FISHERIES REPORT 2024

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VISUAL MATERIAL

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Pier Nieuwpoort, Belgium.
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Photo p 2-3
A ship sails out of the port.
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Photo p 16-18
Smiling shrimp fishermen sort out the catch.
© VLAM

Photo p 26-27
Stuffed bell pepper with quinoa, tomatoes, cucumber and goat cheese with a slice of haddock.
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Photo p 34-35
Fresh shrimp are cooked.
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PREFACE

Our fisheries and aquaculture sector is characterized by innovation. The challenges are great. Scientists and fishermen work together to develop the best techniques and make our industry companies as efficient and sustainable as possible.

Shipowners invest in increasing safety and improving working conditions on board. More and more techniques are also being applied that result in reduced fuel consumption. Our research institutions are internationally renowned for sound research and development in aquaculture.

In this Fisheries Report 2024, you can read more about the European and Flemish (policy) framework and how the turbulent waters of recent years have affected the sector. The Common Fisheries Policy (CFP) is managed at the European level and financed by the shared EU budget. Our own regional emphases are also discussed.

We briefly reflect on the role of fishery and aquaculture products in our current diet. We also look ahead and illustrate innovation and renewal in the sector. These are key words in the Flemish policy on fisheries and aquaculture.

In the first half of 2024, Belgium will chair the Council of the European Union. This means that our country leads the European agenda and promotes cooperation between member states and EU institutions in order to make progress for fisheries and aquaculture in different areas, such as energy efficiency, innovation and the strategy towards non-European countries such as the United Kingdom.

Several summits and conferences also take place on the topic of fisheries.

Besides the formal Councils where European fisheries ministers meet, we also organize an Informal Fisheries Council and a meeting for the top officials. Fisheries and aquaculture are also addressed as a sustainable food source during the Open Food Conference.

Many staff members of the Agency for Agriculture and Fisheries, VLAM and ILVO contributed to this report. I thank everyone who contributed and wish you an enjoyable read.

Hilde Crevits
Deputy Minister-President of the Flemish Government
Flemish Minister of Welfare, Public Health and Family, responsible for Sea Fisheries

January 2024

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BACKGROUND

This is now the 5th edition of the Fisheries Report as a separate publication. In it, you will find a brief summary of the Flemish fisheries and aquaculture sector. It falls within the broader European context. We will additionally focus on the importance of the sector for food consumption as well as some of the innovations in the sector.

Only a limited number of figures and tables were included here. For more detailed information, we refer to our website www.vlaanderen.be/visserijcijfers, where you will always find the most up-to-date figures and descriptions.

A WIDE RANGE OF SOURCES

The Fisheries Report is the result of the processing and analysis of the available figures, both published and unpublished. No separate resource overview was drawn up. The source was either cited in the text or can be found at www.vlaanderen.be/visserijcijfers or https://lv.vlaanderen.be/visserij. As regards the figures, the final version of the report was drawn up in November 2023. That means that 2022 is the most recent, complete year that can be analysed. Be sure to check the figures-based website for the latest state of play.

A COLLABORATIVE EFFORT

The Fisheries Report is published by the Agency for Agriculture and Fisheries. Contributions were written, prepared or edited by:

- Agency for Agriculture and Fisheries: Jonathan Platteau, Tom Van Bogaert, Karel Vanhulle, Ludovic Devos, Dirk Van Guyze and Peter Blancquaert;
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The communication unit of the Agency (Seppe Bernar, Els Feytens and Nele Vanslembrouck) took care of the layout and final editing.

EUROPEAN POLICY

GLOBAL AND EUROPEAN PRODUCTION AND CONSUMPTION OF AQUATIC FOOD

To understand the context of Flemish, and by extension European, fisheries policy, we need the framework of global fisheries and aquaculture. Based on estimates by the United Nations Food and Agriculture Organization (FAO, 2022), global production of aquatic animals was about 178 million tons in 2022 - down slightly from the record 179 million tons in 2018. 90 million tons (51%) of this came from wild capture. Aquaculture contributed the remaining 49% (88 million tons). 63% of the total production came from marine waters. 89% (157 million tons) of the total volume of aquatic animals was used for human consumption, with most of the remaining volume being used for fish meal and fish oil. Furthermore, the global production of 36 million tons of algae (in wet weight) in 2020, 97% of which came from aquaculture (mainly marine), is also worth mentioning.

As regards the consumption of aquatic food, this rose in per capita terms by around 1.4% per year between 1961 and 2019, from 9.0 kg per capita to 20.5 kg per capita. Global consumption grew at an average annual rate which was nearly twice the annual rise in global population. Increases in supplies, changing consumer preferences, technological advances and income growth accounted for these per capita rises in consumption.

At the EU level, total aquatic production from fisheries and aquaculture was nearly 5 million tons in 2020, almost 3% of the global volume (EUMOFA, 2022). This makes the EU the 7th largest producer at the global level. In contrast, consumption at the EU level was 10.41 million tons in 2020, equating to 23 kg per capita. Internal demand for aquatic food in the EU is primarily met by imports, which cover around 70% of the total available quantity. Conversely, 20% of the available quantity in the EU is exported. (EUMOFA, 2023)

THE COMMON FISHERIES POLICY

To ensure economically, socially and environmentally sustainable fisheries and aquaculture, the Common Fisheries Policy (CFP) is a core policy instrument within the EU. Furthermore, this policy also aims to ensure supplies of sufficient, affordable and healthy (aquatic) food for the public, and a fair standard of living for fishing and aquaculture communities. The CFP governs the management of the European fishing fleet and aims to conserve fish stocks. To achieve this, it uses an ecosystem-based approach. (Regional) advisory councils, with representatives from both the fishing industry (60%) and other interest groups, are involved in decision-making. The common rules of the CFP, adopted at the EU level, apply to all Member States.

To tackle overfishing, the European Union works to bring about the sustainable management of its commercial fish stocks. In this regard, the European fisheries management relies on scientific data collected by EU member states. Every year in December, the Council of Fisheries Ministers negotiates the total allowable catches for the coming year and the maximum quantities of fish that can be caught by a specific fishery in a given area and during a given period. For this, the ministers start from a proposal by the European Commission, based on scientific advice from the Scientific, Technical and Economic Committee for Fisheries (STECF) and the International Council for the Exploration of the Sea (ICES). The allowable catch is translated into national quotas, and any unused quantities can be exchanged between Member States during the year (in order to maximise the quotas).

To support the ambitions for avoiding overfishing and make them feasible, while making fisheries practices more sustainable, the European Union has laid down several specific objectives in the CFP. Some of these present major challenges for the Flemish fisheries sector. In the first instance, there was an objective to bring the exploitation of all fish stocks to the level of 'maximum sustainable yield' by 2020 at the latest. There was also the introduction of the landing requirement by 2019 at the latest, to end discards by using more selective fishing techniques. However, this objective is so complex that it is a serious challenge to effectively implement it and put it into practice.

