



JAPAN P&I NEWS

To the Members

New Zealand—Biofouling—Craft Risk Management Standard (No.2)

Reportedly, two entered vessels in our Club had failed the documented audit before port calling at New Zealand based on the Craft Risk Management Standard (CRMS). Thereafter Notice of Direction to carry out the underwater cleaning at outside of the territorial water was made by New Zealand authorities in June 2020, because the result of underwater inspection after arriving ports of New Zealand does not meet the standard.

It is found that two vessels have no further underwater inspection after 2 years have passed since the last Antifouling Coating (AFC). Looking into Underwater surveys on Guidance Document for the Craft Risk Management Standard for Biofouling (Attachment 1), which requests “As a general rule, commercial vessels with a 5-year dry docking cycle that have not operated outside their profile should get an annual inspection for the first two years, and then 6 monthly after that. If they fall outside of their operational profile, then more frequent inspections should be done.”

We introduce reported four cases as follows;

Vessel A (last AFC date, 22 May 2018)

In June 2020, Vessel A failed the documented audit and was requested by the authorities to carry out the underwater inspection.

Notice of Direction to carry out the underwater cleaning at outside of the territorial water before returning was made by New Zealand authorities, because the result of underwater inspection after arriving ports of New Zealand does not meet the standard.

Vessel B (last AFC date, 27 May 2018)

In June 2020, Vessel B failed the documented audit and was requested by the authorities to carry out the underwater inspection.

Notice of Direction to carry out the underwater cleaning at outside of the territorial water before returning was made by New Zealand authorities, because the result of underwater inspection after arriving ports of New Zealand does not meet the standard.

Vessel C (last AFC date, 20 September 2019)

In June 2020, the documented audit against Vessel C by the authorities confirmed that Vessel C meets CRMS standard as less than one year has passed since the last AFC. At the same time, Vessel C was recommended to carry out the underwater inspection around September 2020.

Vessel D (last AFC date, 15 January 2019)

27 June 2020, the underwater inspection was carried out in accordance with the specific Biofouling Management

Plan for Vessel D. Subsequent the documented audit recommended to carry out the underwater inspection around January 2021.

For planning on port call of New Zealand, we would urge members to recheck CRMS, the relevant guidelines, documents, and the hull condition.

Furthermore, we have obtained the letter of Enhance Biofouling Risk on 24 June 2020 (Attachment 2) addressed to vessel operators and agents, which is announcement of that Biosecurity New Zealand conducts research on risk factors that influence the accumulation of vessel biofouling and undertake filed surveyors of international commercial vessels arriving to New Zealand. Simultaneously, frequently asked questions (Attachment 3) is published.

For your reference, please also refer to our Japan P&I News [No.884](#) dated 18 April 2017.

Yours faithfully,

The Japan Ship Owners' Mutual Protection & Indemnity Association

Attachment: 1. Guidance Document for the Craft Risk Management Standard for Biofouling
2. Enhance Biofouling Risk, 24 June 2020
3. Biofouling survey of commercial vessels arriving in New Zealand – Frequently asked questions, July 2020



Guidance Document for the Craft Risk Management Standard for Biofouling

GD CRMS-BIOFOUL

6 April 2018

Title

Guidance Document: Guidance Document for the Craft Risk Management Standard for Biofouling

About this document

This guidance document has been issued to accompany the MPI Standard, Craft Risk Management Standard (CRMS) for Biofouling. It is not a legally binding document and it should be read in conjunction with the CRMS to ensure that all matters relating to meeting the requirements are fully understood.

Related Requirements

[Craft Risk Management Standard: Biofouling on Vessels Arriving to New Zealand](#)

Document history

Version	Version Date	Section Changed	Change(s) Description
1	6 April 2018	N/A	New

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1 Purpose

This guidance document provides best practice guidance, information and recommendations to help operators and persons in charge of vessels to meet the requirements of the Craft Risk Management Standard (CRMS) for Biofouling on Vessels arriving into NZ (referred to in this document as the “biofouling standard”).

2 Background

This document is guidance information only and is not legally binding. However, it provides effective and efficient ways to meet the requirements of the biofouling standard.

3 Abbreviations

Acronyms

Act (The Act)	Biosecurity Act, 1993
AFC	Antifouling Coating
BFMP	Biofouling Management Plan
BFRB	Biofouling Record Book
CRMP	Craft Risk Management Plan
CRMS-Biofouling	The Craft Risk Management Standard for Biofouling
CRMS-Vessels	The Craft Risk Management Standard for Vessels
IMO	International Maritime Organisation
MGPS	Marine Growth Prevention System
MPI	Ministry for Primary Industries
NZT	New Zealand Territory
PoFA	Approved Place of First Arrival
TF	Transitional Facility

MPI Quarantine Officers are persons approved as inspectors under the Biosecurity Act 1993.

4 Quick guide for vessels arriving at a New Zealand port

The information below is a quick guide for operators in charge of vessels to enable the arrival of vessels at a port. It provides an outline on how to meet NZ's biofouling requirements with minimal expense and time. Further details are found within specific sections of this guidance document.

- (1) Before you depart: check that you have identified the section/s of the biofouling standard that relate to your intended length of stay in NZT.
- (2) Identify which measure you will use on your vessel to comply with the biofouling standard (for example, best practice maintenance of your vessel's hull, clean before arrival, or MPI-approved treatment). If you are not directly responsible for the maintenance of the vessel, contact the owner or operator.
- (3) Ensure you have verifiable evidence that one of the three measures to meet the biofouling standards has been done.
- (4) If your vessel has been stationary or idle for any extended period of time, check if your vessel needs any additional cleaning to comply with the biofouling standard. This will significantly reduce arrival delays and costs.
- (5) Talk to MPI before departing for NZT. MPI assistance prior to departure can help minimise delays and costs on arrival. We can also give advice on how to comply.
- (6) Check the MPI website for any other regulations you must comply with. This includes the CRMS for Vessels (CRMS-Vessels).
- (7) Fill out and submit the Advance Notice of Arrival and Master's Declaration forms to MPI at least 48 hours prior to entry into NZT. Submit evidence that you comply with the biofouling standard.
- (8) Ensure that the port you wish to arrive at is an approved Place of First Arrival (PoFA) that can receive your type of vessel and any associated cargo or risk goods on-board that you wish to discharge.
- (9) The forms will require you to indicate whether you are staying in NZT for more than 20 days and/ or wish to visit places that are not approved as a PoFA. MPI needs to be satisfied that your vessel can meet the "clean-hull" threshold for your length of stay. We will process your vessel on arrival and if the vessel biofouling is managed in accordance with the requirements, MPI will issue a compliance certificate so you can continue on your journey in NZT.
- (10) Follow any entry or arrival directions given by MPI.
- (11) Travel directly to the PoFA that you noted in the Advance Notice of Arrival form, unless otherwise directed by MPI.
- (12) Do not carry out any in-water cleaning of your hull in the NZT, unless authorised by MPI or using an MPI-approved treatment provider.

Go to MPI's website to check all other standards and legislation you need to comply with before entering NZT—this will minimise delays.

5 General information

5.1 Introduction

This guidance document accompanies the MPI CRMS for Biofouling – (the “biofouling standard”) and provides useful information or links to other requirements that may be relevant for vessels.

Agents, operators, persons in charge of vessels arriving at a port in NZT, and other affected stakeholders (for example, exporters and importers) can read this document for information about the biofouling standard's requirements, options for compliance and MPI's approach to verifying compliance.

5.2 Purpose of the biofouling standard

The desired outcome of the biofouling standard is that vessels arrive in NZT clean and free of biofouling organisms. MPI wants to ensure that potential marine pests associated with vessels are managed, removed or treated to prevent establishment in NZT. Establishment of marine pests could adversely impact our economy, environment, and health and safety of people and communities.

5.3 Failure to meet biosecurity requirements or non-compliance

The operator or person in charge (“the operator”) is responsible for ensuring that vessels arriving into NZT meet the requirements of the biofouling standard. If the requirements are not met, biosecurity compliance will not be given and the vessel will be directed for further action under the Act. Any vessel that can be managed by approved local treatment providers or haul out facilities may be directed for treatment (clean in-water or hauled out for cleaning). Any vessel that cannot be treated by approved treatment providers may be directed out of NZT for treatment before being allowed to come back into NZT. Any biofouling management or costs due to delays for non-compliant vessels will be at the vessel owner's or operator's expense.

5.4 International alignment

The International Maritime Organisation (IMO) of the United Nations has produced Guidelines for biofouling management for commercial and recreational vessels. MPI considers these Guidelines a good example of best practice principles for biofouling management and they are referenced throughout this guidance document.

Other IMO Member States bordering the Pacific Ocean are also moving towards adoption of their own biofouling regulations. To ensure commercial shipping can comply with all jurisdictions through the same actions, Member States are aligning with the IMO Guidelines as much as possible.

The California State Lands Commission has recently implemented their vessel biofouling management regulations. These rules apply to all vessels over 300 tonnes, and have been effective since January 1, 2018.

