



Environmental NGO advice on **marine litter** for  
public consultations on the  
Marine strategy Framework Directive  
Let's not **waste** the opportunity!



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*This Paper has been produced by Seas At Risk and its member organisations. For more information contact Chris Carroll at [ccarroll@seas-at-risk.org](mailto:ccarroll@seas-at-risk.org)*

*The photograph on the front cover is by Carole White*

### **Box 1 What is marine litter?**

Marine litter includes any discarded, disposed of or abandoned synthetic or manufactured solid material found on beaches and in the sea. Marine litter includes both visible macrolitter items such as bottles, bags or pieces of fishing rope but also microlitter items such as the fibres from clothing or fragmented plastic pieces that are too small for the eye to see. Marine litter includes items made of paper, wood, glass and crockery but the majority of items are made from plastic and it is plastic that in this context poses the biggest danger to the health of the marine environment and humans, to the aesthetic beauty of coastal locations and the economic situation of marine users.

## **1. Introduction**

Marine litter is an entirely anthropogenic pollutant that damages not only the marine environment, but also marine industries and the aesthetic quality of coastal environments. It is multi-dimensional and multi-sectoral and it is a human responsibility to significantly reduce quantities of marine litter in the short term and ultimately act towards resolving the problem for future generations. The Marine Strategy Framework Directive (MSFD) is the key European legal instrument that provides a platform for such action, giving focus to marine litter and allowing for a Europe wide approach to tackle this growing environmental, social and economic problem.

The ultimate potential of the MSFD is clear: It provides Member States with an opportunity to put in place real measures that can collectively mitigate marine litter, over the short and long term. However, it will require Member States to show commitment to achieving such outcomes and 2012 marks the first key implementation deadline where Member States of the European Union will set out their level of ambition and show whether there is the political will to solve the problem.

The organisation of public consultations on the MSFD is a requirement of the Directive and by 15<sup>th</sup> July 2012, Member States will have to disclose their initial assessments of their own waters, define what they consider to be 'Good Environmental Status' and set targets for 2020 (the first deadline to assess whether Member States have achieved an improvement in their marine environment). Specific to marine litter, this advice document gives recommendations on achieving 'Good Environmental Status', taking a precautionary approach and proposes targets that should be put in place in 2012.

### **Box 2 Precautionary approach to marine litter**

A precautionary approach would involve taking appropriate preventative measures when there is reason to believe that substances introduced into the marine environment are likely to cause harm even when there is no conclusive evidence to prove a causal relationship between inputs/activities and effects. This applies to the entire spectrum of environmental policy making and to all types of human impact on the environment. There is plenty of evidence that shows how marine litter and especially plastic pollution can cause harm to marine life and although further research is still required on topics such as microplastics, a long term precautionary goal would require a target of concentrations in the environment of close to zero.

## 2. What is the MSFD and what does it mean for marine litter?

The Directive, published in 2008, is the first piece of European legislation specifically designed to protect and restore the marine environment. It aims to tackle several problems associated with the European marine environment such as the over-exploitation of fish stocks, biodiversity loss, noise and marine litter. In essence, the MSFD is a Europe wide legislative initiative that utilises the ecosystem approach to improve the management of human activities that impact on the marine environment. Central to the Directive are the concepts of environmental protection and sustainable use of resources and it also requires a collaborative approach by countries across the European Union and further cooperation within regional seas authorities<sup>1</sup>. This international approach is essential when attempting to solve almost all marine environmental problems and extremely relevant to marine litter, a problem that has no boundaries and multiple sources.

### Box 3 Marine litter knows no boundaries: Bohuslän's beaches

On Sweden's west coast, in Northern Bohuslän, marine litter has become major problem – but not solely, or even largely because of Sweden's actions. It has been estimated that more than 80 percent of the litter found on Bohuslän's beaches does not originate from Sweden. The problem here has been that currents and winds in the North Sea have led to the Bohuslän region becoming an accumulation zone for marine litter. For Swedish authorities this has resulted not only in a horrendous eye sore but huge economic costs. In 1997 the cost of cleaning beaches was estimated at 10 million SEK (€ 1,125,000) and the cost to the fishing sector has been put at around €800,000 each year<sup>2</sup>.