A SUCCESSION OF CRISES

Beyond the ambitious objectives of the CFP to realise sustainable fisheries management and healthy fish stocks, the European fisheries and aquaculture sector as a whole has been stricken by a succession of different crises in recent years.

In the first instance, there was Brexit, when the majority of the UK population voted to leave the European Union. Brexit became a fact on 1 January 2021 and the consequences for the European fishing fleet became clear: difficult access to UK territorial waters (only possible with a fishing permit from the UK), a gradual decrease (by 25% between 2021 and 2026) in the catch quotas shared with the British in UK waters, and practical implications for fishing vessels in UK waters due to the introduction of new UK fisheries legislation. Regarding access to UK waters and available catch quotas from July 2026, the situation remains uncertain at this time.

In addition to the uncertainty regarding the impact of Brexit in 2020, there was also an unforeseen and large-scale disruption to the social and economic fabric that year: Covid-19. Although the supply of fresh seafood initially remained stable, demand eventually fell as certain food services went out of business and sales markets were disrupted. The result was a sharp drop in fish prices. 2020 was therefore an unmitigated crisis year (VIRA, 2020).

Having barely recovered from these shocks, the fisheries and aquaculture sector faced a sharp rise in energy prices following Russia's invasion of Ukraine in 2022, which in turn sent food prices, among other things, sky-high.

Thanks to the flexible and rapid intervention of the EU institutions and national administrations, (financial) support mechanisms were devised for each of these crisis situations. During the period of falling demand for fishery products, a government-supported tie-up scheme was put in place. Supply was therefore temporarily slowed, and prices were supported at the same time. The government also provided support for higher costs following the crisis in Ukraine.

Despite all the difficulties, the economic resilience of the sector and its importance for the food supply remain the central focus.

THE FISHERIES POLICY PACKAGE OF 2023

On 21 February 2023, the European Commission presented its 'fisheries policy package'. This announcement included no fewer than four communications from the Commission: a report on both the implementation of the CFP and the application of the Common Market Organisation (CMO), the marine action plan and a communication on the energy transition of the fisheries and aquaculture sector. As regards the report on the implementation of the CFP, the European Commission was indeed required to report on the functioning of the CFP 10 years after it was reformed in 2014.

The proposed actions in the Commission's communications were intended to help the sector gradually adapt to the challenges of the future. Among other things, the objectives of the measures are to promote the use of cleaner energy sources, reduce dependency on fossil fuels as well as reduce the sector's impact on marine ecosystems (European Commission, 2023). In this regards, the Commission also aims to make an immediate contribution to the full implementation of the CFP, in coordination with EU Member States and stakeholders. At the same time, a link was made to the targets of the Green Deal (climate neutrality by 2050) and the EU Biodiversity Strategy 2030 (effective protection of 30% of marine waters). For the Flemish fisheries, the Marine Action Plan in particular is much-discussed in that regard, given the pressure on bottom fishing and the goal of phasing it out by 2030 in all marine protected areas (Rederscentrale, March 2023 fact sheet).

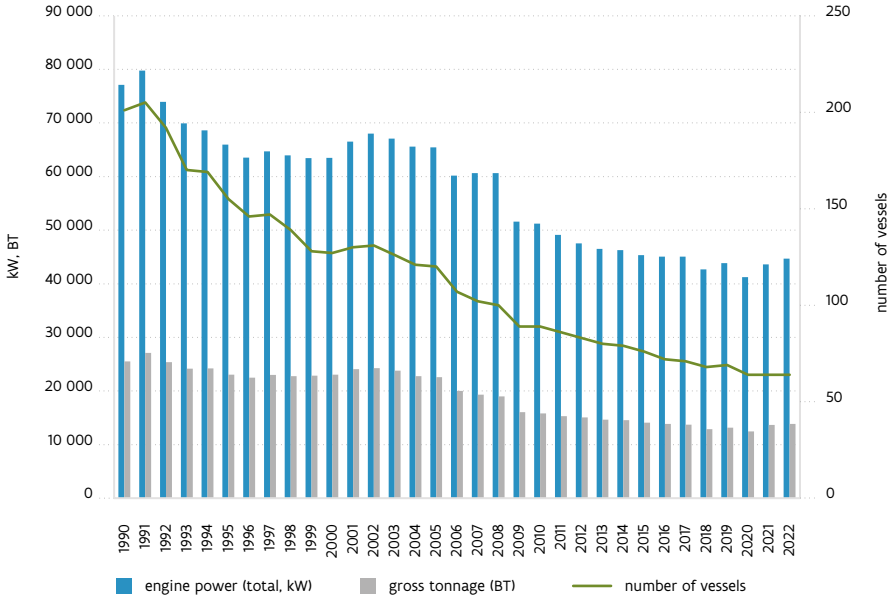
THE BELGIAN FISHERIES AND AQUACULTURE SECTOR IN FOCUS

To assess the specific impact of the CFP on the (broad) commercial Flemish fisheries and aquaculture sector, it is crucial to get an idea of its specific characteristics.

The Belgian fishing fleet consists of 64 active vessels (2022) and can be divided into two segments, each with just over 30 vessels:

- the small fleet segment (KVS in Dutch), consisting of vessels with a power of up to 221 kW that spend less than 48 hours at sea per voyage
- the large fleet segment (GVS in Dutch), a group of vessels with a power larger than 221 kW. Almost all vessels in the GVS are fitted with the beam trawl and have a power of 662 kW or more.

Figure: Evolution of the Belgian fishing fleet



Source: Fishing fleet | Agriculture & Fisheries (vlaanderen.be)

Beam trawling is the primary fishing method of the Belgian fleet (about 78% of landings in 2022). In 2022, the landings of the Belgian fleet amounted to 16,932 tons, with a landing value of €97.3 million. Around 386 people are recognised workers in the marine fisheries industry (as of 2022), with an average age of 40.4 years. Belgium does not have a professional small-scale coastal fishery.

Belgian fisheries are mixed fisheries, fishing multiple stocks simultaneously. The fleet clearly specialises in flatfish. Sole and plaice accounted for 14.4% and 13.7%, respectively, of the volume of fish landed in 2022. This was followed by cuttlefish and ray, with shares of 13.3% and 8.9% respectively.

Fresh fish is traded in three licenced fish auctions. The Vlaamse Visveiling (Flemish Fish Auction), a private company, manages the Zeebrugge and Ostend fish auctions and employs around 140 people. The Municipal Fish Auction in Nieuwpoort is negligible in terms of landing volume (3% of all Belgian ports), but important in the context of the local economy and coastal tourism.

As of 2017, the Belgian fish processing industry was made up of around 246 companies (65 of which had fish processing as their main activity), concentrated in Flanders around the fish auctions in Ostend and Zeebrugge. The companies with fish processing as their main activity employ nearly 1,300 FTEs and account for a total turnover of €662 million. Only five companies had 50 or more employees. In 2018, 46,448 tons of fish were processed in Belgium. The fish processing industry relies to a large extent on imported species (salmon, cod and trout) and less on local landings, primarily due to strict requirements in terms of stability of supply, volume and quality.

