



The untrawled truth

Why EU fisheries (control) policy should strengthen discard monitoring, control and reporting within an implemented landing obligation.

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Executive summary



37%
Vessels over 24 metres in length are responsible for only 37% of the recorded discards.

The discards of fisheries contribute to overfishing and can negatively affect fish populations, ecosystems, and biodiversity. If unrecorded, they have the potential to jeopardise sound scientific fisheries assessments. Accounting for discards is therefore key to assessing the sustainability and environmental impact of fisheries. Using freely available data published by the Scientific, Technical and Economic Committee for Fisheries (STECF)¹, we calculated the total amount of recorded discards in EU fisheries based on different length classes and gear groups in order to assess the size of the problem with implementation of the landing obligation (LO) in the various fleet segments.

In order to address the lack of discards reporting within the EU, the EU Fisheries Control regulation is currently being reformed. One issue of intense debate is the use of so-called remote electronic monitoring (REM) to enable reliable and effective monitoring and control of the implementation of the landing obligation. The EU Council of Ministers is contemplating REM only on vessels over 24 metres in length, while the EU Parliament (EP) proposes to reliably monitor those vessels over 12 metres in length. In this analysis we assess the implications of these proposals. We find that vessels over 24 metres in length are responsible for only 37% of the recorded discards; which would leave the majority of discards unassessed and unaccounted for in future as well if the EU Council proposal were to be agreed on. Vessels under 12 metres in length contribute a fairly low percentage to the recorded discards, yet have not only the highest amount of fishing days (75%) and number of vessels (84%). The EP proposal would therefore rule out effective control of the LO of vast amounts of EU fishing efforts. Additionally, vessels of less than 12 metres overall length have the highest value of catch per weight and small amounts of space on-board, while catching high value and potentially sensitive, threatened, and endangered species, such as bluefin tuna, swordfish or marine mammals and seabirds. As a result, we are able to demonstrate that not only the EU Council proposal, but also the EP proposal would fail to accomplish the objectives of the Common Fisheries Policy [1] to ensure that fishing is environmentally sustainable in the long term, as both proposals fall short of properly addressing the decline of fish stocks due to non-compliance with the LO and unprecedented levels of bycatch of sensitive species.

Our analysis clearly shows that vessel length is not the appropriate criterion for deciding which vessels need to be effectively controlled with regard to the landing obligation. Instead of vessel length, the most common denominator for large amounts of discards we found was the gear group in use. At 92%, the vast

¹ The STECF consists of scientific experts from EU research institutes appointed by the Director-General of DG Maritime Affairs and Fisheries of the EU Commission to be consulted on matters regarding the conservation and management of living marine resources, as well as in the field of collection, management and use of fisheries and aquaculture data with a view to implement Union policy in the area of fisheries and aquaculture.

majority of all recorded discards are from vessels using demersal trawls and/or seines, as well as beam trawls. This underlines the importance of substantially increasing REM to cover a diverse set of vessel lengths based on risk of unwanted catches in order to ensure better monitoring of the EU Landing Obligation whilst providing data for managers to address the bycatch of endangered, threatened and protected species. Given this background we emphasise the joint NGO position to require the use of REM onboard all EU fishing vessels greater than 12 metres in length or more as well as all those small-scale vessels at high risk of non-compliance with the rules of the EU Common Fisheries Policy as well as those at risk of catching sensitive species, like dolphins and seabirds. Verified and timely catch data are essential to securing the long-term sustainability of European fisheries. If used correctly, they can improve stock assessments, inform catch quotas, and determine the conservation risk of protected species. We therefore recommend that the introduction of REM looks beyond ensuring compliance with the LO.



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It is not the vessel size that determines the risk of producing discards, it is the fishing gear.

Introduction

Wild fisheries are the key driver of biodiversity loss at sea and considered to be the greatest anthropogenic impact on the world's marine ecosystems [2, 3]. Discards in marine fisheries, where the catch of unwanted species and/or sizes as a result of economic, legal or other considerations are returned to the sea, are considered a major threat to fish populations, ecosystems and biodiversity [4], as well as to overall sustainability [5].

To address the negative impacts of fishing, the EU introduced a landing obligation (LO) to reduce unwanted fishery discards between 2015-2019 within the Common Fisheries Policy (CFP, Art. 15). It requires all catches of quota- or size-regulated species from the North-East Atlantic and the Mediterranean Sea, respectively, to be recorded and landed. The LO's aim is to gradually eliminate discards by avoiding and reducing unwanted catches that would otherwise have been dumped overboard [6]. Member States shall ensure detailed and accurate documentation of all fishing trips and provide adequate capacity and tools to do so, such as the use of observers and closed-circuit television (CCTV) [7] in the context of remote electronic monitoring (REM). The overall goal of the CFP is to reach maximum sustainable yield (MSY) targets as stated in Art. 2 of the CFP. This goal depends on accurate and full catch documentation and a fully implemented LO; not least as both are fundamental to ensuring the effectiveness of the TAC system, the CFP's key instrument for achieving stock conservation objectives in the North-East Atlantic [8].

Effective monitoring and control of the LO is still missing, and widespread unreported and illegal discarding continues.

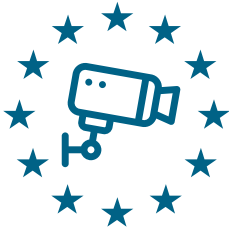
A key challenge to full implementation of the LO is the ability to monitor unwanted catches at sea. Effective monitoring and control of the LO is still missing, and widespread unreported and illegal discarding continues [9, 10, 11]. As a consequence, global and fleet-by-fleet estimates of discards are still sparse, lacking or are unreliable in the EU. Nevertheless, the FAO has estimated annual amounts of around 1.5 million tonnes of discards in the North-East Atlantic, and 250 thousand tonnes in the Mediterranean and Black Sea [12]. Discard rates in the North-East Atlantic are high due to the large amount of catch from bottom-trawl fisheries, which have been found to have the highest discard rates amongst all gear types.

After several years of evaluation looking at selected European fisheries, the European Fisheries Control Agency (EFCA) concluded that non-compliance with the LO is still widespread. Not only fish below minimum size were found to be illegally discarded, but also high-grading of iconic species such as cod in the North Sea has been significant in some areas [13]. The EU Commission viewed the lack of control and enforcement by Member States as the primary reason for continued illegal discarding, for example in the Baltic Sea [14].

