Biofouling is another unintended way of introducing invasive aquatic species into an ecosystem. The US Coast Guard requires a Biofouling Management Plan on board, and the State of California has established a Marine Invasive Species Program. Australia has developed several guidelines for biofouling, and in New Zealand the new Craft Risk Management Standard will enter into force on 15 May 2018. This statutory news provides an update on the topic of biofouling and recommendations.

Biofouling background
Biofouling has been defined by the IMO as the accumulation of aquatic organisms such as plants, animals and micro-organisms on surfaces and structures submerged or exposed to the aquatic environment. Biofouling becomes a risk for the environment when invasive aquatic species are transferred to new ecosystems.

The IMO has acknowledged the risk of transferring invasive aquatic species and, as a result, adopted the Ballast Water Management (BWM) Convention, which entered into force on 8 September 2017. Ballast water treatment is to be implemented for most vessels after their first IOPP renewal after 2019.

Biofouling management is not required by the BWM Convention, since it is not part of its scope. However, biofouling can also be a significant contributor to the transfer of invasive aquatic species.

All ships have some degree of biofouling, even those which may have been recently cleaned or had a new application of an anti-fouling coating system. The amount of biofouling that may be found on a ship is influenced by a range of factors, such as:

- Design and construction (number, location and design of niche areas)
- Specific operating profile (operating speeds, ratio of time underway compared with time alongside, moored or at anchor)
- Places visited and trading routes
- Maintenance history (type, condition of anti-fouling system, installation and operation of anti-fouling systems as well as dry-docking/slipping and hull cleaning practices)

As of today, the control of biofouling is voluntary. However, the financial benefit for ship owners of implementing hull cleaning plans to improve the vessel’s hydrodynamic performance and lower fuel consumption can be significant.
Biofouling Management Plan
Vessels are recommended to have a Biofouling Management Plan on board per Resolution MEPC.207(62). DNV GL has a template for the Biofouling Management Plan, which is available on our website (see link below) and that is compliant with the IMO resolution.

GloFouling Partnership project
A project has been established by the Global Environment Facility, United Nations Development Programme and IMO as part of the GEF-UNDP-IMO’s GloFouling Partnership. The project aims to:
- Address the risks posed by organisms transferred via biofouling
- Allow biofouling issues to be better addressed within the context of invasive species management
- Bring together all stakeholders

IMO and other regulations
While there are no immediate proposals for regulation on the table at the IMO, there is an increasing interest in the issue. Also, new regulations are in place or developing in various countries.

The US Coast Guard has required since 21 June 2012 a Biofouling Management Plan on board, and the State of California established a Marine Invasive Species Act in 2003 with the goal of reducing the risk of introducing invasive aquatic species.

Australia has developed several guidelines since 2009 for biofouling for recreational vessels, non-trading vessels, commercial fishing vessels, the petroleum production and exploration industry, commercial vessels, and since 2013 the aquaculture industry, and are in the process of considering biofouling regulations.

In New Zealand, the new Craft Risk Management Standard, which enters into force on 15 May 2018, requires that all vessels arriving shall have a clean hull or adhere to biofouling management best practices. The IMO Biofouling Management Plan (MEPC.2017(62)) is considered an example of best practices.

Recommendations
It is recommended to ship owners to have a Biofouling Management Plan with clear procedures and strategies. The economic benefit of doing so will improve vessel performance and lower the fuel consumption. Requirements have already been implemented in the USA, new regulations will soon enter into force in New Zealand, and Australia is considering new regulations in the near future.

DNV GL references
Ballast water management (BWM) and biofouling services, including the Biofouling Management Plan template.
- Ballast Water Management page
- Corrosion protection systems page

IMO references
- Biofouling page
- New global project to address bioinvasions via ships’ hulls

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