

READY FOR THE FUTURE TOGETHER

CSR REPORT 2017 – 2018



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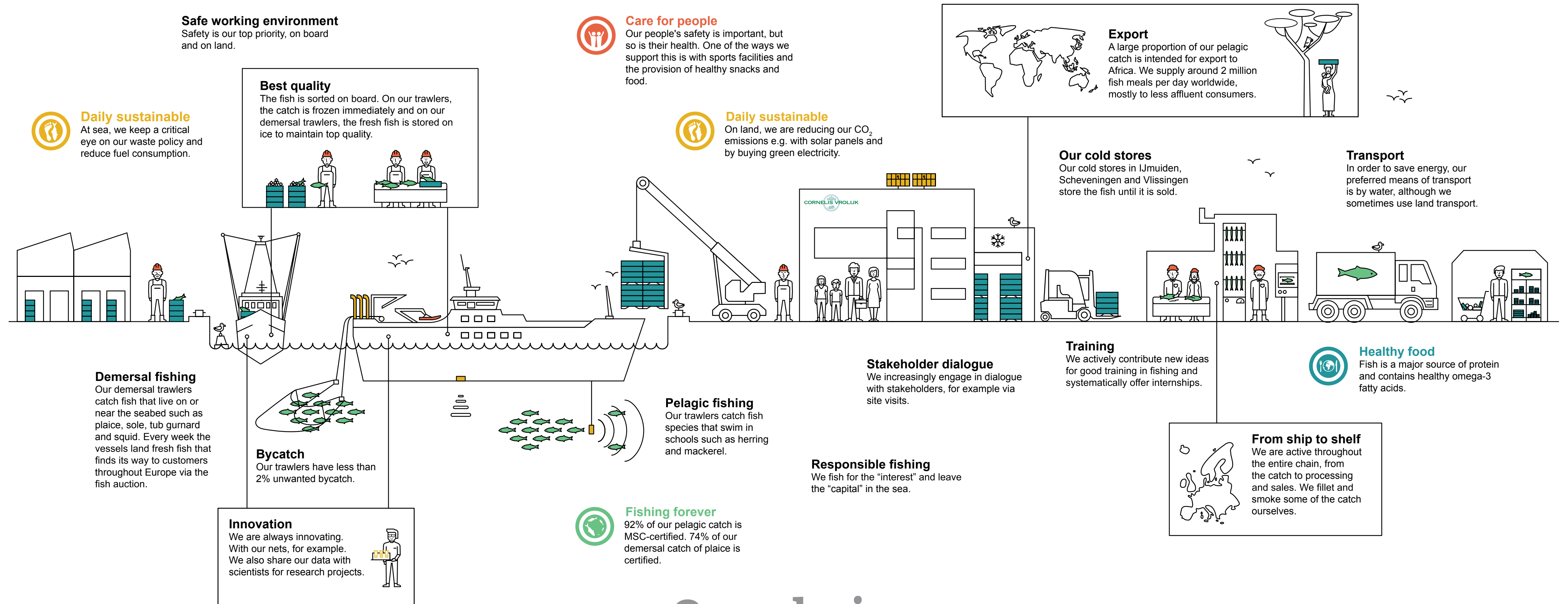
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Our chain: from ship to shelf



READY FOR THE FUTURE TOGETHER

The production of healthy and sustainable food is really important with a growing global population. Fish and fish products make a major contribution to food security for millions of people around the world. As a family business, we want to continue doing this for the generations that will come after us, which is why responsible fishing – being respectful of people and the environment - is essential.

In 2013, we adopted the path that we now call our CSR policy. We are proud to present our second CSR Report, in which we account for the activities we undertook in 2017 and 2018 to achieve our pelagic and demersal CSR targets. We have chosen to write this report over two years to bring it up to date without sacrificing completeness.

This period has seen various pleasing results such as the efforts of the staff in our technical departments. Together they are showing a lot of initiative, however large or small the scale, and devising and implementing creative solutions to save energy. The same goes for the efforts of our crew, who are involved in scientific research over and above their regular work. The efforts of various colleagues to inspire young people to take an interest in our business and the fishing industry through tours and presentations are immensely valuable. Another great result is the ever more intensive co-operation between our quality managers on board the trawlers themselves, and between them and the quality department on shore. Increased contact is a great way to work together to drive up quality standards even further.

A major objective of the introduction of our CSR policy was to create broad-based support for CSR in the organisation. The policy needed to become a self-evident part of our corporate strategy and we have seen demonstrable results in this respect in recent years. Examples include the design and construction of our new trawler, as well as the construction of our fish processing plant in Mauritania in which CSR was an integral part of the project. These are milestones that make us proud.

Over the last year, various working groups have been set up to address specific issues such as waste policy and CO₂ reduction. Here too our employees have been brainstorming to come up with concrete and practical solutions. The specific nature of fishing operations means that we are unable to talk to all our staff directly and quickly. The digital newsletter in which we share our CSR successes and results helps to keep our employees up-to-date. We, the management, feel it is important for CSR to be and remain a natural part of our business in our fleet too. That is one of the reasons why one of our concerns is to roll out this strategy in our various subsidiaries. Some important steps have been taken this last year towards the goal of group-wide implementation.

Our reporting has evolved from our 2016 report. Not only do we report on the activities we have undertaken and the results we have achieved, but we also hold up a mirror to the dilemmas and choices we have faced along the way. Sometimes it takes longer than expected to achieve our targets. Discussions with stakeholders about our CSR policy during the many visits that were paid to us also give us valuable new insights. This is another reason why we would welcome your feedback on this report and our sustainability policy in general.

We hope you enjoy reading it.

The Management of Cornelis Vrolijk

Annerieke Vrolijk

Arnout Langerak

Peter Koets

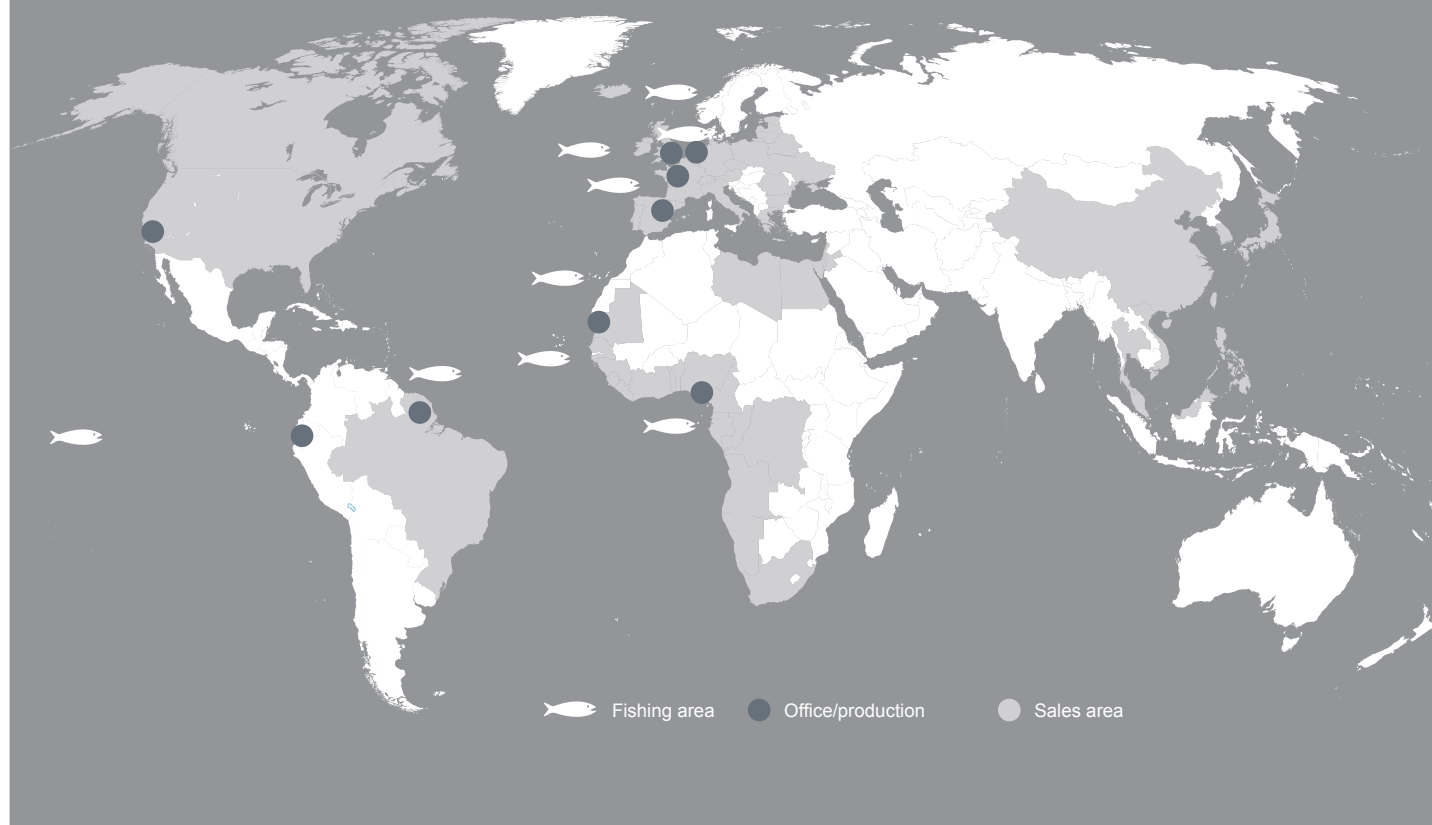


OUR MISSION

“With our fishing activities we provide an important contribution to the food security of millions of people. We do this, as a family business, with a focus on future generations while maintaining healthy fish stocks, minimising environmental impact and with committed and proud people. We stand for continuity whereby we treat the world around us with the utmost respect.”



GLOBAL ACTIVITIES OF THE CORNELIS VROLIJK GROUP



CORNELIS VROLIJK

The foundations for Cornelis Vrolijk were laid by Frank Vrolijk, who established a herring trading business in Scheveningen in 1880. Today Cornelis Vrolijk is an international fishing business that catches, farms, processes and sells fish, fish products and shrimps with the goal, at all times, of producing high-quality food for human consumption. Our products now reach consumers in some 45 countries.

Our main activities are pelagic fishing (for fish species that swim in schools, such as herring and mackerel) and demersal fishing

(for fish that live near the seabed, such as plaice, sole and squid). Most of our pelagic fishing areas are in Europe, but we also have some in Western Africa. Jaczon's demersal fishing is concentrated on the North Sea and the Channel. We also expanded our demersal fishing activities in 2016 by taking a stake in Marisa, a fishing business in Suriname. Through partners, we are active in other forms of fishing in Nigeria and the Pacific and we have shrimp farms in Nigeria and Ecuador. Over 2000 people around the world work for Cornelis Vrolijk.

BUSINESS UNITS IN THE CORNELIS VROLIJK GROUP



PELAGIC AND DEMERSAL FISHING

- Cornelis Vrolijk's Visserijmaatschappij
- Jaczon
- Marisa
- North Atlantic Fishing Company
- France Pélagique

SHRIMP FISHING, FARMING AND PROCESSING

- Primstar
- Atlantic Shrimpers Ltd.

FISHING PROCESSING AND TRADING

- Jac. den Dulk & Zn.
- Seafood Parlevliet
- Welmar Seafood
- Bertus-Dekker Seafood



OUR FAMILY-RUN BUSINESS AND CSR

For us, as a family-run business and modern fishing operation, Corporate Social Responsibility (CSR) means that we take responsibility for people and nature. We guarantee continuity for our business, our employees, for the fish stocks we use and the communities in which we operate. We strive to minimise the impact of our activities on the environment in order to keep the ecosystem as healthy as possible.

Our corporate social responsibility targets are set out on paper as clearly as possible in policy plans for each activity. We launched our first CSR policy plan, geared to our pelagic fishing in European waters, at the end of 2015. Since then we have continued to work on developing policy plans for our other business activities. This resulted in a CSR policy plan for our demersal fishing at the end of 2017, and the policy plan for our shrimp catch and farming by our subsidiary Atlantic Shrimpers Ltd. in Nigeria followed in 2018. In the same year, we started work on the CSR policy plan for Seafood Parlevliet, one of our fish processing companies.

We strive to make CSR an increasingly integral part of the way we do business and we have made great strides in recent years. We have mainly achieved this by ensuring effective co-operation throughout the business. When we wrote the policy plans and various CSR targets, we appointed ambassadors to work with the CSR Manager and the Board to translate the targets into specific projects and activities. Our CSR Manager and the ambassadors are also points of contact for staff. The CSR Manager heads up CSR consultations so that project progress can be monitored and new initiatives can be discussed.

We use our internal newsletter to communicate about a variety of CSR issues and results, actively publicising both the policy and the results that have been achieved makes CSR visible to all staff. We report our results in annual CSR reports to share them with everyone that has sustainable fishing at heart. This second annual report covers how we worked on CSR for our pelagic and demersal fishing in 2017 and 2018. We deliberately follow the scope of the policy plans we introduced in 2015 and 2017.



INTERVIEW AUKJE COERS, CSR MANAGER

Aukje Coers has been CSR Manager at Cornelis Vrolijk since 2014, with responsibility for developing the CSR policy, setting it out on paper and actively publicising it. Many steps have been taken since then to formalise our policy. Along with the Board and the CSR ambassadors, she is the driver of sustainability in our business. We asked her three questions:

At a birthday party, how do you explain what you do?

I always say first off that I have the best biology job in the world. As a biologist specialising in environmental science, I consider it a privilege to work on sustainability with an internationally operating, family-run business like Cornelis Vrolijk. I see it as my job to highlight and figure out varied and sometimes complex sustainability issues in time so that I can work with colleagues to translate them into concrete targets and actions. That way, we can incorporate sustainability into our day-to-day work.

What are the biggest challenges for the next few years?

I see a few challenges ahead for the fishing industry, such as the ban on pulse fishing and climate change. I am also noticing that sustainability certification and animal welfare are becoming more and more important. We will also need to do everything we can to secure the influx of young people for our fleet. I hope that we will be able to inspire their interest in our company by showing that we take sustainability and future-proofing seriously.

Which of Cornelis Vrolijk's CSR achievements makes you proudest?

The growing awareness of sustainability within our business that I am seeing in discussions with various colleagues. I think five years ago there was sometimes an idea that sustainability would automatically result in less consideration of people or reduced profitability. I am seeing those reservations being overcome. By being open and honest with one another and weighing up competing interests, we are finding that sustainability also naturally goes hand in hand with a healthy dose of realism. At the same time I am seeing growing enthusiasm in the business for a desire to be innovative and hence distinctive within our industry. I think we are on the right path and really making progress and that gives me confidence for the coming years.

OUR FOUR PILLARS OF CSR

Our CSR policy relates to issues close to our hearts and over which we as a company have the most influence. We have also enquired which issues our stakeholders consider important. In technical terms, we have carried out a materiality analysis (see page 48). The selected issues have been broken down into four pillars in our CSR policy plans for pelagic fishing (2015) and demersal fishing (2017). The pillars are Healthy Food, Fishing Forever, Daily Sustainable and Care for People.

We will continue to test the scope of our policy plans with our internal and external stakeholders in future. We will adapt our policy based on feedback from our stakeholders and our annual results.

ALIGNMENT WITH INTERNATIONAL TARGETS AND GUIDELINES

Our CSR policy is an active contribution to achieving the United Nations' Sustainable Development Goals (SDGs) that aim to combat poverty and accelerate sustainable global development. Our four pillars and their link with the SDGs are explained in the table. Through our annual CSR reports, we want to

communicate transparently about the sustainability issues that are material to us. Our reporting method has been inspired by the guidelines of the General Reporting Initiative (GRI).

We are also conscious of the existence of the Organisation for Economic Co-operation and Development (OECD) guidelines for multinational corporations. We subscribe to these guidelines' principle of CSR as a mechanism for taking responsibility for our supply chain as an internationally operating business. The guidelines have only limited relevance to the present CSR Report because it covers our fishing activities in Europe. An integral part of this report addresses what we are doing in terms of the implementation of CSR policy as an actively involved partner of Marisa in Suriname. The scope of our CSR policy plans and CSR Reports will be expanded in the coming years and we will look at the relevance of the OECD guidelines for each business unit based on a risk analysis, and assign them the appropriate significance.

