



2018



Irish Institute of Master Mariners
Marine Spatial Planning Submission

14th of December 2018

Submitted on behalf of the Irish Institute
of Master Mariners by Captain Paul

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The **Irish Institute of Master Mariners** (IIMM) is a non-political organisation of qualified mariners. Our aim is to promote safe, efficient and professional conduct in the public and commercial maritime sectors in Ireland and internationally. The IIMM is a member of the International Federation of Shipmasters' Associations (IFSMA) and the Confederation of European Shipmasters' Associations (CESMA).

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The Irish Institute of Master Mariners has made the following submissions to the Irish Government in:

- 2017 RIA on Merchant Shipping Bill
- 2015 Maritime Taxation
- 2014 Maritime Safety Strategy
- 2013 White Paper on Defence
- 2012 Harnessing Our Oceans Wealth



Acknowledgements

The Irish Institute of Master Mariners would like to thank the Department of Housing, Planning and Local Government, Mr Philip Nugent and Padraic Dempsey, for the opportunity to contribute to this critical legislation which will have a significant impact on maritime affairs for decades to come. Members of the Institute attended various public consultations and invited Mr Philip Nugent to present the Baseline Report to its members. Mr Padraic Dempsey, Assistant Principal, very kindly travelled to Cork and presented the Baseline Report on December 6th in the National Maritime College of Ireland to members. The Institute members are very grateful for making the time to provide this excellent overview of the process for Marine Spatial Planning.



Irish Institute of Master Mariners	1
Acknowledgements	2
Contents	3
Introduction	4
1. Ports.....	4
1.1 Air Pollution	5
1.2 European Emission Control Areas.....	5
1.3 Water Pollution	6
2. Irish Maritime Domain	6
2.1 Commercial Shipping	6
2.2 Energy	7
2.3 Leisure Users	7
2.4 Fishing Industry	7
2.5 Shipwreck Treasurer Hunters	7
3. Maritime Surveillance and Enforcement	8
3.1 Recording Irish Maritime Domain Use	8
Bibliography	9

INTRODUCTION

As a maritime nation, Ireland's maritime commercial transport is a critical component of the Irish transportation system. The State relies on a safe, secure and efficient shipping industry in order to function. The port and shipping industries are vital links in a small open economy where trade is key to the economy, the environment and social fabric of society. The security of the logistical supply chain is of major importance to ensure the efficient movement of goods in and out of the island of Ireland. Marine Spatial Planning (MSP) will be key to ensuring this is managed in a safe, efficient and environmentally friendly process as any interruption would have significant impact on the Irish economy and could put the environment and jobs at risk.

1 Ports

In 2002, the National Spatial Strategy (Dept of Transport, 2002) highlighted the strategic importance of ports and the need for a marine/waterways policy. The Ports Policy Statement (Dept of Transport, 2005), The National Development Plan 2007–2013 (2007), Smarter Travel – a Sustainable Transport Future (Dept of Transport, 2009), The Ports Policy Review Consultation Document (Dept of Transport, 2010), the EU White Paper (Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system, 2011) and Harnessing Our Ocean Wealth (Dept of Agriculture, Food and the Marine, 2012) all recognise that ports are a key piece of strategic infrastructure. Because of their economic significance, any perceived risk or threat to free movement of shipping either in Irish waters or in port could have serious repercussions. MSP must ensure that ship routing, waterways, anchorages and berths are prioritised in any conflicts that arise.

Since 2010, under EU Directive 2005/33/EC, vessels berthed for more than two hours must switch to a 0.1% Sulphur fuel or use alternative technologies, such as shore side electricity. Some European countries have introduced subsidies for shore connection combined with EU funding to encourage ports to invest in this infrastructure. The Port of Hamburg has invested €7 million in shore connection with 50% of funding provided by the TEN-T program (INEA, 2012). Belgium, The Netherlands, Sweden, Germany, France Italy and Estonia are all funding similar infrastructure for their ports with the emphasis on ferries and cruise liners (European Commission, 2015a). These vessels tend to berth close to cities and therefore the environmental benefits are clear. Shore connection power would reduce hundreds of tonnes of pollutants weekly. Upcoming regulations for the trans-European transport network (TEN-T) are also likely to include shore connection in port modernisation programmes. Dublin, Cork and Limerick ports are listed under the TEN-T programme of core ports (European Commission, 2014). Shore based energy provision to vessels in port has been highlighted of late by the European Union's decision that all European Ports should be able to meet the energy requirements of vessels alongside in port by 2025 under EU Directive 2014/94/EU. It is being driven by the global requirement of reducing greenhouse gas emissions from shipping and by the health benefits associated in reducing airborne emissions from the maritime industry.



