, conducting inspections and hull cleaning on mobile offshore units, as well as information on low-risk areas along the Norwegian coast for hull cleaning without capture.

The Regulations include several definitions intended to strengthen the legislation (details can be found the comments to the individual provisions). We have not consulted with other authorities regarding the final content of the definition of biofouling in section 3 of the proposed Regulations, and we value input on whether it aligns with comparable definitions in other national regulations.

As the Regulations are scheduled for entry into force on 1 July 2025, we seek input on the feasibility for shipping companies, ships and mobile offshore units to implement the necessary systems for biofouling management in accordance with the Regulations prior to this date.

4. Comments to the individual provisions

To section 1 Purpose of the Regulations

The Regulations include a preamble to state the purpose of the Regulations.

It is the NMA intent to limit, control and manage the introduction of hazardous non-indigenous species, both from international shipping to Norway and through their spread in Norwegian waters.

To section 2 Scope of application

Section 2 outlines the geographical and substantive scope of the Regulations. Initially, it lists the various vessel groups along with relevant trade area restrictions. The Regulations primarily apply based on the location of ships and mobile offshore units. Specifically, they are applicable when the ships and mobile facilities are located in Norwegian territorial waters, including those near Svalbard and Jan Mayen, in the economic zone of Norway or on the Norwegian continental shelf.

The broad scope of the Regulations, extending to the Norwegian continental shelf, aligns with their main purpose of limiting, controlling, and managing the introduction of hazardous non-indigenous species. Recognising the environmental aspect of the Regulations, the NMA deems it necessary to safeguard Norwegian waters against hazardous non-indigenous species to the fullest extent possible.

The Regulations draw a clear distinction between ships certified solely for operation in Norwegian territorial waters and those certified for foreign voyages (see the first and last paragraphs of the provision). Moreover, they apply to foreign ships and mobile offshore units entering waters under Norwegian jurisdiction, and the scope of application has been designed for this purpose (see the second paragraph, cf. section 3 of the Ship Safety and Security Act). The waters near Svalbard and Jan Mayen are considered foreign voyages in accordance with sections 5 and 15 of the Trade Area Regulations. Ships and mobile offshore units certified for operation in these areas must therefore comply with all provisions of the Regulations.

International shipping is generally the primary source of introducing hazardous non-indigenous species. Additionally, such species spread within Norwegian waters after ships arrive in Norway, necessitating regulation to some extent. Therefore, the NMA proposes that parts of the Regulations also apply to ships solely certified for domestic voyages, as detailed in the last paragraph of section 2. In these instances, only sections 9 and 10 will apply. Including ships certified for domestic voyages is crucial as it allows for the imposition of requirements regarding hull cleaning in Norwegian waters and the removal of biofouling when necessary.

For mobile offshore units, there are no trade area restrictions specified in the first paragraph, unlike for passenger and cargo ships, barges and fishing vessels. This difference is due to the operational pattern of mobile offshore units, which can remain stationary for longer periods. A stationary mobile offshore unit will accumulate more biofouling than a moving ship, potentially acting as a hub for hazardous species, facilitating their spread to and from adjacent ships. Therefore, the NMA suggests that all mobile facilities located in Norwegian territorial waters, including those near Svalbard and Jan Mayen, in the economic zone of Norway or on the Norwegian continental shelf, will be subject to these Regulations.

The scope of the Regulations includes all types of ships and mobile offshore units. Since the trade areas for fishing vessels are not divided into domestic and foreign trade like those for passenger and cargo ships, it has been necessary to specify which trade areas will be covered by the Regulations.

These Regulations will not apply to recreational craft.

To section 3 Definitions

The Regulations contain several definitions to complement the legislation and establish a closer link to the IMO Guidelines. Furthermore, the NMA believes that these definitions, especially those incorporating English terms from the IMO Guidelines, will enhance understanding of the Regulations and clarify their alignment with the Guidelines.

One of the central terms defined is “biofouling”. While most relevant parties have a general understanding of biofouling, explicitly defining the term is necessary. Given the term’s frequent occurrence throughout the Regulations, providing a clear definition is essential to ensure understanding.

Additionally, the term “hazardous non-indigenous species” is defined. The definition is primarily drawn from the IMO Biofouling Guidelines, where the following is stipulated: “Biofouling is the accumulation of aquatic organisms such as microorganisms, plants and animals on surfaces and structures immersed in or exposed to the aquatic environment. Biofouling can include pathogens.” The definition provided aligns with the one previously presented by the Norwegian Maritime Authority. This was outlined in its knowledge base for potential Norwegian biofouling legislation developed in 2021/2022.