The primary reason why effective monitoring and control of the LO is still lacking three years after its full implementation is that the fisheries control regulation did not yet deliver the necessary tools to do so. The goal of the currently

ongoing reform process of the EU fisheries control regulation is to change this, yet the ambitions of all three EU institutions widely differ.

The EU Commission supports the introduction of REM on a risk based approach in order to control the LO, yet neither percentages of vessels to be monitored nor risks are defined at this point in order to allow for effective and reliable discard monitoring, control and surveillance.



European Commission position [15]

Article 25a Control of the landing obligation

1. Member States shall ensure effective control of the landing obligation. For this purpose, a minimum percentage of fishing vessels fishing for species subject to the landing obligation and flying their flag established in accordance with paragraph 2, shall be equipped with continuously recording Closed-Circuit Television (CCTV) systems incorporating data storage.
2. The percentage of fishing vessels referred to in paragraph 1 shall be established for different risk categories in specific control and inspection programmes adopted pursuant to Article 95. Those programmes shall also determine the risk categories and the types of fishing vessels included in such categories.

European Parliament position [16]

Amendment 340 Proposal for a regulation Article 1/paragraph 1/point 23 Regulation (EC) No 1224/2009 Article 25a/paragraph 1/suggested Amendment:

Member States shall ensure effective control of the landing obligation. For this purpose a minimum percentage of **fishing vessels of 12 metres length overall or more**, flying their flag and fishing for species subject to the landing obligation, identified as posing a high risk of noncompliance with the landing obligation in the specific control and inspection programmes adopted under Article 95, shall be equipped with continuously recording Closed-Circuit Television (CCTV) systems incorporating data storage, in compliance with all applicable rules on the protection of privacy and processing of personal data. In accordance with specific control and inspection programmes adopted pursuant to Article 95, the Member State may allow the fishing vessel to carry control observers on board in accordance with Article 73a.

European Council position [17]

Article 13 Remote electronic monitoring

1. Member States shall ensure monitoring and control of fishing activities through remote electronic monitoring (REM) systems as set out in this Article.
2. For the purpose of monitoring and control of the landing obligation, Member States shall ensure that fleet segments of **'Union catching vessels of 24 metres' length overall or more** flying their flag which pose a serious risk of noncompliance with the landing obligation have installed on board an operating REM system. The REM system shall be able to effectively monitor and control the landing obligation and may include geopositioning systems, sensors and CCTV cameras.

The European Parliament wants to restrict the rule by limiting the EU Commission proposal to vessels greater than 12 metres in length posing a “high” risk of non-compliance. The Council goes even further and proposes to limit the application of REM to vessels greater than 24 metres in length posing a “serious” risk.

In order to assess the implications of the three positions, it is essential to know what their differences mean in terms of the ability to monitor fleet segments and their respective discards. Crucial questions in this context include the following: To what extent is the envisioned control mechanism capable of ensuring broad implementation of the LO, and does the introduction of REM recommended in the proposal cover those fleet segments that exhibit particularly severe problems when it comes to unwanted catches? To understand this better we looked at the EU fleet and determined which parts have the biggest problem with unwanted catches and subsequently with discards based on what is recorded in the official data. This will allow us to identify potential gaps in monitoring and control based on the different positions of the co-legislators.

We contextualise this information based on recent policy discussions around the current and ongoing review of the Fisheries Control Regulation in general, and specifically on the use of REM to improve the monitoring of discards. At this point in time the position of the EU Commission does not limit potential REM coverage to an already defined part or percentage of the fleet. For this reason, we will focus on the thresholds stated within the positions of both the European Parliament and the Council.

REM is a combination of cameras and sensors fitted onboard fishing vessels to collect large amounts of independent and verifiable information on everything that is caught – and discarded. This includes marine wildlife that might not be the main target, such as cetaceans or other protected, endangered or threatened species. The need for generally improved monitoring of such species bycatch and more effective mitigation measures has been clearly articulated by ICES [18] and ASCOBANS [19]. Sufficient REM monitoring calls for far greater, widespread implementation of the technology than is currently being discussed [20].

Cameras can cover e.g. the sorting band on the working deck.