The Belgian aquaculture sector is small but diverse: production amounts to around 200 tons intended for human consumption each year, primarily fish, worth around €1.3 million. There are between 40 and 50 breeders, the vast majority of whom are artisanal trout producers based in Wallonia. Some of these producers also breed trout for non-human consumption. The Flemish production companies largely use modern facilities (e.g. Recirculating Aquaculture Systems, RAS) or are active in marine aquaculture and focus on a wide range of high-value species. The species produced in Flanders are freshwater cod, trout, pike perch, prawns, caviar (sturgeon), oysters and mussels. Total Belgian employment in the aquaculture sector is estimated at about 140 people (2022).

DIVISION OF TASKS AND RESPONSIBILITIES IN BELGIUM

At the national level, Flanders has exclusive competence for sea fishing in Belgium (Special Act of 8 August 1980 and Decree of 28 June 2013 on agricultural and fisheries policy) in Belgium. Policy preparation at the European and Flemish levels is carried out by the Fisheries service of the Agency for Agriculture and Fisheries. This service is also responsible for implementing EU policy at the national level, including designing regulations, among other things (Compendium Kust en Zee, 2023).

Scientific support is provided by the Flanders Research Institute for Agriculture, Fisheries and Food (ILVO). The Strategic Advisory Council for Agriculture and Fisheries (SALV) advises the Government of Flanders and the Flemish Parliament on agriculture and fisheries. Promotional campaigns are undertaken by the Flanders' Agricultural Marketing Board (VLAM). The only recognised producer organisation and professional association for vessel owners in the marine fisheries is the Rederscentrale. (Shipowners' Association)

As regards aquaculture, this is a competence of the regions in Belgium. The regions cooperate in monitoring the aquaculture policy at the European level and are responsible for drafting the multiannual sectoral national plan for the development of sustainable aquaculture. The latter also forms the basis for financial support to the aquaculture sector from the Belgian programme for the European Maritime, Fisheries and Aquaculture Fund (EMFAF, 2021-2027).

CHALLENGES FOR THE FLEMISH FISHERIES AND AQUACULTURE SECTORS

The Belgian fishing industry has faced various challenges in recent years.

Brexit and the Covid-19 crisis hit the industry hard, and are still fresh in the memory. Yet the industry has managed to cope with these crises and prove to be resilient.

But the storm has not subsided yet. As a result of Brexit, catch quotas will have to be renegotiated with the United Kingdom every year starting in 2026. Opposing interests at the negotiating table make for tough negotiations.

Furthermore, Belgian fishermen are already noticing the effects of climate change. As a result of the migration of certain fish stocks, available quotas may come under pressure. The climate issue and concern for a better environment are current issues that resonate within the fishing industry and more specifically in the beam trawling industry. On the one hand, one of the consequences of the Green Deal is that there will be more marine protected areas. On the other hand, the marine fisheries industry is facing increasing competition from various other industrial sectors, such as renewable energy generation. A major challenge in the future is to find a balance between these various players and interests. The industry is already making substantial efforts for the environment. In recent years, there has been a lot of focus on energy consumption and the impact on the sea bed. Making the fleet more economical and sustainable is a crucial key to the future of the industry. There is still significant dependency on energy prices. It is therefore essential to continue investing in future innovations that benefit both the environment and economic viability.

With a forward-looking policy that anticipates these challenges, the fisheries sector can also overcome them.

UNIQUE PARTNERSHIPS

In the first instance, addressing the challenges in the sector requires smooth cooperation and knowledge sharing among the main stakeholders involved in fisheries and aquaculture: policy, research, industry and other stakeholders.

Within the fisheries sector, this partnership is given substance by the covenant to promote a sustainable Flemish fisheries sector. The aim of this partnership is to help implement the 7 primary objectives of the 'Vistraject' (Fish project) report. This report was the result of the first Covenant, signed in 2011. In the meantime, with the covenant 'Op koers naar duurzaamheid' (On course to sustainability) (2021 - 2025), all partners (ILVO, Rederscentrale, Natuurpunt, the Flemish government and the minister responsible for Sea Fisheries) are already on their third edition (Department of Agriculture and Fisheries, 2023).

The 'Vistraject' aims to ensure that all commercial fish stocks remain within safe limits, via the following 7 primary objectives:

- Minimise the impact of the fishing fleet on the ecosystem;
- Protect nature at sea;
- Keep shipping companies economically viable;
- Safeguard small-scale and coastal fisheries;
- Build socially responsible fisheries;
- Attract new fishermen.

Organising the Covenant consists of a Task Force, a sounding board group and three teams (Connect, Renew and Strengthen). The Task Force sets out the substantive planning of the teams based on the Covenant objectives. The various teams are responsible for implementing the objectives using the three levels. The sounding board group consists of all stakeholders who work on implementing the Covenant and meets at least once a year.

The Quota Commission, which in principle meets on a monthly basis, is a specific commission within the Rederscentrale that advises on policy and the competent minister on the distribution and redistribution of fishing possibilities (TAC and Quota). Representatives of the Agency take part as observers, but the quota commission is organised and led by the industry. The advice is incorporated into the policy decisions of the minister.

There is also an active partnership within the aquaculture sector in which policy, research, industry and other stakeholders actively come together to share know-how and formulate policy-oriented advice: the Flemish Aquaculture Platform (VAP). Since 2012, the VAP has received the necessary operational funds to set up a forum where all stakeholders come together to promote the sharing of know-how on aquaculture in Flanders (VAP, 2023). The umbrella structure of the VAP encompasses:

- the Strategic Steering Board Aquaculture (SSAQ in Dutch): this core group ensures general steering for the VAP, including organising an annual symposium and formulating policy-oriented advice;
- the (online) information counter www.aquacultuurvlaanderen.be: this fulfils the central role as an information and advisory centre;
- the (broad) network of the VAP: this network consists of both a virtual part (the VAP website) and physical gatherings such as the annual Aquaculture Symposium.

PUBLIC PROMOTION CAMPAIGNS & 'VISSERIJ VERDUURZAAMT'

A crucial element to strengthen the local fisheries and aquaculture sector in the broad sense, including the fish processing sector and sales outlets, is the promotion of local and sustainably caught fish products. The Flanders' Agricultural Marketing Board (VLAM) organises public promotion campaigns to encourage the consumption of fish, molluscs or crustaceans caught by Flemish fishermen or aquaculture producers (VLAM, 2023). Through initiatives such as 'Lekker van bij ons' (Tasty Local Food) and the annual vote for 'Fish of the Year', consumers are inspired and encouraged to consume locally produced products (see also later in this report). The strategy and objectives of the VLAM are decided in consultation with the Sector Group Fisheries and Aquaculture, which includes various representatives from the sector.