CSR PILLARS AND SDGS			
	<p>PILLAR 1: HEALTHY FOOD</p> <p>The Healthy food pillar is about our contribution to the food security of millions of people, food safety and quality of our products. We invest time and energy in delivering top-quality fish and that is what we want to be known for.</p>	 	
	<p>PILLAR 2: FISHING FOREVER</p> <p>The Fishing forever pillar concentrates on issues relating to sustainable fishing techniques and responsible management of fish stocks.</p>		
	<p>PILLAR 3: DAILY SUSTAINABLE</p> <p>The Daily sustainable pillar is about our overall impact on the environment. We consider waste management, energy consumption and procurement of sustainable materials.</p>	 	
	<p>PILLAR 4: CARE FOR PEOPLE</p> <p>The Care for people pillar includes consideration of a safe and pleasant working environment for our employees. We also seek to make a positive contribution to social developments within the local communities where we work.</p>		





PILLAR 1: HEALTHY FOOD

SEA FISHING IS AN INDUSTRY TO BE PROUD OF. WE INVEST TIME AND ENERGY IN DELIVERING THE BEST QUALITY FISH AND FISH PRODUCTS FOR HUMAN CONSUMPTION. OUR QUALITY SYSTEMS ARE BEING IMPROVED CONSTANTLY TO GUARANTEE SAFE AND HEALTHY FOOD ALL AROUND THE WORLD.

IN 2018 OUR QUALITY DEPARTMENT INTRODUCED A **REVISED HACCP MANUAL** FOR OUR TRAWLERS

IN 2018

99.1%

of our pelagic catch was fit for **human consumption**

IN 2017

we started a study to develop alternative fishing gear for our pulse trawlers

IN 2017

construction began in Suriname on a fish processing plant for Marisa

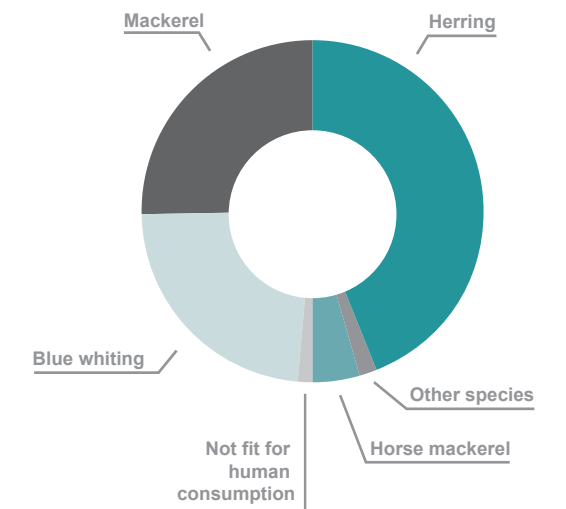
OUR CONTRIBUTION TO GLOBAL FOOD SECURITY

Our freezer trawlers fish for human consumption. Worldwide, an average of two million people eat a meal with our pelagic fish every day. Pelagic fish are fish that form schools and occur at sea in very large populations. To give an example, the International Council for the Exploration of the Sea (ICES) estimated in 2018 that there were around three million tonnes (3,000,000,000 kilograms) of herring swimming in the North Sea, of which around two million tonnes (2,000,000,000 kilograms) are adults.

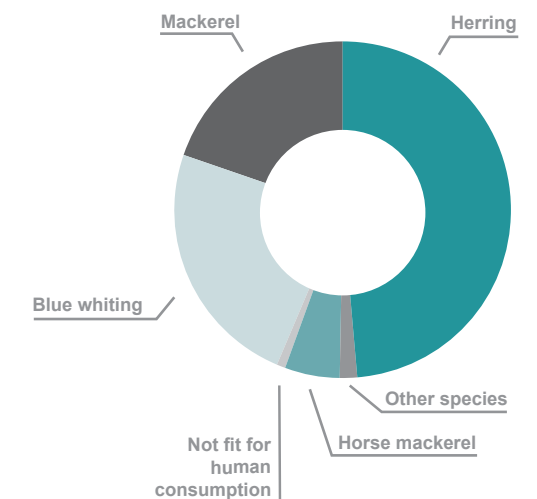
Our freezer trawlers catch just a fraction of that huge quantity of fish swimming in the sea. All the herring fishermen from all countries bordering the North Sea together catch in total around 20% of the herring in the North Sea. That is equivalent to the average annual growth in the population of North Sea herring. In this way it is possible to catch a lot of fish in a sustainable way.

Our main target species are herring, mackerel, blue whiting and horse mackerel and these species make up around 97% of our total pelagic catch. We also catch targeted small quantities of silver smelt, sardines and sprat. Our bycatch also occasionally includes hake, coalfish and whiting, which we can also sell for human consumption. We have hardly any unwanted bycatch in our pelagic fishing. There is only a very minimal residual stream of fish that cannot be sold for human consumption - fish that are too small or damaged, for example. This residual stream represented 1.5% of our catch in 2017 and just 0.9% in 2018.

CATCH LANDED BY OUR PELAGIC FLEET 2017



CATCH LANDED BY OUR PELAGIC FLEET 2018





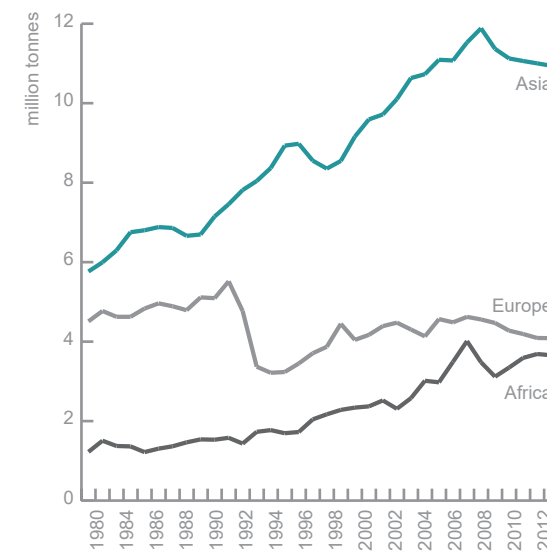
HEALTH EFFECTS OF OILY FISH

Oily fish is very healthy, as almost everyone knows. This is to do with high levels of EPA and DHA, also known as omega-3 fatty acids. One of the most positive health effects of these substances is that they improve blood cholesterol levels, reducing the risk of cardiovascular disease. However there are even more health effects, many of which are less well known. The examples below highlight some of the scientifically-proven health effects:

- The omega-3 fatty acid EPA has an anti-inflammatory effect because it affects the enzyme cyclooxygenase (COX) that occurs in our bodies. This enzyme uses omega-3 fatty acids as it makes anti-inflammatory substances. Various studies have shown that omega-3 fatty acids reduce inflammation and fight auto-immune diseases such as rheumatism, asthma and Crohn's disease.
- The omega-3 fatty acid DHA has a positive effect on brain development and maintaining brain function. Our brains are made of 60% fat, 15-20% of which is DHA. It has been shown that growing children are more intelligent if they consume more DHA because their brains then develop better. In the elderly, it has been shown that people with higher DHA levels in their blood have a 50% lower risk of developing dementia.
- It turns out that there is a much lower incidence of depression in countries where people eat a lot of fish. It has also been shown that people diagnosed with bipolar disorder benefit from consuming extra omega-3 fatty acids.
- Omega-3 fatty acids support good eye function. DHA in particular is an important building block for the retina. It has a positive effect on the development of sight in babies, as well as on countering declining vision in later life. Omega-3 fatty acids have also proven to help with dry eyes because they stimulate production of tear fluid.

Pelagic fish are oily fish with high levels of omega-3 fatty acids. Oily fish are good for human health. The demand for pelagic fish has increased substantially in recent decades, especially in Africa and Asia. We are proud that we can supply our affordable fish to people with limited access to safe and healthy sources of protein, as in some African countries. It is countries such as those, in particular, where good nutrition is directly linked to better childhood health, healthier adults and a better quality of life.

CONSUMPTION OF PELAGIC FISH



Source data: www.fao.org

TOP-QUALITY FRESH FISH

Our demersal trawlers catch various species of demersal fish that live on or near the seabed. The fresh fish is supplied and sold (via the fish auction) to many parties, from restaurants and fishmongers in the Netherlands to traders that export the fish to southern Europe. The quality of our catch is largely guaranteed by the fishing techniques we use and the way we handle the catch on board.

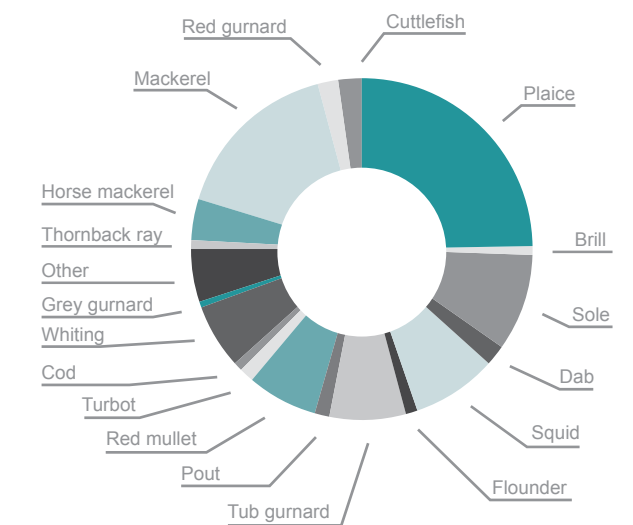
Some fish, such as sole, like to burrow into the seabed, which means that these fish can only be caught using a specialist method. Other species of fish live more on or near the seabed and can be caught with nets rolling over the seabed. All our vessels are equipped with slurry ice machines to optimise on-board handling. These machines ensure that the products are kept cool on board to guarantee that the fish remains fresh and has a good shelf life.

DIVERSITY IN OUR DEMERSAL TRAWLERS' CATCH

Unlike in pelagic fishing, a wide variety of fish species is caught in demersal fishing. In our pelagic fishing activities, the four main target species make up 97% of the total catch landed. 97% of the catch from our demersal trawlers covers 20 species. If we look at the full list of species, our pelagic fishing totals just fifteen fish species whereas the catch landed by our demersal trawlers in 2018 ran to 59 different species.

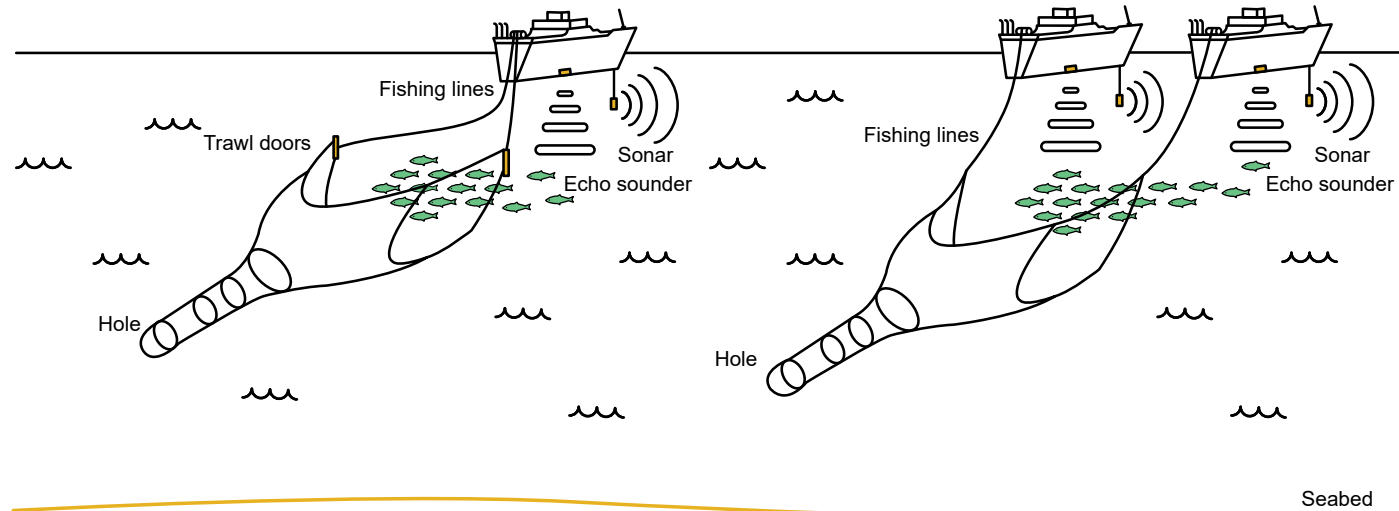
In the case of demersal fishing, we have noticed that there are some misconceptions about the terms target species and bycatch. Some well-intentioned but possibly rather naive campaigns by chefs and environmental organisations have led to the word bycatch being taken as a synonym for food waste. However, this is not correct. The fish – whether target species or bycatch – is sold at auction for human consumption. A buyer can always be found, especially in more southerly European countries where fish is more common on the menu than it is in the Netherlands.