© Working deck Camera 2/Marine Instruments

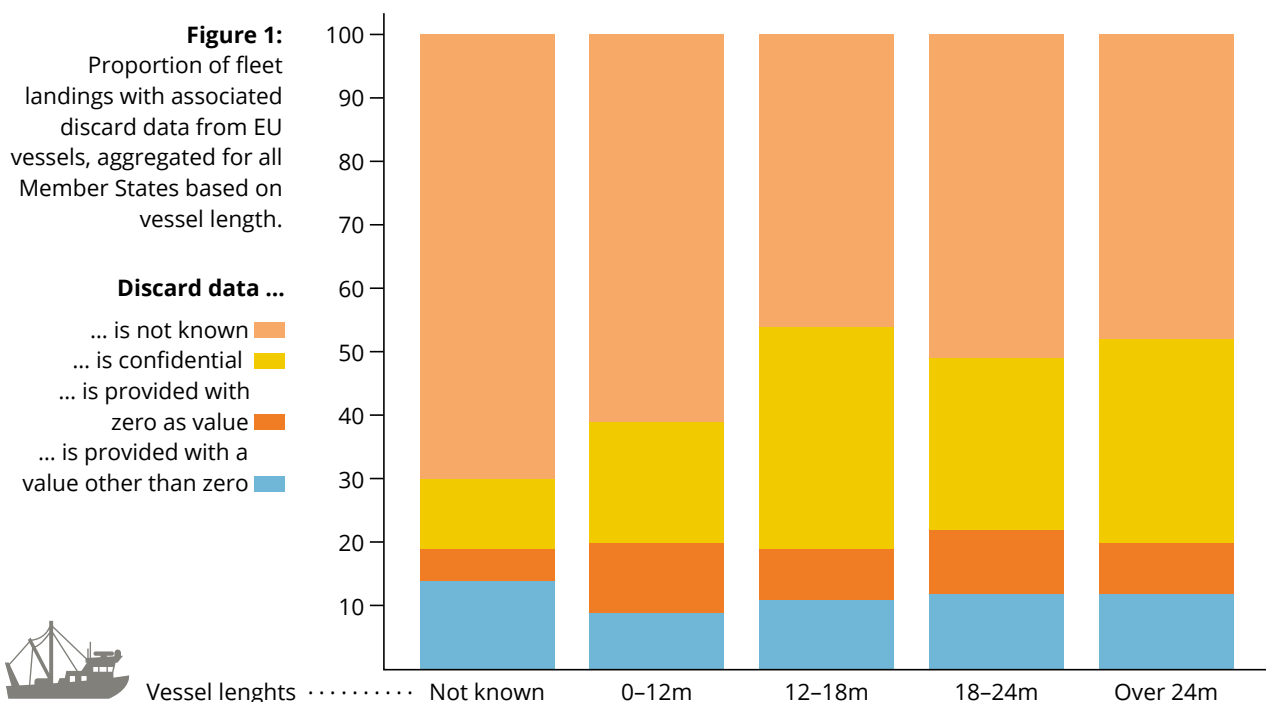
Data source and analysis

For this analysis we used data from EU Member States on their fishing fleets for the year 2019, collected in the publicly accessible Fisheries Dependent Information (FDI) in the STECF FDI database [21]. Though substantial gaps in the data exist, the FDI data set from STECF is the most comprehensive data set currently available on fishery-dependent information from European fleets. More information on the details of the data analysis and methods used can be found in the technical annex.

We calculate the total reported discards by fleet segments and gear groups to determine 1) which gear groups, and 2) which vessel lengths contribute the most to discards within EU fisheries.

Results

In 2019 EU fleets reported combined landings of 4.26 million tonnes of fish worth €7.4 billion. These fleets also reported landing 229,205 tonnes of discards. However, not all reported landings have known discards data and not all fleet segments are sampled equally. The analyses clearly show largely incomplete data coverage and discard monitoring across all gear groups and length classes in EU fisheries. In fact, 73.1% of all reported (non-confidential) EU landings do not have known discards data (Figure 1). Across all fleet segments (0-12m, 12-18m, 18-24m, >24m vessel length) the percentage of fleet data with associated discard data that is neither zero nor confidential is 14.3%, leaving





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Spurdog or spiny dogfish
(*Squalus acanthias*)
bycatch and shrimps on
a fishing vessel.

the majority of 85.7% of all EU landings without transparent and robust data on their discarding practices.

The analyses of the STECF dataset show that total EU landings exhibit a significant lack of discards data (Figure 1), with only 26.9% of non-confidential landings providing discards data at all. Without reliable numbers of total discards in the EU, the scope of ecological and economic impacts of discards – such as food web structure modifications and loss of revenue [22, 23] – are similarly difficult to assess.

87%
of all EU landings
without transparent
and robust data
on their discarding
practices.

Overall discard reporting ...

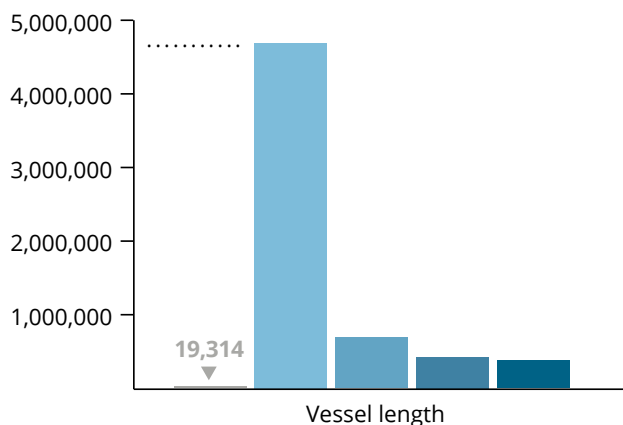
... by Member States varies widely to the point that some Member States provide close to or zero meaningful discard data for the whole of their fleet. All of 7 of the 23 Member States within the STECF dataset report discards for less than 10% of their total landings. For the 12 Member States that report landings over 100,000 tonnes, the mean rate of discard reporting is 36%. Both these metrics clearly highlight the need for better bycatch and discard reporting if the LO is to be successfully implemented in the years to come.

With a total effort of 4.69 million fishing days and 75.6% respectively, vessels under 12 metres make up the lion's-share of the EU-fleet total effort (Figure 2a). This is also reflected in the total number of vessels (60,389; see Figure 2b).

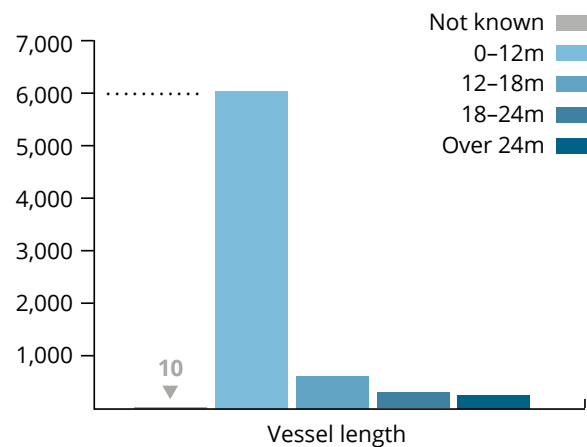
Figure 2:
Relevant details about the
EU fishing fleet by vessel
length category.

The largest share of landings in tonnes (2.67 million tonnes, see Figure 2c) and landings in Euros (€3.74 billion, see Figure 2d) are accounted for by the vessel segments over 24 metres in length. In order to obtain a more detailed view of discard amounts by fleet segments, we looked at the discards based on gear group and vessel length.