The MSFD's pan European approach is essential in order to tackle the multi source element of marine litter– but it will also require Europe taking a stand Internationally and ensuring that other regional and global measures are also pursued:

#### **The Marine Litter Express – The incredible journey of the plastic bath ducks**

Waste which enters the ocean can turn up anywhere in the world. In 1992 a container ship in the Pacific Ocean lost 30,000 plastic ducks off the coast of China. These ducks first traveled with the dominant currents in the direction of Australia, but fifteen years later they turned up on the shores of the UK. An interesting story, but it illustrates perfectly how marine litter can originate from almost anywhere and end up many miles from its source. The MSFD must therefore be the catalyst for European efforts to encourage International action on marine litter.

## 3. What is the goal of the MSFD?

The main aim of the Directive is to achieve Good Environmental Status (GES). The MSFD broadly defines GES in the following way:

*“... The environmental status of marine waters where these provide ecologically diverse and dynamic oceans and seas which are clean, healthy and productive within their intrinsic conditions, and the use of the marine environment is at a level that is sustainable, thus safeguarding the potential for uses and activities by current and future generations.”*

This definition of GES clearly relates closely to marine litter, perhaps most obviously in relation to a clean marine environment. Sadly, this is not the case for Europe's seas at present and although the problem is not extreme in all locations, the problem is at the very least, considered of strong concern by all EU governments, NGOs, citizens and industry alike (see Box 4).

#### Box 4 Europe's rubbished waters: Consensus amongst all stakeholders

Across Europe, there is consensus that too much rubbish has ended up in the sea. In the North East Atlantic region, where monitoring of marine litter is most advanced and most extensive, OSPAR Ministers in 2010 signed a declaration that stated the quantities of marine litter are simply unacceptable<sup>3</sup>. In the Mediterranean, a report on marine litter by the Mediterranean Action Plan and UNEP stated there has been a clear failure to address the problem despite marine litter being well acknowledged since the 1970's<sup>4</sup>. In the Baltic Sea beach monitoring has shown there to be unacceptable levels on many beaches<sup>5</sup>. And in the Black Sea, a report by the Black Sea Commission has called marine litter one of the "most urgent" environmental problems in the region<sup>6</sup>.

Equally, the EU has acknowledged marine litter as a serious problem and the European Commissioner for Maritime Affairs and Fisheries Maria Damanaki has publicly stated that "the amount of litter in our seas and oceans is a disgrace and action is needed urgently to reduce the quantity that enters from land, rivers and sea."

Industry groups also agree that Europe's marine litter problem is out of control, with the plastics sector noting that "plastic litter in any environment is unacceptable." (EuropeanPlastics)

European citizens are also outraged at the problem of marine litter. In a study of EU citizen's perception of marine environmental problems<sup>7</sup>, pollution and litter were ranked as the most serious threats to the marine environment (See Figure 1).

GES considers the entire marine environment. For marine litter this is hugely relevant as litter is found in all parts of the marine environment, including on beaches, in marine biota, on the sea surface, on the sea floor and suspended within the water column. Therefore, in assessing the status of Europe's waters it is crucial that all parts of the marine environment are accounted for.

