

# THE VALUE TO SOCIETY OF THE FISH IN ÖRESUND

BalticSea2020  
March 2018

# Preface

Copenhagen Economics has been asked by BalticSea2020 to provide an overview and a quantification of the economic activities related to the fish in Öresund.

Öresund has been selected as a case because trawling has been prohibited in Öresund since 1932.

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Enjoy your reading.

# The fish in Öresund support commercial as well as recreational activities

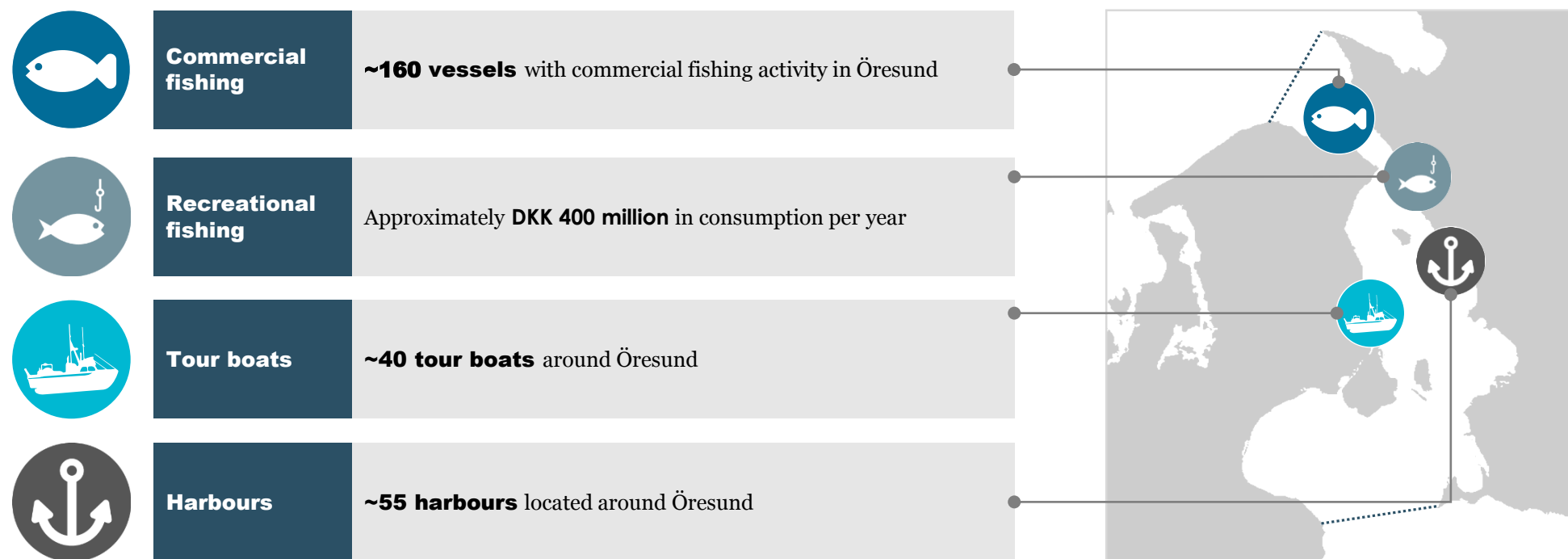
Öresund, or 'the Sound', is the 118 km strait separating Denmark from Sweden. The width of the strait varies from 4 km (between Elsinore and Helsingborg) to 28 km.

For maritime safety reasons, trawling has been prohibited in the majority of Öresund since 1932. The trawl ban means that **today's commercial fishery** is conducted primarily by relatively small vessels using gillnets. Approximately 160 different vessels took part in the commercial fishery during 2017. Some fish are sold directly at the local harbour, others are auctioned and are eventually sold in retail. The total value of landings amounted to

approximately DKK 36 million in 2017, or DKK 225.000 per vessel, with cod being the commercially most important species.

In addition to the commercial fishery, Öresund is the center of several types of **recreational fishing activities**. The main activity is angling, which is conducted along the coastline, from piers, bridges or from boats, including the 40 tour boat companies operating in Öresund. Some of these tour boats can bring up to 50 fishers on board. Other types of recreational fishery includes snorkelling or spear fishing and passive gear fishing.