6 What do you need to know or do before you depart for New Zealand?

6.1 General overview

The biofouling standard requires the operator of any vessel that arrives at a port in NZT to take all reasonable and practicable steps to make sure the vessel has a “clean hull.”

To achieve the clean hull requirement all vessels and marine-going craft must be treated, cleaned, or have a record of ongoing biofouling maintenance, prior to arrival. MPI prefers this type of offshore risk management for all craft as it reduces the amount of biosecurity risk that NZ is exposed to. Even when no specific offshore cleaning or treatment activities are carried out, all vessels must be compliant with the CRMS and arrive in to NZT free of biofouling. To comply with the requirements, operators must carry evidence that hull maintenance has been done, such as antifouling system details, diver reports and photos from inspections and cleaning, or evidence of a full hull clean (among others).

For areas not easily seen or accessible during inspections, such as internal areas of sea chests and pipework, keep records of the steps taken to manage biofouling. Management may include operation of marine growth prevention systems (MGPSs), chemical dosing, and inspection of strainers. Where a complete inspection of all submerged areas of the vessel is difficult, the vessel may need to be dry docked or managed using an MPI-approved treatment to help ensure the requirements are met. Vessels coming to work permanently within NZT should consider carrying out specific cleaning and/or treatment activities in dry dock before departing.

If requirements are not met and risk management is required, MPI will determine if a suitable treatment can be carried out within NZT, or if other actions are necessary. There are limited options for dry docking and cleaning for commercial vessels within NZT so if the vessel does not comply with the biofouling standard on arrival, it may be directed to leave NZT and required to be cleaned elsewhere.

Note: The majority of biofouling on vessels is usually found in the niche areas. While the flat surfaces of the vessel might seem clean, the niche areas are protected from water movement, meaning biofouling accumulates easily in these areas. To avoid on-arrival delays, operators should carry documentation and records showing that the vessel is regularly inspected and clean these areas that require it, especially niche areas.

6.2 Before you depart

MPI requires the operator of any vessel arriving in NZT to send pre-arrival information to MPI at least 48 hours prior to entry, including submitting information on what has been done to manage biofouling prior to arrival. MPI has provided three management options for operators to use in order to achieve compliance, enabling operators to tailor a solution that suits their vessel type, provided that the approach achieves a “clean hull”.

The management options are:

- a) Cleaning the hull within 30 days prior to arriving in NZT and providing MPI with documentation of that clean; or
- b) Conducting continual hull maintenance using best practice principles, such as IMO biofouling guidelines, and providing MPI with documentation of that management; or
- c) Conducting hull treatment using an MPI-approved provider within 24 hours of arriving into NZT and providing MPI with documentation of the scheduled treatment.

Guidance

Cleaning systems are those that physically remove biofouling from the hull and niche areas. Cleaning systems may be mechanical (for example, brush based, cutting head, and water jet-based systems, diver operated carts, remotely operated vehicles) or manual (for example, by powered and non-powered hand-held tools).

Treatment systems are those that use a form of surface treatment such as heat, ultrasonic or chemical, or shrouding by encapsulation or enclosure to kill or render biofouling non-viable (incapable of reproduction).

All treatment and cleaning systems used within NZT on international vessels must be approved by MPI prior to use, whether or not they are used on non-compliant vessels or on vessels complying within 24 hours of arrival.

All treatment and cleaning systems used offshore to either continually maintain the hull, or at the port of departure, must achieve equivalent to a “clean hull” and be documented in an acceptable and verifiable format (see section 6.4).

Operators may also submit a Craft Risk Management Plan (CRMP) for approval outlining steps to be taken to reduce risk to the equivalent level as the biofouling standard. Guidance and the steps required to submit a CRMP can be found [here](#).

MPI has provided three management options to meet the biofouling standard, so operators can tailor an approach that suits their class of vessel best. However, the operational profile and practicalities of some of the management options means that some vessel classes will only suit one of these options. If the vessel plans to visit NZT, or NZT is in the vessel's regular schedule then operators need to make sure they know how to comply with the biofouling standard. The tables in Section 8 help determine which management option should be used to comply with the biofouling standard. Please contact MPI for any questions at standards@mpi.govt.nz. If the vessel has been stationary or idle for any extended periods of time, operators should also check if the vessel requires any additional cleaning to comply with the biofouling standard.

Ensuring compliance with the standard before the vessel departs for NZT will help avoid significant on-arrival costs and delays.

6.3 On route to NZT

Before entering NZT, the operator must submit the following forms:

- Advanced Notice of Arrival.
- Biofouling and Ballast Water Declaration.
- Master's Declaration.
- Verifiable evidence that one of the three management options to meet the biofouling standard have been done (see Section 6.4).

These forms must be provided to MPI at least 48 hours prior to entry into NZT. They include questions about:

- Details about the vessel's antifouling coating (AFC), such as date of last renewal, certificate of treatment and service life.
- Intended length of stay within NZT and the places the vessel intends to visit.
- Whether a Biofouling Management Plan (BFMP) and Biofouling Record Book (BFRB) (or any other forms of records) are kept.
- Whether the vessel has spent extensive time idle or extended periods mainly stationary in a single location.

This information is used by MPI to carry out a [biofouling risk assessment](#), in which vessels are assigned a rating of low, medium or high. This rating determines the level of verification that MPI Quarantine Officers will carry out. Verification upon arrival may be required to ensure the vessel meets the “clean hull” thresholds.

- **Low Risk Vessels** are those that have low biofouling risk factors, or have provided valid evidence of a “clean-hull.”
- **Medium Risk Vessels** are those that may have some factors which contribute to a high risk of biofouling, or have not provided full and adequate evidence of a “clean hull” (although the vessel may have these on board).
- **High Risk Vessels** are those vessels with high biofouling risk factors, such as if the vessel has been stationary for extended periods of time, it is due for a dry dock, its antifouling system has reached the end of its service life, or there is no evidence that best practice maintenance has been carried out. Other vessels that may be classed as high risk are those that do not carry valid evidence of a “clean hull” and have high risk factors, or have been noted to be non-compliant (fouled) on previous visits into NZT.

Generally, 48 hours is not enough time to manage biofouling if the vessel is assessed as high risk and nothing has been carried out to manage its hull before arrival. Before the vessel departs for NZT, check that you know which measure you should use to comply with the biofouling standard, and that the right evidence is available to provide to MPI prior to, or on arrival. See Appendix 4 to determine if the vessel is high risk, and what can be done about it.

6.4 Acceptable forms of evidence

Record keeping is the key step in showing MPI that the vessel is not high risk. MPI will be using records and evidence of best practice principles, cleaning, or treatment to verify if a vessel complies with the biofouling standard. Before departure or when a vessel is on route to NZT, the agent or operator will be required to submit these records to show that one of the three management options outlined in the biofouling standard has been done prior to arrival. Depending on the risk profile of the vessel, this may be verified by MPI prior to, or on arrival. Acceptable forms of evidence include, but are not limited to:

- Antifouling certificates, including information on AFC application date, type of antifouling applied and if it is applied to niche areas.
- Reports from a recent hull and niche area inspection, with photos and/or video footage.
- Reports from the most recent cleaning of the hull and niche areas, with photos and/or video footage.
 - [See guidance on what MPI expects in a hull inspection report](#)
- Records of contingency planning if a vessel falls out of its operational profile.
- BFMP and BFRB.
 - [Biofouling management plan template](#)
 - [See guidance on what to put in your vessel's Biofouling Management Plan](#)

For more detail on acceptable forms of evidence, see “[Record Keeping](#)” in Appendix 1.

7 What will happen when you get to New Zealand?

Operators of vessels will interact with MPI when:

- Providing MPI with pre-arrival information and receiving MPI directions prior to, or shortly after entering NZT;

- Being met by MPI Officers at the PoFA or location of first arrival for vessels working off-shore; or in some cases,
- Being met by MPI Officers off-shore for inspection or treatment in addition to being met at a PoFA.

7.1 What happens on arrival

Upon arrival at the PoFA, MPI will have assessed the risk profile of the vessel and have communicated to the operator of the vessel, or their agent, what level of verification will be conducted. Verification ranges from confirming information requirements (for example, antifouling certificate, biofouling management plan) to a physical inspection of the vessel's hull.

7.1.1 Where can I arrive?

Approved PoFAs – Seaports (ports)

The Act requires all craft (in this case, vessels) to arrive in NZ at one of the ports approved to receive vessels from other countries and risk goods (PoFA). This is so MPI can effectively minimise the introduction of harmful organisms into NZT. These ports have processes in place that can manage the presence of harmful organisms. A list of these approved ports can be found on MPI's [website](#).

Please note that not all PoFAs can receive all types of vessels or risk goods, for example, grain, vehicles, etc. Please refer to MPI's website to ensure that the intended PoFA can receive your type of vessel and risk goods.

Non- approved seaports

If the intended location of arrival is not listed as a PoFA, prior approval from MPI's Director-General and other government agencies is required. Application for such an approval is to be lodged with MPI at least 10 working days before intended arrival. It is an offence to arrive at a location or port that isn't an approved PoFA without prior approval, except in extraordinary circumstances, such as an emergency.