Member States also have to decide on how to define GES in relation to marine litter, by July 2012. For example, GES for marine litter could be defined in the following way: **GES will be attained when marine litter is no longer introduced into the marine environment and where the marine environment is free of marine litter, or where levels are close to zero.**

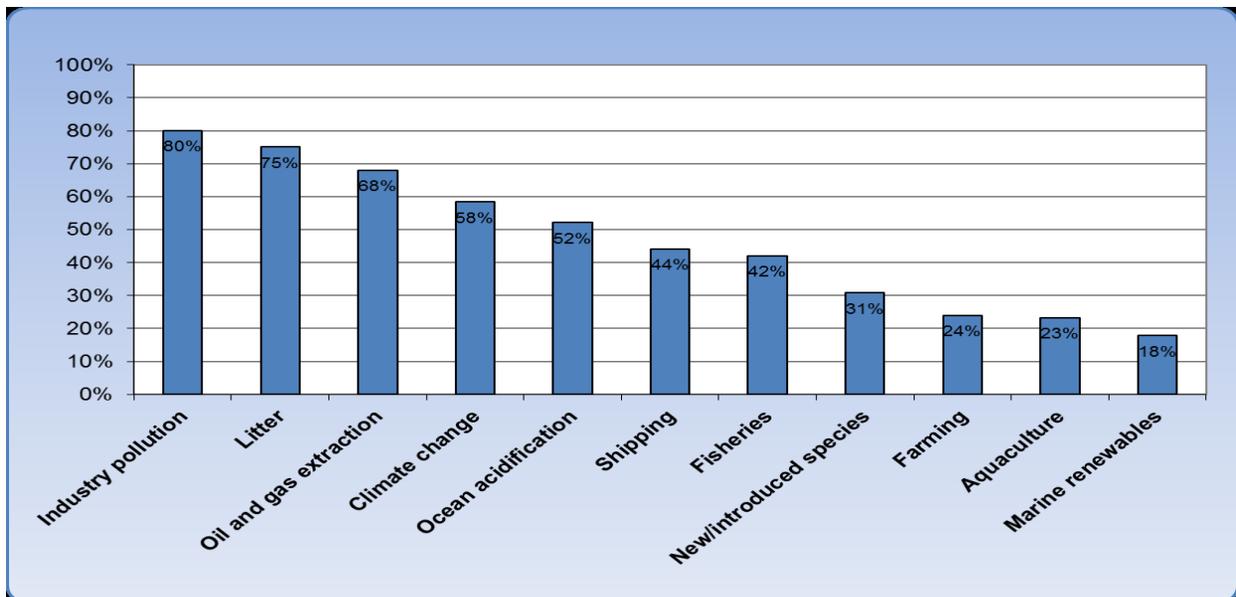


Figure 1. Rankings of perceived threats to the marine environment. Scores shown as percentage of responses rated as 'threat or severe threat' (score of 4-5). (Potts et al, 2011)

#### Box 5 - What harm does marine litter cause?

Marine litter can cause harm in multiple ways. The most obvious impact is through entanglement or suffocation of marine life. Harm can also be caused through ingestion of litter items because of feeding problems that result from reduced storage volume in the stomach<sup>8</sup>. Floating marine litter can also facilitate the transport of alien species, potentially spreading diseases and adversely affecting native species. There are also very strong concerns that marine biota might be harmed through the effect of absorbing chemicals from ingested plastics<sup>9</sup>. On this latter point, although the degree of actual harm is as yet unclear, it has been shown that chemicals can be transferred from ingested plastics to living organisms<sup>10</sup>. It is also feared that such a transfer to marine life might be affecting the food chain and ultimately food from the marine environment that is consumed by the human population. Where marine litter exists, the water quality may also be adversely affected and where quantities are extreme it can cause habitat destruction including smothering of the seabed, entangled litter on coral reefs and deposition on seagrass beds<sup>11</sup>.

Regardless of the extent to which marine litter can cause harm, since plastic marine litter is undoubtedly the biggest concern, the best way to approach this matter is to consider how humans would approach ingestion of plastics. As humans, we tend to take a **precautionary approach to plastics**, whereby ingestion of all plastics is avoided and where some plastics, which include potentially harmful chemicals, are not even considered safe enough to store food and liquids. Thus for marine life, we should also take a precautionary approach and aim to **prevent plastics from entering the marine environment**. As far as possible we need to remove what is already in circulation - so as to prevent marine life from suffering the potential consequences of encountering marine litter, whether it be through entanglement, suffocation or ingestion.