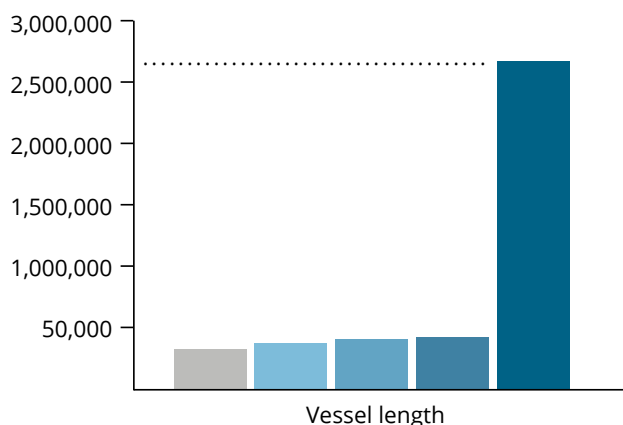
a) Fishing days



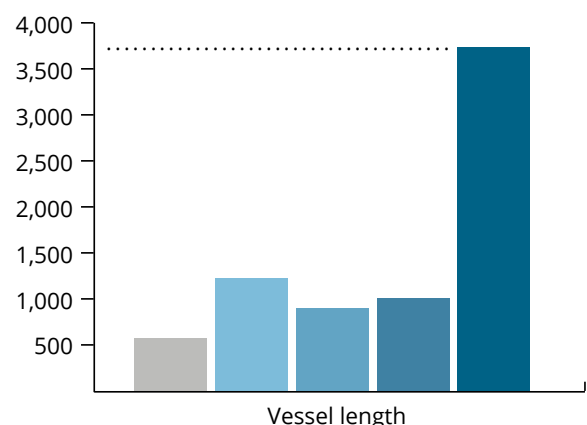
b) Number of vessels



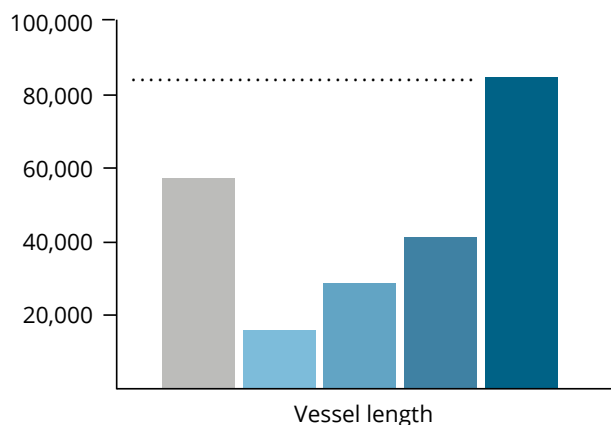
c) Landings (tonnes)



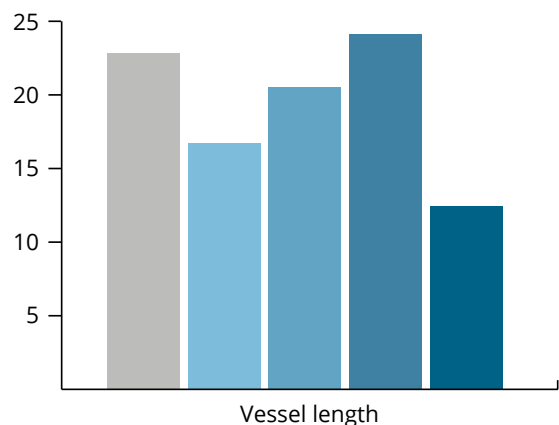
d) Value of landings (million €)



e) Recorded discards (tonnes)



f) Discard/landings ratio (%)



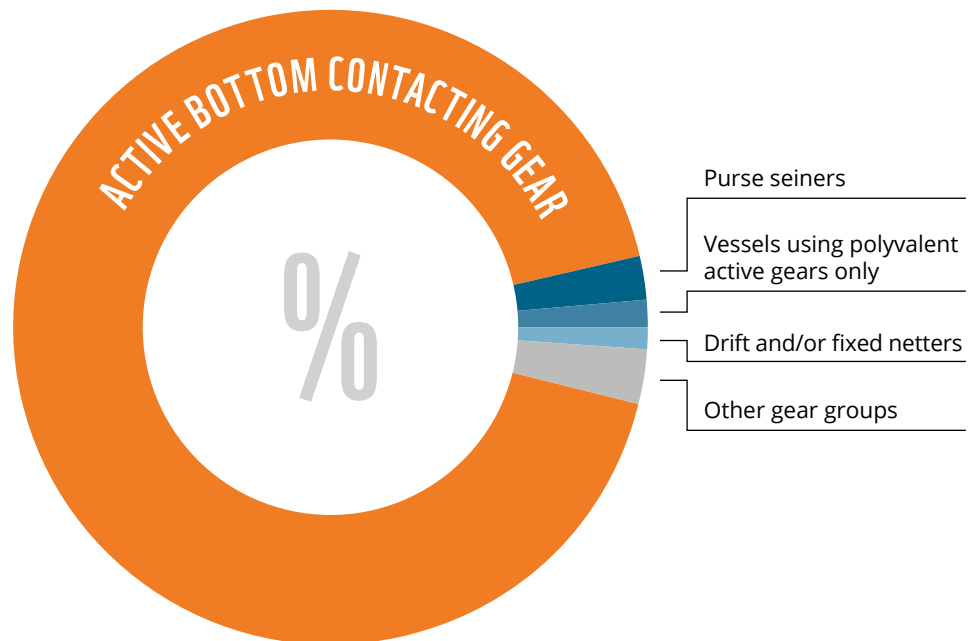


92 %
of discards are
recorded by active
bottom-contacting
gear groups

While the fleet segment above 24 metres in length is responsible for the largest total amount of landings (Figure 2c) as well as recorded discards (Figure 2e), this fleet segment also has a 12% discard rate, i.e. tonnes of discards per tonnes of landings (Figure 2f). The smaller vessel size classes exhibit higher discard rates compared to vessels above 24 metres in length. Vessels of 0-12 metres and 12-18 metres in length show discard rates of 17% and 21% respectively. The highest discard rate with 24% is found for vessels between 18-24 metres. The fraction of vessels of unknown length show a discard rate of 23%.

Neither the length of the vessel, nor the total amount of landings or the number of fishing days by themselves are good measures in order to deduce the amount of discards. Figure 4 explicitly shows that the amount of discards in a given fishery is primarily a result of the gear group in use. This becomes obvious when, for example looking at pelagic trawlers. While they should be monitored closely due to very high amounts of landings and their potential for large amounts of unwanted catches, they report very little discards. This is equally valid for vessels using polyvalent passive gears only, which have the largest proportion of fishing days of all gear groups.

Figure 3:
Percentage of recorded discards by gear groups. Segments which contribute below 1% percent of recorded discards are grouped in "other gear groups".