In cases of emergency, or if it is not safe to arrive at a port that is a PoFA, the operator is required to notify MPI as soon as possible. Once MPI have been notified, the operator will receive direction from MPI and arrangements will be made for MPI to visit the vessel. Directions may come via a third party such as the operator of a port or another NZ government agency. For approval to arrive at a non-approved port, contact standards@mpi.govt.nz

7.1.2 What will MPI do to verify the accuracy of the information provided to MPI?

Upon arrival, all information provided to MPI will be verified. The risk profile of the vessel, and the quality of the documentation carried on board will determine what further actions are required, if any. Verification will take place through conversations with the operator of the vessel and by conducting verification inspections. This can include checking that the information provided in the Advance Notice of Arrival, and the Master's Declaration is correct, inspecting records of biofouling management, asking to inspect sea strainers and MGPSs, and studying the vessel's voyage history.

7.1.3 What if your vessel is found to be non-compliant?

If a vessel is suspected to exceed the fouling thresholds upon receipt of initial documentation, MPI will first request further information on the vessel's activities and other evidence of biofouling management.

Operators that cannot prove the vessel is compliant with the biofouling standard via documentation may be subject to an MPI-directed dive inspection (for more details on dive inspections please refer to section 7.2.1). MPI will communicate with the agent and vessel Master if a dive inspection is required.

If there is biofouling on hull that is in breach of the thresholds, the vessel will be considered non-compliant and will be directed to either manage the biofouling risk or to leave NZT.

Currently, approved options for managing or treating biofouling on vessels within NZT are limited to hauling out or dry docking for vessels less than 120 meters at an MPI-approved Transitional Facility (TF). There are currently no haul outs, dry docks or other treatment options for vessels larger than 120 meters.

Any biofouling management or costs due to delays for non-compliant vessels will be at the vessel owner's expense.

Note: Under the Act, biofouling is considered a risk good and therefore must be managed by a TF until biosecurity clearance is authorised by MPI. Non-compliant vessels will be directed to a TF for treatment that is approved for that class of vessel. Currently no TFs exist for vessels over 120 metres in length.

The *Standard for Transitional Facilities for General Uncleared Risk Goods* (TFGEN) and the associated TFGEN guidance document (<https://www.mpi.govt.nz/importing/border-clearance/transitional-and-containment-facilities/>) contain the requirements and guidance for how biosecurity contamination and regulated pests are managed at TFs within NZT.

7.2 Hull Inspections and Treatments within NZT

7.2.1 MPI-approved providers of biofouling surveys

MPI-directed dive inspections or underwater hull surveys are required to be done by an MPI-approved hull surveyor or company. The intent of these surveys is not to estimate that abundance of individual species on the vessel, but to provide a quantitative estimate of the extent of vessel biofouling and to enable MPI to compare it to the "clean hull" definitions within the biofouling standard.

MPI retains the decision making authority on a vessel's compliance with the biofouling standard.

7.2.2 Using MPI-approved treatments to meet the clean hull requirements

One of the options to meet the biofouling standard is to treat the biofouling using an MPI-approved treatment within 24 hours of arrival in NZT. Within NZT, the supplier of a treatment must be approved by MPI, if they intend to treat international vessels.

For treatments applied outside of NZT, MPI will recognise suppliers that have been approved by another governing body such as another government department.

The lack of available facilities and treatment options in NZT emphasises the importance of operators being proactive and keeping the risks out of NZT, with the best option being to clean before the vessel departs for NZT.

Available treatments:

While MPI has approved treatments that can be used to meet the requirements of the biofouling standard, there are currently no approved suppliers of these treatments in NZT. These include relevant processes to manage biofouling on the external surfaces of the hull (encapsulation and in-water cleaning), as specified in the MPI Technical Standard - *MPI-Approved Biosecurity Treatments*. Currently, the only approved biofouling treatment available in NZT is cleaning at a dry dock or haul out, which are only available for vessels less than 120m.

If a treatment is carried out to address the biosecurity risk and this results in vessel damage, MPI will not be held liable. While MPI may direct treatment or decontamination activities, the arrangement is between the treatment or decontamination provider and the operator. MPI aims to ensure that only suitably qualified treatment suppliers are approved in NZT. MPI reserves the right to direct decontamination, treatment on arrival or for a vessel to leave NZT immediately if biosecurity requirements are not met.

7.3 Random compliance inspections and audits

Any arriving vessel may be subject to random compliance inspections to verify compliance with the requirements of the biofouling standard. This is in addition to risk-based verification inspections. It is likely that random compliance inspections will generally be more intensive than risk-based verification. Where a vessel has been selected for a compliance inspection, MPI will liaise with the agent, operator or person in charge of the vessel to ensure that any delays are minimised.

7.4 Becoming a long-stay vessel

Where an operator or person in charge of vessel wishes to extend the vessel's stay past 20 days or visit places that are not PoFAs, they must contact MPI as soon as possible and make arrangements to meet the requirements of long-stay vessels. The biofouling thresholds for long-stay vessels, or vessels that wish to visit places not approved as PoFAs are stricter. A vessel which changes its itinerary and falls into the long-stay category must meet these stricter requirements.

7.5 Craft Risk Management Plans

In certain circumstances, an operator may not be able to meet the requirements of the biofouling standard and/or the CRMS-Vessels by following the management options described in these standards. In these cases the operator can develop a Craft Risk Management Plan (CRMP) to meet biofouling and biosecurity requirements.

These CRMPs must meet the desired effect or outcome of MPI's vessel requirements (including the clean hull thresholds and risk good removal) but may use a different method to do so. The CRMP must specifically detail the ways the risks identified by the two CRMSs will be managed.

The operator or person in charge can submit a CRMP for a vessel or fleet of vessels to MPI for consideration. MPI expects that cruise vessels, project vessels and some fishing vessels would be the main types of vessels which would require a CRMP. This is because of the unique operating profile that some of these vessels may have.




Please see the [Guidance Document for Craft Risk Management Plans for guidance](#) and information on how to apply.

8 Requirement check for vessels arriving into New Zealand





Quick reference tables for the various types of vessels that arrive into NZT are provided in Sections 8.1 and 8.2. These tables can be used to help determine which management option should be applied to a vessel in order to comply with the biofouling standard. In some cases multiple options can be applied. If there are any doubts about what needs to be done to ensure the vessel meets the requirements, please contact MPI prior to departure.

If none of the three management options have been applied to the vessel to manage biofouling, the submitted documentation isn't sufficient, or the vessel doesn't meet the clean hull requirements, then the vessel may be directed to be treated or cleaned by an approved provider, or directed to leave NZT. Any associated costs or delays will be at the owner's expense.

8.1 How to comply with the biofouling standard: commercial vessels

Short stay vessels	Long stay vessels	
 <p data-bbox="236 1155 523 1285">Is your vessel a commercial vessel on a regular schedule and only visiting approved ports?</p>	 <p data-bbox="555 1155 868 1317">Is your vessel a commercial vessel on a regular schedule but also visiting places in NZT that are not approved ports?</p>	 <p data-bbox="900 1155 1410 1218">Is your vessel a NZ-based domestic vessel that occasionally or regularly leaves the NZT?</p>
<p data-bbox="236 1402 528 1599">Examples include bulk carriers, container vessels, general cargo vessels, livestock carriers, oil and gas tankers and roll-on-roll-off.</p>	<p data-bbox="555 1402 823 1464">Examples include cruise vessels</p>	<p data-bbox="900 1402 1453 1464">Examples include NZ-based ferries, fishing vessels, NZ Defence, NZ research vessels</p>
<p data-bbox="236 1684 528 1747">✓ Continual maintenance using best practice</p>	<p data-bbox="730 1700 1289 1731">✓ Continual maintenance using best practice, and</p> <p data-bbox="756 1767 1262 1798">✓ MPI-approved Craft Risk Management Plan</p>	
<p data-bbox="296 1868 467 1899">See Appendix 1</p>	<p data-bbox="628 1868 1390 1899">See Appendix 1 and MPI Guidance on Craft Risk Management Plans</p>	

8.2 How to comply with the biofouling standard: one-off and non-trading vessels

Long stay vessels			
			
Is your vessel coming to work on a research project or survey?	Is your vessel coming for a long period of time to travel around the country?	Is your vessel coming to work on a long-term project or be based in NZT permanently?	Are you bringing your vessel into NZT for refit, repair or application of new antifouling coating (AFC)?
Examples include cable ships, heavy lift vessels and research vessels.	Examples include superyachts, tall ships and yachts.	Examples include aquaculture vessels, barges, cable ships and dredges, fishing vessels, and heavy lift vessels.	Examples include overseas fishing vessels, superyachts, etc.
✓ Clean before arrival			✓ Clean within 24 hours of arrival at an MPI-approved TF
See Appendix 2			See Appendix 3

Appendix 1 – Continual maintenance using best practice guidance

This section provides guidance on how to manage biofouling on the vessel's hull, niche areas, and any other submerged surfaces using best practice principles. Using best practice principles can help minimise unnecessary costs and losses associated with non-compliance with NZ's biofouling standard. By following good hull management practices, you will be better placed to comply with biofouling requirements within NZT, and internationally.