The Belgian fishing industry itself has taken action in recent years to put its sustainability efforts in the spotlight and inform consumers about them, in particular through the 'Visserij Verduurzaamt' (Sustainable Fisheries) label. This accreditation is based on an objective and science-based tool that can measure and visualise the sustainability of fisheries activities. Since June 2018, the label has been visible on the auction clock of Belgian auctions, and we have also recently found it with fish sold at sales outlets for end consumers (Visserij Verduurzaamt, 2023).

FINANCIAL SUPPORT MECHANISMS IN FLANDERS

As mentioned above, the fisheries sector has faced various, major challenges in recent years.

Brexit has undoubtedly had the biggest impact on the Belgian sector. The adverse consequences on the fleet have been absorbed as much as possible by the Brexit Adjustment Reserve (BAR). The BAR resources provided financial support for various projects and measures to mitigate the impact of Brexit on our fleet.

In addition, the Covid-19 crisis was a major setback for the industry. As a result of this crisis, the hospitality industry was shut down. This prompted a sharp fall in demand for fishery products, with the result that fishing vessels made a loss on every voyage. As compensation, the Flemish Government introduced the temporary tie-up system. This was funded by the Financing Instrument for the Flemish Fisheries and Aquaculture Sectors (FIVA). This ensured that vessels were not sailing at a financial loss, and at the same time guaranteed continuity of supply at auctions (and more stable prices).

2023 saw the approval of the Flemish legal framework for the implementation and management of the Flemish section of the Belgian programme for the European Maritime, Fisheries and Aquaculture Fund (EMFAF) 2021-2027. The necessary conditions for the granting of FIVA and EMFAF support were laid down in a Government of Flanders Order of 16 June 2023, and an accompanying Ministerial Decree of 20 June 2023.

The EMFAF programme 2021-2027 aims to promote sustainable fisheries and conservation and restoration of aquatic biological resources, as well as sustainable aquaculture activities and processing and sales of fisheries and aquaculture products. This will contribute to food security and promote the coastal community. In addition, options were introduced to efficiently and effectively roll out the necessary measures in crisis situations. The focus remains on resilience and, with the challenges of recent years in mind, sustainability and digitisation in the programme. Sustainable and high-quality local food is an important pillar of the programme. This guarantees a stable and continuous supply of Belgian fishery products. By strengthening the local fishery chain, this contributes to the EMFAF priority of creating food security in the European Union.

Information sessions on the EMFAF support are organised by the Agency for Agriculture and Fisheries for the various stakeholders in the fisheries and aquaculture sector. These can always be found on the website of the Agency for Agriculture and Fisheries (https://lv.vlaanderen.be).

FROM GREEN DEAL TO FLEMISH FOOD STRATEGY

In 2019, the European Commission announced its ambition to make Europe the first climate-neutral continent by 2050. A series of policy adjustments should ensure that by 2030 our net emissions of greenhouse gases are 55% lower compared to 1990. Anthropogenic global warming, and its effects on people, animals and nature, calls for action to reduce the impact of human activity on the climate and make a just transition to a climate-neutral economy that ensures the long-term prosperity and well-being of citizens.

The major targets of the Green Deal are set out in the European Climate Law, which was adopted by the European Parliament and the European Council in 2021. According to the law, climate neutrality is achievable in Europe by reducing greenhouse gas emissions, investing in green technologies and protecting the natural environment. The law should ensure that all EU policies contribute to this target and that all sectors play their part.

One of the main actions of the Green Deal relates to food. This is not surprising, since around one third of the world's greenhouse gas emissions come from food systems. Around 20% of food in the EU goes to waste. Moreover, more than 50% of adults are overweight. With the "Farm to Fork" strategy, the EU aims to offer an integrated solution to the challenges of making the European food system future-proof by 2030.

The EU aims not only to ensure sufficient, affordable and nutritious food, but also to facilitate the shift to healthy and environmentally-friendly diets. They want to achieve this by reducing overconsumption, preventing food waste and shifting to more plant-based diets through the protein strategy. Actions targeting the food environment, such as the information on packaging or the offering in government catering, should support this ambition. There is also a focus on climate-friendly and environmentally sustainable production, with objectives relating to fertilizers, improving animal welfare and food safety. The Farm to Fork strategy is aligned with the EU Biodiversity Strategy: the two are even mutually reinforcing.

Building on the efforts and ambitions at the international, national and local levels, the Flemish government has devised a food strategy. Since food affects us all and the many challenges are interconnected, a dynamic systematic approach is called for. Food is shown in a broader context in this regard, and the interaction between elements is included. This is only possible through collaboration: a broad food coalition has been set up, with representatives from the agri-food chain, society, research and policy.

On 29 November 2022, the Flemish Minister of Agriculture and Food unveiled the Flemish food strategy Go4Food. The strategy offers guidance for a more resilient and sustainable food system, and works to address challenges relating to food in terms of health, environment and climate, social connection, innovation and economic resilience. The strategy is built around four pillars: healthy and sustainable food for all, a food system within ecological limits, 100% towards a resilient food economy and connection from farmer to citizen. These are split up into 19 objectives. The four pillars are centrally linked and approached through a systems approach. The strategy is fleshed out through commitments by partners, in the form of food deals relating to issues such as fair prices, healthy and sustainable food environments and agro-ecology.

In addition, Flemish partners from government, agri-food chain and society are also working together in other ways around food. Examples include the Flemish protein strategy 2021-2030, the food waste and biomass action plan 2021-2025, the working agenda food chain within Circular Flanders, the research agenda FIT4Food 2030 Policy Lab, etc.

Also in the field, many projects are already underway within the agri-food chain (from agriculture and fisheries to the food industry to catering, hospitality and retail), and citizens and civil society organisations are also launching initiatives to work toward a better food system. Within the food strategy, a project subsidy has been awarded to food changers who are involved in a variety of issues, from empty lunch boxes in schools to entrepreneurship in the area of sustainable food, to popular solutions to waste food streams.

FISH CONSUMPTION AND THE CHOICE OF FLEMISH CONSUMERS

CORONA AND INFLATION ARE PUSHING UP FOOD AND HOUSEHOLD SPENDING

Following the atypical Corona period, consumers faced surging inflation in 2022, which peaked in October (12.3%). Food inflation, which had risen above 14%, thereby exceeding general inflation, stagnated in December. Total food and household spending in Flanders rose 1.8% to €17.1 billion in 2022 and was 15% higher than before Corona (2019). Spending growth of 1.8% in 2022 was due to a 4% fall in volume and a 6% increase in the average price. In turn, this increase in the average price was due to inflation of 8.4% and downtrading of 2.4%.