While we look at a total amount of 229,205 tonnes of recorded discards by the entire EU fleet, 92% or 211,877 tonnes thereof are produced by vessels using active bottom-contacting gears, i.e. demersal trawlers and/or seiners and beam trawls (Figure 3, Table 1). This compares to 84,942 tonnes recorded discards from all gear groups greater than 24 metres in overall length, i.e. active bottom-contacting gears reported 2.5 times as much discards compared to all vessels greater than 24m in length. The gear group producing the majority of discards are demersal trawlers and/or seiners (Figure 4). This gear group is responsible for 60% (i.e. 138,102 tonnes) of recorded discards, followed by beam trawlers, which are responsible for 32% (i.e. 73,775 tonnes) of recorded discards. The beam trawler fleet has a large proportion (16.9%, i.e. 38,687 tonnes) of

recorded discards for vessels of unknown length. This is mainly due to reasons of confidentiality in the Dutch data set. This lack of transparency clouds the assessment and raises the question: To what extent is the confidentiality of recorded discards in the interest of sound assessments for and by policy makers?

Table 1:

Overview of the contributions from gear groups and vessel length to the total recorded discards in EU fisheries in the year 2019. Only segments which contribute ≥ 5 percent of recorded discards are shown individually.

Vessel segment	Recorded discards (tonnes)	% of total recorded discards
Demersal trawlers and/or seiners	138,102	60
Beam trawlers	73,775	32
All other gear groups	17,328	8
Total	229,205	100
Vessels >24 m length	84,942	37
Vessels <24 m length	86,062	38
Vessels of unknown length	58,200	25
Total	229,205	100

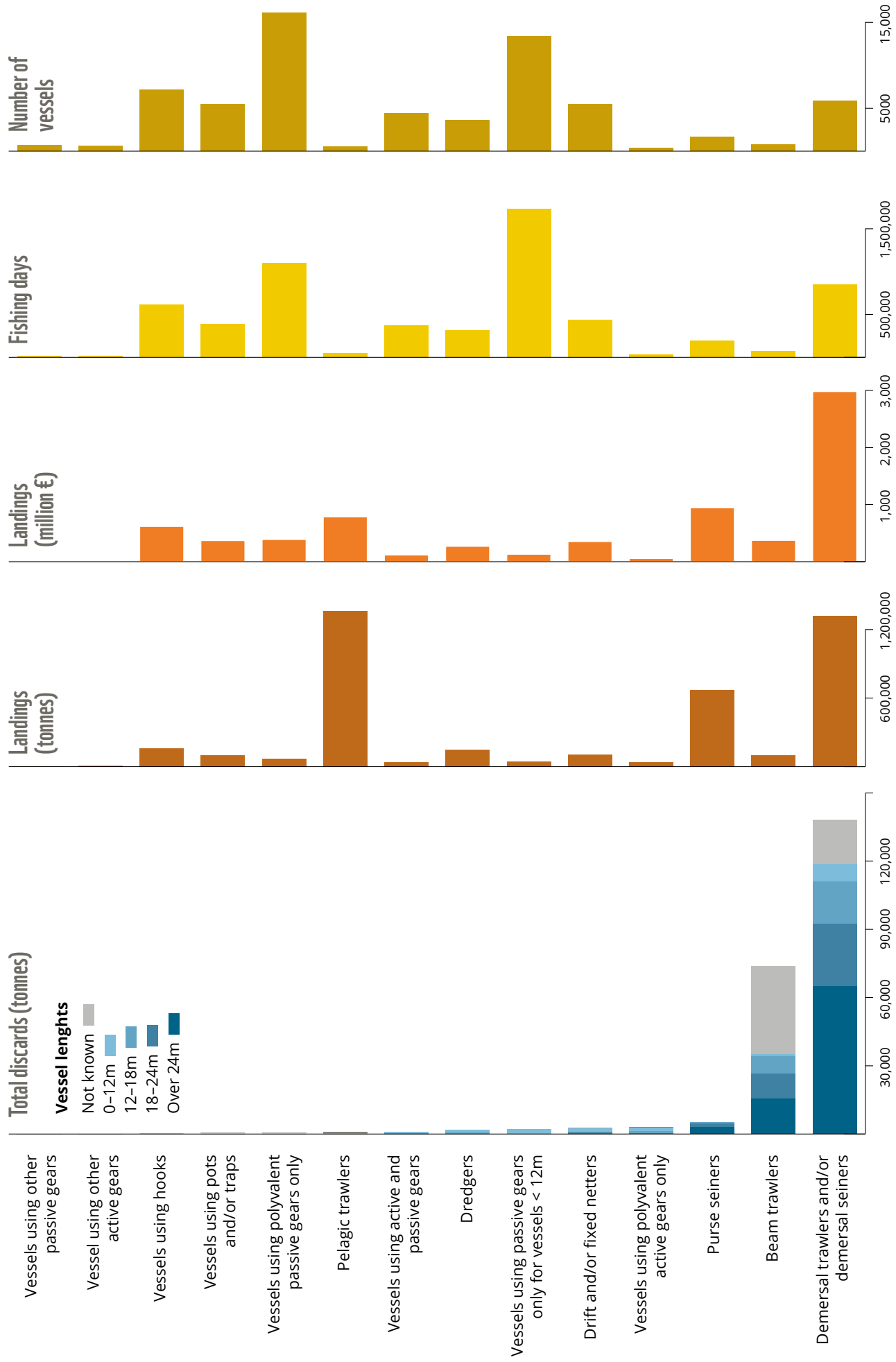
The purse seine fleet ranks third in terms of total amounts of recorded discards; yet, in comparison, they contribute only 2.2% of the total amount – with 5041 tonnes of recorded discards.

Active bottom-contacting gears record 2.5 times as much discards in comparison to all vessels beyond 24m length.

Figure 4 also shows that when viewing the size and gear group of vessels at the same time, it is the demersal trawlers and/or seiners greater than 24 metres in length which reported the largest amount of total discards (65,188 tonnes, i.e. 28%). Yet all vessels less than 24 metres in length of this same gear group recorded a total of 72,914 tonnes (i.e. 32%) of total recorded discards of all gear groups in 2019. The demersal trawlers and/or seiners between 12 and 18 metres in length recorded 18,962 tonnes of discards and therefore more than all other vessels, regardless of the vessel length or the gear group (excluding beam trawlers), which recorded 17,328 tonnes. In addition, those demersal trawlers below 12 metres in length have significant difficulties with respectively high amounts of unwanted catches and discards: with 7,360 tonnes of recorded discards, this vessel segment alone is responsible for 1.5 times the discard amount of all EU purse seiners, but they would not be monitored or controlled under the Council's proposition. That said, 65% (i.e. 3,260 tonnes) of the discards of purse seiners would be monitored, as they are produced by vessels greater than 24 metres in length.