The guidance provided here is a brief overview of what best practice using continual maintenance consists of. For more, please see the MPI [Technical Guidance on biofouling management for vessels arriving into New Zealand](#).

✓ Preventative management of the vessel's hull is more cost-effective than reactively trying to solve a problem once it has occurred. The best way to start is to understand what risks are associated with your vessel and its operating profile, and to undertake good maintenance practices to manage and minimise them, where practical.

What is continual maintenance using best practice?

Continual maintenance involves ongoing management of biofouling, including:

- Applying AFCs to the hull and niche areas of the vessel. It is important to choose an AFC that matches the operational profile of the vessel.
- Monitoring the performance of the vessel and performing in-water inspections and cleaning when performance begins to decline.
- Operating within the specifications of the AFC.
- Proactive grooming of the slime layer- cleaning the slime layer often will prevent larger organisms from settling and will allow the AFC to be more effective.
- Having **contingency plans** such as in-water inspections and in-water cleaning for when the vessel falls out of its operational profile or the paint is damaged. Repair should be applied if the AFC is damaged even if it is minor.
- Renewing AFCs within the specified service life.
- Treating pipework and sea chests or using MGPSs to minimise biofouling growth.

It is very important to carry records of how the vessel has been maintained by developing a Biofouling Management Plan (BFMP) and Biofouling Record Book (BFRB). A good BFMP details the procedures for managing biofouling for that vessel and includes a detailed BFRB, which logs all biofouling maintenance activities undertaken by the vessel. See "[Record Keeping](#)" to find out what records should be carried.

Antifouling system coatings and renewing antifouling systems

The management of vessel biofouling on hulls, niche areas and other immersed surfaces is mainly achieved by applying or installing an appropriate AFC, in addition to having contingency plans in place, and proactively cleaning away the slime layer. Choosing an AFC that matches the operational profile of the vessel is therefore crucial to best practice maintenance.

While AFCs are developed to prevent or minimise the settlement and attachment of sedentary organisms, they are also made to meet different cost and performance requirements. Therefore, not all AFCs are suitable for every vessel type. If the vessel has an uncertain operational profile, a more conservative approach to system design should be taken, otherwise, there will be an increased likelihood of system failure and the accumulation of biofouling organisms.

Renewing your antifouling coating systems

If a vessel arrives and does not have a current AFC, or doesn't carry any information about its AFC, then it is likely to have additional requirements imposed by MPI upon arrival in NZT. Damaged or depleted AFCs rapidly accumulate biofouling, and pose a large risk to NZ's marine environment. It is not considered best practice to operate the vessel with an expired AFC.

✘ **If the vessel is near the end of its antifouling system service life:** MPI recommends that the vessel undergoes an in-water inspection and obtains a report with photos. If required, MPI recommends the vessel is cleaned before departure for NZT.

✘ **If the vessel has an expired AFC:** This is not considered best practice. MPI recommends the owner or operator considers dry docking the vessel and applying new antifouling systems to the vessel.

When re-applying the AFC, make sure to choose a paint that matches the operational profile of the vessel, and ensure that it is applied in the right temperature and weather conditions, and at the proper thickness. This is crucial for successfully managing biofouling growth, as AFC systems are developed to meet different cost and performance requirements. Operators need to make themselves aware of the following information about the vessel's AFC, and carry evidence of this on board the vessel: application method, number of coats, dry film thickness, application temperature, drying/curing times, over-coating time, and appropriate surface preparation if the vessel is being re-coated.

Some more notes about AFCs:

- A vessel that has an AFC on the hull and all relevant submerged areas is assigned a lower risk status by MPI compared to a vessel that only has AFC on the flat surfaces, an expired AFC, or no AFC at all.
- A vessel that has an AFC that is within the recommended service life is assigned a lower risk status compared to a vessel without or with an outdated AFC. The level of risk increases with the age of the AFC.
- Vessels that have documentation to demonstrate they have a current AFC are allocated a lower risk status compared to vessels that do not have documentation.
- Damaged AFCs will not prevent biofouling accumulation. Always repair a damaged AFC as soon as possible.

Monitoring vessel performance and underwater inspections

Operators can monitor the vessel's performance to see if it is fouled. However, it's important to remember that biofouling in the niche areas don't affect speed as much as when it occurs on the flat surfaces, so it's important to regularly inspect these areas to check they haven't accumulated biofouling.

Vessel performance changes that may indicate the presence of fouling include:

- Reduced speed (for example, 1 knot) with shaft revolutions per minute (r/min) set for standard speed.
- Increased fuel consumption (>5 %) to maintain a specified shaft r/min (such as for standard speed), with propulsion and auxiliary machinery at optimum efficiency.
- A > 5 % increase in shaft r/min to maintain a given speed.

- An increase in pressure required for the main turbine first stage shell to maintain a given shaft r/min (for steam-propelled vessels, assuming a constant main condenser vacuum and main steam supply pressure and temperature).
- An increase in torque at a given shaft r/min for vessels equipped with main shaft torsion-meters.

Underwater surveys

The IMO guidelines promote the use of frequent vessel inspections to assess the condition of the vessel's hull. It is considered best practice for operators to carry out scheduled underwater biofouling surveys and maintenance events like propeller polishing. Maintenance events can be used as an opportunity to assess biofouling development, and make decisions as to whether in-water cleaning is required. It is not advisable to just use speed and consumption as an indicator, because this does not adequately account for any fouling in the niche areas (eighty percent of biofouling on a vessel can be found in the niche areas). When the vessel is entering the second half of its AFC service life, these inspections become even more important.

Areas that MPI suggests should be specifically inspected by divers include, but are not limited to:

- Areas of AFC damage or grounding.
- Bilge keels, cooling scoops and propulsion scoops.
- Cathodic protection anodes.
- Chine, and bulbous head.
- Echo sounders and velocity probes.
- Rope guards, propeller and propeller shafts.
- Rudder stock and hinge.
- Sea chests.
- Sea chest and bow/stern thruster tunnel grates and props.
- Sea inlet pipes and overboard discharge outlets.
- Stabiliser fin apertures.

As a general rule, commercial vessels with a 5 year dry docking cycle that have not operated outside their profile should get an annual inspection for the first two years, and then 6 monthly after that. If they fall outside of their operational profile, then more frequent inspections should be done.

Viewing the vessel at anchorage either by launch, remotely operated vehicle or pole-camera can also provide data on the hull condition. The vessel's in-water cleaning records can provide an indication of the performance of the AFC(s) applied during the last dry dock.

On-board sea water systems that operate while the vessel is in port are particularly vulnerable to fouling and require frequent monitoring.

All biofouling surveys should be documented. See MPI's guidance on [what to include in a biofouling report](#).

Operating within your vessel's operational profile

AFCs generally only work if a vessel operates within the specifications they are designed for. If a vessel falls out of its operational profile, such as during bunkering, waiting for work or cargo, during an engineering malfunction, or if the AFC is damaged, then operators should have contingency plans in place to help mitigate the risk of any biofouling build-up. Such contingencies may include more frequent biofouling surveys, system repair, proactive in-water cleaning or application of reactive treatment to sea chests and internal pipework.

In-water repair should be applied where antifouling system damage has occurred, even if the area of damage is relatively minor.

Cleaning your vessel

In-water cleaning and treatments are important tools for reducing the biosecurity risks during the in-service period of vessels. In-water cleaning or treatments can be applied proactively (this is preferred) or reactively.

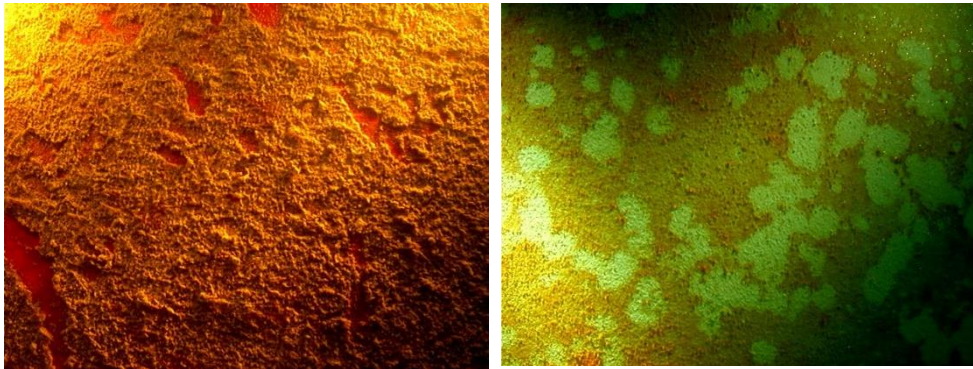
What is proactive in-water cleaning or treatment?

✓ **Proactive** in-water cleaning or treatment is used to reduce the accumulation of microfouling (slime) on the vessel as part of biofouling management programme. Proactive in-water cleaning or treatment, also known as hull grooming, is considered best practice for ongoing hull maintenance.