- Scientists estimate there to be approximately 250 billion pieces of plastic in circulation in the Mediterranean Sea<sup>12</sup>.
- Almost all North Sea Fulmars, a bird that exclusively feeds at sea, are found with plastic in their stomachs. On average, 0.3 grams of plastic are found in the stomach of a North Sea Fulmar. If this was scaled up to human size, it would equate to an average portion of lunch for a human adult<sup>13</sup>.
- Beaches in the North East Atlantic have on average 712 pieces of plastic per 100m<sup>14</sup>.
- Amounts of litter found on beaches in the Baltic region have been recorded at 1200 pieces of litter per 100 m stretch of beach<sup>15</sup>.
- Abandoned, lost or otherwise discarded fishing gear is a particular problem in the Black Sea. In April 2002, 35 harbour porpoises were recorded as by-catch in 30.2km of abandoned gill and trammel nets in the EEZ of Romania<sup>16</sup>.

*See also Box 9 "The cost and the value of mitigating marine litter"*

#### 4. Target Setting – A little or a lot less litter?

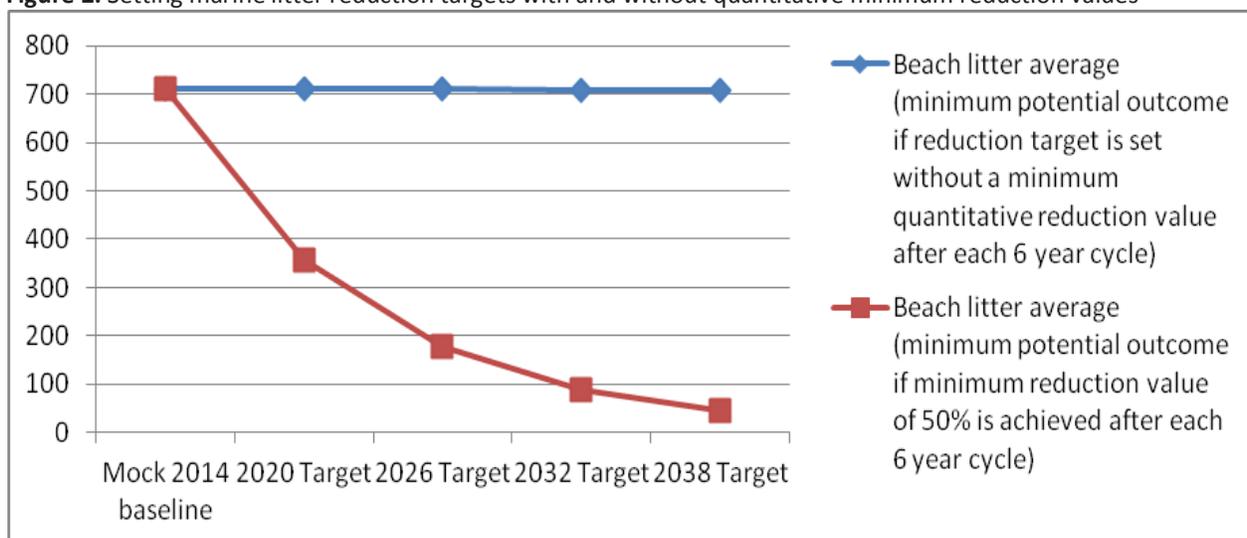
The first cycle of the MSFD will result in an assessment of Europe's marine waters by the middle of 2020 whereby progress towards achieving GES will be evaluated (the MSFD will undergo consecutive 6-year assessment cycles). Thus, Member States of the EU will have to monitor their marine environment and set targets to be achieved by 2020. The use of targets has two vitally important functions: Targets can help guide progress towards achieving GES and they can act as an incentive for action.