Figure 4 (page 13):

Total recorded discards in tonnes by gear group of EU vessels and corresponding weight (in tonnes) and value of landings (in thousand €), fishing days and number of vessels. Colours represent the proportion of different vessel lengths per gear group.



Discussion

Active bottom contacting gears are shown to be the most detrimental in terms of total amounts of unwanted catches, resulting in discards and, consequently, negative ecosystem effects. Our findings are corroborated by EFCA evaluations, which confirm that generic bottom trawls, for example in North Western Waters [24], otter trawls and seines in the North Sea [25], as well as both towed and fixed gears for groundfish species such as plaice and cod in the Baltic Sea [26], had the lowest compliance levels with estimates of $\geq 15\%$ of illegal discards.

Decisive for the amount of discards is not the vessel length, but the gear group.

The ecological and, therefore essentially, economic problems of high amounts of discards are particularly clear in the case of large vessels, due to their high amounts of catch. However, it needs to be understood that this does not imply that smaller vessels with lower total amounts of catches and landings do not have significant problems with large proportions of unwanted catches. Instead, our results show that the length of a vessel, while important, is not decisive for its discards, but the gear group is.

Demersal trawlers and/or seiners produce the majority of discards.

This gear group:

Harbour porpoise (*Phocoena phocoena*) stranded, after having been caught and drowned in a gillnet.

- » **produces 60% (i.e. 138,102 tonnes) of recorded discards**
- » **is the most detrimental in terms of total amounts of unwanted catches resulting in discards**
- » **has major negative ecosystem effects**



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© Working deck Camera 1/Marine Instruments

REM has the potential to provide 24/7 coverage at a fraction of the cost of at-sea-observers.

If vessel length is the deciding factor for REM, large parts of discarding will continue to go unnoticed.

We clearly show that an implementation framework of monitoring and control of the landing obligation via REM solely on vessels greater than 24 metres in length would neither be logical nor economical, let alone ecologically sensible. Yet limiting the application of REM to vessels greater than 12 metres in length ignores the fact that the small-scale fleet in particular has a problem with protected, endangered and threatened species in static nets.

Discards compromise the health of fish stocks as well as the reliability of scientific fish stock assessments, especially if they go unrecorded. The viability of fishing fleets is put to the test through increased risk of overfishing, as overfishing increases the time needed to be spent at sea to catch the same amount of fish, thereby increasing operational costs. If vessel length is chosen as the deciding factor for the application of REM, large parts of discarding will continue to go unnoticed, unaccounted for and are more than likely largely illegal. This would render the coming EU fisheries control regulation unable to reduce or eliminate IUU practices by the EU fishing fleet.

Not only would IUU fishing largely continue; comprehensive and reliable discards data is imperative for effective, data-driven policy implementation, not only with regard to the CFP, but also when looking at environmental policies, the EU Green Deal or the Biodiversity Strategy.

If the EU Council position was followed

- » **94% of all fishing vessels would continue to fish without effective monitoring and control.**
- » **up to 63% of all recorded discards would not be covered by REM.**
- » **97% of all fishing days at sea would be kept under the radar.**
- » **the fleet segment with the least overall discard rate (vessels greater than 24 metres in length), responsible for 37% of the recorded discards would be most closely controlled and monitored.**

One third of the recorded discards come from vessels less than 24 metres in length using active bottom-contacting gears. They also exhibit the worst discard rate, but could continue unaccounted discarding due to a lack of proper control and monitoring. As such, the current proposal of the EU Council would result in the continued lack of effective surveillance and therefore proof of implementation of the landing obligation. As a result, for more than one third of all EU landings the legality of seafood, let alone its sustainability could not be ensured. Fishers working according to the books would be subject to continued mistrust by consumers, discredited by those ignoring the law. Overall, the data derived from at-sea monitoring programs through REM can improve by combining monitoring, control, and enforcement, as both widespread at sea observer programmes as well as observers and access to vessels are lacking. REM has the potential to provide 24/7 coverage at a fraction of the cost of at-sea-observers, while it is anticipated that the data would not be biased, but able to quality assure the self-sampling of fishers [30]. The implementation of such tools based on the Commission proposal could greatly benefit the long-term success and implementation of the landing obligation, while also generating long term discards information that can lead to reducing unwanted fish catch and that of protected, endangered and threatened species. Such improved and combined monitoring, control and surveillance could help managers make informed decisions, leading to desirable outcomes for all the parties involved.

Conclusion and Outlook

In the absence of verifiable monitoring and control the majority of discards would continue

In the absence of verifiable monitoring and control the majority of discards would continue, if the Council approach on REM implementation was followed. Vessel segments less than 24 metres in overall length would continue to only self-report their discards, effectively preventing sound discard data of EU fisheries in future as well.

Unless the extensive unknowns in EU fisheries discards are filled with sufficient qualitative and quantitative data, the ability to assess the environmental impact of fisheries based on discards, and therefore both the environmental sustainability and economic viability of EU fisheries, will continue to be extremely limited. This is particularly the case with regard to the political obligations and

agreements made both internationally as well as within the EU; such as the accomplishment of SDG 14 (namely 14.2 and 14.4), CBD Aichi Target 11 [31], the European Green Deal [32], the goals of the CFP, as well as those of the Marine Strategy Framework Directive to reach good environmental status of fish stocks [33]. At-sea monitoring programmes across a significant proportion of all vessel segments would support fisheries management through the verification of catch data and the collection of accurate information on discards, also with regard to protected, endangered and threatened species. Improving compliance with the LO alongside better data collection will support robust stock assessment and in the end contribute to more sustainable and profitable fisheries.