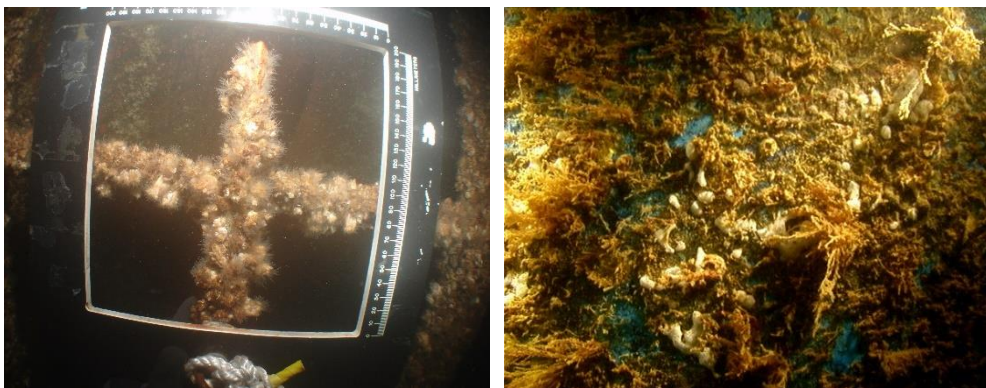
Proactive in-water cleaning and treatment can manage biofouling at the slime layer stage to optimise vessel operational efficiency, and to prevent the accumulation of any further biofouling.

✗ **Reactive** in-water cleaning or treatment is used to remove or treat biofouling (macrofouling) from unmanaged or poorly maintained vessels, or in areas where AFCs have failed or become damaged. Macrofouling is more difficult to remove and may contain a diverse range of organisms that are reproductively mature.

Where operationally and economically practical, vessels should be dry docked in preference to undergoing reactive in-water cleaning or treatment. Damaged or depleted AFCs on hulls will rapidly re-foul, subsequently increasing biosecurity risk and reducing vessel efficiency.



Example of microfouling (slime layer)



Example of macrofouling (for example, algae, barnacles, bivalves, tubeworms).

What is reactive in-water cleaning or treatment?

Reactive in-water cleaning or treatment should not be considered as a replacement for vessel dry docking, but can be used where dry docking is not available. Reactive in-water cleaning can:

- Damage AFCs,
- Reduce coating system service life,
- Release biocides or other contaminants into the environment, and
- Release non-indigenous marine species freely into the marine environment, helping them establish.

Depleted AFCs on hulls will also rapidly re-foul, increasing biosecurity risks and reducing vessel efficiency.

In-water cleaning or treatment methods are acceptable only if the contaminant discharges from the activity comply with the standards or requirements set by the relevant authority. Relevant authorities in NZ include MPI, EPA, Marina Operators, Regional Councils and Port Authorities.

For biosecurity purposes, if cleaning is done in NZT, the in-water cleaning or treatment provider must be MPI-approved. It is likely that the provider would have the appropriate discharge consents to be able to operate in their home marina or port.

Contingency plans

Operators should have contingency plans in place for instances when a vessel operates outside its usual profile, or is subject to failures or damage to AFC. Contingency plans may include more frequent biofouling surveys, repairing damaged AFC, proactive in-water cleaning or application of reactive treatment to sea chests and internal pipework. In-water repair should be applied where AFC damage has occurred, even if the area of damage is relatively minor. Contingency planning should be incorporated into a vessel's BFMP.

Managing sea chests and pipework

Sea chests, seawater intakes, and their gratings are favourable settlement sites for filter-feeding organisms because of the flow of water past the feeding animals, and the physical protection from hydrodynamic shear when a vessel is underway. Additionally, gratings often have square bars, making paint application difficult, and therefore means it is subject to cracking along edges. Biofouling organisms are then able to settle in paint cracks, and in documented examples vessels' sea chest gratings were observed to be fouled with dense masses of biofouling, at times up to 90% coverage.

As such, sea chests and gratings should be proactively managed to prevent biofouling accumulation, even if the rest of the vessel's hull appears clean. To manage biofouling in these areas, consider the following:

- Applying suitable AFCs to the internal surfaces of sea chests.
- Using rounded bars on sea chest gratings. This will reduce paint breakdown and prevent biofouling attachment and growth.
- Install hinged gratings to allow divers to access sea chests for in-water biofouling surveys and maintenance.
- Use steam blow-out pipes in sea chests to prevent and minimise fouling growth.
- Ensure that any MGPS fitted are effective in preventing biofouling settlement and growth.

Record keeping

The operator, agent or master of the vessel is required to provide MPI with evidence of the management practices undertaken to manage biofouling before the vessel arrives in NZT. With commercial vessels, MPI is looking for documentation and evidence that continual maintenance using best practice has been carried out.

The kind of documentation that indicates a vessel has been using best practices includes:

- **Antifouling certificates, including information on AFC application date, type of AFC applied and if it is applied to niche areas:** Application or installation of antifouling systems is the main way to manage biofouling accumulation on a vessel. Documentation about a vessel's antifouling system should include:
 - The type of AFC(s) applied.
 - Service life of chosen AFC(s).
 - How the AFC(s) were applied (for example, dry film thickness).
 - Where the AFC(s) are applied or installed (for example, niche areas).
 - AFC maintenance plan (for example, slime layer grooming, damage repairs, etc.).
- **Reports from a recent hull and niche area inspection, with photos:** In-water inspections should be conducted whenever the vessel falls out of its usual operational profile. Make sure to monitor the performance of the vessel and perform in-water inspections and cleaning when performance begins to decline.
- **Reports from the most recent cleaning of the hull and niche areas, with photos:** In-water cleaning and treatment are important tools for reducing the biosecurity risks during the in-service period of vessels. Proactive in-water cleaning or treatment of the slime layer is considered best practice for ongoing hull maintenance.
- **Records of contingency planning:** Having contingency plans such as in-water inspections and in-water cleaning for when a vessel falls out of its usual operational profile or the paint is damaged. Repair should be applied if the AFC is damaged, even if it is minor.
- **Biofouling Management Plan (BFMP) and Biofouling Record Book (BFRB):** Record keeping is extremely important to be able to show MPI that the vessel is not high risk. MPI will be using records and evidence of best practice to verify if a vessel complies with the biofouling standard. The most important part of a BFMP is a Biofouling Record Book that details all cleaning, inspections, treatments, dry dockings, antifouling, etc.

All documentation carried on board a vessel may be subject to MPI verification at any time.

If these forms of documentation are carried on-board each vessel, then it is less likely MPI will need to carry out physical verification of a vessel's hull, such as costly dive inspections, or further verification with the agent or master of the vessel, which may cause delays and incur additional costs.

What makes a good BFMP?

- A good BFMP is *specific to each vessel*, and details specific management activities for all hull and niche areas present on the vessel, including the frequency of management activities. It should also include contingencies for if/when the vessel falls out of its operational profile, such as when it doesn't follow its normal schedule/operating speed/route.
- The most important part of a BFMP is a BFRB that details all of the biofouling management actions undertaken by the vessel. This includes any cleaning, inspection, treatment, dry docking, antifouling, etc. These types of records are the most useful for proving compliance to MPI.
- A BFMP template can be found [here](#).
- Guidance on what to put in your BFMP can be found [here](#).

Appendix 2 – Cleaning the hull and niche areas before arrival

This section is aimed at owners or operators of vessels that are travelling to NZT and are staying for longer than 20 days or visiting non-PoFAs (long-stay vessels). Long-stay vessels are subject to more stringent thresholds than short-stay vessels because the longer a vessel remains in NZT, the greater the likelihood that any species present will spawn or escape from the biofouling and become established.

While MPI encourages all operators to use continual maintenance using best practice to manage biofouling, additional measures, such as cleaning less than 30 days prior to arrival, may be required for long-stay vessels to comply with the CRMS for Biofouling.

Operators of vessels arriving into NZT who wish to use this option must meet the following requirements:

- ✓ Cleaning must be carried out less than 30 days before arrival to NZT, and,
- ✓ All biofouling must be removed from all parts of the hull and niche areas, and,
- ✓ Evidence this has been done should be carried on the vessel.

✓ Documentation of cleaning should be received by the Ministry for Primary Industries (MPI) for approval prior to departure or at least 10 days prior to arrival. If we receive your documentation well in advance, then we can advise you if any further actions need to be carried out before you leave.

You can send this to vessels@mpi.govt.nz

Note: While cleaning can easily be undertaken in accessible areas such as the external hull, inaccessible areas such as sea chests and internal pipework may require a treatment, or further evidence they are clean.

✗ Vessels should not be idle or stationary for periods of 10 days or more following cleaning or biofouling surveys. The more your vessel remains stationary, the more likely it is to re-accumulate biofouling.

Why should I clean my vessel?

It is important to clean the vessel before departure for NZT as this reduces the abundance and density of biofouling organisms on a vessel's hull. If it is done within the 30 day timeframe (this includes travelling time), it can help reduce the risk of marine pests reproducing and establishing in our waters. Although the best approach would be to clean immediately before departure for NZT, this may not always be possible. The 30 day window provides flexibility for operators and helps minimise the number of non-native species brought into NZT.