The way targets are set and their level of ambition is vitally important. As marine litter across European waters is a particularly serious issue, targets must include significant reductions in absolute quantities of marine litter. In this, they must be fair and just; considering not only the scale of the problem but also giving what might be considered a reasonable period of time to resolve the problem. On this latter point, since the goal of the MSFD is to ensure 'the use of the marine environment is at a level that is

safeguarding the potential for uses and activities by current and future generations' it is necessary to set out a long term generational goal (i.e. for 2035).

Of course, setting targets that are weak or do little to go beyond the status quo are likely to be more achievable. However, if weak targets are set then less incentive will be provided for putting in place the sorts of measures that will effectively resolve the problem within a reasonable time frame. Equally, since marine litter is so abundant, setting weak targets in the first instance would mean that achieving a clean marine environment in a reasonable time frame will be less feasible. For example, in the North East Atlantic, beaches have on average 712 pieces of litter per 100m stretch of beach. If a target was set to achieve a simple reduction (without a minimum quantitative reduction value), such as an 'overall reduction' or a 'downward trend' for 2020 - and continued in this way for every consecutive 6-year period - the likelihood is that the marine environment would not be restored for generations to come (See Figure.2).

**Figure 2.** Setting marine litter reduction targets with and without quantitative minimum reduction values



What is required under the MSFD are significant and quantitative minimum reduction targets that can be set out for 2020 and for future assessment dates. Through this approach, and on the basis that such targets are achieved, it will become more likely that the problem of marine litter is resolved within a reasonable time frame.

What must also be recognised when setting targets to reduce marine litter is that in many instances the measures needed to reduce the inputs are relatively practical and economically viable. Here, there is the potential to reinforce and better implement existing regulations but also some opportunities to go beyond the status quo and put in place measures that will encourage less littering, better waste management, improved resource efficiency and a greener economy through the wider use of long life, sustainably sourced forms of packaging and goods (See box 7).

Monitoring of marine litter and associated targets must also cover the entire marine environment as marine litter is largely dispersed and present in multiple locations. This means having monitoring and targets set for marine biota, across the water column and on beaches (Member States must have monitoring programmes finalised for implementation by July 2014). Not having monitoring in one of these sectors will make it impossible to adequately assess the entire marine environment, as the fate of a non-monitored area would be unknown. Equally, not having a target for a specific area would make it impossible to gauge the progress towards achieving GES in its entirety and could mean that measures to prevent inputs of litter items that end up in such locations are not put in place.

#### **Box 6 - Is a significant reduction in marine litter by 2020 feasible?**

The advice given to Member States by the European Commission's expert group on marine litter says that large reductions are possible. In their advice document they state the following: "In setting such targets for [a measurable and significant] reduction of marine litter under the MFSD, it is important to have a perspective of their feasibility. The case of industrial plastics may be indicative. During the mid-1980's beached Fulmars from the Dutch coast had  $6.8 \pm 1.1$  industrial plastic pellets in their stomach (average  $\pm$  standard error;  $n=69$  birds). As such losses are a direct economic loss to the industry, changed methods in production and transport processes resulted in a rapid decrease of industrial granules in the marine environment. **By the second half of the 1990s the abundance of plastics in Fulmar stomachs was reduced by almost half** to an average of  $3.6 \pm 0.5$  pellets per stomach (1995-99, 222 birds) (Van Franeker et al., 2011). Similar reductions of industrial plastic pollution in seabird stomachs have been reported from the Pacific by Vlietstra and Parga (2002) and from the south Atlantic by Ryan (2008). These changes show that reductions in abundance of marine litter in the order of 50% per decade are a feasible target when adequate measures are taken."