1.1 Air Pollution

Protecting the environment from shipping has been at the forefront of the International Maritime Organization's work since the 1970s. The International Convention for the Prevention of Pollution from Ships (MARPOL) was adopted in 1973 and entered into force in 1983. The latest update was on air pollution (Annex VI) and entered into force in 2005 (IMO, 2018a). The IMO continues to update the regulations and a global sulphur cap of 0.5% content in marine fuel will come in to force on 01 January 2020. This means that only marine fuels containing 0.5% Sulphur can be burned in ships engines outside of Emission Control Areas which will remain at 0.1% Sulphur content (IMO 2018b). This global reduction of 0.5% Sulphur in marine fuel, premature deaths are expected to reduce by approximately 41,200 annually (Winebrake et al, 2009). This will present significant challenges for the shipping industry. The Baltic and International Maritime Council (BIMCO) challenged the IMO figures stating that there was insufficient refining capacity for marine fuels to meet the requirements by 2020 (BIMCO, 2016). The International Chamber of Shipping (ICS) believes the difference between residual fuels and 0.5% Sulphur cap could cost as much as US\$400 per tonne significantly adding to ship-owner costs (ICS, 2016) and a complete switch over to marine gas oil would cost US\$52.6Bn. Technology may assist in the form of sulphur scrubber technology, while retrofits can be expensive now that a date has been fixed it will be cheaper to incorporate in to new builds although it is too early to tell what the costs may be (Platts, 2016).

Global sustainable development is only possible with a **cost-efficient** maritime transport system. However, it is also clear that shipping has a significant impact on climate change, the environment and human health and must play its part in reducing these effects.

The effect of shipping on climate change, the environment and human health is significant. While the amount of greenhouse gases emitted is less than 3% of the world total this is still about one billion tons. Low-grade marine fuel oil contains 3,500 times more sulphur than road diesel. In Hong Kong, it is estimated that large ships are responsible for one-third to almost one half of all airborne pollutants (Hong Kong Government, 2015). Particulate matter emitted by shipping causes over 60,000 deaths annually. Most of these deaths occur near coastlines in Europe, East Asia, and South Asia where shipping activity is greatest (Corbett et al., 2007). Shipping transport also accounts for approximately 12% of all water pollution worldwide.

1.2 European Emission Control Areas

From 01 January 2015, Emission Control Areas (ECA) came into force in the Baltic, the North Sea and the English Channel. Ships can only use fuels with a sulphur content of less than 0.10% or use an appropriate exhaust cleaning system under EU Directive 2012/33/EU. This amended EU Directive 1999/32/EU (EC, 2015). In Hong Kong, it is estimated that ships are responsible for one-third to almost one half of all airborne pollutants. New regulations governing air emissions from vessels on berths also came into force on 01 July 2015 (Hong Kong Government, 2015).



1.3 Water Pollution

Ballast water is taken onboard by ships for stability and may contain marine microbes, plants and animals, which are then carried into Ireland. Ballast water from ships has been harmful to human health. There is direct evidence that cholera epidemics have occurred as a result of cholera pathogens being introduced to the local water supply by ballast water from ships. This ballast water has also been responsible for introducing alien invasive species in the waters of coastal states. Some of these invasive species have had a devastating effect on local species (International Maritime Organization, 2018a).

To control this, the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention) was adopted in 2004 to introduce global regulations to control the transfer of potentially invasive species. With the treaty now in force, ships need to manage their ballast water and MSP should take this into account (International Maritime Organization, 2018d).

2. Irish Maritime Domain (IMD)

Despite current uncertainties world trade is increasing, and the world shipping fleet continues to expand to meet that demand. The shipping industry is an open, capital intensive, highly competitive and cyclical business. Modern ships are technically sophisticated, high value capital investments and ship owners look to maximise returns on their assets in the shortest time possible.

2.1 Commercial Shipping

MSP should take into consideration future legislation for commercial shipping such as the Sulphur cap in 2020. Ship Routing should minimise transit times to limit particulate matter, Nitrogen (NO_x) & Sulphur (SO_x) emissions from ships. It is not only harmful to the environment but human health. The Energy Efficiency Design Index will be debated by the IMO in 2019 and decide whether engines will be only required to power a ship up to Beaufort Scale Force 7 (Near Gale) constraining their ability to manoeuvre in poor weather.