Why should I clean my vessel's niche areas?

Niche areas are those areas that are more likely to accumulate biofouling. This is either because of decreased water movement, higher susceptibility to coating system wear or damage, or because they are not painted. Despite accounting for a relatively small proportion of a vessel's hull, niche areas are more likely to be fouled and pose a biosecurity risk to NZ's marine resources.

What kind of evidence does MPI want to see?

MPI needs to see the condition of the cleaned hull to determine if it complies with the biofouling standard; therefore evidence should be taken from all the flat surfaces and niche areas of the vessel, irrespective of whether biofouling is present or not. Suitable evidence that a vessel has been cleaned includes:

- A verifiable biofouling report with time and date stamped photos.
- or
- Photos and video sent through directly to MPI.

If the vessel has many internal niche areas such as pipework openings and sea chests, MPI will also require evidence these have been cleaned or treated prior to arrival.

Vessel surveys need to be done within 30 days of arrival, including travelling time, and to be sufficient to show the vessel meets the clean hull requirements of the CRMS.

All forms of evidence for this measure must show that the date of cleaning did not exceed 30 days before arrival into NZT.

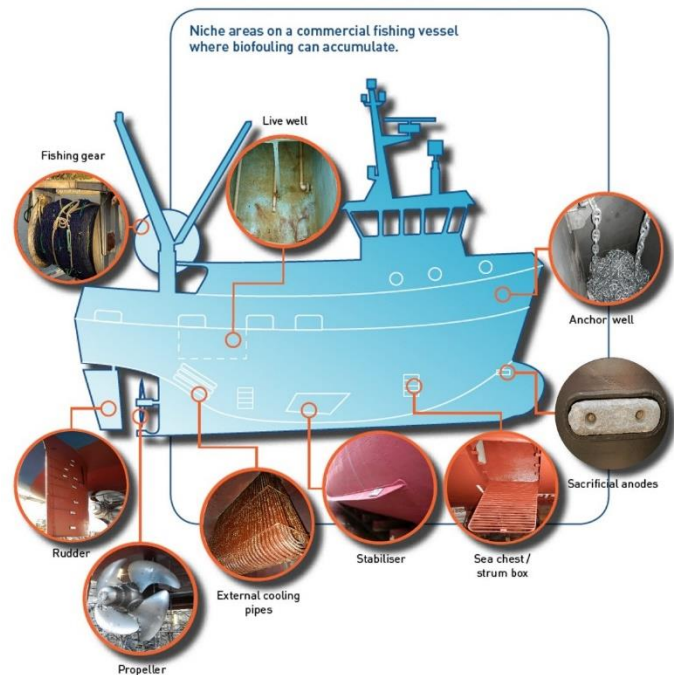
Where should I clean?

The entire hull and all niche areas need to be cleaned of all fouling. This includes the niche areas of the vessel, and any internal systems such as sea chests and pipework.

Clean the entire hull and niche areas to ensure that invisible microscopic stages of biofouling species are also removed.

Niche areas to pay particular attention to include:

- Azimuth thrusters.
- Bow thrusters.
- Block marks and draft marks.
- Hull.
- Keel, bilge keel and skegs.
- Overboard outlets.
- Rudder, rudder stock, post.
- Propellers and propeller shaft.
- Sacrificial anodes, sounders, speed logs.
- Sea chests.



Stabiliser derived from image by Dj245, Wikimedia Commons
 Live well derived from image by Amanda (pinprick), Flickr
 Remaining images except fishing gear from Ashley Coultts, Biofouling Solutions Pty Ltd.
 Vessel diagram provided by the Department of Agriculture and Water Resources

Sea chests (internal spaces and gratings) are particularly vulnerable to biofouling build up as the water flow in these areas is much lower than other areas of the vessel. This means that the antifouling paint may not be properly activated as the water flow may be too low to release the biocide. When preparing to come into NZT, particular care should be taken to clean or treat sea chests by removing the outer grating and water-blasting the inside.

Pipework and seawater systems are prone to build-up of biofouling for the same reasons as sea chests, such as low water flow, and protection from hydrodynamic forces. Pipework and seawater systems should be treated using methods such as flushing with detergents or chemicals like de-scalers.

Topside equipment: The following topside equipment should be removed from lockers or wells, and any biofouling such as entangled seaweed, barnacles, etc. removed and mud, and sediment washed off.

- Anchors, chains and lockers.
- Fenders.
- Moonpool.

- Pilot ladders.
- Remote.
- Ropes, berthing lines, booms, etc.
- Sea strainers and bilge spaces.
- Vessel pipework outlets and inlets.

For all parts of the vessel, document all cleaning activities undertaken. Photograph all cleaned equipment. Include a time and date stamp in all photos. Video or digital still photographs should be included for all areas surveyed regardless of the presence of biofouling, including internal and external niche areas.

For areas requiring treatments, document and keep records of all treatment operations, including:

- Concentration of product used.
- Name of products used (for example, de-scalers).
- Product rates and times applied.

To be completely sure that your vessel will comply with this measure, it is best to dry dock or slip the vessel, waterblast all surfaces and apply a new antifouling system coating.

Appendix 3 – Cleaning the hull and niche areas within 24 hours of arrival

The intent of the biofouling standard is to manage the risk of biofouling by requiring operators to carry out preventative measures before they arrive into NZT. This means MPI wants operators to manage biofouling offshore as much as possible by cleaning before departure for NZ.

While this is possible in most situations, MPI accepts that in some cases vessels may come into NZT for refit, repair, or to have a new AFC applied. If you are bringing your vessel into NZT for one of these reasons, and the vessel is likely to be fouled, it is very important that you book your appointment at an MPI-approved facility for within 24 hours of your arrival in NZT. Documentation to confirm these bookings is required as part the pre-arrival information set out in the biofouling standard. This timeframe is set to minimise the chance of any biofouling on the hull from reproducing or being dislodged while you wait to enter the TF.

If the vessel needs maintenance, and the vessel is to travel to places that are not PoFAs or stay longer than 20 days, DO NOT book the out-of-water maintenance for the end of the trip. It is highly likely MPI will issue a direction to manage biofouling on the vessel as soon as it enters NZT, causing significant costs and delays.

If you intend to meet the biofouling standard using this option, make sure you have done the following:

- Booked your vessel in to be cleaned, refitted and repaired, etc. at an MPI-approved haul-out or dry dock (Transitional Facility; TF). [Find MPI-approved NZ treatment suppliers.](#)
- Planned your itinerary to arrive at the PoFA where the facility you have booked is located. Traveling around the country with biofouling on your vessel will not manage the risk and MPI may advise you to take a more direct route to the PoFA and facility.
- Provided evidence to prove to MPI you have a booking within 24 hours of arrival.

Why does my vessel need to be cleaned within 24 hours?

Marine organisms are easily stressed by changes in their environmental conditions such as temperature, salinity and turbidity. Therefore, the longer a vessel remains in a new environment, the greater the chance for successful establishment of non-indigenous marine species. This is because, with the passing of time, there are increasing numbers of opportunities for biofouling organisms to release propagules (larvae and eggs or fragments of marine organisms) through spawning, physical dislodgement or active dispersal. The photos below are examples of the type of fouling that may be found on vessels that are booking in for repair within NZT. All the marine organisms in these photos have the potential to be significant biosecurity risks in NZ, threatening NZ's wild stocks of fish and shellfish, and aquaculture industries.



Why do I need to get my vessel cleaned at an approved transitional facility (TF)?

Whether importing goods or bringing a vessel into NZT for treatment, they need to first go through a containment facility or TF and may need to be quarantined.



TFs are approved by MPI to receive craft, containers and goods that may pose a biosecurity risk. Places that have been approved by MPI to clean or treat vessels are those that can show they can manage the biosecurity risks associated with biofouling waste and run-off, etc.

Every TF has to have a facility operator and if receiving containers, an accredited person available (who may also be the TF operator) who has been approved by MPI.

TFs can hold, inspect, treat, identify, or destroy and dispose of un-cleared risk goods.

Can I meet the standard by getting my vessel cleaned or treated in-water?

While MPI does have some approved treatments (found in [MPI-Approved Biosecurity Treatments](#)) that can be used to meet the requirements of the biofouling standard, there are currently no suppliers of these treatments within NZT.

Currently, the only approved method for treatment within NZT is to go to an approved TF (haul out or dry dock). NZ's largest dry dock can only take vessels up to approximately 120 metres in length, so large commercial operators must be proactive and manage their biofouling continually.

Appendix 4 – How to tell if your vessel is high risk, and what to do about it

The likelihood a vessel is carrying high risk biofouling is not dependent on one single factor. There are several indicators that MPI uses to assess if a vessel is high risk. If a vessel does happen to fall into the high risk category, there are a number of options that the operator or master can carry out to reduce its profile before it arrives, or on its next voyage.

The main factors contributing to biofouling risk

The following factors are all considered when assessing the risk of a vessel arriving into NZT.