CATCH LANDED BY OUR DEMERSAL FLEET 2018

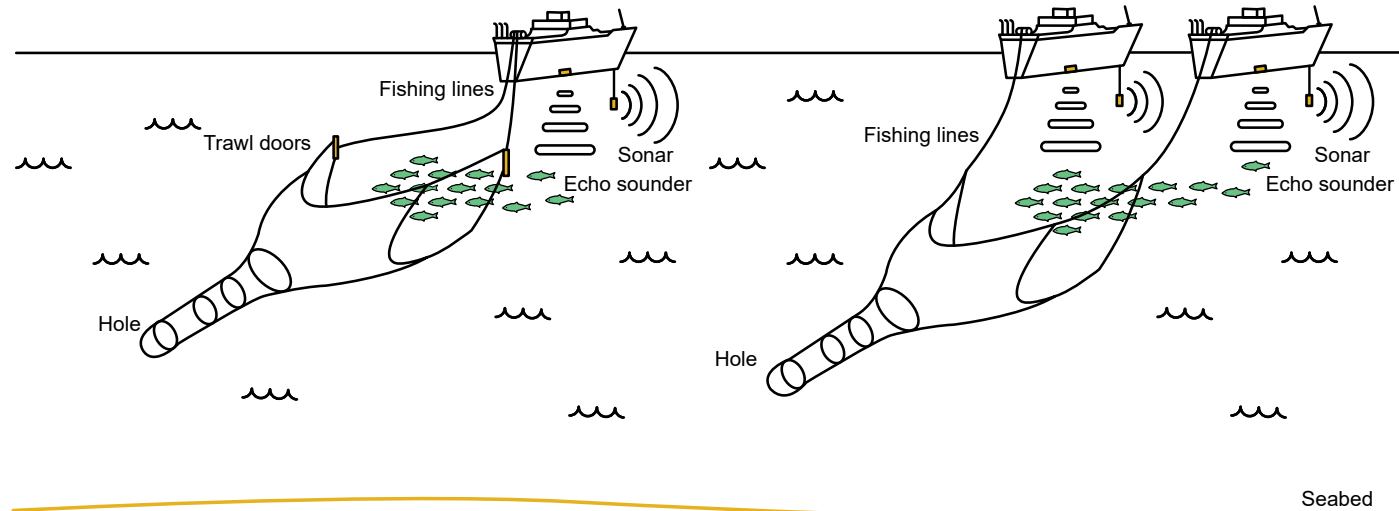


PELAGIC FISHING TECHNIQUES

Pelagic trawling

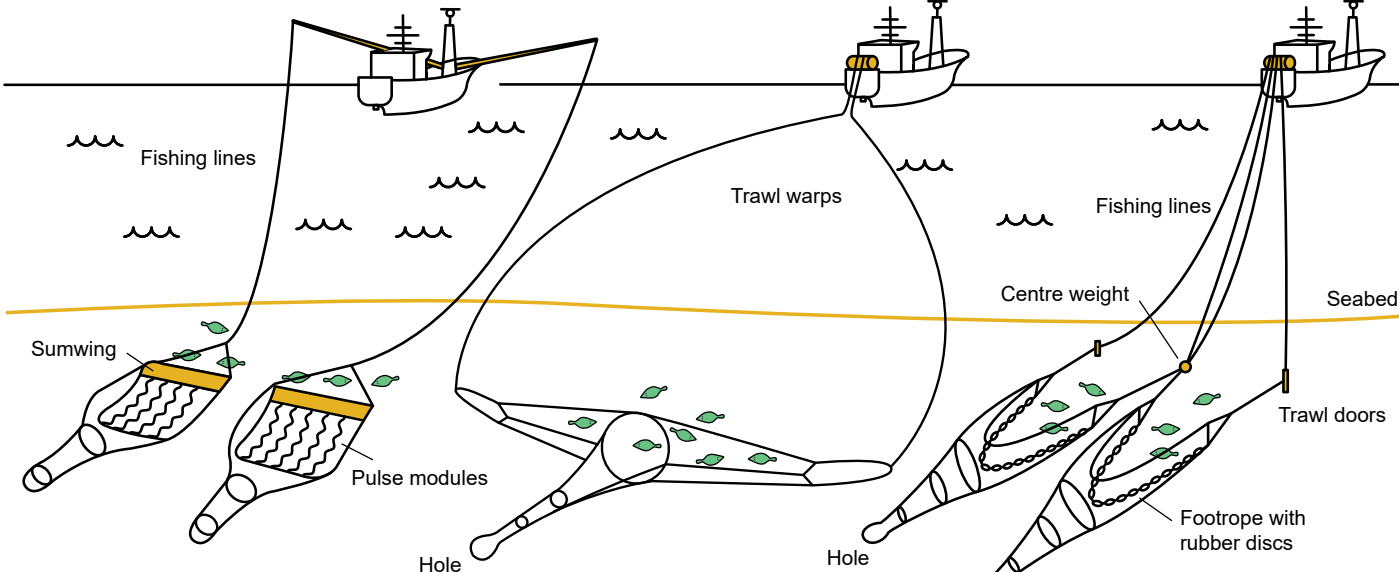


Pelagic pair trawling

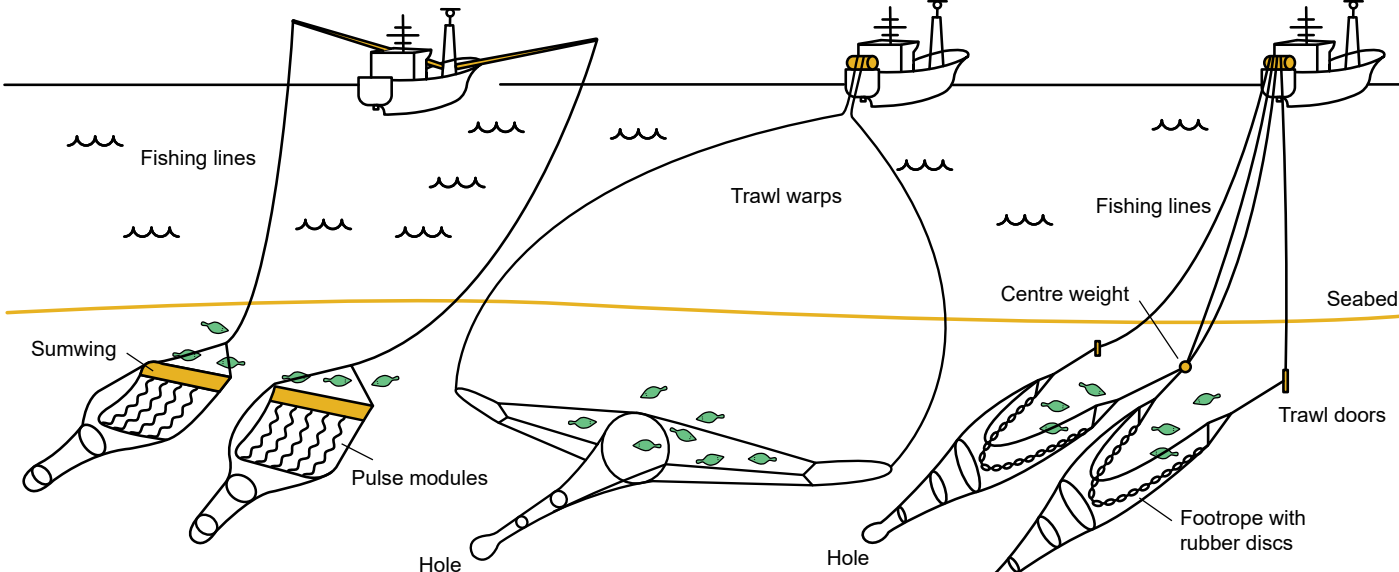


DEMERSAL FISHING TECHNIQUES

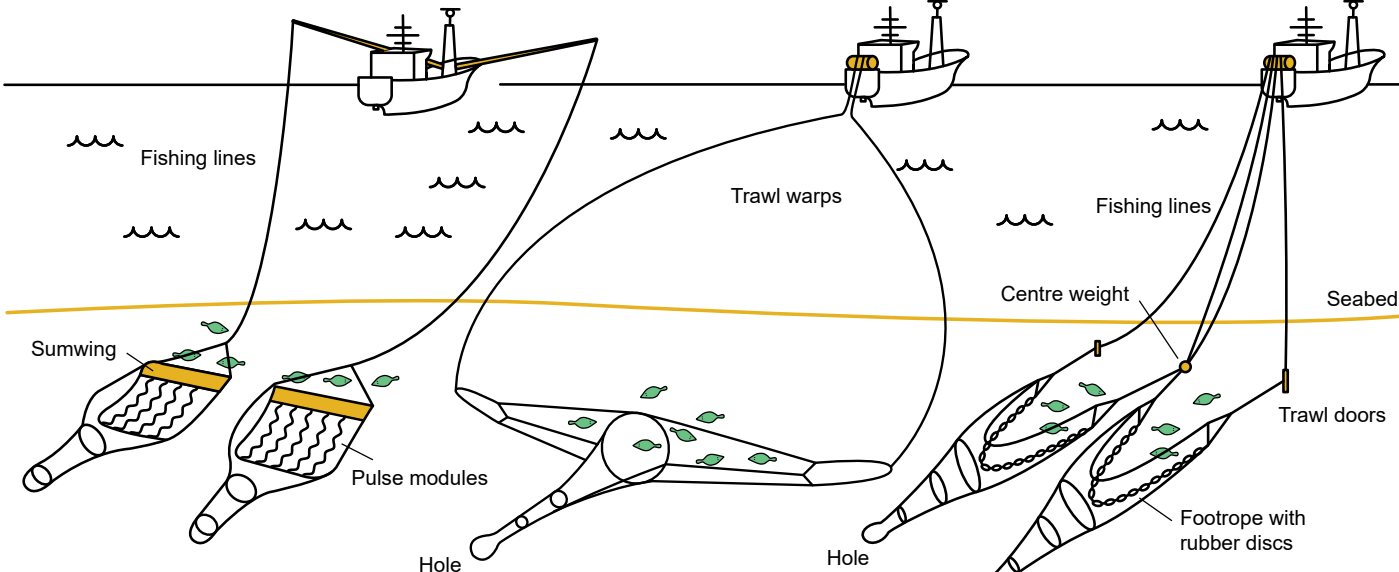
Pulse trawling



Fly shooting



Twin-rig trawling



SPECIALIST DEMERSAL FISHING TECHNIQUES TO ENSURE QUALITY

The relatively new method of pulse trawling is used to catch sole. Short electric pulses scare the fish and cause them to swim up into the net. We have been using this method since 2010 and we have seen many benefits from it. There is less contact with the seabed so hardly any sand and stones that could damage the fish get into the net. Relatively speaking, it is also possible to catch more sole so the net is in the water for a shorter time.

Our fleet has also included six fly shooting vessels for around ten years. Fly shooting is a particular form of seine fishing used for various round fish and squid. While fishing, the vessel sails in a circle paying out warps as it goes. The fishing net is found half way along the warps forming the circle. The net is then hauled towards the vessel. The trawl warps are dragged over the seabed and cause clouds of dust that scare the fish and ensure that they continue to swim ahead of the warps and end up in the net.

In 2017, we launched two fully converted demersal trawlers that spend part of the year engaged in twin-rig trawling. This is a form of otter trawling with nets that are dragged over the seabed. The two refitted vessels catch top-quality plaice in the summer. A total of ten of our vessels are equipped for twin-rig trawling in addition to the specialist technique that they use (pulse trawling or fly shooting). This allows us to be flexible in how we deploy our fleet and guarantee the best quality in various types of fishing.

Fishing for plaice using the twin-rig technique also enables us to obtain sustainability certification such as that granted by the Marine Stewardship Council (MSC). In 2017, we successfully applied for MSC certification of a group of Dutch fishing operations. Since that time, we have been landing MSC-certified plaice with our twin-rig trawlers and fly shooting vessels. This accounted for 74% of our plaice catch landed in 2018.

Along with the skippers and crew of our trawlers, I remain committed to innovation on our fishing vessels and the quality of our fish.



Eric van Linden
Demersal trawler fleet manager



PULSE TRAWLING

Unfortunately, resistance to the innovation of pulse trawling, which we use to fish for sole, has been growing in recent years in various quarters of public opinion. The debate has mainly revolved around whether sufficient research has been carried out so as to rule out as yet unknown, undesirable side effects of this new fishing gear. In all likelihood, the debate was really prompted by the (commercial) success that the Dutch trawler fleet has achieved with this new gear. Fuel costs have been halved, thereby driving down costs substantially. Moreover, better quality fish have been caught more efficiently and in a more targeted way (relatively more of the primary target species of sole). In 2018, the public debate, which had since also become a political discussion, led to a resolution adopted by the European Parliament to ban the pulse trawling technique.

We were one of the first fishing businesses in the Netherlands to acquire this new fishing gear in 2010. In the years that followed, we invested a lot of time and energy in optimising the use of the gear. In light of the many benefits that the fishing gear delivers, we regret that we will have to abandon this innovative technique in the foreseeable future. We regard the potential necessity of reverting to traditional beam trawling as a backwards step. We will try to act in a way that has regard to the future and continue to improve sustainability. It is very disappointing that the efforts we have made in this area over the last eight years will have been for nothing.

In December 2017, we launched a study into whether and how alternative fishing gear could be developed. After a number of brainstorming sessions, we came up with the idea of developing fishing gear with which water jets can be generated to scare the fish. Positive tests in 2018 led to us deciding to have a prototype made and to carry out the first trials at sea. We are sharing our experiences with fellow fishing businesses and in 2019 will explore the options for further development and widespread deployment of this new sustainable fishing gear.



I am proud of the new HACCP manual and the effective co-operation between the HACCP Manager and colleagues to complete this project successfully and efficiently.



Mart van der Meij
Trawler fleet manager

QUALITY IN OUR PELAGIC CHAIN

Whether our pelagic fish is sold unprocessed at a daily market in Nigeria or smoked and ready to eat in a supermarket in the Netherlands, our number one priority is to supply top-quality fish. We achieve this by freezing the fish to -21 degrees Celsius within twelve hours of being caught. But of course every step in the process, from the moment a fishing net enters the water to the time the fish is stored in a cold store on land, contributes to the quality of the product. Our quality department introduced a revised HACCP manual in 2018 that anticipates customer and government demands on the quality of our product.

The European market in particular is imposing increasingly stringent demands on transparency about the origin and integrity of food. Within our business, we control the entire chain from ship to shelf for a number of products. One example is our mackerel, which we ourselves catch, smoke, fillet and package for various supermarkets. This enables us, as a shipping company and fish processing business, to supply a consumer market close to home with the best possible guarantees in respect of the origin and product integrity.

The quality managers on board the trawlers, along with the engineers and the skipper, work hard in a constant effort to improve the sorting and quality of the fish. Since 2017, we have been working on developing software so that the quality managers can share their data more easily, not only with their colleagues but also with scientists. The same thing happens in the processing companies through continuous close monitoring of the process. Because we have integrated the chain, the various companies in our group can align their processes with one another better and better.



CO-OPERATION TO IMPROVE THE QUALITY OF THE TRAWLER CATCHES

We organise regular meetings and events for our quality managers. We can drive up quality standards by exchanging knowledge and experience.

In June 2017, the quality managers at sea and on shore visited various production sites of our processing company, Seafood Parlevliet. What they found particularly interesting was to see how the mackerel they caught was processed, smoked and prepared on shore to be sold in the supermarket.

In June 2018, a trip to Norway was organised for the quality managers to visit a herring processing company that specialises in supplying many variants of herring. Among other things, herring is gutted, pickled, aged, frozen and packed in large packaging in order to be processed into Matjes herring in the Netherlands. The group learned how quality is guaranteed on all the various production lines.



HEALTHY FOOD AT MARISA

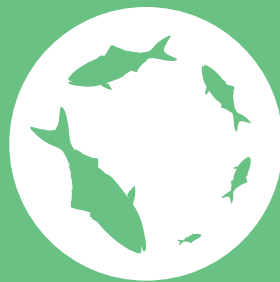
The Marisa office is located on the Suriname river, just outside Paramaribo. A variety of demersal tropical fish is caught using the otter trawling technique, in which one or two nets are trawled behind the vessel. Key species in the catch are barracudas, snappers, weakfish, kingfish, ribbonfish and croakers.

The catch is landed on the quay in front of the office, after which the fish is transported to fish processing companies by road. The vast majority of the fish is destined for export to (Central) America and Europe. Marisa has its own ice factory on site so that the vessels can be stocked up with flake ice prior to departure to keep the fish fresh during the relatively short fishing trips. With the growing fleet in mind, the factory was completely refitted in 2018 and production capacity was massively expanded. In order to guarantee the quality of the ice that is used, Marisa invested in high-quality filters to keep out undesirable micro-organisms. The quality of the water used and the ice produced has also been tested by Stichting Viskeuringsinstituut (VKI - Competent Authority of Industrial Quality in Fishery and Aquaculture).

2017 saw the start of construction of a fish processing plant to enable Marisa itself to process and store the fish it has landed. Hitherto the company has been reliant on partners in the supply chain, but, with quality in mind, it is nice to be able to control this link in the chain in-house. The plant was commissioned in the second half of 2019.

There has been a lot of focus on hygiene during work in recent years to guarantee a clean work and living environment and hence food safety. There has also been strict supervision to ensure that the crew clean the vessel thoroughly after every fishing trip and the vessels are inspected by the VKI.





**PILLAR 2:
FISHING FOREVER**

**HEALTHY FISH STOCKS GIVE
OUR FISHING INDUSTRY
A GREAT FUTURE. WE ADVOCATE
RESPONSIBLE FISHING AND
ACTIVELY CONTRIBUTE TO BETTER
KNOWLEDGE AND SENSIBLE STOCK
MANAGEMENT. WE ARE ENGAGED
IN CONSTANT DISCUSSIONS ABOUT
THIS WITH VARIOUS STAKEHOLDERS
IN FISHING.**

**IN 2017 AND 2018, WE CONDUCTED A STUDY USING ESCAPE
PANELS TO REDUCE THE AMOUNT OF UNDERSIZED
WHITING CAUGHT IN OUR FLY
SHOOTING ACTIVITIES**

IN 2018

92%

of our pelagic catch was
MSC-certified

IN 2017 AND 2018

**scientists joined our
vessels fourteen
times to conduct
fishing research**

IN 2018

**a new catch recording
system was successfully
implemented at Marisa**



**SUSTAINABLE FISHING AND RESPONSIBLE
MANAGEMENT OF STOCKS**

Sustainable fishing is critical if we, as a fishing business, want to be able to continue fishing for a long time to come. We also have to ensure that the stocks we fish are managed responsibly.

One of the ways we engage in sustainable fishing is to adapt at all times to the natural circumstances. Nature is changeable and it is up to us to adapt to it. When the herring population in the North Sea increases, the quota goes up and we can catch more. In years of greater scarcity we adapt and catch fewer fish. Quotas therefore ensure that sustainability is in part rooted in a regulatory framework.

Quotas should indeed be set at a sustainable level for stock management to be deemed sustainable. Two major factors play a part here. Firstly, there needs to be sufficient information from research to allow scientists to give clear advice. Policy-makers also need to base their policy on that scientific advice. Our vision as a company is to contribute on both levels. The first is manifested through our research collaborations, and the second by maintaining a dialogue with stakeholders and policy-makers.