The term “anti-fouling system (AFS)” has also been defined, acknowledging its frequent use in the Regulations. The definition is broadened to include surface coatings equivalent to “anti-fouling coating” (AFC) and “marine growth prevention system” (MGPS), demonstrating the comprehensive scope of the anti-fouling system.

In addition, the term “biofouling control and management system” has been defined. Requirements for this system are stipulated in section 4 of the Regulations. The definition is intended to enhance comprehension of the provision and illustrate how the system aligns with other sections of the Regulations, see sections 5 and 6.

Lastly, the term “risk parameter” is defined. Given its frequent occurrence in the Regulations, it is appropriate to provide a definition. The definition aligns with the usage of the term in the IMO Guidelines.

To section 4 Biofouling control and management system

The provision mandates that the shipping companies establish, implement, further develop and document a system to control and manage biofouling on their ships and mobile facilities. This system is intended to be comprehensive, encompassing both a biofouling management plan and a biofouling record book, in line with the content of sections 5 and 6.

Integrating this system with the established safety management system of the shipping company and the ship or mobile offshore unit could prove beneficial. Additionally, the system can be aligned with established norms or best practices described in the Guidelines.

The norms in the Guidelines emphasise a proactive, involving an assessment of the risk of hull biofouling accumulation and continuous monitoring of various risk parameters during ship operation. The assigned risk profile should consider factors such as ship design and anti-biofouling system, tailored to each ship or mobile offshore unit. Definitions of risk parameters and trigger points for action should be tailored specifically to each individual ship or mobile offshore unit. Appendix 1 to the Guidelines offers guidance on how to conduct a biofouling risk assessment.

The requirement for a system, as outlined in section 4, applies to the shipping company, whereas the requirements for a plan and record book, as outlined in sections 5 and 6, apply to individual ships and mobile offshore units.

To section 5 Biofouling management plan

The first paragraph of the provision outlines the requirement for a biofouling management plan to be available onboard.

The second paragraph specifies requirements for the content of this plan. It should include a detailed description of actions and routines aimed at minimising the introduction and spread of hazardous non-indigenous species. The requirements are listed in subparagraphs (a) to (j), rendering the IMO Guidelines.

Additionally, the subparagraphs (a) and (b) below stipulate further requirements if biofouling risk parameters are monitored during the ship’s operation.

The list ensures that all essential details are covered in the plan.

The Norwegian Maritime Authority recognises the different operational profiles of mobile offshore units and ships. The IMO Guidelines are more tailored to ships compared to mobile facilities. In our opinion, it is crucial that the biofouling management plan for mobile facilities reflects their specific operational profile and areas of operation.

The IMO Guidelines address several significant terms. To maintain the integrity of the Guidelines, a terminology list has been included (see attachment 1 to the consultation letter, pages 13–14). Additionally, Appendix 3 to the Guidelines provides an example of a biofouling management plan design.

However, it is not the goal for Norwegian ships or mobile offshore units to provide specific plans for supervisory authorities to assess the content. Currently, it is left to the discretion of ships and mobile offshore units to determine the content of their respective plans.

To section 6 Biofouling record book

This provision proposes maintaining a biofouling record book specific to each ship and the mobile offshore unit, documenting all measures taken for the removal, control or management of biofouling.

It lists the necessary information that the record book should contain, including details about the anti-biofouling system, inspections conducted, cleaning operations, operational profile, and more. These requirements align with the IMO Guidelines. The Guidelines cover various significant terms, and a terminology list has been included in attachment 1 to this document. Appendix 4 to the Guidelines provides an example of how to structure a biofouling record book.

Similar to the biofouling management plan, there will likely be variations in the operational profiles of mobile offshore units and ships. Therefore, it is crucial that the biofouling record book for mobile offshore units reflects their specific operational profiles and areas of operation.

To section 7 Alternative to the system and biofouling management plan

The provision provides an alternative that allows for an equivalent solution. If a system and plan, as outlined in sections 4 and 5, are not in place, the ship or mobile offshore unit must demonstrate that biofouling has been removed from the hull within 30 days before entering Norwegian waters.

This alternative provides an alternative to the requirement for a system and plan for managing hull biofouling. In such cases, documentation must be readily available, verifying that biofouling has been removed within 30 days before entering waters under Norwegian jurisdiction.

Such documentation must indicate the time and location of the removal of biofouling, and the method used. This alternative provision should be seen as an exception, as the preference is for ships and mobile units to establish a system, including a plan and record book, to control and manage biofouling on the hull during operations.