#### **Box 7 - Measures to mitigate marine litter**

- Measures that reduce the use of disposable consumer products (e.g. plastic bag bans/ taxes/levies).
- Incentivising the reuse of plastic and other containers through deposit schemes and reverse vending.
- Extended producer responsibility, i.e. better design and labeling of products to enhance reuse and recycling.
- Better waste disposal facilities in urban and coastal municipalities and at beaches.
- Stronger legislation on minimum targets for recycling and reusing plastics and other materials.
- Beach clean-ups, educational programs and promotional activities on marine litter to increase awareness amongst the public and/sea farers.
- Improved waste water treatment to prevent microplastics and other sewage related debris entering the sea from sewage outlets.
- Support 'Fishing for Litter initiatives': involving the provision of storage units on board vessels and free disposal at ports of litter collected by fishermen during their routine fishing operations.
- A more harmonized port reception facilities regime across European ports for handling ship waste and improved implementation of EU law in this area.
- No-special-fee reception facilities and compulsory discharging of marine litter in port for all vessels including fishers.
- All ships to discharge their waste at a European port before leaving European waters.
- Increased enforcement and higher fines for littering, both at sea and on land.
- Improved measures to prevent industrial discharge of waste/goods (e.g. contained landfills sites, measures to prevent loss of containers on ships and safer waste transportation etc.)

### Box 8 - Advice of the European Commission's expert group on marine litter

The EU's expert group on marine litter has proposed several targets for Member States to consider using. Below are a selection of some of the proposed targets:

**Generational target – Close to Zero litter** - Although the expert group acknowledged that some litter may always remain in the marine environment it is proposed that a generational goal could entail aiming for a target of close to zero litter in the marine environment.

**Short term target for marine litter** – The expert group has advised that a target value should now be defined for the reduction of inputs of marine litter. Such a target, the expert group suggests, could emulate the **50% reduction target** for nutrient inputs as agreed by the International North Sea conferences and adopted by OSPAR and HELCOM in the mid 1980's.

The expert group also proposed some specific targets for the individual indicators such as the following:

- [X%] overall reduction in the number of visible (>5mm) [new] litter items on coastlines from 2012 levels (as submitted in the initial assessments) by 2020.
- [X%] reduction in the number of plastic/fishing/sanitary litter items on coastlines from 2012 levels (as submitted in the initial assessments) by 2020.
- Overall reduction in the number of litter items per meter on nationally defined affected areas for surface litter.
- Overall reduction in the number of litter items per meter on the sea bed as measured by trawling, and by diving in selected shallow waters, from 2012 (as submitted in the initial assessments) levels by 2020.
- Overall reduction in the number of fishing related litter items on the sea bed as measured by trawling on shelves and by diving in selected shallow waters, from 2012 (as submitted in the initial assessments) by 2020.
- X % annual reduction in the abundance of ingested litter.

## 5. ENGOs proposals for marine litter monitoring and target setting

### i. MONITORING

As mentioned earlier, monitoring programmes for the purpose of evaluating the condition of the marine environment are essential in being able to set environmental targets. Below is a brief description of the methodologies that Member States should consider using. Member States must ensure that monitoring programmes are in place for all the different sectors of the marine environment in order to fully assess whether there has been marine litter reductions, in all the accumulation zones.

#### Beach litter

Beach litter monitoring is the most practical and viable form of monitoring and all Member States should have full monitoring programmes set up by 2014. An EU wide methodology should be developed and use OSPAR guidelines for monitoring beach litter as a basis. Beach litter monitoring in the OSPAR region has been running for 11 years and involves the most mature set of guidelines used across Europe.

## Marine biota

Depending on the region, different species might be more or less appropriate for monitoring ingested litter items. For example, North Sea Fulmars within the OSPAR region are an ideal species as an indicator species for both impacts on the marine environment and to assess the state of the marine environment. In other regions where different species are being evaluated for monitoring (e.g. potential use of turtles in the Mediterranean or fish in different regional seas) Member States must ensure that indicator species are properly developed by 2014 and utilised for this environmental target.