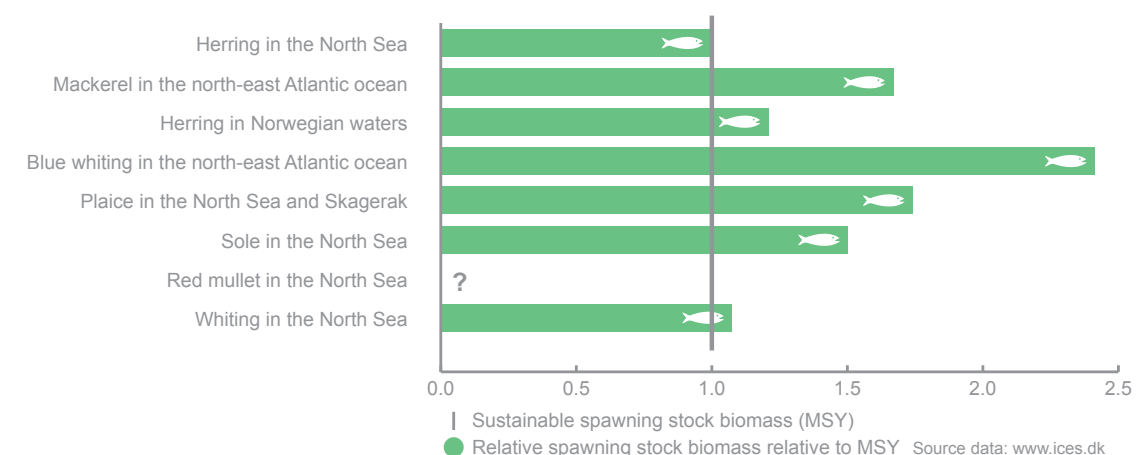
**SUSTAINABLE QUOTAS BASED ON MAXIMUM
SUSTAINABLE YIELD (MSY)**

In fishing, the concept of Maximum Sustainable Yield (MSY) is used to define a safe and healthy level of fish stocks and the quantity that can be sustainably caught each year. As an average, this is taken to mean no more than the quantity by which the fish population grows naturally. In this way, the fishing industry can continue to operate for a long time to come without damaging the fish stock.

Most pelagic fish stocks have been scientifically studied for decades. Data about herring, for instance, goes back to the 1950s. Long-term management plans have been developed for most fish stocks with MSY serving as the foundation for these management plans. In recent years, pelagic fish stocks have overwhelmingly been in a good or even very good state, which is a prerequisite for obtaining sustainability certification such as MSC-certification. In 2018, 92% of our pelagic catch was MSC-certified.

The main demersal fish stocks have also seen substantial growth and generally healthy levels in recent years. The graph below shows the relative size of the spawning stock biomass of our main fish stocks relative to the sustainable MSY level defined by scientists. The selection has been made based on the volume in our catch. Scientists have been unable to estimate the size of the spawning stock biomass of red mullet relative to the MSY level.

ASSESSMENT OF MAJOR FISH STOCKS BY ICES (2018)





FIRST DUTCH FISHING PARTNER OF THE GSSI

The Global Sustainable Seafood Initiative (GSSI) is a global partnership between fishing companies and retailers, NGOs and governmental organisations that work together to promote more fish with sustainability certification. In May 2018 we were the first fishing company in the Netherlands that joined the GSSI.

Fish and fish products are produced and sold worldwide. In more and more places around the world, consumers and retailers want a guarantee that the fish they are eating has been caught or farmed in a sustainable way. This is facilitated by means of sustainability certifications. We strive to achieve such certification for as many of our products as possible to demonstrate that they have been produced in a sustainable way. We hold MSC-certification for herring, mackerel and plaice, but we also have products within the Cornelis Vrolijk group with other labels, such as Friends of the Sea and ASC.

The GSSI wants to ensure that the reliability of various labels is guaranteed. There are a lot of labels around the world and labels regularly come under fire in public debate. It is difficult for retailers to draw a distinction between those labels. As a fishing business, we want to work on sustainability certifications that are reliable, both in our own interest and in the interest of retailers. The GSSI helps towards this.

RESEARCH COLLABORATIONS

Fishing research is complex. A major part of the research revolves around developing theoretical computational models. And of course, this needs a lot of data. As our vessels are at sea almost all year round, we can act as an extra pair of ‘eyes and ears’ for fishing researchers. The quality managers on board our trawlers sample the catch and collect various data about it. They do this year-round during all the various types of fishing activity.

We believe it is important to contribute to research, which is why a few years ago we started to make available the data collected by our quality managers via the Chief Science Officer of the Dutch Pelagic Ship-owners’ Association (the RVZ), who collects the data and shares it with scientific institutes. In 2016, six of our vessels were involved in this project, in 2018, all our ten trawlers took part.

Observers also regularly come on board both our pelagic trawlers and our demersal trawlers, for example to monitor and sample the composition of the catch. Observers joined a full fishing trip on board a vessel a total of fourteen times in 2017 and 2018. By far the majority of these involved an observer from Wageningen Marine Research, Wageningen University & Research’s (WUR) institute for applied marine environmental research.

Another form of research collaboration is our participation in scientific surveys. As in 2016, two trawlers took part in a scientific herring survey off the west coast of Scotland in both 2017 and 2018. The purpose of the survey is two-fold: to estimate the size of the herring population and to collect genetic and other biological data. The latter makes it possible to subject the herring populations to the west of Scotland to a better differentiation.

I greatly appreciate the efforts of our skippers and crews taking part in various scientific surveys. They often have enough to do as it is!



Eric Roeleveld
Trawler fleet manager

During the research trips, the skippers were given a sailing plan that they had to keep to. Researchers from Wageningen Marine Research went with them both times to supervise the implementation of the research.

In 2017, acoustic equipment on board the vessels was used to collect data and a short trawl was carried out at set times during which the catch was sampled by the researchers. The 2018 survey involved exploratory fishing and catch sampling. The results of the genetic research show that DNA can be used to differentiate between herring in different areas. The survey will take place again in 2019.



COLLABORATION BETWEEN DEMERSAL TRAWLER FLEET AND RESEARCHERS

One example of the type of research in which our demersal trawlers are involved is the participation of the pulse trawler OD-17 Buis in a survey to collect data about turbot and brill. Our OD-1 Maarten Jacob was involved in this survey for a number of years, but has passed the baton to the OD-17 Buis. Turbot and brill are desirable species to catch for the Dutch demersal sector. Yet there is limited data about these species. For this reason, ICES advises that the amount of data collected be increased to improve the accuracy of estimates of stocks of these species.

Since 2017, the OD-17 Buis has also taken part in Wageningen Marine Research’s self-sampling survey. During fourteen fishing trips in 2017 and 2018 the skipper and crew collected extra catch data on every trawl and took a sample of the fish on four trawls. On arrival in port, the fish samples were submitted for analysis by the research institute.

The data collected is used by the research institute to estimate stocks and to advise on quotas, in conjunction with international colleagues from research institutes in other countries, especially those bordering the North Sea. They meet annually in Denmark to check, collate, analyse and present all the data that has been collected. We are proud to be contributing to this.

RESEARCH COLLABORATION

2017

Quarter	Vessel	Duration	Purpose of the research	Observer
1	SCH-123 Zeeland	2 weeks	Catch composition	WUR
1	SCH-135 Galibier	1 day	Behaviour of whiting in the net	ILVO
2	SCH-72 Frank Bonefaas	2 weeks	Catch composition	WUR
2	SCH-72 Frank Bonefaas	1 week	Escape panel for hake	WUR
3	H-171 Cornelis Vrolijk Fzn	2 weeks	Catch composition	WUR
4	SCH-123 Zeeland	3 weeks	Catch composition	WUR
4	SCH-72 Frank Bonefaas	5 weeks	Catch composition	WUR
4	SCH-72 Frank Bonefaas	2 weeks	Catch composition	WUR

2018

Quarter	Vessel	Duration	Purpose of the research	Observer
1	SCH-81 Carolien	2 weeks	Catch composition	WUR
1	CC-545762 Tourmalet	1 week	Catch composition	IFREMER
2	SCH-135 Galibier	2 days	Behaviour of whiting in the net	ILVO
3	SCH-72 Frank Bonefaas	2 weeks	Catch composition	WUR
3	SCH-81 Carolien	2 weeks	Catch composition	WUR
3	CC-622598 Larche	1 week	Catch composition	IFREMER
4	SCH-123 Zeeland	5 weeks	Catch composition	WUR
4	SCH-24 Afrika	3 weeks	Catch composition	WUR
4	H-171 Cornelis Vrolijk Fzn	2 weeks	Catch composition	WUR

SELECTIVITY

Although the proportion of unwanted bycatch on our pelagic trawlers is really low, we are trying to reduce it even further. This is also one of the goals of the discard ban that came into force in 2015. Some types of bycatch pose an operational challenge, hake is one such. Adult hake swim higher up the water column at night to find food, hunting small herring among others. Consequently they can end up in our nets as bycatch. Although hake is a desirable fish species for which there are plenty of buyers, we only have a limited quota available for it. That is why we are working on an escape panel in the net in an attempt to reduce the catch of hake without losing catches of our target species.

A first test was carried out in 2017 on the SCH-72 Frank Bonefaas. Co-ordinated by the RVZ and in collaboration with a net maker, an escape panel was designed for testing. Cameras were mounted on the escape panel during fishing. The underwater images showed that hake were indeed escaping through the panel. The composition of the catch was used to extrapolate by how much the hake catch had been reduced by drawing a comparison with other vessels fishing in the area at the time. A comparison was also made with the catches from the previous year in the same area. After the trip in 2017, changes were made to the net and the escape panel on the basis of these experiences. The escape panel will continue to be developed over the coming years.

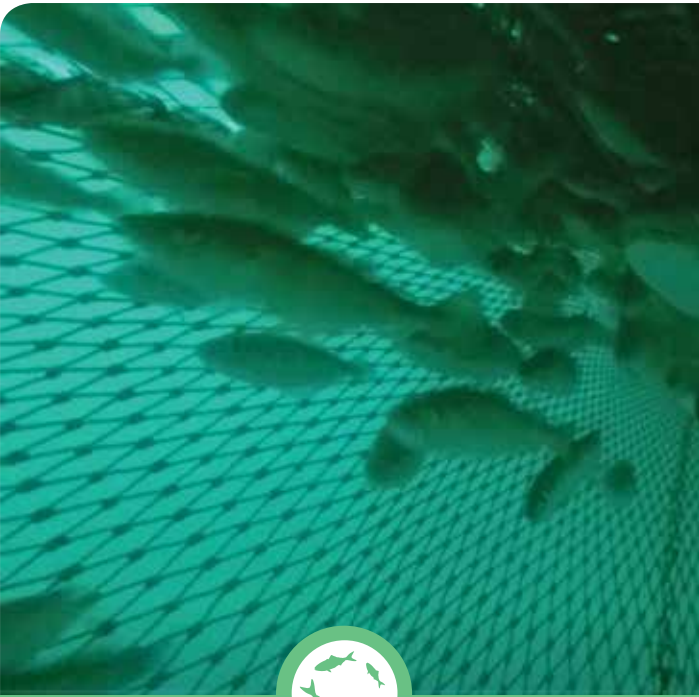
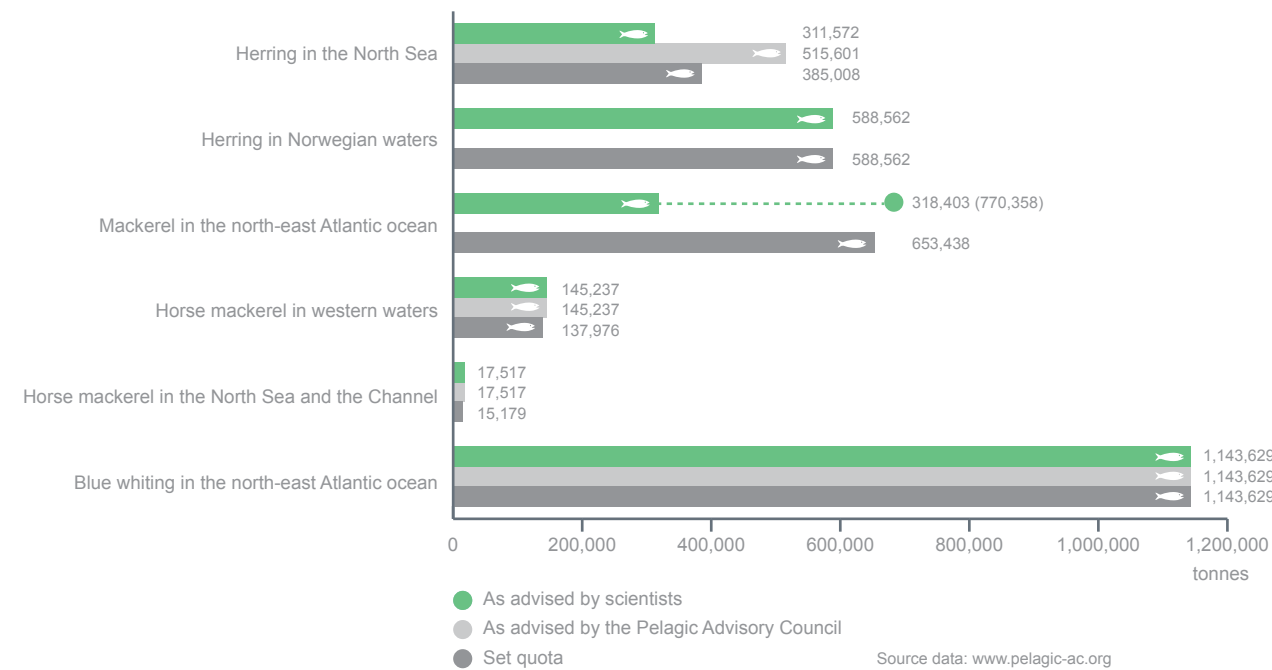
EUROPEAN POLICY AND ADVISORY COUNCILS

Quotas are set by European institutions. The European Commission makes proposals based on scientific advice. The quotas are then set by the European Council. When it comes to species that are managed under shared responsibility with non-EU countries, such as Norway and the Faeroe Islands, the quotas are only set after consultation with those countries.

Stakeholders are invited to respond to the European Commission's proposals via specially-appointed advisory councils. These take the form of associations of which fishing companies, industry organisations and conservation organisations can be members. One such is the Pelagic Advisory Council. For nearly fifteen years, this council has formulated unanimous proposals on behalf of a large group of stakeholders. These proposals are made available to policy-makers. As a company, we are represented in the Pelagic Advisory Council by the Pelagic Freezer Trawler Association (PFA). At the same time we also like to attend the meetings ourselves so as to hear the opinions of all parties and to have dialogues directly with our stakeholders. In 2017 and 2018, we attended meetings of the Pelagic Advisory Council fifteen times in total.

Advisory councils for demersal fishing are convened on a regional basis. For us, these are the North Sea Advisory Council and the North Western Waters Advisory Council. We are represented in both of them via the Dutch Fishermen's Federation and Visned, the demersal trawling association.

SCIENTIFIC ADVICE, STAKEHOLDER ADVICE AND SET QUOTAS IN 2019



TESTS ON THE SCH-135 GALIBIER TO ALLOW WHITING TO ESCAPE

Working with the Dutch Fishermen's Federation (NVB) and the Belgian Research Institute for Agriculture, Fisheries and Food (ILVO), we conducted research in 2017 and 2018 into reducing catches in fly shooting of undersized whiting. The research focused on the development of an escape panel in the top of the net.

Earlier research had invested a lot of time and energy into the design of an escape panel. Since the results were not yet what we wanted, the current research looked at the behaviour of whiting in the net so as to make the panel more effective. This behaviour varies by species of fish. Underwater cameras were used for a more effective approach. Two research trips were made in 2017 and 2018 with ILVO researchers on board the SCH-135 Galibier. The escape panel that had been designed was tested, attempting to attract the fish in the right direction using warps and lights on the panel. An extra fine-mesh net was fitted to the outside of the panel in order to catch the escaped fish for identification and measurement.

The results showed that small whiting did indeed escape. Moreover, there was no appreciable loss of other commercial fish species during this trip, which is an important requirement if the panel is to be put into use. However, little mullet was caught during this trip. The question remains whether this species will also unintentionally take advantage of the opportunity to escape. For this reason – and to optimise the panel even further – follow-up tests are being carried out in 2019.



HOW QUOTAS ARE SET

Scientific advice is very important in setting quotas, which are often in line with that advice, for both pelagic fish stocks and the main demersal fish stocks in the North Sea. The graph on the page opposite shows a comparison between the scientific advice, the advice given by the Pelagic Advisory Council and the set quotas. The latter do not appreciably differ from the advice for blue whiting, the stocks of the two species of horse mackerel and herring in Norwegian waters.

Setting the quota for mackerel was a difficult process in 2018. Scientists advised that 318,000 tonnes could be caught in 2019, which would entail a reduction in catches of nearly 70% compared with 2018. The fishing industry expressed concerns about the quality and reliability of the advice. Fishermen did not recognise the picture of a vastly reduced population. Their perception, based on practical experience, was very far away from the perception of conservation organisations, which stuck to the scientific advice. The Pelagic Advisory Council was not able to come up with unanimous advice. Some months later, following internal review, the scientists published revised advice which led to a doubling of the estimated population growth. The advised catch for 2019 was now set at 770,000 tonnes instead of 318,000 tonnes.