Various tools exist to control EU fishing vessels, yet not all are equally effective in monitoring and controlling fisheries at sea – especially when it comes to compliance with the landing obligation. Vessel monitoring systems (VMS) and automatic identification systems (AIS) are well established solutions for geopositioning of vessels, as are electronic logbooks for improved self-reporting. Yet none of these tools enable effective and comprehensive monitoring, control and surveillance of unwanted catches and subsequent discards, as neither are able to provide evidence for legality or illegality of caught fish, nor will they be able to be used as evidence in court. What has been used successfully on an international level and proven to work also as a tool to aid reliable management of the resources is REM [34]. This is in line with EFCA's recommendation to improve the availability of reference data as well as to enable effective enforcement of the landing obligation [35].

Having access to up-to-date and reliable catch data allows managers to confirm that vessels are following the rules. At the same time these data can also inform the delivery of stock assessments, catch quotas, and policy decisions that successfully encourage ecosystem recovery and sustainable practices within the EU fleet. Moreover, REM creates opportunities for fishers to improve their practices and add value to their catch by showing supply chain partners that they operate legally and sustainably. The latest science tells us that reducing overfishing, using catches more efficiently, and increasing production from underfished resources could increase future catches by up to 40% [36]. By improving fisheries management through data collected by REM, we can support marine ecosystems in being resilient to the effects of climate change, while increasing long-term yields, profits and benefits for future generations of fishers. The revision of the EU Fisheries Control Regulation is a golden opportunity to create a management system that successfully promotes environmental sustainability, whilst furthering the economic viability of the fishing industry. After over 100 trials and 12 fully implemented programmes worldwide [37], REM has demonstrated its unrivalled capacity to play a critical role in delivering such a system [38]. For the ongoing reform process of the Fisheries Control Regulation we therefore ask:

- » **that the use of REM onboard all EU fishing vessels above 12 meters in length or more be required**
- » **for the use of REM onboard all those small-scale vessels at high risk of non-compliance with the rules of the EU Common Fisheries Policy, and those at risk of catching sensitive species.**

References

- 1) European Commission (2013). Regulation (EU) No. 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy. Official Journal of the European Union, L354.
- 2) Watson, R. A., Cheung, W. W. L., Anticamara, J. A., Sumaila, R. U., Zeller, D., and Pauly, D. (2013). Global marine yield halved as fishing intensity redoubles. *Fish and Fisheries*, 14.
- 3) IPBS (2019). Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.
- 4) Cosgrove, R., Browne, D., Minto, C., Tyndall, P., Oliver, M., Montgomerie, M., and McHugh, M. (2019). A game of two halves: Bycatch reduction in Nephrops mixed fisheries. *Fisheries Research*, 210.
- 5) Davies, R. W. D., Cripps, S. J., Nickson, A., and Porter, G. (2009). Defining and estimating global marine fisheries bycatch. *Marine Policy*, 33.
- 6) Guillen, J., Holmes, S. J., Carvalho, N., Casey, J., Dörner, H., Gibin, M., Mannini, A., et al. (2018). A review of the European union landing obligation focusing on its implications for fisheries and the environment.
- 7) European Commision (2013). Regulation (EU) No. 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy. Official Journal of the European Union, L354.
- 8) Borges, L. (2018). Setting of total allowable catches in the 2013 EU common fisheries policy reform: possible impacts. *Marine Policy*, 91.
- 9) Onofri, L., and Maynou, F. (2020). Unwanted catches, quota systems and the EU Landing Obligation: An economic and econometric analysis. *Ocean and Coastal Management*, 189.
- 10) Borges, L. (2021). The unintended impact of the European discard ban. *ICES Journal of Marine Science*, 78.
- 11) Heinrich, J. (2021). Synthesis of the landing obligation measures and discard rates - Publications Office of the EU. <https://op.europa.eu/en/publication-detail/-/publication/89868cc6-015f-11ec-8f47-01aa75ed71a1> (Accessed 15 November 2021).
- 12) Pérez Roda, M. A. (ed), Gilman, E., Huntington, T., Kennelly, S. J., Suuronen, P., Chaloupka, M., and Medley, P. (2019). A third assessment of global marine fisheries discards.
- 13) European Fisheries Control Agency and Scheveningen Group (2020). Evaluation of compliance with the Landing Obligation North Sea Demersal species 2016 – 2017. Executive Summary. <https://www.efca.europa.eu/sites/default/files/atoms/files/Executive%20Summary%20NS%20LO%20Compliance%20Evaluation%20Report%202016-2017%20August%202019.pdf> (Accessed 3 April 2022)
- 14) Council of the European Union (2020). Report from the Commission to the European Parliament and the Council. First report on the implementation of the Multiannual Plan for the stocks of cod, herring and sprat in the Baltic Sea and the fisheries exploiting those stocks. <https://data.consilium.europa.eu/doc/document/ST-10834-2020-INIT/EN/pdf> (Accessed 3 April 2022)
- 15) European Commission (2018). Proposal for a Regulation of the European Parliament and of the Council amending Council Regulation (EC) No 1224/2009, and amending Council Regulations (EC) No 768/2005, (EC) No 1967/2006, (EC) No 1005/2008, and Regulation (EU) No 2016/1139 of the European Parliament and of the Council as regards fisheries control. https://eur-lex.europa.eu/resource.html?uri=cellar:6d8cdc8b-63f7-11e8-ab9c-01aa75ed71a1.0001.02/DOC_1&format=PDF (Accessed 3 April 2022)
- 16) European Parliament (2021). P9_TA(2021)0076 Fisheries control. Amendments adopted by the European Parliament on 11 March 2021 on the proposal for a regulation of the European Parliament and of the Council amending Council Regulation (EC) No 1224/2009, and amending Council Regulations (EC) No 768/2005, (EC) No 1967/2006, (EC) No 1005/2008, and Regulation (EU) No 2016/1139 of the European Parliament and of the Council as regards fisheries control (COM(2018)0368 – C8-0238/2018 – 2018/0193(COD))1 (Ordinary legislative procedure: first reading). https://www.europarl.europa.eu/doceo/document/TA-9-2021-0076_EN.pdf (Accessed 3 April 2022)
- 17) Council of the European Union (2021). Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Council Regulation (EC) No 1224/2009, and amending Council Regulations (EC) No 768/2005, (EC) No 1967/2006, (EC) No 1005/2008, and Regulation (EU) No 2016/1139 of the European Parliament and of the Council as regards fisheries control – General Approach. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CONSIL:ST_9390_2021_ADD_1_REV_1&from=EN (Accessed 3 April 2022)
- 18) ICES (2020). EU request on emergency measures to prevent bycatch of common dolphin (*Delphinus delphis*) and Baltic Proper harbour porpoise (*Phocoena phocoena*) in the Northeast Atlantic. ICES Special Request Advice Northeast Atlantic ecoregions. https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2020/Special_Requests/eu.2020.04.pdf (Accessed 3 April 2022)
- 19) Course, G.P. (2021). Monitoring Cetacean Bycatch: an analysis of different methods aboard commercial fishing vessels. ASCOBANS Secretariat, Bonn, Germany. Technical Series No. 1. https://www.ascobans.org/sites/default/files/publication/ascobans_ts1_bycatch-monitoring-methods.pdf