- **Presence or absence of effective AFCs:** Any surface that is not protected by an AFC will accumulate more biofouling than a surface that is protected by an AFC.
- **Status of AFC:** Its age, type, suitability to vessel, surface type, and if it has been operating within the parameters it is designed.
- **Stationary periods or low speed:** The longer a vessel, or any wetted surface, remains stationary or moves at low speeds in coastal environments or ports, the more likely it is to accumulate biofouling. This is more likely if the AFC is not designed for low-speed and/or low activity operations, as most coatings rely on minimum vessel speeds to activate the biocide.
- **Proactive biofouling management:** Evidence that operators monitor their vessel's performance, do regular in-water inspections and groom the slime layer on the hull and niche areas will increase the likelihood that the vessel will be assigned a lower risk rating on arrival.
- **Vessel type:** Some vessel types have more niche areas than others. Niche areas are protected from strong water flow, therefore they normally have greater amounts of biofouling as the plants and animals avoid dislodgement.
- **Operating speed:** Biofouling organisms are more capable of surviving slow voyages because they are not subjected to strong water flows compared to faster speeds.

This [flow chart](#) gives a generic overview of the risk profiling process for vessels arriving at a port in NZT. Following the chart is guidance on what to do if the vessel is likely to be assessed as medium or high risk of carrying biofouling. The chart can be used for any vessel type, although in this instance it is primarily aimed at short-stay vessels. This information is guidance information only and does not constitute, and should not be regarded as legal advice.

Note: This information can also be used by exporters and importers to see if the vessel they are hiring for their cargo is likely to be delayed. Use this information to help develop the questions to ask of vessel owners, operators and masters before chartering the vessel to come into NZT.

Appendix 5 – Frequently asked questions

What is the Craft Risk Management Standard (CRMS) for vessel biofouling?

A requirement for all vessels arriving into NZT that manages the biosecurity risks associated with vessel biofouling. The standard aims to reduce vessel biofouling by requiring vessels to take out preventative measures and maintain a clean hull before they arrive into NZT.

Why is biofouling “bad”?

Biofouling carries marine species that are extremely tough and resilient from their natural environments to new environments. By using AFCs, only hardy species are able to successfully foul vessels, which means that biofouling organisms are likely to be very invasive species that can survive in a variety of habitats.

Approximately 87% of non-indigenous marine species found in NZ have been directly associated with biofouling on international vessels. These introductions threaten NZ's marine environments and NZ's cultural, economic, environmental and social values.

What is a clean hull, and why is it different for some vessels?

The definition of “clean hull” depends on the vessel's itinerary, which sorts vessels into two categories: short-stay vessels and long-stay vessels. The longer a vessel stays in NZT and the more places it is scheduled to visit increases the chances of invasive species being spread throughout NZT; as such long-stay vessels have stricter requirements.

- **Short-stay vessels** are those staying within NZT for 20 days or less, only visiting ports that are PoFAs and are mostly commercial trading vessels. MPI encourages short-stay vessels to meet the thresholds by doing continual maintenance using best practice.

Short-stay vessels are allowed a slime layer and gooseneck barnacles, plus small amounts of other fouling organisms on hull (<1% coverage) and niche areas (<5% coverage).

- **Long-stay vessels** are those staying within NZT for 21 days or more, and/or that are visiting ports not designated as PoFAs. MPI encourages long-stay vessels to meet the thresholds by cleaning/treating the vessel's hull prior to arrival.

Long-stay vessels are only allowed a slime layer and gooseneck barnacles; no other fouling is allowed on hull or niche areas.

How do I meet the CRMS for vessel biofouling?

Compliance with the CRMS can be achieved in several ways, including:

- (1) Cleaning the hull within 30 days prior to arriving in NZT and providing MPI with documentation of that clean; or
- (2) Conducting continual hull maintenance using best practice principles, such as IMO biofouling guidelines, and providing MPI with documentation of that management; or
- (3) Conducting hull treatment using an MPI-approved provider within 24 hours of arriving into NZT and providing MPI with documentation of the scheduled treatment.

Vessels that cannot meet the requirements using the methods outlined above may develop a CRMP to be approved by MPI.

What do I need to do to show compliance?

MPI wants the risk of biofouling to be managed before the vessel arrives in NZT. This means MPI will assess compliance based on documentation and records that show that one of the three management options to meet the biofouling standard have been undertaken. The type of documentation MPI expects to see will depend on the measure used to meet the standard (for example, best practice principles or cleaning before arrival).

How will MPI assess whether a vessel meets the thresholds of the CRMS? Will MPI dive on every vessel?

MPI will assess compliance based on documentation submitted to MPI prior to a vessel's arrival. MPI, and other organisations have commissioned extensive research on risk indicators for biofouling. MPI uses this information to develop methods to assess the biosecurity risk of a vessel based on the vessel's records of biofouling maintenance, operating profile, and records of AFC application. Only those vessels that cannot provide the required evidence of compliance and those selected for audit purposes may be subject to a dive inspection.

What happens if my vessel is found non-compliant with the CRMS?

If vessels are suspected to exceed the fouling thresholds upon receipt of initial documentation, MPI will initially request further evidence of biofouling management. Vessels that cannot prove they are compliant with the biofouling standard may be subject to a dive inspection on arrival in NZT. If vessels are found non-compliant they will be directed to either manage the biosecurity risk or to leave NZT.

Currently haul out/dry docking is the **only approved treatment within NZT** and is only available for **smaller vessels (120m or less)**. Any biofouling management or costs due to delays for non-compliant vessels will be at the operator's expense.

What if I am unsure if my vessel will be compliant or need biofouling advice?

Contact MPI at standards@mpi.govt.nz with any biofouling questions. The earlier you contact us the better, as there are more options for managing biofouling before the vessel departs for NZT. Once a vessel is on route into NZT the options available become limited.

What are Places of First Arrival (PoFAs)?

A PoFA is a port approved under the Biosecurity Act to receive international vessels. A list of all ports currently approved as PoFAs in NZT for seacraft (vessels) can be found on the MPI [website](#).

What types of vessels might need a Craft Risk Management Plan (CRMP)?

MPI expects that cruise vessels, project vessels and some fishing vessels would be the main types of vessels which would require a CRMP. The unique operating profile some of these vessels may have, or because they may be domestic vessels means that they will routinely arrive in NZT but may not be able to comply with the requirements as they are set out in the CRMS for Biofouling.

My vessel is a commercial vessel (container, bulker, tanker, etc.). What measure should I use to meet the requirements of the biofouling standard?

Doing continual biofouling maintenance according to best practice, as outlined in the IMO guidelines is recommended for short-stay vessels. See Appendix 1 for more information regarding what constitutes best practice maintenance.

My vessel is a passenger vessel. What measure should I use to meet the requirements of the biofouling standard?

Many cruise vessels visit places in NZT that are not PoFAs, so they are designated as long-stay vessels. Due to the schedules of many cruise vessels, cleaning before arrival may not be an option prior to every entry into NZT. In order for cruise vessels to meet the long-stay threshold of the CRMS for Biofouling, MPI suggests cruise vessels comply by creating a **CRMP**, in addition to managing the hull using best practice principles.

My vessel is a fishing vessel. What measure should I use to meet the requirements of the biofouling standard?

Continual maintenance using best practice should underpin every vessel's maintenance plan. However fishing vessels brought from overseas to work or be permanently based in NZT will likely need to be hauled out, cleaned and/or re-antifouled before arrival. Carry evidence this has been done.

Domestic fishing vessel operators might want to submit a CRMP to MPI for approval.

Fishing vessels coming for refit, repair, or biofouling removal need to provide evidence of a booking within 24 hours of arrival. Biofouling removal must be done at an MPI-approved TF. See below for information about TFs.

My vessel is a work boat (for example, barge/dredge/resource vessel or tug). What measure should I use to meet the requirements of the biofouling standard?

Continual maintenance using best practice principles should underpin every vessel's maintenance plan. However tugs, barges and resource support vessels brought from overseas to work or be permanently based in NZT, or vessels that have spent periods idle, will likely need to be hauled out, cleaned and/or re-antifouled 30 days before arrival. Carry evidence this has been done.

My vessel is a yacht. What measure should I use to meet the requirements of the biofouling standard?

Continual maintenance using best practice principles should underpin every vessel's maintenance plan. However yachts arriving from overseas will likely need to be hauled out, cleaned and/or re-antifouled 30 days before arrival in NZT. Carry evidence this has been done.

My vessel is a research vessel, cable ship or "one-off" vessel. What measure should I use to meet the requirements of the biofouling standard?

Continual maintenance using best practice principles should underpin every vessel's maintenance plan. However, research vessels often sit for long periods of time before going to work on a project. In some cases they may need to be cleaned and inspected before arrival into NZT. This is particularly important for research vessels as they often visit high value ecological areas, such as offshore islands within NZT, or for long periods of time. Carry evidence this has been done.

My vessel is a navy vessel. What measure should I use to meet the requirements of the biofouling standard?