Huge variations like this in scientific advice, quota setting and hence the quantities we can catch are a challenge for our business. That goes for both substantial reductions and increases. Long-term plans for the management of fish stocks are often developed in order to give the fishing industry greater stability and predictability. These plans place limits on the maximum change in quotas so that there is less change in management. There was a management plan of this type for mackerel in the past, but it is no longer in force. A new version is due to be worked on next year.

We believe it is important for scientific advice to play a key role in setting quotas, but that there is also scope for the view and perception of the fishing industry to be considered in the ultimate decision-making.

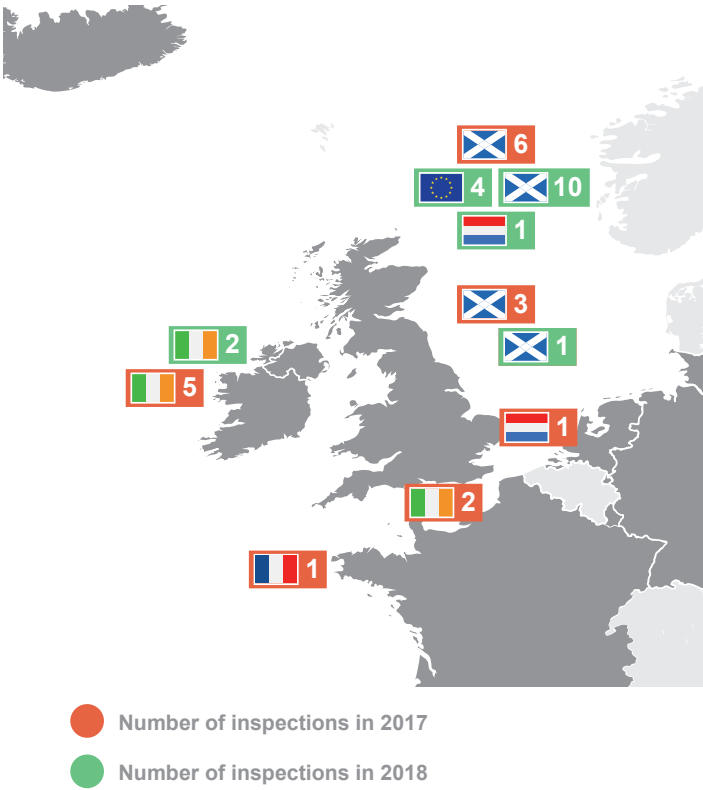
COMPLIANCE WITH LEGISLATION

It goes without saying that we do not catch more fish than our quota. Government checks on this are very strict. Skippers report the processed catch to the Ministry of Agriculture, Nature and Food Quality every 24 hours during a fishing trip via electronic logbook systems. All our vessels are fitted with Vessel Monitoring Systems (VMS) so that governments and scientific research institutes can verify the locations of our vessels at all times via a satellite link. Inspection agencies regularly make surprise inspections at sea. In Dutch waters, these are carried out by the Dutch Food and Consumer Product Safety Authority, the NVWA. In non-Dutch waters, they are carried out by the relevant inspection agencies in the country in question.

After every fishing trip, the quantity of fish unloaded in port is carefully recorded and the NVWA monitors this. The producer organisation keeps a close eye on the use and availability of quotas at national level in cooperation with the Ministry of Agriculture, Nature and Food Quality. This prevents the set quotas being exceeded accidentally.

In addition to the quotas, the fishing industry is also subject to other measures. National and European institutions have compiled a comprehensive package of legislation and regulations. Of course, fishing in a sustainable way means that we must ensure that we comply with all these rules.

INSPECTIONS AT SEA



Designing and implementing a complete catch recording system at Marisa represents enormous progress in our ability to trace the fish from catch to sale.



Anton Dekker
Demersal trawler fleet manager



INSPECTIONS AT SEA BY INSPECTION AGENCIES

In 2017 and 2018 our pelagic vessels were inspected at sea a total of 36 times. When inspectors come on board, they spend an average of two hours inspecting the fishing gear, the logbooks and other records and making an inventory of the quantity of fish on board the vessel.

Not one violation was found that could be penalised. And just once was a warning given about an aspect in need of improvement, which was implemented as soon as the vessel in question returned to port.



PELAGIC FISHING REGULATIONS HANDBOOK INTRODUCED

European legislation on fishing has snowballed in recent decades. In 2016, we launched a project in association with the RVZ to draw up a digital handbook that will make it possible to maintain an overview and facilitate compliance with legislation and regulations, and that will constantly be kept up-to-date by experts. This means our skippers will have all the information in one place and we will know that they are working with the latest version. The first version of the handbook was introduced on the vessels in 2017.

The book is a 170-page summary of all Dutch and European legislation and regulations that apply to pelagic fishing. It includes 37 regulations and implementation arrangements that run to over 2100 pages in total. Every paragraph of the handbook contains references to the articles in the original legislation. An advanced search function makes it possible to search in all the documents at once. We have had very positive feedback from our skippers and helms about how easy the handbook is to use. In 2018, we had the handbook updated to incorporate all recent changes.

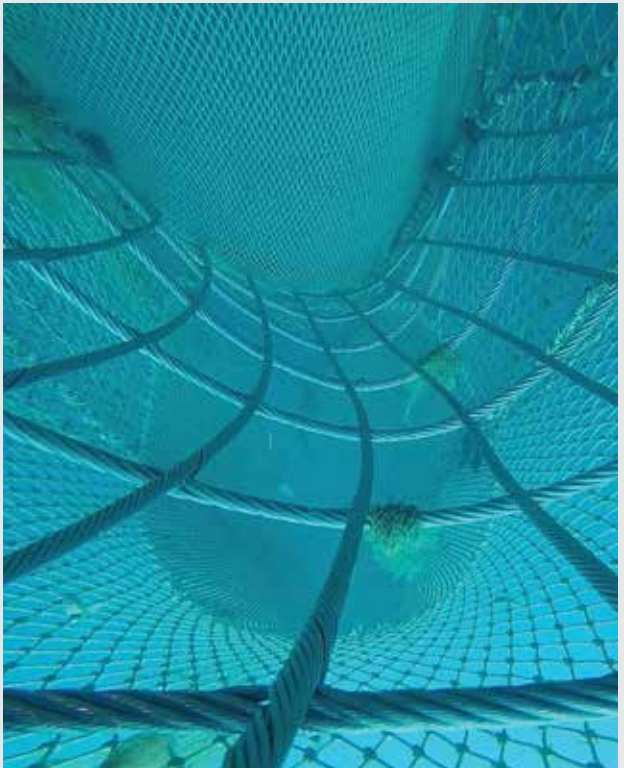
As a company with a large fleet of demersal trawlers, we found it useful to commission a comparable handbook to be drawn up for our demersal trawlers with all the relevant legislation and regulations that apply to them. The project was launched in 2018 and we expect to be able to introduce the first version in 2019.

FISHING FOREVER AT MARISA

In Suriname, fishing is governed by regulations specifying for various zones which vessels are permitted to fish where. These zones are defined by the sea depth. Marisa's vessels operate exclusively in waters deeper than 15 fathoms (approximately 27 metres). All vessels have been fitted with VMS since 2016. The vessel locations transmitted via satellite can be seen by the Suriname government at all times.

In 2017, replacement of the fishing gear began and lighter trawl doors and smaller nets will be used. The lighter gear exerts less pressure on the seabed, causing less damage. The waters of Suriname are a habitat for turtles. Marisa is contributing to research to develop Turtle Excluder Devices (TEDs) for otter trawling in order to stop the creatures getting caught in the nets. The aim is to test this new type of TED in practice in the autumn of 2019.

Marisa has employed a bio-engineer since 2018 to support a number of professionalisation and sustainability projects. The most important project that was successfully completed in 2018 was the design and implementation of a complete catch recording system. This allows the fish to be traced from the catch, landing on shore and any processing in the plant, to its sale to the customer. In future it will also be possible to use this system to give the end consumer information about the origin of the product.





PILLAR 3: DAILY SUSTAINABLE

FOR US, CORPORATE SOCIAL RESPONSIBILITY MEANS THAT WE CONTRIBUTE TO THE TRANSITION TO A CIRCULAR ECONOMY. THIS MEANS THAT WE WILL REDUCE OUR CARBON FOOTPRINT, MAXIMISE WASTE RECYCLING AND MAKE CONSCIOUS CHOICES WHEN PROCURING GOODS AND ENERGY.

IN 2018, **OUR DEMERSAL TRAWLERS** JOINED THE 'FISHING FOR LITTER' PROJECT TO **BRING MORE SEPARATED WASTE TO SHORE**

IN 2018, HEALTHY SEAS MADE

**2.5 million
pairs of
socks**

from our old fishing nets

SINCE 2017

**our trawlers have
been using shore
power in IJmuiden
and Scheveningen**

IN 2017

**two modern new-built
vessels were added to
the Marisa fleet**

ECONOMICAL USE OF ENERGY AND MATERIALS

For us, corporate social responsibility means not only fishing in a sustainable way but also that we are economic in our use of energy and materials in our day-to-day work. Pelagic fish is a source of protein with one of the very lowest carbon footprints, even compared with legumes and tofu, for example. Catching demersal fish involves greater energy consumption and hence more CO₂ emissions because of the fishing techniques used. Nevertheless, it is still a sustainable alternative to most types of meat.

Our vessels are powered by fossil fuels. With current technologies, we do not have a direct alternative to this, but we are trying to reduce our environmental impact by improving efficiency. We achieve this by sailing more economically, for example, and improving the use of installations on board.

We want to contribute as greatly as possible to a circular economy, so our ambition is to make a conscious choice in our procurement decisions to buy sustainable goods and services where possible. In 2017, we expanded our procurement department so we have more manpower to develop policy in this direction. We are seeing that sustainability aspects are increasingly being taken into consideration. For instance, we have discussed more sustainable alternatives with the supplier of our packaging materials. We will continue to explore more sustainable solutions in the coming years.



FORMATION OF A RECYCLING WORKING GROUP

In 2018 we set up a working group explicitly dedicated to the issue of how we can optimise our waste processing. In 2018, visits were paid to various waste processors to discuss collaborations and to explore various solutions. The working group members wanted to see with their own eyes how the waste was processed and to hear more about where the various recycling flows ended up. The working conditions they observed were also taken into consideration when deciding who to work with in future.

Following an internal analysis, the working group concluded that we ourselves could improve waste separation in our offices and cold stores. A plan for this was completed by the end of 2018 and the new, improved waste separation scheme on shore was implemented in 2019.

RECYCLING

How we deal with our waste is also an important issue. There are waste policy plans on all our vessels that describe how every type of waste is to be stored separately so that it can be unloaded properly on arrival in port for further processing. In 2017, we went through most of the waste management plans for our vessels and revised them where necessary.

Our demersal trawlers joined the 'Fishing for Litter' project in 2018. They carry special big bags and bin bags on board so more waste is already separated when it is unloaded on land, along with waste that is caught in the nets while fishing. This is one way we are making the sea a bit cleaner.



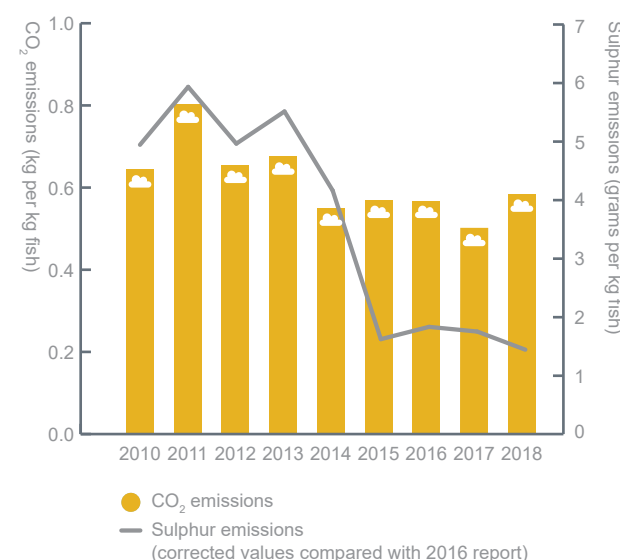
SOCKS FROM OLD FISHING NETS

In 2018, we were looking for a worthwhile way to use our old fishing nets. The nylon from which our nets are predominantly made is a great candidate for recycling. We found a good purpose for our old fishing nets in the Healthy Seas recycling programme. This organisation recovers old nets left behind in the North Sea (particularly around wrecks) in order to recycle them into socks, swimwear and carpet tiles. We agreed to send them our old nets free of charge to support this programme. Over 2.5 million pairs of socks were made from the nets - totalling around 100 tonnes - in our two donations in 2018.

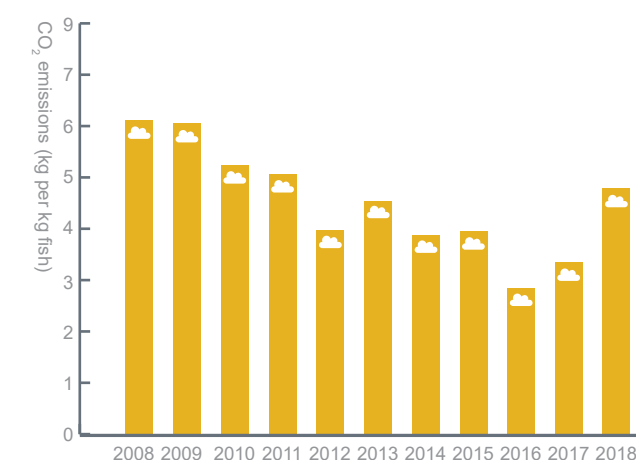
ENERGY CONSUMPTION AT SEA

Reducing fuel consumption by our vessels and hence our CO₂ emissions is a key focus of this pillar. On our trawlers, our efforts have led to approximately 15% reduction in CO₂ emissions per kilogram of fish produced since 2014 compared with the average in the previous period. CO₂ emissions have remained reasonably stable in recent years, i.e. below 600 grams of CO₂ per kilogram of fish produced. By switching from heavy oil to low-sulphur diesel, the sulphur emissions of our pelagic trawlers have fallen by around 60% since 2015 compared with the previous period. We are continuing to look for new developments to achieve further savings. In 2018, we established a CO₂ working group to study and implement viable solutions.

CO₂ AND SULPHUR EMISSIONS PER KG OF PELAGIC FISH



CO₂ AND SULPHUR EMISSIONS PER KG OF DEMERSAL FISH



Reducing CO₂ emissions remains a challenge and a major concern for the coming years.



Bert van Duijn
Head of Ijmuiden Technical Department



As we mentioned on page 17, we regret the imminent ban on pulse trawling, not least because it will put the energy efficiency of our demersal trawler fleet under great pressure. The introduction of the pulse gear on our demersal trawlers in 2010 halved the fuel consumption of these vessels. Our efforts to develop an alternative to the pulse gear are focusing on an equally effective, but also energy-efficient technique.

Over the last ten years, a number of vessels using the fly shooting technique have been added to our demersal trawler fleet. This is one of many other types of demersal fishing, but also one of the most energy-efficient techniques.

We have invested heavily in recent years in the type of lighting that is used on the vessels. On six vessels, the halogen deck floods have been replaced with LED lighting. The deck floods on the remaining vessels will be replaced in 2019. We will also start replacing all interior lighting.

All our efforts combined have made our fleet on average approximately 30% more efficient since 2008. 2018 saw higher consumption than in previous years. This can partly be explained by the fact that a number of our vessels fished in more northerly waters than normal. This increase can also be seen in figures for the entire industry.

Our 2017 CSR policy plan for our demersal vessels included the ambition to further reduce the energy consumption of our demersal trawlers in the coming years. The political reality we faced in 2018, the ban on pulse trawling, means we will have to devote all our energies to achieve this ambition.

The ability to install LED lighting suitable for the extreme conditions at sea is a relatively simple innovation but an effective way of saving energy.



Jaap van der Werff
Technical inspector of demersal trawlers



TRAWLERS IN SCHEVENINGEN USING SHORE POWER

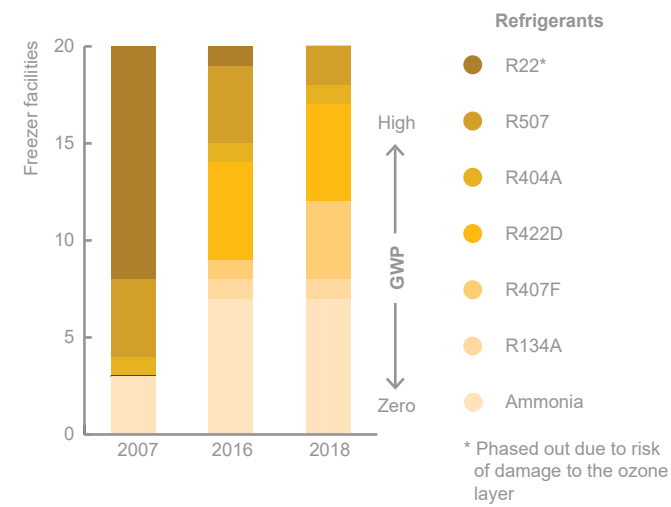
March 2017 saw the official commissioning of shore power connections for large seagoing vessels (including our trawlers) in the first and third harbours in the port of Scheveningen. The shore power is procured entirely from green sources. Using these electrical supplies means vessels no longer have to generate electricity themselves by running their auxiliary engine while they are in port. This saves on diesel.