Volumes are therefore under pressure and the people of Flanders are trying to compensate for the high inflation by looking for cheaper alternatives and/or channels (downtrading). Hard discounters[1] and private labels are benefiting from the situation. Contrary to what might be expected, it was primarily buyers from the higher social segments who scaled back their food spending in 2022 (-3.7%). Compared to the previous year, they once again went to restaurants more often, but watched their pennies in the supermarket. The lower middle segments kept their food spending at the same level, and the lower social segments actually increased their food spending by 3.5%. Due to the Corona crisis (more home consumption) and high inflation, food and household spending is now 12.8% higher than in 2019.

[1] The market research firm GfK Belgium collects insights on the purchasing behaviour of Belgian consumers through a representative panel of 6,000 families who transmit data via a scanner on what products they purchase, how much they spend on them and where they buy them. This provides a continuous measurement of the household consumption of families.

For consumption outside the home, the VLAM/iVox consumption tracker is used as the source. This consumption tracker charts the consumption behaviour of 7,300 Belgians both at home and outdoors.

In terms of distribution, GfK uses a new classification, whereby AD Delhaize, among others, is counted among DIS 1 instead of among neighbourhood supermarkets. Below is the new definition for distribution channels:

- DIS 1: AH, CARREFOUR HYPER//MARKET/ALMA, COLRUYT laagste prijs, CORA, DELHAIZE AD/DE LEEUW, INTERMARCHE, JUMBO AND MATCH
- HARD DISCOUNT: ALDI AND LIDL
- NEIGHBOURHOOD SUPERMARKET: ALVO, CARREFOUR EXPRESS/CONTACT, CASH FRESH, DELHAIZE CITY/PROXY, LOUIS DELHAIZE, OKAY, PROFI, ROB, SMATCH, SPAR, SUPRA, etc.

HIGH FISH PRICES WEIGH ON FISH PURCHASES FOR HOME USE

Demand for fish is price elastic, meaning that demand falls relatively more than the price increase. The average price of the total category "fish, molluscs and crustaceans" in Flanders rose by 5.6% in 2022, prompting the purchased volume per capita to fall by 10.1%; The total per capita spending on fish, molluscs and crustaceans fell by 5%. Compared to 2019, there was still 4.6% growth in sales, but the volume sold was under pressure (-7% compared to 2019). Smoked fish suffered the biggest volume losses last year at 18%, followed by fresh fish (-13%). Fresh molluscs and crustaceans (-5%) fell less than average.

In 2022, the people of Flanders people bought 8.44 kg of fish, molluscs and crustaceans (fresh, frozen and processed - including fish salad and tinned fish) worth €122.59. More than half of this was purchased fresh. The people of Brussels are the biggest fish eaters, buying 0.5 kg of fish, molluscs and crustaceans more than the Flemish and 0.6 kg more than the Walloons. The Walloons eat relatively more tinned fish than the Flemish, who prefer fresh fish.

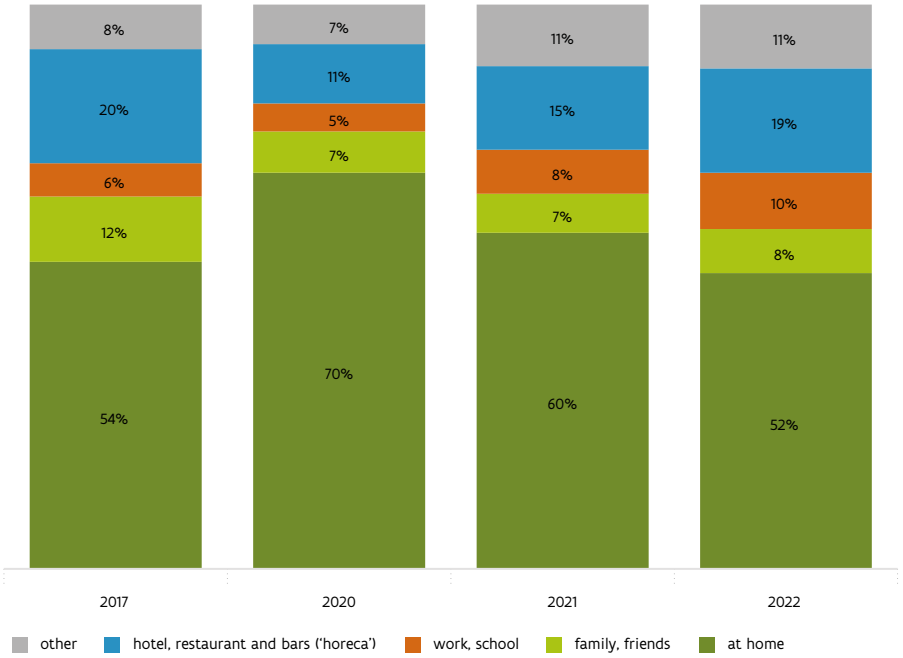
THE FLEMISH ARE STILL MEAT EATERS

The daily penetration for the total meat category (incl. poultry, game, processed meats and meat snacks) rose slightly in 2022 (from 80% to 81%). For the total fish category (incl. smoked fish, fish in jars, etc.), we observed a fall (from 17% to 15%) in 2022. The percentage of Belgians who ate completely vegetarian (no meat or fish that day) on an average day in 2022 also fell slightly from 15% to 14%.

SHIFT FROM CONSUMPTION OF FISH AT HOME TO CONSUMPTION OUTSIDE THE HOME

As with total consumption, we see another shift, from home consumption of fish to consumption outside the home in 2022. 52% of the times we ate fish, molluscs or shellfish last year were at home. This is a lot lower than in the corona years of 2020 and 2021 (70% and 60%, respectively) and even slightly lower than in 2017 (54%). The consumption outside the home of fish, molluscs and crustaceans is therefore highly significant. 19% of the times we eat these seafood products, it is at a restaurant (horeca), 10% of the times at work/school, 8% at family/friends and 11% of the times happen at other places (including function rooms, events and festivals). We primarily eat salmon at home. We eat cod and mussels relatively more outdoors. Among processed fish, fish croquettes are a typical product eaten outside the home.

Figure: Consumption places for fish, molluscs and crustaceans (in % of the number of eating moments)



Source: iVox /VLAM consumption tracker

THE FLEMISH ARE BIG MUSSEL EATERS

The Flemish love mussels. Consumption of mussels at home in Flanders is 1.4 kg per capita. Add to that 40% eaten outside the home and the total mussel consumption comes to 2.5 kg per capita. This puts Flanders at the front in Belgium, on a par with the southern European countries.

Peeled grey shrimp (€43.5/kg) were sharply more expensive in 2022 (+15%) and lost quite a few buyers in Flanders. In contrast, unpeeled grey shrimp rose only 6% in price and retained their buyers.

Overall, the Flemish bought an average of 1.97 kg of fresh molluscs and crustaceans. Over three-quarters of Flemish families buy fresh molluscs and crustaceans, 7 times a year on average.

COD AND SALMON ACCOUNT FOR MORE THAN HALF OF FISH SALES

The two classics, salmon and cod, together account for more than half of fresh fish sales in Flanders. Salmon continues to grow and already accounts for 30% of fresh fish sales. All North Sea fish combined, excluding cod, account for 34% of sales and the other fish species account for the remaining 15%.