- 20) The Fisheries Control Coalition (2021). Technical analysis: Landing Obligation and bycatch monitoring of cetaceans. <http://www.transparentfisheries.org/wp-content/uploads/2021/02/REM-and-bycatch-Fact-Sheet-technical-analysis.pdf> (Accessed 3 April 2022)
- 21) [Catches and Discards Dataset] <https://stecf.jrc.ec.europa.eu/dd/fdi> (Accessed 15 November 2021).
- 22) Patrick, W. S., and Benaka, L. R. 2013. Estimating the economic impacts of bycatch in U.S. commercial fisheries. *Marine Policy*, 38.
- 23) Komoroske, L. M., and Lewison, R. L. 2015. Addressing fisheries bycatch in a changing world. *Frontiers in Marine Science*, 2.
- 24) North Western Waters Control Experts Group (2019). Evaluation of Compliance with the Landing Obligation North Western Waters 2017 – 2017. Executive Summary. <https://www.efca.europa.eu/sites/default/files/atoms/files/BALTFISH%202017-2018%20LO%20Compliance%20Evaluation%20Executive%20Summary%20for%20publication.pdf> (Accessed 3 April 2022)
- 25) European Fisheries Control Agency and Scheveningen Group (2019). Evaluation of compliance with the Landing Obligation North Sea Demersal species 2016 – 2017. Executive Summary. <https://www.efca.europa.eu/sites/default/files/atoms/files/Executive%20Summary%20NS%20LO%20Compliance%20Evaluation%20Report%202016-2017%20August%202019.pdf> (Accessed 3 April 2022)
- 26) BALTFISH Control Experts Group (2021). Evaluation of Compliance with the Landing Obligation Baltic Sea 2017 – 2018. Executive Summary. <https://www.efca.europa.eu/sites/default/files/atoms/files/BALTFISH%202017-2018%20LO%20Compliance%20Evaluation%20Executive%20Summary%20for%20publication.pdf> (Accessed 3 April 2022)
- 27) FAO. 2020. The State of World Fisheries and Aquaculture 2020. Sustainability in action. Rome. <https://doi.org/10.4060/ca9229en>
- 28) EU Commission 2020. European Commission, Directorate-General for Maritime Affairs and Fisheries, Facts and figures on the common fisheries policy : basic statistical data : 2020 edition, Publications Office, 2020, <https://data.europa.eu/doi/10.2771/553870>
- 29) Pérez Roda, M. A. (ed), Gilman, E., Huntington, T., Kennelly, S. J., Suuronen, P., Chaloupka, M., and Medley, P. 2019. A third assessment of global marine fisheries discards.
- 30) James, K. M., Campbell, N., Vidarsson, J. R., Vilas, C., Plet-Hansen, K. S., Borges, L., González, Ó., et al. 2018. Tools and technologies for the monitoring, control and surveillance of unwanted catches. In *The European Landing Obligation: Reducing Discards in Complex, Multi-Species and Multi-Jurisdictional Fisheries*.
- 31) Convention on Biological Diversity. 2010. Aichi Target 11. <https://www.cbd.int/aichi-targets/target/11> (Accessed 15 November 2021).
- 32) European Commission. 2020. A European Green Deal. https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en (Accessed 15 November 2021).
- 33) European Commission. 2008. The Marine Strategy Framework Directive. https://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index_en.htm (Accessed 15 November 2021).
- 34) The Fisheries Control Coalition (2021). REM Success Stories: Protecting our seas, safeguarding livelihoods. <http://www.transparentfisheries.org/wp-content/uploads/2021/02/REM-Success-Stories.pdf> (Accessed 3 April 2022)
- 35) North Western Waters Control Experts Group (2019). Evaluation of Compliance with the Landing Obligation North Western Waters 2017 – 2017, Executive Summary. <https://www.efca.europa.eu/sites/default/files/atoms/files/BALTFISH%202017-2018%20LO%20Compliance%20Evaluation%20Executive%20Summary%20for%20publication.pdf> (Accessed 3 April 2022)
- 36) Costello, C., Cao, L., Gelcich, S., Cisneros-Mata, M.A., Free, C.M., Froehlich, H.E., Golden, C.D., Ishimura, G., Maier, J., Macadam-Somer, I., Mangin, T., Melnychuk, M.C., Miyahara, M., de Moor, C.L., Naylor, R., Nøstbakken, E.O., O'Reilly, E., Parma, A.M., Plantinga, A.J., Thilsted, A.H. and Lubchenco, J. (2020). The future of food from the sea. *Nature* 588
- 37) van Helmond, A.T.M., Mortensen, L.O., Plet-Hansen, K.S., Ulrich, C., Needle, C.L., Oesterwind, D., Kindt-Larsen, L., Catchpole, T., Mangi, S., Zimmermann, C., Olesen, H.J., Baley, N., Bergsson, H., Dalskov, J., Elson, J., Hosken, M., Peterson, L., McElderry, H., Ruiz, J., Pierre, J.P., Dykstra, C., Poos, J.J. (2019). Electronic monitoring in fisheries: Lessons from global experiences and future opportunities. *Fish and Fisheries* Vol. 21, Issue 1
- 38) The Fisheries Control Coalition (2020). Remote electronic monitoring: How cameras on EU vessels can help to end over-fishing. <http://www.transparentfisheries.org/wp-content/uploads/2020/04/REM-Factsheet.pdf> (Accessed 3 April 2022)



Why we are here

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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