Once the necessary technical modifications had been made to our vessels, the first ships to use shore power for an extended time were connected in September 2017. The project dragged on a bit: along with other ship owners, we have been involved with the Hague municipality to implement these facilities for the last thirteen years. The shore power installation in IJmuiden was commissioned in 2016. Experience of the implementation of the project there provided a good input into the approach in Scheveningen. For example, compatibility between the two ports was a key factor in the design. Our vessels can now use the same shore power connection in both IJmuiden and Scheveningen.

There are many benefits to using shore power. The reduced noise and improved air quality enable us to contribute to a healthier living environment. There are also benefits for our own people; they can work in a quieter environment on board while lying in port.



USE OF REFRIGERANTS IN COLD STORES ON SHORE AND ON OUR TRAWLERS



TRANSITION TO MORE ECOFRIENDLY REFRIGERANTS

On our freezer trawlers, we freeze the fish immediately after it has been caught in order to maintain optimum quality. Once frozen, the fish is stored at -21 degrees Celsius in the cold store on the vessel. The fish is stored at the same temperature in our cold stores in the port. All these systems use refrigerants. There are many types of these, all of which have a greater or lesser potential environmental impact. Harmful greenhouse gases only occur if the refrigerant escapes unexpectedly in gaseous form. As long as the refrigerant remains enclosed in the refrigeration system it is not harmful. The harmfulness of the greenhouse gas is expressed in its Global Warming Potential (GWP). Some synthetic refrigerants also have a harmful effect on the ozone layer. One example is Freon R22.

In recent years we have invested heavily in migrating to more ecofriendly refrigerants. This takes time because migrating from one refrigerant to another sometimes necessitates major modifications to the installations. In 2017, we converted three of our installations to use a better refrigerant. The last trawler still using R22 in its refrigeration system was converted to use R407F. Two systems in a cold store were converted from R507 to R407F. We have converted systems on our demersal trawlers in recent years so that they need to use significantly less synthetic refrigerant.

Alongside synthetic refrigerants, natural variants are also available such as ammonia, which has no harmful greenhouse gas effect if it escapes. We are striving to reach a position where all our systems operate with a natural refrigerant.



ENERGY CONSUMPTION ON LAND

We are also looking into ways to make our energy consumption in our buildings and facilities on land more sustainable. We have been buying 100% green electricity with Guarantees of Origin (from hydroelectric power) for years. In 2017, we commissioned a comparison study to assess various energy suppliers for their ambitions to foster a sustainable energy transition. We wanted not just to buy sustainable energy but to buy it from a party investing in the energy transition with a clear vision. As a result we moved to a new supplier and, since 2018, have been buying 100% wind-generated electricity.

In 2016, we joined the Dutch Multi-Annual Agreement on energy efficiency (MJA3), thereby committing to strive for annual energy savings of 2% for our shore-based organisation. We submitted our first savings plan at the beginning of 2017, which was approved.

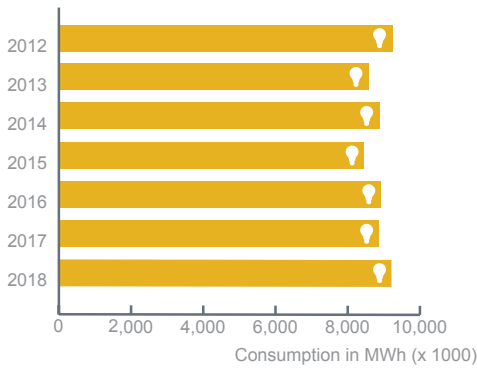


ENERGY-SAVING MEASURES ON LAND

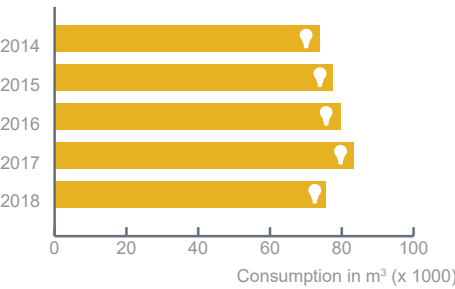
We took various measures in 2017 and 2018 aimed at reducing our energy consumption. Some initiatives have been launched and are continuing to run in 2019 and beyond.

- The goal is to switch to LED lighting at all our sites, both in the offices and in the distribution areas and freezers. 2017 and 2018 saw great strides made in these areas.
- We have stepped up checks on the building insulation with inspections of roofs and façades to identify whether unnecessary losses could occur anywhere. Scheduled maintenance on the freezer installations is also carried out more frequently.
- One of our sites has had 1050 solar panels on the roof since 2015 and in 2018, we commissioned a feasibility study to look into installing solar panels on other sites.
- We work with a consultancy to monitor our energy consumption. On their advice, our monitoring software was improved in 2017 and we created a boiler for one of our cold stores so that we can defrost the freezers in the daytime too, using the electricity generated by our own solar panels.

ELECTRICITY CONSUMPTION



GAS CONSUMPTION



In our 2016 CSR Report, we reported that we had achieved around a 5% reduction in our energy consumption on land since 2012. That was revealed by a trend analysis, although consumption varies from year to year. However, our consumption of the electricity we generate ourselves was inadvertently omitted from the figures. Now we have added this consumption, the reduction is lower than we previously reported. We also saw relatively higher consumption in 2018. A major reason for this was the very long, hot summer, meaning it took more energy to keep our cold stores at temperature. At the same time more fish was deposited and removed in this period. We will continue to implement energy-saving measures in the coming years and hence expect to be able to achieve further reductions in energy consumption.

There has been a lot of public debate over the last couple of years about gas extraction and consumption by private individuals and businesses. A comparison between our electricity and gas consumption revealed that the proportion of CO₂ emissions relating to our gas consumption was a little higher (57%) than the CO₂ emissions relating to our electricity consumption (43%). Reason enough, then to step up possible energy-saving measures in the coming years.

DAILY SUSTAINABLE AT MARISA

We have invested heavily in expanding and refitting the fleet in recent years. Two brand new vessels, the Kjell and the Javro, were added to the fleet in 2017. The vessels were built in a Dutch shipyard and made their delivery passage to Suriname in October. The vessels have a 25.5 metre length overall and 7.5 metre beam and are suitable for fishing in great depths in tropical conditions. The vessels were designed to fish in the most energy-efficient way possible. Their performance in 2018 shows that their fuel consumption per kilogram of fish is approximately 15% lower than the oldest vessels in the Marisa fleet.

A number of older vessels in the fleet were modified in 2017 and 2018 to reduce their fuel consumption. This was mainly achieved by replacing engines, using larger propellers and reducing the weight of the trawl doors and fishing gear.

In 2018 we also looked into ways to make energy consumption on land more sustainable. For example, we have started to examine the possibility of installing solar panels on the roofs. This issue will be a permanent agenda item in the coming years.





**PILLAR 4:
CARE FOR PEOPLE**

WE RELY ON ENGAGED, PROUD AND ENTHUSIASTIC EMPLOYEES FOR OUR CONTINUITY. THAT IS WHY WE TAKE THE UTMOST CARE TO CREATE SAFE AND PLEASANT WORKING AND LIVING CONDITIONS AND TO ENSURE OUR EMPLOYEES' HEALTH. WE ALSO WANT TO MAKE A POSITIVE CONTRIBUTION TO SOCIAL DEVELOPMENTS WITHIN THE LOCAL COMMUNITIES IN WHICH WE OPERATE.

IN 2017, WE STARTED WORKING WITH JINC,
AN ORGANISATION THAT HELPS CHILDREN TO DISCOVER
REGIONAL CAREER OPPORTUNITIES

IN 2017 AND 2018 WE WELCOMED

276

school pupils to get to know
our business

IN 2017

**we revised the risk
assessments &
evaluations for our
demersal trawler fleet**

IN 2017 AND 2018

the conveyor and sorting belts
on six Surinamese vessels
were raised to standing height
to reduce the physical strain
on the crew

OUR EMPLOYEES

Of the over 2000 people around the world who work for the Cornelis Vrolijk group, around 600 of them work in our pelagic fishing activities. The average length of service as at 31 December 2018 was thirteen years. Every year we celebrate the anniversaries of a considerable number of employees that have worked for us for 25 or even 40 years. Approximately 70 seafarers work on our demersal trawlers under partnership contracts that we have concluded with them. Since our demersal trawler fleet has grown substantially in recent years, a larger proportion of these people have worked for us for a shorter period of time. The average length of service with us as at 31 December 2018 was six years. We are proud that many of our employees have worked for us for a long time. The low staff turnover means we keep knowledge and experience in-house.

We believe it is very important that our people work for us for a long time. Our policy is to offer seafarers good living and working conditions. However it is not just our own employees at sea that we are concerned about. For example, we are also actively contributing to the development of national and international legislation and regulations aimed at improving living and working conditions on board fishing vessels around the world, such as the International Labour Organization (ILO)'s Work in Fishing Convention 2007 (C188). The standards set out in this international convention, although not in force in all countries, form the basis for our policy.



The revision and introduction of the Risk Assessments and Evaluations and plans for our demersal trawler fleet is a great result, with excellent co-operation with the vessels.



Dirk Vink
Health and Safety Manager

SAFE WORKING

To ensure that safety remains a structural priority, we have employed a full-time Health and Safety Manager since 2015. After updating all the Risk Assessments and Evaluations for our trawlers and the shore-based organisation in 2016, this was done for our demersal trawlers in 2017. We worked with the skippers and crew members to revise the documentation and devise practical plans. As our vessels sail under different flags and legislation is organised at national level, the Risk Assessments and Evaluations had to be prepared individually for each vessel.

Another example of a practical plan to ensure safety is to make sure that the correct Personal Protection Equipment (PPE) is used. In 2017, we provided the crew members in our demersal trawler fleet with a new design of lifejacket. The crew of the SCH-65 Simplon tested a new lifejacket in early 2016. When it turned out in 2017 that the Dutch Fishermen's Federation had launched an identical initiative, we decided to merge the projects. The result was a safe lifejacket that works properly, is more comfortable and optimises locating a man overboard. The newly-introduced lifejackets were a huge improvement on the previous ones. Development is continuing from 2018 so as to optimise the design even further.

The improvement in reporting of accidents and near-misses is a great step forward and we hope to reap the rewards in the coming years.



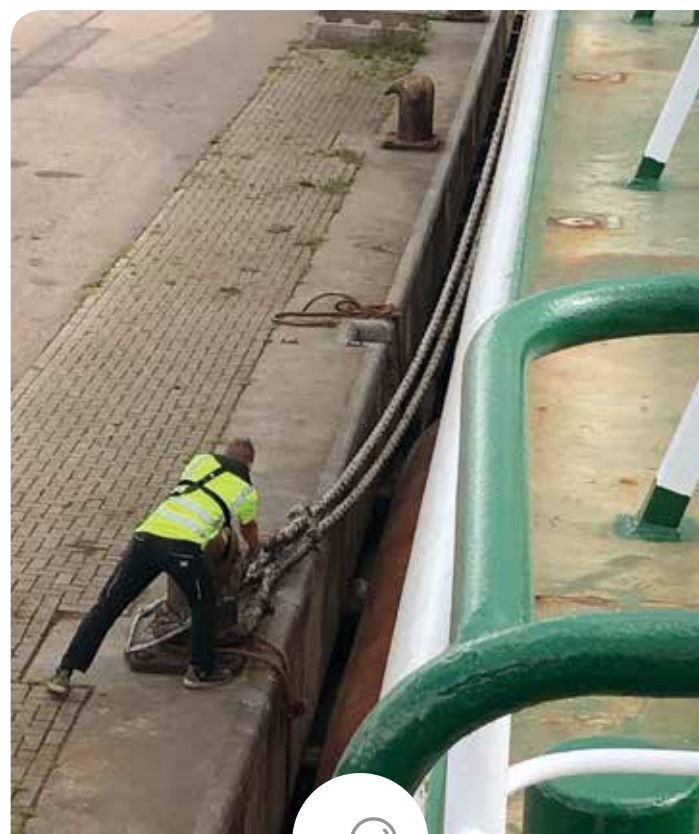
Ment van der Zwan
Head of HR, IJmuiden



GREATER AWARENESS AND BETTER REPORTING FOR SAFER WORKING

We are working to raise awareness of safe working in order to prevent accidents on board the vessels as far as possible. We can chart the potential risks by improving accident reporting. All vessels are reporting more accurately and more systematically on both accidents and near-misses. Certainly, reporting faster and more frequently about near-misses and then sharing them pro-actively is very valuable for preventing or improving similar situations on other vessels.

The safety councils on board the vessels play an important part in this. We now have an independent safety council operating on various trawlers, which advises the skipper and the ship owner about risks and measures to be taken. We are continuing to establish such councils on board the remaining vessels in 2019.



LINESMEN

Linesmen: for anyone outside the world of shipping, this is probably an unfamiliar term, but for us they are indispensable. They ensure that large seagoing vessels are moored properly. The profession of linesman is an ancient one in Holland and has been a commonplace term in IJmuiden since the mid 19th century. At that time, linesmen were independent operators who would compete with one another to be the first to reach a vessel in their wooden rowing boats to get the job. This resulted in perilous races. Later on, co-operatives were formed to reduce the competition so the work could be carried out more calmly, and hence more safely.

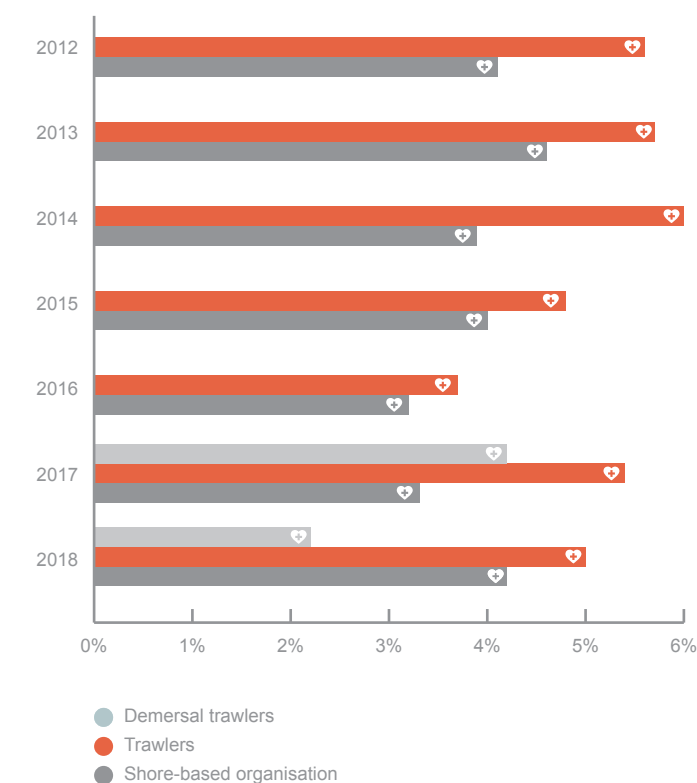
There are still some 50 active linesmen in IJmuiden, working under the Coöperatieve Vereniging van Vletterlieden (Cooperative Association of Linesmen). In Scheveningen, it is increasingly difficult to find linesmen although we would like to have our vessels moored up safely. That is why we decided in 2017 to develop a course on how to take and secure hawsers safely. Four of our own people took this course, along with five employees of the security company operating in Scheveningen port. Since then, they have been keeping the official profession of linesman alive. And we can use their services with a clear conscience, knowing that they provide them safely.

EMPLOYEE HEALTH

You can cope with both physical strains and mental stresses better if you are healthy. Our sickness absence figures for both shore-based staff and people on our trawlers have fallen slightly in recent years. We only recently started systematically keeping figures for absence due to illness for the crew on our demersal trawlers. The figures are erratic from year to year because they are hugely affected by whether or not there is any long-term absence.