Continual maintenance using best practice should underpin every vessel's maintenance plan. However navy vessels often sit for long periods of time before going to work on a project. In some cases they may need to be cleaned and/or inspected before arrival into NZT. This is particularly important for navy vessels as they are often coming to high value areas, such as our offshore islands, or for long periods of time. Carry evidence this has been done.

My vessel is an oil & gas resource vessel. What measure should I use to meet the requirements of the biofouling standard?

Oil rigs, and their support vessels usually operate within NZT for long periods of time. They will likely need to be dry docked, completely cleaned and/or re-antifouled 30 days before arrival in NZT. It helps to engage with MPI before you depart to check that everything has been done to comply (and to avoid unnecessary costs). Contact MPI at standards@govt.nz.

What is a TF?

If you are importing goods, or bringing a craft to into NZT for treatment, they need to first go through a containment facility or TF and may need to be quarantined.

TFs are approved by MPI to receive craft, containers and goods that may pose a biosecurity risk. Goods, containers or craft may need to be inspected or treated at the facility before they can be granted biosecurity clearance for entry into NZ.

Every TF is required to have an MPI-approved TF operator and if receiving containers, an accredited person available (who may also be the TF operator) who has been approved by MPI.

TFs may be approved to hold, inspect, treat, identify, or destroy and dispose of un-cleared risk goods.

What is the difference between a Biofouling Management Plan and a Craft Risk Management Plan?

Biofouling Management Plan (BFMP): A BFMP outlines the specific actions a vessel will undertake to manage biofouling. If you intend to meet the requirements through continual maintenance,* developing and maintaining a BFMP and BFRB is a good way to demonstrate compliance, and that the vessel's hull has been

maintained best practice management. The BFMP should be specific to the vessel, include a diagram of the vessel and niche areas, and should include a corresponding BFRB detailing biofouling management activities undertaken, including:

- Contingency plans for when the vessel operates outside of its operating profile (for example, when the vessel has been stationary for an extended period of time).
- Details and certificates for AFCs.
- Evidence of the installation and use of appropriate MGPS in niche areas.
- The results (such as a diver's report or photos) of a recent in-water inspection.

* MPI primarily recommends this as an appropriate option for short-stay vessels. Long-stay vessels must meet stricter biofouling requirements and will need to have their hull and niche areas cleaned before arrival into NZT in order to meet the biofouling threshold.

Craft Risk Management Plans (CRMP): In certain circumstances, an operator may not be able to meet the biofouling requirements by following best practice and/or developing a BFMP, cleaning prior to arrival, or using an approved treatment. In these cases, the operator can develop a CRMP. This plan must meet the desired effect of our biofouling requirements but may use a different method to do so. The plan must outline the ways the risk will be managed. The operator or person in charge can submit a CRMP to MPI for approval.

What must a vessel have on board (Biofouling Management Plan, Craft Risk Management Plan, or both)?

Neither a BFMP nor a CRMP are required for compliance with the CRMS; however, carrying one may facilitate compliance for a vessel. Having a BFMP and BFRB are recommended if you wish to meet the requirements of the CRMS by following and demonstrating best practice principles. These are useful to have in order to show how the vessel's hull is maintained when you arrive. Creating a BFMP for the vessel is also recommended in the IMO guidelines for biofouling.

A CRMP is only recommended for vessels that cannot meet the CRMS through one of the recommended management options. Note that a CRMP may include a BFMP and BFRB if this suits the vessel, in addition to outlining any other management activities required to meet the CRMS. In this case, the vessel must carry the CRMP, which will inherently include a BFMP.

Do Biofouling Management Plans and Craft Risk Management Plan have to be approved?

A CRMP must be approved by MPI before you depart for NZT. BFMPs do not need to be approved by MPI. However, you should have the appropriate evidence that continual maintenance using best practice principles has been carried out, such as antifouling certificates and the results from any in-water cleaning from a reputable third-party. Having the appropriate documentation will limit any delays upon entry into NZT.

Can a Biofouling Management Plan and Craft Risk Management Plan be merged into one plan?

If an operator chooses to meet the CRMS for Biofouling by following best practice and the vessel has a BFMP, it is not required to have a CRMP to meet the requirements of the CRMS for Biofouling.

The documents should not be merged into one plan. However, while they are two separate documents, a BFMP may fall into a CRMP. For example, cruise vessels must meet the long-stay requirements to visit pristine areas that are not ports. However, it is not feasible for a cruise vessel to clean 30 days prior to arrival every time it arrives into NZT. In lieu of meeting the CRMS for Biofouling this way, they may choose to develop a CRMP that outlines alternative ways they will manage their fouling. Their plan may say they will clean every season before they depart, and keep a detailed BFMP and BFRB. In this example, a CRMP may require similar documentation, or evidence, as a BFMP. Talk to MPI before developing a CRMP and see if this is the most suitable option for the vessel or fleet.

24 June 2020

To all vessel operators and agents,

Biosecurity New Zealand (BNZ) is conducting research on risk factors that influence the accumulation of vessel biofouling. Vessel biofouling is one of the largest biosecurity risks to New Zealand's marine environment. The Cawthron Institute has been contracted by BNZ to undertake field surveys of international commercial vessels arriving to New Zealand.

The project will involve underwater biofouling assessments of vessel hulls and niche areas, and completion of a questionnaire on vessel maintenance and movement history. The assessment is anticipated to take 3–4 hours, and will not impede the normal operations of the vessel. The contractor (Cawthron) intends to email or fax the questionnaire to shipping agents prior to vessel arrival and would appreciate a prompt completion and return of the form, ideally before the dive survey. Port authorities are also being notified of the work to ensure that no security issues arise.

A broad sampling effort plays a critical role in the success of this research. This research will allow BNZ to better focus its biosecurity targeting towards high-risk vessels, as well as help to expedite clearance checks on vessels that pose negligible biosecurity risks. Research outputs will inform risk profiling processes of vessels en-route to NZ and biofouling inspection procedures at the border. This will enable BNZ to make more informed decisions about compliance and prioritization of resources (i.e. which vessels to physically verify for compliance with the biofouling standard). The shipping industry and BNZ will benefit by saving time and resources required for biofouling inspections.

If selected, participation in the field surveys is compulsory, as BNZ is exercising its powers under the Biosecurity Act 1993 and under the Craft Risk Management Standard for Biofouling, to gain a representative sample of all vessel types.

If you require additional information or have any questions or concerns about this project or our contractors, please contact the project lead, Tracey Bates (tracey.bates@mpi.govt.nz)

Regards,

Paul Hallett

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Biofouling survey of commercial vessels arriving in New Zealand – Frequently asked questions

Biosecurity New Zealand will soon start a new round of vessel biofouling surveys to enhance our risk profiling at the border. The surveys are to be conducted over the next two years, and will consist of paperwork surveys to gather information about biofouling management practices, and physical hull surveys.

When will the survey begin?

Dive surveys are expected to begin in August 2020. Vessels will be selected using information on port websites of upcoming arrivals, and using MPI's pre-arrival information. Vessels will be notified by Cawthron that they have been selected and sent the online questionnaire prior to their arrival.

Is a copy of the questionnaire that will be sent to selected vessels to complete available to view?

An overview of the questionnaire and its content will be available to view on MPI's website.

Will the survey replace MPI's usual vessel assessment prior to arrival?

The survey does not replace normal requirements or pre-arrival processes. Vessels participating in the survey will still be required to submit normal documentation for assessment.

Is this applicable to all New Zealand ports?

All commercial vessels arriving to any port in New Zealand will be eligible for selection to participate in the survey. This will help ensure a representative sample of all commercial vessel types is obtained.

What types of vessels will be surveyed?

The surveyed vessels will be randomly selected from a broad range of cargo vessels, including tankers, bulk carriers, and container ships.

Will all vessels arriving in New Zealand be subject to a dive inspection?

Not all vessels arriving into New Zealand will be surveyed. A representative sample of around 40 to 50 vessels will

be chosen over the two year programme. Notification of selection will be provided prior to arrival in New Zealand.

Will dive inspections be at anchorage or alongside?

Alongside, with the vessel berthed securely. No dive inspections will occur at anchorage.

What submerged areas will the dive survey include?

The dive survey will include the hull as well as niche areas such as sea chests, propellers, sea inlet pipes and outlets and hull appendages such as dry docking support strips, bow and stern thrusters, bilge keels and rudder hinges.

What will happen if the dive inspection reveals extensive fouling?

If a vessel that is surveyed is found to be non-compliant, then normal processes for non-compliant vessels will follow. Note this does not mean a vessel will be directed to leave NZT. MPI has a range of actions to deal with non-compliance including education, or restrictions to itinerary. As only a small number of vessels will be surveyed over two years, we do not expect the survey to cause a spike in non-compliance rates.

How will the survey of biofouling of 40 cargo vessels help in pinpointing potential risks brought by the commercial vessels visiting New Zealand?

The survey aims to build a profile of vessels that are most likely to be contaminated with foreign marine species. This will allow us to identify risk factors that influence biofouling growth and to gain information to be used to decide which vessels to verify further.