Climate change is the single biggest challenge facing the global community and seafarers are experiencing these changes every day. A more hostile maritime environment significantly increases the risk to their health and safety due to the increased severity of storms occurring as a result of these climate changes. These changes are already affecting the routes of commercial shipping. The melting of the Arctic ice cap has opened new shipping routes from Russia which could significantly affect the West Coast of Ireland as ship owners seek to reduce costs (Japan Times, 2018). Maersk Shipping, the world's largest shipping company (Maersk, 2018), built its first container ship to transit through Arctic waters (Independent, 2018). Some of the largest vessels in the world transit Irish waters along some of the main sea lanes between North America to Europe. This could now include northern Arctic routes leading to the IMD becoming a hub for large numbers of commercial shipping.



2.2 Energy

Significant gas finds in the Corrib basin and oil in the Barryroe field have led to further hydrocarbon exploration and more commercial finds are possible. Renewable energy installations such as wind farms and subsea turbines are the focus of continuing investment transforming the seascape. This offshore infrastructure will require large numbers of support vessels to install, operate and maintain, transforming the sovereign maritime domain in the next decade. This may lead to a dramatic rise in shipping and offshore infrastructure with the inevitable increased risk of a major pollution or incident occurring and MSP will have an important role to play in mitigating these risks.

2.3 Leisure Users

Since 2000, global positioning systems have transformed navigation. In 2017, over 1500 yachts crossed the Atlantic each year via the North East Trade winds (Crewseekers, 2018). The importance and significant growth potential of marine tourism is acknowledged by Ireland's national tourism development authority, Fáilte Ireland (Fáilte Ireland, 2013). This has led to rise in coastal tourism which may rise rapidly as the European economy recovers leading to conflicts with commercial shipping and the fishing industry.

2.4 Fishing Industry

The IIMM understands that various submissions have been made by the fishing industry.

2.5 Shipwreck Treasurer Hunters

Subsea technological advances and the high price of gold and silver have led to a treasure hunt in Irish waters for wrecks with valuable cargoes (BBC, 2018 & Irish Times, 2013). The Department of Culture, Heritage and the Gaeltacht in April 2018 released, on its National Monuments Service, a free digital service called 'Wreck Viewer' (The Department of Culture, Heritage and the Gaeltacht, 2018). This service holds 18,000+ records of wrecks of which 4,000 have precise locations. These wrecks have a summary description, providing information on the original vessel, their history, voyage, cargo, passengers and the story of its loss, where known. This information can be used by treasure hunters. A key aspect of MSP should be to protect these wrecks from treasure hunters and give the Irish Naval Service enforcement powers to prevent the unauthorised removal of property from these wrecks.



3. Maritime Surveillance and Enforcement

One of the key enablers in Harnessing Our Ocean Wealth (Dept of Agriculture, Food and the Marine, 2012) is maritime security and enforcement. The Irish Naval Service, Irish Air Corps and Irish Coast Guard are the three main state agencies which conduct maritime surveillance and should be included in any discussions for surveillance and enforcement of the MSP.

The Department of Transport, Tourism and Sport through the Maritime Safety Directorate is responsible for maritime enforcement and should be consulted in all areas of legislation. A coherent policy towards maritime enforcement should be generated to mitigate the risk of criminalisation of ship's masters. Ship masters who conduct vessels in the Irish Maritime Domain (IMD) in a safe manner may inadvertently breach MSP legislation if it is not well thought out which may create unintended consequences. Consideration must also be given to what State Agency will physically police this legislation and how this will be funded.

3.1 Recording Irish Maritime Domain Use

The MSP will set out how the State plan to use, enjoy and protect the IMD for the next 20 years with reviews every 6 years. Capturing historical data in the IMD should be a State priority. This data will be necessary for future planning and highlight potential areas of conflict. Automated Information Systems (AIS) carried on commercial shipping and some leisure users does not provide information on all IMD users. There is currently no single source or platform to capture data for the IMD. The Irish Naval Service, through a process called Recognised Maritime Picture (RMP), captures almost real time data of the IMD through a variety of sources including its own warships. It does not maintain long-term historical records, nor can it release this information publicly as it involves State Security. This RMP could be expanded to record data for use in the public domain (or a separate system in parallel) but will require proper resourcing in order to be effective. The Irish Naval Service's extensive experience in managing this type of co-ordination and collection of information makes them the ideal State Agency to lead this initiative.

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