To section 8 Fixed inspections and self-inspections of hull biofouling

Section 8 outlines requirements for regular inspections pertaining to the biofouling management plan and record book detailed in sections 5 and 6. As part of the plan and record book, organisations or personnel must evaluate the extent of biofouling and the condition of the ship's or mobile offshore unit's anti-biofouling system.

Organisations or personnel conducting these inspections must be independent and have no affiliation with shipping companies, ships, or mobile offshore units. Therefore, inspections under this provision must be conducted by a third party. The frequency of inspections is also specified. This inspection is distinct from the NMA's supervision role in verifying compliance with the regulatory requirements.

Recognising that regular inspections and biofouling removal operations can be complex for mobile offshore units, the time interval for inspections should consider these challenges.

In some cases, self-inspections may be permitted under the supervision of the company's personnel, as outlined in the fifth paragraph.

Additionally, the content of inspection reports and documentation requirements are detailed in subparagraphs (a) to (i). This list, too, aligns with the IMO Guidelines. The IMO Guidelines address several significant terms. To

maintain the integrity of the Guidelines, a terminology list has been included (see attachment 1 to this document). Appendix 2 to the Guidelines provides an example of how to structure an inspection report.

To section 9 Requirements related to hull cleaning

The Regulations are based on the requirement for ships and mobile offshore units to have a system, plan and record book enabling efficient management and control of biofouling levels. By adhering to this plan, significant macro biofouling can be minimised, and the hull can be maintained through regular, early-stage cleaning.

This provision introduces a general rule mandating that ships and mobile offshore units cleaned in Norwegian waters must use a method that captures biofouling waste to prevent the spread of hazardous non-indigenous species, aligning with the precautionary principle.

It is a prerequisite for the first paragraph that hull cleaning involves the disposal and destruction of the removed biological material. In this context, it is pertinent to mention the duty of care outlined in the Regulations of 19 June 2015 No. 716 relating to alien organisms. These Regulations, in the first paragraph of section 18, requires:

“Any person that is responsible for the import, release or placing on the market of organisms, or that initiates projects that may result in the unintentional spread of alien organisms in the environment, shall act with due care to prevent the activities from having adverse impacts on biological diversity.”

Therefore, caution must be exercised during hull biofouling removal in Norwegian waters to prevent the release of non-indigenous species. There are already requirements for waste collection using methods that pose a risk of removing biofouling-protective agents, as outlined in section 29-4 of the Pollution Control Regulations³. In these Regulations, it is stipulated that companies engaged in surface treatment must carry out this work under cover or, where this is not possible, implement other measures to limit emissions.

The provision lists two exceptions allowing hull cleaning without capture in Norwegian waters. If documentary evidence can be provided demonstrating that hull cleaning without capture will sufficiently prevent the spread of hazardous non-indigenous species, alternative cleaning methods may be accepted.

The absence of a universally accepted standardised method for managing biofouling resulting from hull cleaning, as well as the lack of internationally approved cleaning methods, complicate the regulation of hull cleaning practices while adequately safeguarding the environment. The IMO's Sub-Committee on Pollution Prevention and Response (PPR) has initiated work on establishing guidance on matters relating to in-water cleaning, which is expected to lead to developments in areas related to inspection methods and cleaning methods, both with and without capture. Given the premature nature of the situation, the NMA considers it appropriate to establish an alternative to the general rule, permitting methods that may be equivalent to capture.

However, documentation is required to provide evidence that cleaning without capture will also prevent the spread of hazardous non-indigenous species. Responsibility for ensuring compliance rests with the ship or mobile offshore unit and the shipping company, which must engage a cleaning service supplier capable of documenting that their service prevents the spread of hazardous non-indigenous species. It should be possible to retrospectively inspect the cleaning method, typically by reviewing the documentation in connection with supervision. Both the cleaning performance and documentation demonstrating prevention of the spread of hazardous non-indigenous species must be maintained by the ship, the mobile offshore unit or the shipping company, and included in the plan in accordance with section 5 of the Regulations.

³ Regulations of 1 June 2004 No. 931 relating to pollution control (Pollution Control Regulations).

In cases where other authorities have established local requirements for cleaning methods without capture, the second paragraph applies accordingly.

The Guidelines include descriptions of significant terms, and a terminology list has been included in attachment 1 to this document. Appendix 2 to the Guidelines provides an example of how to structure a cleaning report. This report can be provided electronically.

To section 10 Biofouling removal order

Only section 10 of the proposed Regulations governs supervision conducted by the Norwegian Maritime Authority.

A provision has been included serving as a safety measure, allowing the supervisory authority to order the removal of biofouling.

According to the first paragraph of this provision, the NMA may the supervisory authority issue orders for the removal of biofouling considered to pose a particular risk of spreading non-indigenous organisms in Norwegian waters.