## Water Column

Again, there are different ways that Member States might choose to monitor this indicator, e.g. in all European sub regions, trawl surveys are already been carried out for scientific purposes. Since trawl surveys are already utilized largely for monitoring fish stocks (and have been used for marine litter), and will likely be utilised for other descriptors under the MSFD, this option would also be advantageous because of the shared cost opportunities. Other monitoring schemes might involve divers, potentially making use of the Project Aware scheme which provides guidelines and field protocols for scuba divers to collect and report marine litter found underwater. It is also important to monitor and set targets through the water column i.e. for litter on the sea floor, floating litter, and suspended litter where possible.

For more information on the practical aspects of marine litter monitoring, see the report 'Technical Recommendations for the Implementation of MSFD Requirements' (European Commission, 2011).

### ii. TARGETS

The ultimate goal for marine litter within Europe must be to have, as far as feasible, litter free seas. By 2020 - the first assessment deadline of the MSFD - it is unrealistic to expect that a litter-free marine environment within European waters can be achieved. However, because the goal towards achieving GES is continuous, in that it involves consecutive six-year cycles of monitoring and target setting, the first deadline of 2020 should be approached as a stepping stone towards achieving GES, with a long term generational goal laid out. Here, two headline targets are proposed that entail a long term 'generational goal' and a goal for the first assessment deadline in 2020.

## GENERATIONAL GOAL

### Zero inputs, Zero marine litter

As a long term generational goal, Member States should make a commitment to end the problem of marine litter within a generation, aiming for 2035. This should mean achieving zero inputs in European waters of all marine litter items and for levels of litter in the marine environment to be close to zero by 2035. It is likely that accidental/illegal inputs will continue, and it is perhaps unavoidable that some residual pollution will remain in the marine environment, even with marine litter removal schemes. However, the aim here should be ambitious and focus on the ultimate desired result; litter free seas.

## 2020 GOAL

### 50% reduction in marine litter as a stepping stone towards Good Environmental Status

Member States across Europe should set an overarching target for all marine litter in their waters for 2020 and aim to reduce the amount of marine litter by a minimum of 50% from an agreed baseline level. A similar target has already been achieved for some items of marine litter (See Box 4) and was accomplished with a relatively low level of activity and without an overarching International

commitment. Indeed, a reduction target of 50% by 2020 is distinctly possible with the concerted action that should result from the implementation of the MSFD. Not only are all EU countries legally committed to the Directive but marine litter has and will continue to benefit from growing industry and public interest in taking on initiatives to help mitigate the problem. With multiple opportunities to better enforce current regulations and to amend existing legislation so as to better account for marine litter, it is highly likely that a significant reduction of 50% can be achieved by 2020, if not a greater reduction. It is also the case that some measures to reduce marine litter will be relatively easy and quick to put in place (e.g. more bins on beaches, deposit schemes on packaging) and should bring about big reductions in the short term. Other measures that are perhaps more time dependent to implement (e.g. full scale operation of the extended producer responsibility concept) can be developed over time. A 50% reduction would also be an important stepping stone towards GES and would be the minimum reduction required (if operated on a 6-year cycle) in order to achieve the generational goal as laid out above.

### **ENVIRONMENTAL TARGETS for beach litter, ingested litter and litter in the water column**

The environmental targets (that are specific to different sectors of the marine environment) must be set in line with the overarching 2020 target and in step with the 2035 generational goal. Evidently, this would mean **setting environmental targets that would equate to a total 50% reduction in marine litter across the different sectors of the marine environment.** There are multiple environmental targets that Member States might consider using. Such targets should be set across the water column, for beach litter and for marine biota. Member States must ensure that a harmonised approach across European waters, and particularly within regional zones, is agreed in setting such targets.

Below are some examples of environmental targets that are in step with the headline targets as outlined above. The proposed targets below are not intended as a compilation of all appropriate targets but merely as an indication as to how environmental targets might be developed.