DIS 1 MARKET LEADER IN TOTAL FISH MARKET IN BELGIUM

With a 50% market share, DIS 1 is the clear market leader in the total market of fish, molluscs and crustaceans in Belgium. Hard discount is the second most important outlet with a 24% market share. Specialty fishmongers have a stable 10% share and the neighborhood supermarket fluctuates around an 8% market share. The public market accounts for 4% of the fish market. E-commerce is also growing for fish, but remains small, with a 1% market share.

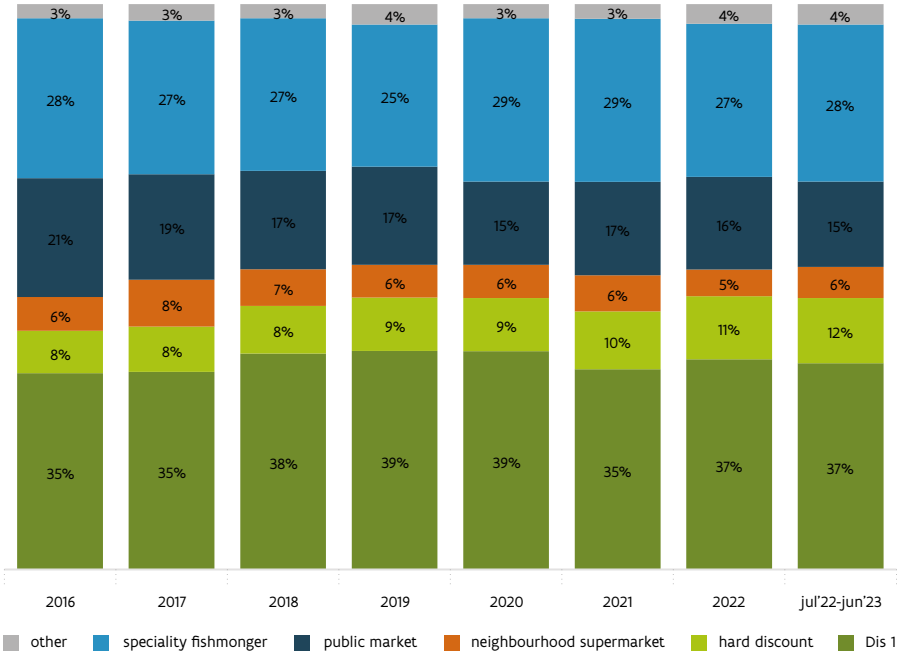
SPECIALIST FISHMONGERS IMPORTANT FOR NORTH SEA FISH IN FLANDERS

In Flanders, specialty fishmongers and the public market for fresh fish and for North Sea fish[2] are relatively more important than in the rest of the country. For fresh North Sea fish, specialty fishmongers have a 28% market share here and the public market has a 15% share. Specialty fishmongers and the public market therefore together account for 43% of fresh North Sea fish sales in Flanders, making them more important than DIS 1 (37%). Hard discount (12%) and neighbourhood supermarkets (6%) are smaller players for North Sea fish.

2 North Sea fish (excluding cod): this includes the following fish species measured by GfK namely brill, herring, halibut, dogfish, coalfish/pollock, ling, monkfish, young herring, mackerel, gurnard, ray, redfish-seabream, dab, haddock, plaice, sprats, turbot, sole, lemon sole, whiting, sea bass, mullet and catfish.

In the fish calendar, VLAM indicates for each month which fish are in sufficient supply.

Figure: Share of distribution channels for fresh North Sea fish in Flanders (% based on volume)



Source: CPS GfK Belgium and processing by VLAM

INNOVATION: PUZZLE PIECES FOR THE FUTURE ARE STEADILY COMING TOGETHER

Hilde Crevits: 'In fact, you can regard our small Belgian fishing industry as one big living lab, where sustainability is being created organically and iteratively. The transition here is based on goodwill and shared expertise in the sector, is valued because of demand-driven innovations in science, positive guidance from NGOs and actively encouraging local policies. Europe can - and should - see what is being achieved here. We can provide inspiration for alternative policy choices'.

BUILDING AND SHARING KNOWLEDGE TOGETHER WORKS

Marine scientific research into sustainability in the fisheries sector in Belgium is primarily focused on well-known, difficult-to-solve challenges such as seabed disturbance, fuel consumption, discards or the more general demand for a knowledge-driven sustainability transition.

In recent years, great strides have been made toward a broader, smarter, more diverse fisheries sector. Digital tools, biotechnological methods, new fishing and aquaculture techniques and comprehensive biological explorations of new species have been deployed to this end. This is how we will achieve a fisheries sector that faces the challenges, embraces the future, and remains resilient to the times.

"It is primarily the co-creative stakeholder consultation, based on trust, that opened the door to the acceptance and enthusiastic use of the innovative tools," explain the partners involved.

SOME EXAMPLES:

Sharing data via VISTools: unique in the world

In real time, data from the vessel (location, speed, fuel consumption, pulling forces, catches, fish sizes and species) flows from the vessel to the cloud. From there it continues (and returns) to the skipper's dashboard, the shipowner, the scientist, but then combined with additional relevant data sets and converted into actionable information. As of the end of 2023, 38 of Belgium's vessels will be equipped with this system.

VISTools started 6 years ago as an idea by Pedro, a fisherman on the fishing vessel Z 483 Jasmine. He successfully linked all the instruments that produced data to his laptop. 'My cable connections looked like a plate of spaghetti!' The ball continued to roll thanks to the ILVO's input: software was created to make the processed output relevant and clear.

For the fisheries sector, science, policy and the environment, the development of this digital system that is based on data sharing agreements, is a win-win. The skipper sees how he can sail more economically. In the nearby future, he will see how to avoid sensitive fishing grounds, and where the interesting volumes of fish are. For scientists, the detailed set of up-to-date catch data can change the system of estimating fish populations. This gives a more reliable and representative basis to the annual allocation of fish quotas.

Hans Polet (Head of marine research at the ILVO): 'This real-time data mining can result in measurable optimisations in the fisheries and reduced impact on vulnerable seabeds. And also a realistic ecosystem approach in the field.'

Catch prediction software in sight

This app uses the most up-to-date fishing data from the vessels as well as other data on the presence and migration of fish. A dual added value is expected: fishing vessels find their target species with commercial value more efficiently. The marine ecosystem suffers less damage because sensitive areas are filtered from the advice. Indeed, the software can tell where the small fish are which need to be avoided, and where any protected or endangered species (also to be avoided) are located.

In the near future, cameras with AI species recognition software on board will be the icing on the cake for an app that shows the presence and migration of fish on a map. Fishing vessels will therefore find their target species with commercial value more efficiently. The marine ecosystem benefits because areas where a protected or endangered species is detected are filtered from the real-time advice. This AI species recognition software is currently being trained at the fish auctions.