We have stepped up our collaboration with the company doctors in recent years. For example, since 2013 we have ensured that our company doctors record the causes of absence. The majority of absences have long been due to issues in the musculoskeletal system, caused by the physical strain involved in work on board. Absence may also be caused by factors completely unrelated to the working conditions. We can use this information in anonymised form to anticipate trends. In recent years we have seen a slight increase in the number of reports of illness due to mental issues. Whether this rise is a real increase in absences for this reason, or an increase in this cause being recorded, we cannot say at the moment. In any case, we are getting a better idea of the various causes of absence due to illness. We can use this information to organise support in the event of illness or possibly to introduce measures to prevent absence.

ABSENCE DUE TO ILLNESS



'GRIP OP DE KNIP' WORKSHOPS

A peculiarity of the remuneration system in fishing is the variable payment frequency and the different amounts paid on each fishing trip. Whilst some people with a predictable income at set times still find it difficult to make ends meet at the end of every month, this can be a greater challenge for seafarers. As we were seeing signs that a number of our employees were indeed experiencing difficulties, we decided to work with the CNV trade union and the RVZ to organise a number of information sessions.

The 'Grip op de Knip' foundation (Dutch for 'grip on your wallet') in Katwijk delivered a workshop tailored to our industry, attended by 66 people. Overall the workshops were judged to be informative and useful. We offered this workshop for the first time in 2017 and will repeat it as required in the coming years.



Encouraging our employees to adopt a healthy lifestyle remains an ongoing concern for us. We provide fruit in our offices and give our staff the opportunity to make use of sports facilities. In addition, in 2018 we gave our office staff the opportunity to buy a bicycle in a tax-efficient way in an attempt to encourage our people to cycle to and from work.

It is more difficult to organise such options for the employees on board our vessels. Nevertheless, we try to give them the opportunity to get involved in sport, for instance by providing fitness rooms on board where that is possible. Since the work is physically demanding and the food therefore needs to be nourishing, we focus on nutrition and encourage healthy choices. We launched a structural collaboration with a dietician in 2016. In 2017 and 2018, she gave two workshops on board a vessel to talk to the crew and the chef about how to make healthier choices and how to reduce excessive physical strain and the risk of some diseases by losing weight. In 2017, the cover of the company care policy was expanded so that more employees were able to make an appointment with the dietician for individual advice.

We organised a ‘stub it out’ course in 2017 and 2018 to support employees who want to stop smoking. A total of 29 people took part. We hope that we will be able to encourage our people to stop smoking in the coming years too.

Another subject that has attracted more attention in recent years is a policy for older people on board. We would like to be able to offer something to crew members who would like to work less. We ran a ‘3-on-1-off’ rotation pilot project in 2018 on one



of our trawlers with a group of employees. That meant that after three trips at sea, they were always at home for one trip. It went down so well that all our seamen opted for this arrangement. The project was therefore deemed a success and we will consult with skippers and crews on other vessels in 2019 to see if there is a greater need for such rotation schemes.

WORKING WITH (FISHING) SCHOOLS

We believe it is important to inspire interest among young people in the fishing industry in general and our company in particular. Students from the fishing schools in Katwijk and Urk visited us in 2017 and 2018 to get to know our company.

The visits were supported by the ProSea foundation, which is committed to making sustainability and future-proofing a key part of fishing education by providing an annual week-long course entitled ‘Fishing with a Future’ at various fishing schools. We helped develop this course in 2016 and 2017 in collaboration with the Fishing Sector Council Foundation. Another valuable product of this collaboration was the supporting website www.vistikhetmaar.nl on which students can find guides on a multitude of (sustainability) issues in fishing.

In 2017, we approached the JINC in The Hague, a foundation that helps children by giving them a good start in the labour market. They focus on neighbourhoods with high unemployment and where children have few role models. Supported by the municipality and companies in the region, they give primary and pre-vocational school pupils an opportunity to get to know a company in their local area through taster work experience sessions. That way, the children get an idea of the possible careers that are open to them. In 2018, we expanded the collaboration to IJmuiden by joining forces with JINC Kennemerland. The preparations took place in 2018, with JINC looking for schools in IJmuiden that wanted to visit us, and the first taster work experience sessions will take place in 2019.

In addition to school visits co-ordinated by these organisations, we were also directly approached by two schools near IJmuiden in 2017 and 2018. We were able to offer a visit and tour of our company to these schools too. In 2017 and 2018, we welcomed a total of 276 students from all these educational institutions.

We want to improve and step up the collaboration with various educational institutions in the next few years.



Collin Ansink
Head of HR, Scheveningen



VISITING SCHOOLS

2017			
School	Month	Location	Number of pupils
Heldring College (via Jinc)	May	Scheveningen	10
Heldring College (via Jinc)	October	Scheveningen	10
Maris College Houtrust (via Jinc)	October	Scheveningen	8
Visserijschool Katwijk (Katwijk fishing school) (with ProSea)	October	IJmuiden	13
2018			
School	Month	Location	Number of pupils
Vellesan College IJmuiden	June	IJmuiden	82
Friese Poort Visserijschool (fishing school) Urk (with ProSea)	June	Scheveningen	34
Maris College Houtrust (via Jinc)	October	Scheveningen	12
Maris College Kijkduin (via Jinc)	November	Scheveningen	10
Friese Poort Visserijschool (fishing school) Urk (with ProSea)	October	Scheveningen	27
Heldring College (via SVV Gilde Plus)	October	Scheveningen	22
Nova College	December	IJmuiden	46



SPONSORSHIP AND DONATIONS

Our Care for People pillar relates not just to our own employees but also to the environment in which we operate and where our employees live with their families. One of the things we do is to support activities that a lot of people enjoy. For example, we are the (main) sponsor of a number of football clubs, with the focus on youth development, and we sponsor various other local sports clubs.

We also support a number of local foundations and initiatives that help improve social cohesion in the local community such as neighbourhood associations, Orange Societies and local cultural activities or institutions, some of which are fishing or port-related. We also support a number of national charities, including various cancer research organisations. Our sponsorship provided structural support to 39 different clubs and events in 2017 and 2018. We also made donations to five different charities, including one donation in kind.

CARE FOR PEOPLE AT MARISA

Marisa aims to grow the business in Suriname in a sustainable way. We want to contribute to society by creating local jobs and procuring as many products and services as possible from Paramaribo and the surrounding area. We have already made great strides in the last two years as Marisa has grown from some 75 to 100 employees. At present approximately half of the employees have been recruited locally.

The focus in the next few years will be on the sustainable employability of staff. Regulations on working conditions and safe working in Suriname are not as strict as, for example, in Europe. Marisa itself is developing a policy on this so we can ensure that people are exposed to as few accident and health risks as possible while working on board or in the plant. There will be great focus on improving risk awareness in the next few years too. Systematic and correct use of PPE such as safety shoes and gloves is an important part of this.

Technical modifications have also been made on board the vessels to improve working conditions. Conveyor and sorting belts have been installed on six of Marisa's vessels to move a large part of the work from the floor of the deck to standing height under a canopy resulting in a substantial reduction in the physical strain on the crew. Air-conditioning has also been installed in all the accommodation areas.



INVESTMENT IN FISH PROCESSING PLANT IN MAURITANIA

We have been fishing in Mauritania since the mid 1990s, initially at the invitation of the Mauritanian government and later under the EU-Mauritania Fisheries Partnership Agreement (FPA). There, too, our fishing has always been focused on fishing for human consumption and the vast majority of our catch ended up in markets within Africa. West Africa is rich in pelagic fish stocks, and by supplying these to the region we have contributed for decades to food security in Africa.

A large number of fishmeal plants have opened in Mauritania in recent years. This fishmeal is generally exported to countries outside Africa for processing as fish food or animal feed. The Mauritanian government wishes to create more jobs on land in the production of fish for human consumption. This fits in perfectly with our own vision and that is why we decided to invest in shore-based fish processing. In mid 2018, we opened the Cap Blanc Pélagique (CPB) fish processing plant and cold store in the port of Nouadhibou. The plant is supplied by the RSW trawler CUR-135 Cap Blanc. This plant makes us one of the first organisations to focus on local fish processing for human consumption.

The project is a great example of how we put our mission and CSR vision into practice. By investing in a plant on land, we are demonstrating our commitment to a long-term vision of keeping a presence in Mauritania. We are investing in healthy food for the population in the region and at the same time creating jobs with good working conditions in Nouadhibou. CBP employed around 100 Mauritians in 2018 and we expect this number to grow in the coming years.

In addition to investing in the new plant, we also contribute to local projects, training opportunities and fishing research. Examples include support for Rosa del Desierto, a local foundation that works to improve the living conditions of children from the poorest districts of Nouadhibou. CBP donates to these districts the locally produced fish that is still fit for human consumption but can no longer be sold. We also work with a local maritime academy by offering internships for young seafarers, thereby helping to develop knowledge locally. Knowledge about local fish stocks is also needed, and we contribute to this by accurately recording the fish landed in our plant.

LOOKING BACK, LOOKING AHEAD

This report covers our CSR work in 2017 and 2018. The descriptions of our activities under each pillar in the last four chapters give a great overview of our results. You can see how these results contribute to achieving our primary CSR targets in the tables on pages 50-53. In this final chapter we also look ahead to the future development of our CSR policy.

INTEGRATION OF CSR INTO OUR BUSINESS

In general we are very happy with the progress we are making. We can see that we are active on many fronts at once and that many people in our business are involved in CSR activities in their work, in one way or another. This shows that there is ongoing and continuing support internally for the CSR policy that we advocate.

Some results have also been achieved that cannot be assigned to a specific pillar, two examples of which are the construction of our new trawler and the opening of our new processing plant in Mauritania. We mention them here because they are good examples of how CSR has become an integral part of our business.



I hope that we will be able to inspire young people's interest in our company by showing that we take sustainability and future-proofing seriously.



Aukje Coers
CSR Manager



NEW TRAWLER DESIGN

In 2015, we started designing a new pelagic trawler with an internal project team. In recent years, a large part of the fleet has been refitted to comply with environmental standards. However, this team was commissioned to be forward-thinking and to come up with out-of-the-box ideas with a view to developing a new design. The new vessel will replace one of the older trawlers. The criteria for the design are that the new trawler must be more energy-efficient than the current vessels, have improved working conditions and be able to produce better quality fish.

We made good use of the knowledge and expertise within our business by collaborating closely with employees in different disciplines. Since developments have not stood still in recent years, we also looked outside our own four walls. We spent a year working closely with a design agency to brainstorm the possible options to achieve the aforementioned ambitions as best possible. As a result, the keel of the new CC-919999 Scombrus was laid in mid 2017.

Key aspects with which energy savings will be achieved are the diesel-electric, dual-propeller propulsion unit combined with a more efficient refrigeration and freezing system. The use of well-insulated horizontal plate freezers will result in much reduced loss of cold air. The expected energy savings per kilogram of fish produced will be approximately 15%.

The working environment will be improved by offering safer working conditions on the aft deck with a higher bulwark, a protective wall against weather and wind. The working environment will also be improved in the hold with the use of fork-lift trucks and automatic palletisers so the crew do not have to do as much lifting. The work will also be less physically strenuous on the processing deck because the horizontal plate freezers can be loaded and unloaded automatically.

We expect this innovative freezing method and the use of a modern sorting machine to enable us to supply a better product. The CC-919999 Scombrus is scheduled to be launched at the start of 2020.



CO₂ REDUCTION

Our CSR policy plans include targets for reducing our carbon footprint. Developments relating to the imminent ban on pulse trawling pose a major challenge to our demersal trawler fleet if it is to meet the targets defined in the policy plan. The development of a sustainable alternative to this fishing technique that can match the energy efficiency of pulse trawling is one of our greatest challenges for the coming years.

We are seeing obstacles to achieving the target reductions in pelagic fishing too. For instance, the highly energy-efficient refrigerant R22 is being phased out by law because of its harmful effect on the ozone layer. This is a good thing, but many of the approved alternatives are unfortunately less efficient, which means more fuel is needed to achieve the same output. Many of the alternatives also have a higher GWP.

So a reduction in one environmental impact results in another. Sometimes changes are imposed via legislation, and sometimes we have to take difficult decisions ourselves. We recently established a CO₂ working group drawing on knowledge from within and outside our business in order to weigh up priorities and to continue working on reducing our carbon footprint.

PRIORITIES AND CHALLENGES

We defined specific targets and designated activities when writing our CSR policy plans. We ourselves can exert influence on how those activities are carried out. However, experience shows that this does not mean that our targets will automatically be met as a result. External factors, beyond our control, can pose an obstacle to achieving positive results.

We also notice that contradictions can arise in practice when striving to meet different CSR targets. Efforts to make progress towards one target can have a detrimental impact on another. These sorts of dilemma demand careful consideration about how we set priorities. This section highlights a number of the challenges we have encountered or expect to encounter within the three priorities in our CSR policy.



CIRCULAR ECONOMY

Contributing to the transition to a circular economy is a priority in our CSR policy. We want to be smarter in our procurement of raw materials and supplies and make sure that our own residual and waste flows are (re-)used as far as possible. We have taken a number of steps in recent years to optimise our waste recycling. The working group (set up in 2018) continues to focus on this recycling and reducing our waste.

A specific consideration within this issue is the use of plastic. Public debate has resulted in recent regulatory developments such as the 2018 EU Directive to reduce the production and use of single-use plastics. For now, this only applies to a limited number of specific products, but logically many businesses are striving to reduce their use of plastic as a packaging material in general.

In the food industry - and hence for us - this throws up a very specific challenge because plastic has a number of important properties that ensure that products stay fresh. Sustainable alternatives of comparable quality are still in development. We will continue to address this issue and the related dilemma in the coming years. After all, we don't want to sacrifice the freshness of our products or facilitate food waste. We will keep a keen eye on the developments that are being devised in social initiatives such as the Plastic Pact.



SUSTAINABLE EMPLOYMENT

Sustainable employment is an important issue in our CSR policy. For our company this means that we are committed to providing a safe working environment, that we foster the health of our employees and devote attention to individual development. We want our employees to be engaged and to enjoy working for us and for them to be able to retire in good health.

Safe working and health will remain key priorities in the years to come. A healthy lifestyle is essential for our employees to stay healthy. As an employer, we choose to provide information and act as a facilitator. Ultimately it is up to individual employees to make choices and take advantage of what we offer. However, good health is essential to pass the medical examinations for working on board fishing vessels.

We will also continue to develop our policy for older workers in the coming years. What is important here is that employees can continue to do their work properly. One example might be to introduce more part-time working in the fleet. However, a consequence of this is that there must be a sufficient influx of (young) new blood and, of course, that we must also keep devoting attention to education and training in fishing.

Supporting education and taking training courses is important to the continuity and development of our organisation.

WHAT NEXT?

The CSR policy is now a permanent part of our strategic policy. In the coming years we will continue to write policy plans for the remaining business units, starting with our fish processing businesses. We will then also expand our reporting.

We are happy with what we have achieved to date in terms of raising awareness of CSR. We would never have been able to achieve the results outlined in this report without the input of our employees. Their engagement and initiative in the future too will be critical to our company's sustainable business strategy so it is important not to neglect internal communications, not least because our policy is evolving all the time. We want to continue to carry our employees with us as we embark on these changes.