Additionally, the supervisory authority can impose conditions for the biofouling removal. Establishing such conditions allows the supervisory authorities to maintain control. Without specifying conditions, there is a risk that ships and mobile offshore units may choose the most straightforward and cost-effective method of biofouling removal, potentially harming the environment. Therefore, setting conditions enables the supervisory authority to dictate how biofouling is removed, based on specific evaluations in each case. These conditions may include specifying a particular geographical cleaning area.

The provision allows for a discretionary assessment by the supervisory authority. The assessment criteria for identifying a potential spread risk are outlined in the second paragraph. Key considerations include how hull biofouling has been managed, where the ship or mobile offshore unit has operated before entering Norwegian waters, and its current and planned sailing routes within Norwegian waters.

The word “include” indicates that the list of factors outlined in the second paragraph is not exhaustive. The detection of non-indigenous species with high damage potential or significant biofouling levels, or long intervals since the last removal, could justify an order under this provision.

The mildest and most common administrative measure is to give the shipping company an order to rectify or comply with the applicable Act or Regulations, see section 49 of the Ship Safety and Security Act. An order is a formal instruction that must be adhered to by the company. Orders must be issued as individual decisions.⁴

According to section 49 of the Ship Safety and Security Act, a deadline is given for executing the order. If the order is not met within the specified deadline, stricter measures may be implemented, such as fines or other coercive measures, see section 49 second paragraph. The severity of the non-compliance determines the deadline, with shorter deadlines for severe cases.

Sections 4 to 7 of the Regulations, focusing on biofouling management, do not provide assurance against the spread of non-indigenous species with high damage potential in Norwegian waters via hulls. Therefore, this provision allows the supervisory authority to intervene after conducting a risk assessment in each case.

The legal basis of issuing an order to perform hull cleaning can be found in section 49 of the Ship Safety and Security Act, cf. the phrase “[i]f requirements provided by statute or regulations are not complied with, the supervisory authorities may order [...]” However, the Regulations on the management of hull biofouling

⁴ Sigmund Simonsen - Skipssikkerhet, det rettslige rammeverket for maritime operasjoner, 2022 pages 359–360

provide a framework, including a system, plan and record book, for ships or mobile offshore units to handle biofouling independently. There are no provisions mandating cleaning, but section 9 requires waste capture (or alternatives) if cleaning is conducted. In this case, an order to wash the hull is unique, necessitating a specific provision in the Regulations. This provision acts as a safety measure for matters ordered under section 49 of the Ship Safety and Security Act.

To section 11 Entry into force and transitional provisions

The proposed regulations are specific to Norway, and with only a few exceptions, similar requirements related to the management of biofouling have not been introduced in other countries. This implies that the authorities need time to prepare for a new set of regulations. Additionally, the Norwegian Maritime Authority anticipates that the industry will need time to adapt to the proposed changes. Therefore, the Regulations will come into force on 1 July 2025.

III. Administrative and financial implications

1. Consequences for the industry

The shipping companies will face costs associated with establishing a biofouling management system, including establishing and implementing a management plan and record book for individual vessels and mobile facilities.

However, many companies are already committed to minimising biofouling through effective anti-biofouling systems and possibly hull cleaning. The primary motivation for this is the reduction of fuel consumption due to decreased resistance with a clean hull.

Hull cleaning frequency varies depending on the degree of biofouling, influenced by the waters where the ship or mobile offshore unit operates. The Norwegian Maritime Authority believes that the industry is proficient in biofouling management. Therefore, implementing a biofouling management system, including a management plan and record book, should not require significant administrative effort. Additionally, such systems may already be part of the company's and the ship's or the mobile offshore unit's safety management system.

There is still reason to expect that there may be increased costs for biofouling removal in Norwegian waters, particularly due to the requirement for capturing removed biofouling. However, hull cleaning and biofouling removal are already routine practices for shipping companies. Hence, the financial implications of the proposed provisions are expected to be limited. However, it is worth noting that biofouling capture methods are relatively unknown, and initially, there may be a limited number of service providers. Therefore, costs associated with such services might be higher during the initial phase of implementation.

2. Consequences for the authorities

During the regulatory consultation, it is important for the authorities to ensure that updated information about hazardous non-indigenous is readily available on relevant websites. This will streamline the introduction of the new Regulations.

The proposed rules will lead to increased supervision workload for the authorities. Currently, there are no formalised regulations regarding hull biofouling, thus ensuring regulatory compliance will become a new responsibility for the NMA.