Even biomass with eDNA can be ascertained

Animals leave their DNA (scales, fluids, reproductive cells, ...) in the water column. For sole and plaice, important species for Belgium, ILVO researchers also successfully calculated the biomass of the local flatfish population using the eDNA concentration in a water sample. This technique will soon be useful in the southern Celtic Sea, where Belgium has fishing grounds. Using traditional monitoring, it is not known what the sole stocks are there, which prompted the EU to impose a low catch quota as a precautionary measure. The eDNA analyses now provide a sharp biomass picture of the sole stocks there.

ECOSYSTEM APPROACH TO FISHERIES MANAGEMENT

The sustained sustainability processes within the 'Covenant' described earlier are beginning to move towards an integrated ecosystem approach to fisheries management. Building blocks are the scientific data collection, the business tools for shipowner and skipper that draw from it, the rapid quota advice, the ecosystem data that follow from on-board cameras, and good cooperation in the fisheries sector.

More and more, there is a modern form of fisheries management, in which scientist and fisherman play a more direct role. The Belgian fleet, with its small size, its wide range of fishing grounds and its (globally) unique advanced data collection an ideal 'living lab' to test out new forms of management. The Belgian fleet is ideal for a pilot project to test out more inclusive, positive and genuine change based management. Off our coast, things are getting crowded: wind farms, marine protected areas, solar panels at sea... and coastal fishing. ILVO and VLIZ (Flemish Institute for the Sea), together with all parties involved, are making a qualitative analysis of possible earning models and a vision of the future. The aim is to establish an annual seasonal calendar of seasonal fish and select the appropriate fishing vessels and fishing methods to catch those species, in the appropriate season, in an efficient and sustainable way so that we can offer tasty, day-fresh and local fish. An added value is involving chefs to make fish something special make. All this is an added value for coastal residents and tourists.

Shellfish cultivation, from research to business

Various scientific experiments and marine pilot plants in recent years resulted in robust knowledge as regards the best possible technical and economic approach to local mussel cultivation. 'We have developed a mussel cultivation system that lasted an impressive 6 years in the open sea, without the line breaking or lost buoys. The mussels grow really well in our nutrient-rich North Sea, with meat values above 40%, while Zeeland mussels are at 25-30%,' explains aquaculture expert Daan Delbare (ILVO).

Backed up by this know-how, the Colruyt Group started a commercial sea farm in Westdiep. The first harvested batch of 12 tons of Belgian mussels sold out in three weeks.

Shrimp, cuttlefish, algae … chains with potential?

A wide range of stakeholders are interested in researching new forms and species of aquaculture. The considerations in terms of multi-use, co-use or co-existence play a role in feasibility in this regard.

We saw one promising result in a study project into (combinable) passive fishing: here they are testing a selective technique with limited by-catch, where marine animals are lured to and caught in pots on the sea bed. During attempts to improve baiting techniques with light, sound and scent around the capture cages, the researchers discovered the positive effect of fluorescent yarn. Thanks to this yarn, one can catch up to 10 times more cuttlefish.

A veritable aquaculture first has been achieved for the grey shrimp: the crustacean can now be sustainably and successfully bred in captivity. Temperature, housing, feed, density, pumping system, all growth and reproduction stages are under control and under protocol. It takes less than a year to go from seed to a 7-cm adult shrimp. In other words, larger than the shrimp currently caught, and perhaps as a result, an interesting niche in top restaurants: fresh, raw, large, Belgian shrimp from aquarium to plate.

Since 2022, the month of May has been 'algae month' in Flanders. This (new) aquatic food ingredient is then in the centre of attention. The ILVO, together with international partners, is behind it all. As such, unique, scientifically validated flavour profiles for microalgae and algae have been created. This is highly interesting for creative chefs. Indeed, seaweeds and microalgae have huge potential as a protein-rich food source, as they contain healthy omega 3 fatty acids, vitamins, minerals and antioxidants in addition to all the essential amino acids. Flanders is focusing on circular cultivation, using residual or side streams from the agri-food industry as raw materials.

KEY FIGURES[3]

ACTIVITY OF THE FISHING FLEET (VERSION 24/10/2023)

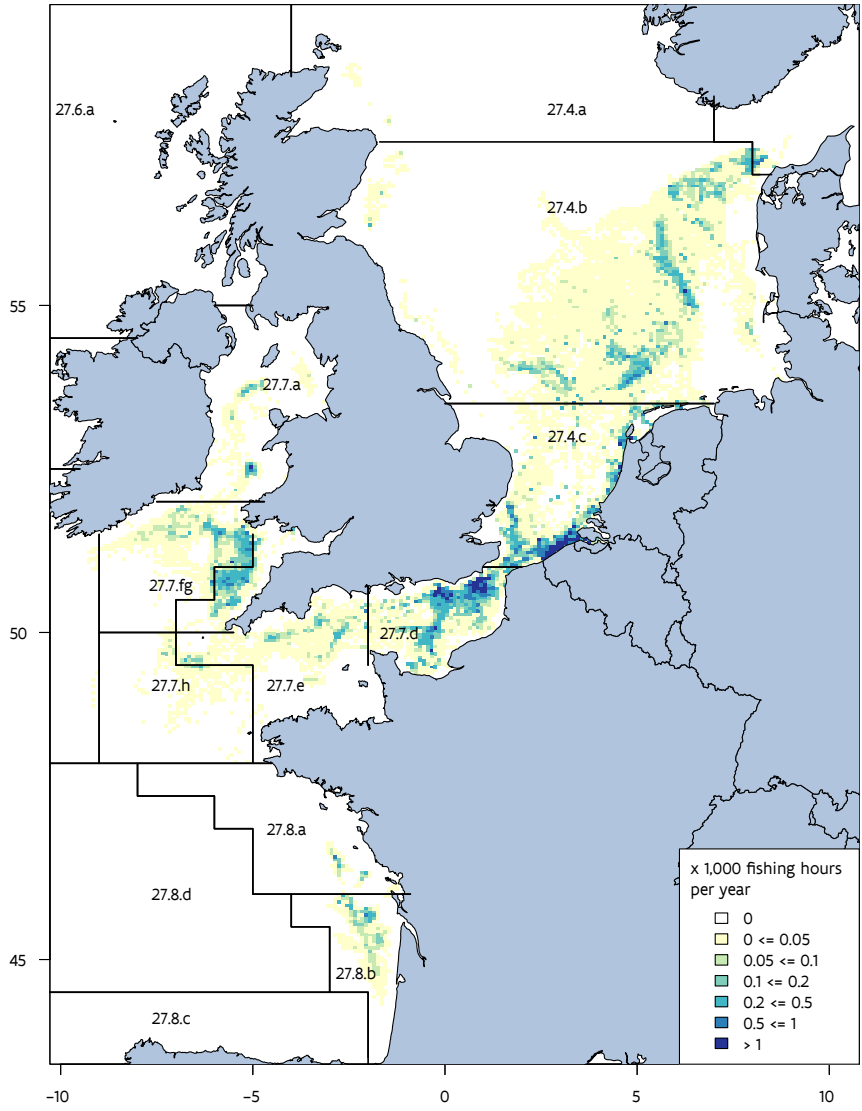
With a coastline of 67 km, the Belgian part of the North Sea covers around 3,454 km^2, 0.5% of the surface area of the North Sea. 1,430 km^2 belongs to the territorial sea (the twelve-mile zone). The demarcations of the territorial sea and the Exclusive Economic Zone (the boundaries of which coincide with the Belgian Continental Shelf) were established with neighbouring countries in treaties and upheld by Belgian laws. Belgian vessels fish in the Belgian part of the North Sea, as do vessels from the Netherlands.