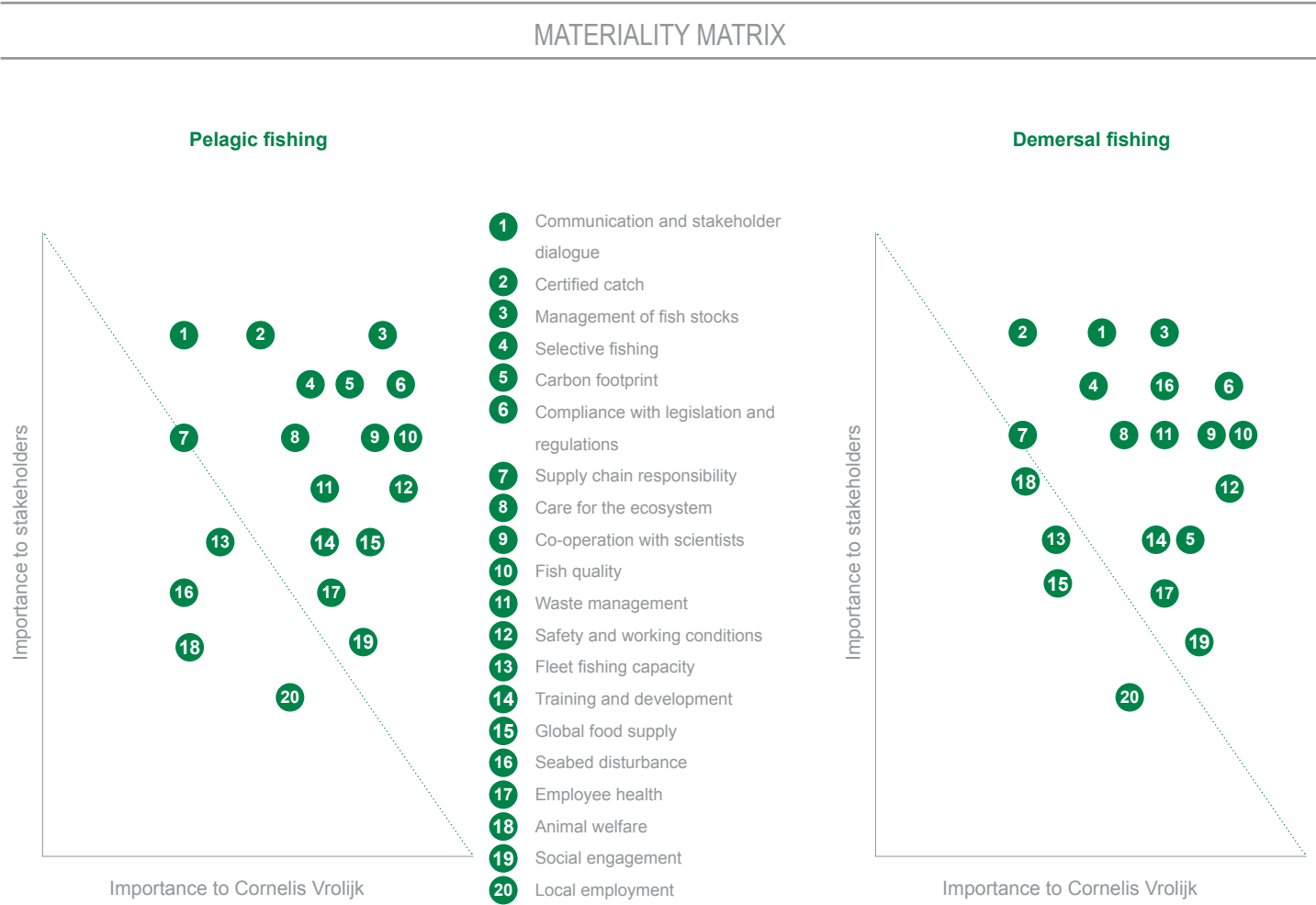
In terms of the implementation of CSR, we will continue along the path we have already started on. We will ensure that employees are engaged with CSR operationally too by creating working group for various CSR issues. We are positive about this form of collaboration and are therefore looking at whether such working group could be effective for other issues in the next few years.

MATERIALITY ANALYSIS AND STAKEHOLDER DIALOGUE

A few years ago we carried out materiality analyses as the basis for the development of our CSR policy. The diagram below shows the results of that analysis for both our pelagic and our demersal CSR plans.

A stakeholder dialogue is important for the development and amendment of our CSR targets. Since we started implementing our policy in 2016, we have consistently given our visitors a presentation about our CSR activities. We have found that the CSR section of our corporate presentation has often sparked an interesting dialogue. We very much welcome this because it gives us feedback about the issues that not just we, but also other people consider relevant.

For instance, we have noticed during various company visits that animal welfare is becoming more of a hot topic in fishing too. We will step up our stakeholder dialogue as time goes on in order to gather input to update our materiality analysis.



CONTRIBUTION TO OUR PELAGIC CSR TARGETS

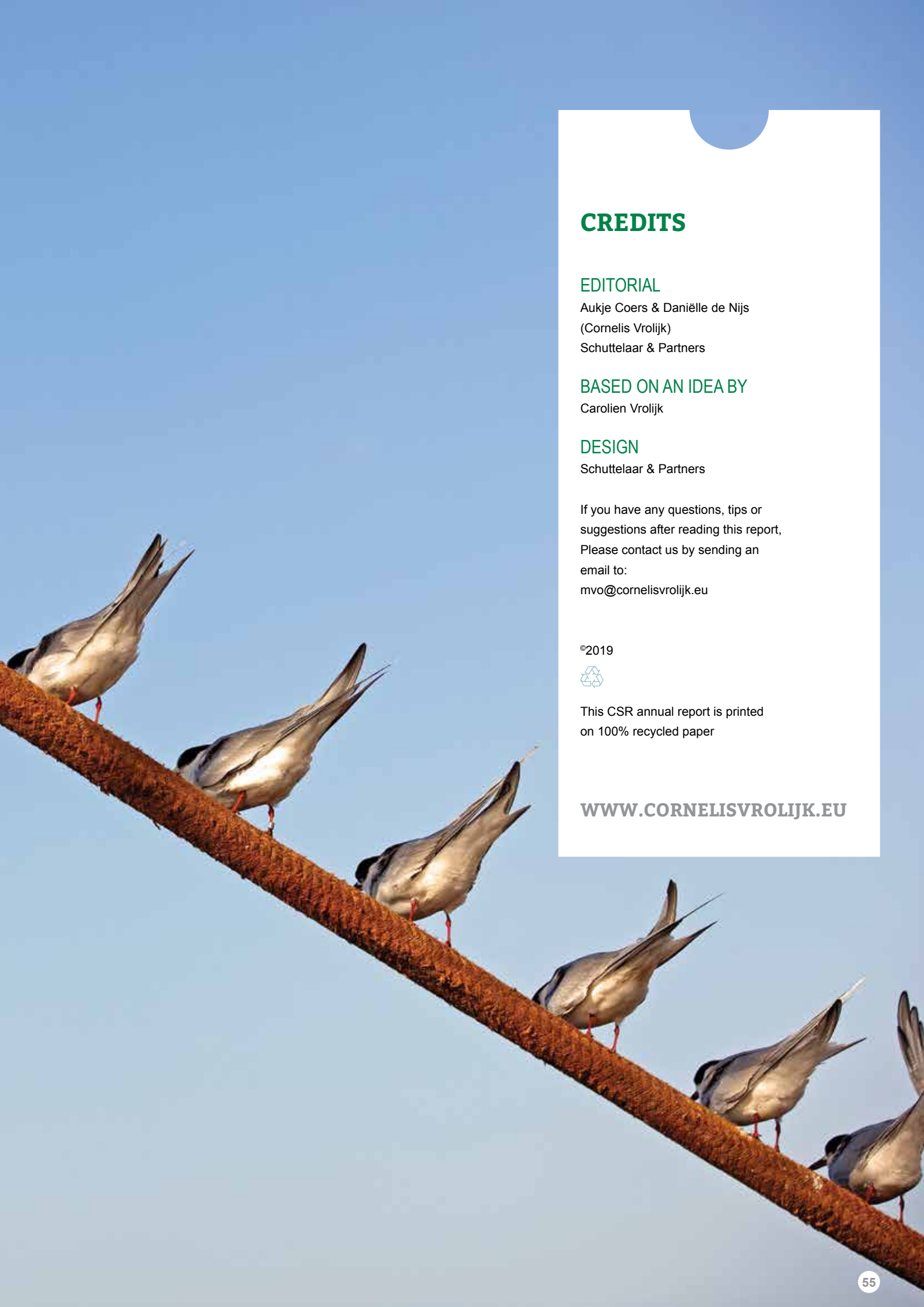
Pillar	Target 2021	Our contribution in 2017 & 2018	Status	Plans from 2019
 PILLAR 1: HEALTHY FOOD	<p>We work continuously to improve the quality of our products</p>	<ul style="list-style-type: none"> • New HACCP manual introduced for the trawlers • Monitoring software for quality managers refined • Joint meetings for quality managers organised 	<p>★★★</p>	<ul style="list-style-type: none"> • Introduce new processing technology on board the new vessel • Commission monitoring software in our entire fleet • Continue organising meetings for quality managers
 PILLAR 2: FISHING FOREVER	<p>We actively contribute to improving stock estimates and management plans</p> <hr/> <p>Compliance with domestic and international legislation is a matter of course and well-organised</p>	<ul style="list-style-type: none"> • Self-sampling of catch and data sharing extended to the entire fleet <hr/> <ul style="list-style-type: none"> • Digital manual of regulations completed and commissioned • Internal reporting on inspections at sea improved 	<p>★★★</p> <hr/> <p>★★★</p>	<ul style="list-style-type: none"> • Continue active participation in international forums to encourage development of management plans <hr/> <ul style="list-style-type: none"> • Perform more systematic analysis of reporting of inspections at sea
 PILLAR 3: DAILY SUSTAINABLE	<p>We have implemented a sustainable procurement policy and work with our supply chain partners to ensure the highest possible quality of reuse of materials.</p> <hr/> <p>Our carbon footprint at sea has been reduced by 10%</p> <hr/> <p>Our carbon footprint on land has been reduced by 20%</p>	<ul style="list-style-type: none"> • Procurement department expanded to provide more manpower for sustainable procurement policy • Recycling working group set up • Started recycling old nets to make socks • Contract signed with sustainable energy supplier <hr/> <ul style="list-style-type: none"> • Shore power in Scheveningen commissioned • CO₂ working group set up • Diesel-electric power unit chosen for new vessel <hr/> <ul style="list-style-type: none"> • LED lighting installed in distribution areas • Feasibility study into investing in expanding solar panels • R507 replaced with R407F in cold store at one site 	<p>★★★</p> <hr/> <p>★★★</p> <hr/> <p>★★★</p>	<ul style="list-style-type: none"> • Continue work of recycling working group • Research how to make use of plastics sustainable <hr/> <ul style="list-style-type: none"> • Study ways to make savings with CO₂ working group <hr/> <ul style="list-style-type: none"> • Study ways to reduce gas consumption
 PILLAR 4: CARE FOR PEOPLE	<p>Our safety and working conditions policy is up-to-date at all times to minimise the risk of accidents and we ensure that it is implemented correctly</p> <hr/> <p>We offer a wide range of guidelines to employees so they can improve their welfare.</p> <hr/> <p>We have a successful co-operation with (fishing) schools and have contributed to improving the quality of education</p>	<ul style="list-style-type: none"> • Safety councils introduced on the vessels • Reporting on accidents and near-misses improved <hr/> <ul style="list-style-type: none"> • Dietician workshops to encourage healthier choices together with chefs • Introduction of bicycle plan for office-based employees • Introduction of 'Stub it out' course and 'Grip op de Knip' workshops <hr/> <ul style="list-style-type: none"> • Welcomed approx. 300 students from various educational institutions • Collaboration with JINC The Hague 	<p>★★★</p> <hr/> <p>★★★</p> <hr/> <p>★★★</p>	<ul style="list-style-type: none"> • More systematic analysis of accident and near-miss reports • Continue introducing safety councils <hr/> <ul style="list-style-type: none"> • Continue developing policy on older workers • Improve support in the event of, and to prevent, absences due to mental health <hr/> <ul style="list-style-type: none"> • Continue co-operation with schools and invite students of (fishing) courses to visit our company • Expand collaboration with JINC to Kennemerland region • Develop additional activities to recruit interns

CONTRIBUTION TO OUR DEMERSAL CSR TARGETS

Pillar	Target 2021	Our contribution in 2017 & 2018	Status	Plans from 2019
 PILLAR 1: HEALTHY FOOD	<p>We work continuously to improve the quality of our products</p>	<ul style="list-style-type: none"> Started developing an alternative to the pulse trawling technique Constructed a new processing plant and ice factory at Marisa in Suriname 		<ul style="list-style-type: none"> Continue developing alternative to pulse trawling Commission new plant at Marisa
 PILLAR 2: FISHING FOREVER	<p>Our unwanted bycatch has fallen by 25%, helped by the development of innovations in nets</p> <p>Compliance with domestic and international legislation is a matter of course and well-organised</p> <p>In Suriname we have started to investigate the feasibility of obtaining MSC certification for one or more fish species</p>	<ul style="list-style-type: none"> Involved in development of escape panel for whiting Started development of a digital manual of regulations Implemented professional catch recording system Involved in developing TEDs 	  	<ul style="list-style-type: none"> Record our unwanted bycatch more accurately by fishing technique and by season Start collecting reports on inspections at sea centrally Record fines and violations Carry out or commission scientific analysis of our catch data
 PILLAR 3: DAILY SUSTAINABLE	<p>All waste that is caught in our nets while fishing is kept on board and deposited on shore.</p> <p>Our carbon footprint at sea has been reduced by 25%</p> <p>All vessels are fitted with LED lighting</p>	<ul style="list-style-type: none"> Joined the Fishing for a Clean Sea Green Deal Kicked off Fishing for Litter project Started developing an alternative to the pulse trawling technique Reduced use of synthetic refrigerants Two vessels fitted with LED-only deck floods 	  	<ul style="list-style-type: none"> Analysis of waste caught in the nets by our vessels and exploration of recycling options Continue developing alternative to pulse trawling Commission a baseline measurement of our carbon footprint Transition to more ecofriendly refrigerants Start replacing interior lighting
 PILLAR 4: CARE FOR PEOPLE	<p>The health and safety policy is up-to-date at all times and crew awareness of safety has been considerably improved</p> <p>We have a successful collaboration with (fishing) schools and have increased the influx of interns</p>	<ul style="list-style-type: none"> Revised Risk Assessments & Evaluations and plans Introduced new lifejackets PPE acquired by the company Welcomed over 70 students from the 'de Friese Poort' fishing school in Urk Launched collaboration with JINC 	 	<ul style="list-style-type: none"> More focus on the correct use of PPE Continue developing lifejackets and start developing better hard hats Organise practical drills to further improve safety awareness Develop additional activities to recruit interns

GLOSSARY

Beam trawling	fishing gear that holds the fishing nets open, comprising a steel tube with a slipper or shoe on each side that runs over the ground	Quota	proportion of the annual maximum quantity of fish that may be caught by law, per species and per area
Bycatch	fish that is caught other than the target species	RSW vessel	vessel containing tanks of cooled seawater (0°C) to store and cool fish immediately after they are caught
Demersal fishing	fishing for species that live on or near the seabed such as plaice, sole, gurnard, mullet and squid	Sampling	studying part of the catch to obtain scientific data
Demersal trawler	a fishing vessel engaged in demersal fishing	Seabed disturbance	contact with (disturbance of) the seabed by the fishing gear to a greater or lesser extent
Discard ban	law that mandates that all commercial target species subject to a quota that are caught must be landed instead of being discarded in the sea	Seine fishing	fishing technique in which the fish are surrounded by a net trawled over the seabed.
Fish stock	group of fish of the same species in a particular area that reproduce together (and not with other fish stocks)	Self-sampling	programme in which fishermen collect information about their catch themselves for scientific research, in accordance with the researchers' protocols
Fly shooting	fishing technique in which a large area of seabed is enclosed by long warps and a net. The warps are hauled in towards the vessel, the fish are kept within the warps by the turbulence and ultimately driven into the net	Spawning	the depositing and fertilisation of eggs by fish
Freezer trawler	trawler with freezer facilities and cold stores to freeze and store the fish on board immediately after it is caught	Spawning Stock Biomass	the quantity of fish in a fish stock (in tonnes) that can produce offspring
HACCP	Hazard Analysis and Critical Control Points. A risk assessment for foodstuffs	Stock estimate	estimating the size and condition of fish stocks based on collected data
Maximum Sustainable Yield (MSY)	the theoretical maximum possible catch that can be taken indefinitely from the stocks (without jeopardising the continued existence)	Stock management	making sure that fish stocks remain in good shape (i.e. of sufficient size)
Mesh	the opening in the fishing net formed and delimited by the fibres of the net	Stock size	size and condition of a fish stock
Mesh size	the size of the openings in the fishing net. Normally measured as the internal distance between two knots of the same mesh with the netting stretched lengthwise	Sumwing	a wing profile for a fishing net, steered by the tip, of which only a small part is in contact with the seabed. Energy-efficient innovation as an alternative to beam trawling
Otter trawling	fishing with nets in which trawl doors are secured at the sides to keep the fishing gear open in a horizontal orientation	Target species	the species of fish intended to be caught
Pelagic fishing	fishing for species that swim in schools such as herring and mackerel	Trawler	fishing vessel that fishes with a trawl net
Producer organisation	officially accredited bodies that represent fishermen and fish farmers. Responsible for the day-to-day management of the fishing industry and play a critical role in the EU's fishing policy	Trawling	laying out a fishing net, catching fish and hauling in the net
Pulse trawling	fishing technique in which flat fish are scared away from the seabed by weak pulses of electricity and swim into the net	Twin-rig trawling	fishing technique in which two horizontally-connected nets are trawled behind the vessel



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