The biofouling management plan and record book can potentially be integrated into the ship's existing ISM system, becoming part of the onboard system. Over time, this could mean that verifying the existence of these documents become part of the standard inspection checklist. The aim is that inspecting the ship's and the mobile facility's management of biofouling becomes part of the standard inspection during supervision.

The supervisory authority is not intended to approve plans and record books on board, but will have the opportunity to ensure their existence and coverage of all biofouling management activities. If these documents are found missing, an order may be issued in accordance with section 49 of the Ship Safety and Security Act. However, fines for non-compliance cannot be imposed. In other words, documentation on board does not need approval, but can be checked during supervision.

Further details regarding the supervision of ships and mobile facilities in line with the Regulations on the management of hull biofouling must be clarified. With one year between the laying down and entry into force of the Regulations, there is ample time to consider how the supervisory authority should relate more specifically to the regulations.

The regulations include a specific order provision, detailed under section 10. The regulations enable the NMA to issue orders for biofouling removal in cases posing a particular risk of spreading hazardous non-indigenous species in Norwegian waters. This could involve a ship or mobile offshore unit lacking an established biofouling management system, including a plan and record book, resulting in significant hull biofouling levels.

The provision concerning biofouling removal orders will make supervision of hull biofouling levels relevant, including evaluation of the risk posed to the marine environment. If necessary, this can be followed up with removal orders. For this type of supervision, the training of inspectors is necessary, as they may lack knowledge of currently existing indigenous species. These regulations will necessitate the establishment of a training programme for inspectors, outlining what to check, how to do it, and the required level for supervision. The NMA assesses that this will have noticeable financial and administrative implications for the authorities.

However, it is essential to note that the introduction of regulations for biofouling management is based on well-considered and well-founded consequences. The costs associated with these regulations are viewed as a necessary investment to achieve a desired environmental effect.

In the longer term, it may also be appropriate to establish a notification system for ships and mobile facilities entering Norway's territorial waters, or possibly use an existing notification system to register current information. The purpose of such a system could include identifying those with alternative biofouling management plans and facilitating the scheduling of hull biofouling removal, among other things.

IV. Attachments

Terminology list:

Anti-fouling system⁵ (AFS) is defined in the IMO Resolution as a coating, paint, surface treatment, surface or device used on a ship to control or prevent the attachment of organisms.

This includes both “anti-fouling coating” (AFC) (surface coating) and “marine growth prevention system” (MGPS), which are other systems used for the prevention of biofouling accumulation in niche areas or other surface areas. The term can also include methods which apply surface treatments.

*Monitoring on biofouling risk parameters*⁶ is a term being further described in the Resolution.

*Niche areas*⁷ are areas on a ship that may be susceptible to biofouling. The term is further described in the Resolution.

*Microfouling*⁸ is biofouling caused by bacteria, fungi, microalgae, protozoans and other microscopic organisms that creates a biofilm, also called a slime layer.

*Macrofouling*⁹ is biofouling caused by the attachment and subsequent growth of visible plants and animals on structures and ships exposed to water. Macrofouling is large, distinct multicellular individual or colonial organisms visible to the human eye.

*Reactive cleaning*¹⁰ is defined in the IMO Guidelines as a corrective action during which biofouling is removed from a ship's hull and niche areas either in water with capture or in dry dock. The Guidelines also use the term *proactive cleaning*, defined as the periodic removal of microfouling on ships' hulls to prevent or minimise attachment of macrofouling.

*Contingency action plan*¹¹ is further described in the Guidelines. The plan could include proactive actions can be implemented to lower the risk of biofouling accumulation, as well as corrective actions if the risk parameters indicate an elevated risk of biofouling accumulation.

The term *biofouling management activities* is further described in the Guidelines. Figure 1 illustrates a simplified flow chart visualising the biofouling management activities.

*Operating profile*¹² is further described in the Guidelines.

The term *performance monitoring parameters* is further described in the Guidelines.

⁵ See [MEPC 378 80 \(imo.org\)](#) chapter 2 – Definitions

⁶ See [MEPC 378 80 \(imo.org\)](#) Appendix 1 – Assessment of biofouling risk

⁷ See [MEPC 378 80 \(imo.org\)](#) chapter 2 – Definitions

⁸ See [MEPC 378 80 \(imo.org\)](#) chapter 2 – Definitions

⁹ See [MEPC 378 80 \(imo.org\)](#) chapter 2 – Definitions

¹⁰ See [MEPC 378 80 \(imo.org\)](#) chapter 2 – Definitions

¹¹ See [MEPC 378 80 \(imo.org\)](#) chapter 7 – Contingency Action Plans

¹² See [MEPC 378 80 \(imo.org\)](#) chapter 6 – Anti-Fouling System Installation and Maintenance