The Belgian fishing fleet is highly active in various EU waters, including the North Sea, the western waters and the Bay of Biscay. The fleet has access to the coastal waters of the Netherlands and in certain strips with historic rights in the six- to 12-mile zone of the United Kingdom, Ireland, Denmark and France.

In 2022, the Eastern Channel (7.d) was the main fishing ground for the Belgian fisheries, with a 28% share of landings in domestic and foreign ports. This was followed by the Central North Sea (4.b) (18%), South-East Ireland (7.g) (15%), the Southern North Sea (4.c) (13%), the Irish Sea (7.a) (8%), the Bristol Channel (7.f) (8%) and the Western Channel (7.e) (7%). A total of less than 1,000 tons was caught in the other areas.

[3] On the figures-based website Visserij | Landbouw & Visserij (vlaanderen.be) you will always find up-to-date information on these indicators, but also on fish quotas, annual average fish prices, consumption of fish products, profitability of the Belgian fishing fleet, landing value of fish, workplace accidents in the fisheries, licensed marine fishermen, the fishing fleet, monthly average fish prices, supply balance of fishery products, etc. You will also find the latest publications relating to the fisheries.

Map: Activity of the Belgian fishing fleet in ICES areas, 2020-2022.



Source: ILVO based on Department of Agriculture and Fisheries (Agency for Agriculture and Fisheries)

FISH LANDINGS

Total landings from the Belgian commercial marine fisheries in 2022 were 16,932 tons. This is a rise of 1.5% over the previous year.

In 2022, total landings from the Belgian commercial marine fisheries were 16,932 tons. This is 1.5% more than in 2021 and the first rise since 2016. The falling trend over the period 2016-2021 is related, firstly, to the available quota. Secondly, the trading year 2020 was disrupted due to the Covid-19 crisis: part of the decline can be attributed to the tie-up compensation made available to the fisheries sector in this context.

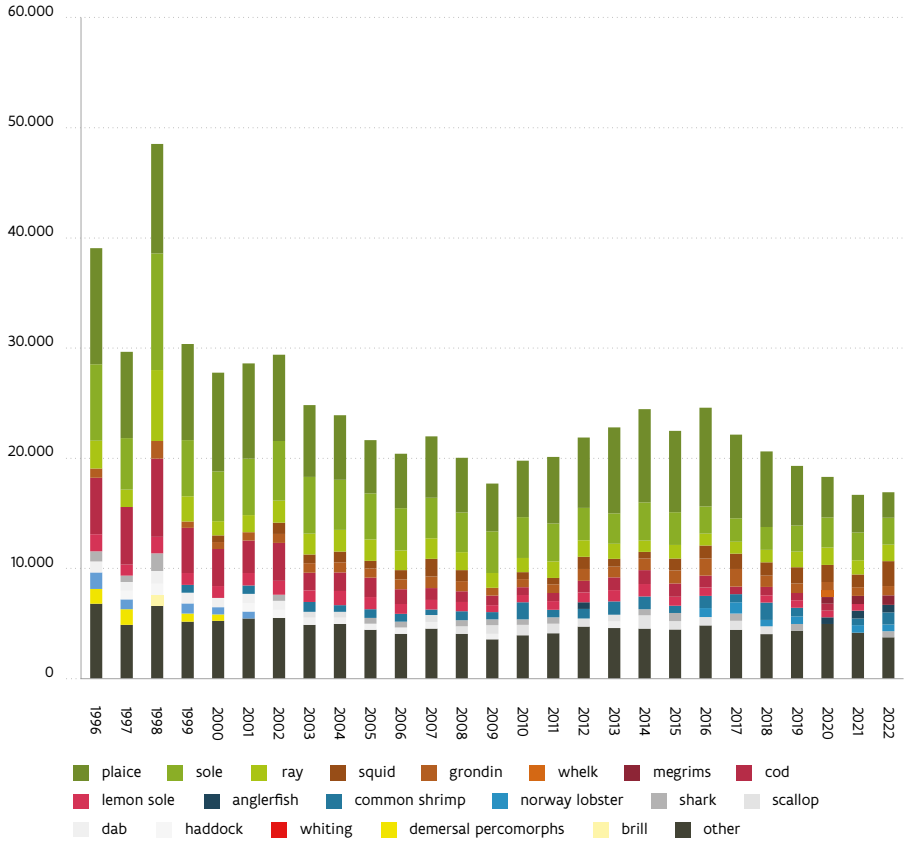
Domestic ports take over 79% of the landings of the Belgian fishing fleet. Zeebrugge is in first place, with a market share of 51% and landings of 6,789 tons. Ostend accounts for 47% and 6,273 tons. Nieuwpoort is a smaller player with 343 tons.

Foreign ports represent nearly 21% (around 3,500 tons) of the landings of the Belgian fishing fleet. Dutch ports remain the most important foreign ports, with a 57% share of total landings in foreign ports. Landings in Denmark fell by almost a third, but still account for 33% of landings at foreign ports. The share of Spanish ports rose to 10%. The drop in landings in French ports is striking, falling by more than 97% to just 7 tons. This leaves French ports at only 0.2% of the foreign ports.

Belgian fisheries are mixed fisheries, fishing multiple stocks simultaneously. The fleet clearly specialises in flatfish. Sole (2,444 tons) and plaice (2,314 tons) accounted for 14.4% and 13.7%, respectively, of the volume of fish landed in 2022. This was followed by cuttlefish and ray, with shares of 13.3% and 8.9% respectively. The remaining fish in the top ten are prawns, gurnards, megrim, monkfish, langoustines and sharks. Sharks appear in the top 10 for the first time, with dogfish and nursehound being the main fish caught.

Among the two main fish species, plaice declined 32% in absolute terms in 2021, while sole saw a fall of 3%. For plaice, there had already been a sharply declining trend since 2016, although the stock is evolving favourably. Landings of cuttlefish (+98%) and shrimp (+83%) nearly doubled. Lemon sole fell out of the top ten in 2022.

Figure: Quantity of fish landings per year



Source: Fisheries figures: www.vlaanderen.be/visserijcijfers

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