### **BEACH LITTER GOAL**

Member States must set a minimum quantitative reduction value for beach litter for beaches across Europe from an agreed baseline level and which corresponds with the other environmental targets to allow for an overall reduction of 50% in marine litter across the water column. Such a target might also address an array of specific marine litter items, as applicable to different EU regions.

### **MARINE BIOTA GOAL**

Member States must set a minimum quantitative reduction value for litter found in marine species by 2020 from an agreed baseline level and which corresponds with the other environmental targets to allow for an overall reduction of 50% in marine litter across the water column. Here, the most appropriate species should be used in each region. For example, in that 55% of Fulmars in the North Sea exceed 0.1 gram of plastic in the stomach, the goal could be to have half as many fulmars with more than 0.1 gram of plastic in their stomachs by 2020.

### **WATER COLUMN GOAL**

Member States must set a minimum quantitative reduction value for marine litter in the water column by 2020 from an agreed baseline level and which corresponds with the other environmental targets to allow for an overall reduction of 50% in marine litter across the water column.

## Box 9 - The cost and the value of mitigating marine litter

### Marine litter in the Millions

The economic impact of Marine litter can be substantial, and thus it is imperative that actions are taken to reduce the economic impact of marine litter. Below are some examples of the cost of marine litter in Europe<sup>17</sup>:

- Local authorities in the UK spend approximately €18 million on average removing beach litter each year, which represents a 37.4% increase over the past ten years.
- Dutch and Belgian municipalities spend €10.4 million on removing beach litter from beaches per year;
- Marine litter costs the Scottish fishing fleet between €11.7 million and €13 million on average each year, which is the equivalent of 5% of the total revenue of affected fisheries;
- Spanish harbours spend on average €61,013 per harbour per year removing marine litter
- In 2008, the RNLI carried out 286 rescues to vessels with propellers fouled by litter in UK waters at a cost of between €830,000 and €2,189,000

### Platforms of opportunity - Making the most out of monitoring

Member States will have to ensure that monitoring programmes are in place under the MSFD. Here, there is the potential to save on costs because in some instances there are already tools used to monitor the marine environment that can also be utilised for monitoring marine litter. For example, trawl surveys are already in use for monitoring fish stocks and can be further used for marine litter at no, or minimal, extra cost. Aerial oil pollution surveys are already carried out in European waters which could also potentially be utilized for surveying sea surface macro litter such as ghost fishing gear. Voluntary diving schemes to clean up the sea floor such as the 'Project Aware' programme are already running and could be used for monitoring purposes. Remotely operated underwater vehicles used by the oil and gas industry could also be used for monitoring marine litter on the sea floor. These are just a few examples of where potential 'platforms of opportunity' exist in order to reduce the burden on national authorities to monitor marine litter.

### Reducing marine litter and moving to a green economy?

Many of the items that litter the marine environment include disposable goods or packaging. The measures that are required to prevent them entering the marine environment will in essence involve the 3 R's (Reduce, Reuse, Recycle), including a move towards the reuse of goods, the reduction in use of disposable products and increased recycling. There is also the potential for greater use of long life, sustainably sourced forms of packaging and improved waste management practices. Providing incentives, economic or otherwise, towards the development of this approach does not have to mean an economic burden on Member States. For example, a levy put on disposable products could be re-invested in beach clean ups, educational schemes, monitoring programmes and support towards environmentally friendly waste management programmes.

## 6. Conclusion

The marine litter targets that Member States will set out for 2020 under the MSFD this year will be a litmus test for political ambition on solving the problem of marine litter. The opportunity is unparalleled, both within Europe and globally, and there must be an appropriate response to the current surge in demand from civil society to resolve this growing marine environmental problem. Significant and ambitious reduction targets that are set out across all parts of the marine environment, and coupled with extensive and harmonised monitoring protocols, are crucial. With such an approach, the likelihood of resolving the problem of marine litter in European waters within a reasonable time frame will increase substantially.

## REFERENCES

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