In contrast, **the local activities** along the coast of Öresund supported by the commercial fishing are limited. The purchases of local services from e.g. smiths or shipyards in the Öresund region are limited, and the activities in the harbours generally rely very little on the commercial fishery. Rather, the activities in the 29 harbours on the Danish side of Öresund and 25 harbours on the Swedish side include leisure boats, sailing clubs, shipping activities such as container terminals, ferry terminals, restaurants, retail shops, and culture and tourism including cruise ships.



# The recreational fishery supports a larger revenue in the economy than does the commercial fishery

Although catches in the recreational fishery are (most likely) lower than in the commercial fishery, the revenue supported by recreational fisheries' spending significantly exceeds that of the commercial fishery.

Recreational fishers' annual spending on goods and services in Öresund may be as high as DKK 400 million, corresponding to DKK 200-400 per kg catch. This spending supports jobs and income at local accommodation, restaurants, transportation, fishing gear shops and on the tour boats.

When accounting for the full value chain, from the commercial fishery to the end customer, we estimate the value of the commercially caught fish in Öresund to be around DKK 200 million, corresponding to around DKK 90 per kg. These estimates are highly uncertain, but there is little doubt about the fact that the revenue per kg catch is higher in the recreational fishery than in the commercial fishery.

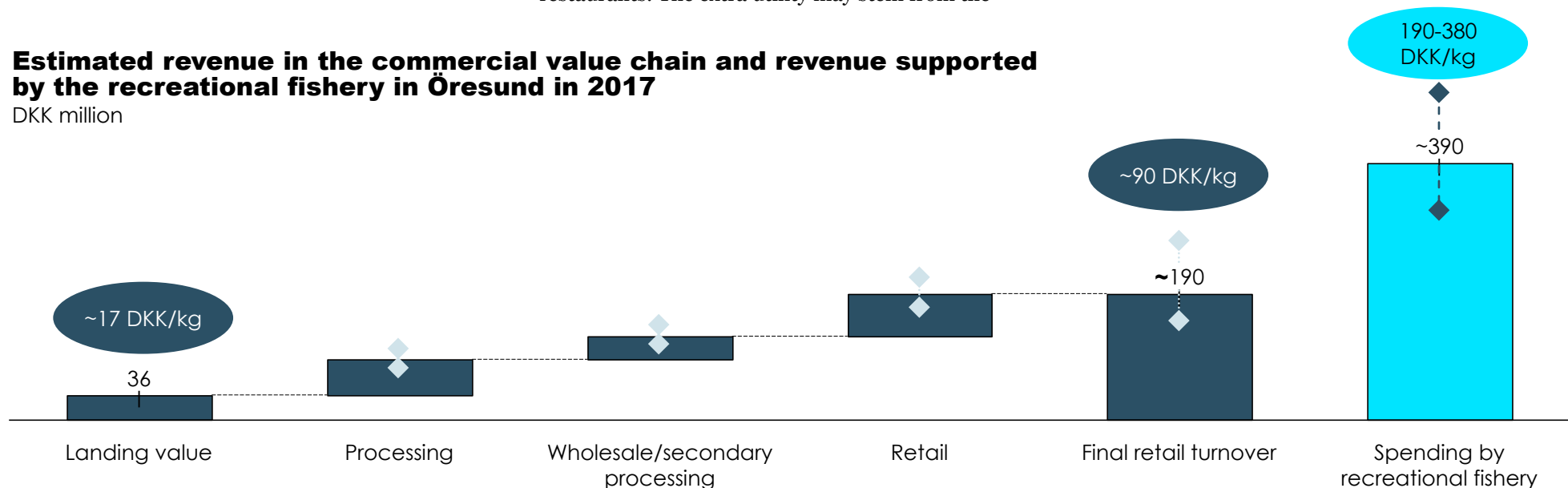
The higher spending per kg catch reflects a higher value of the fish for leisure fishers than for end consumers who buy the fish in retail or in restaurants. The extra utility may stem from the

experience of having caught the fish yourself as it reflects a hobby.

In terms of society wealth, the *productivity* is the relevant measure when comparing the activities related to the recreational fishery against the activities related to the commercial activity. The productivity is a measure of the *value added* (i.e. revenue minus external costs) per unit of fish, labour and capital used in the production. We have not performed such a comparison in this study.

## Estimated revenue in the commercial value chain and revenue supported by the recreational fishery in Öresund in 2017

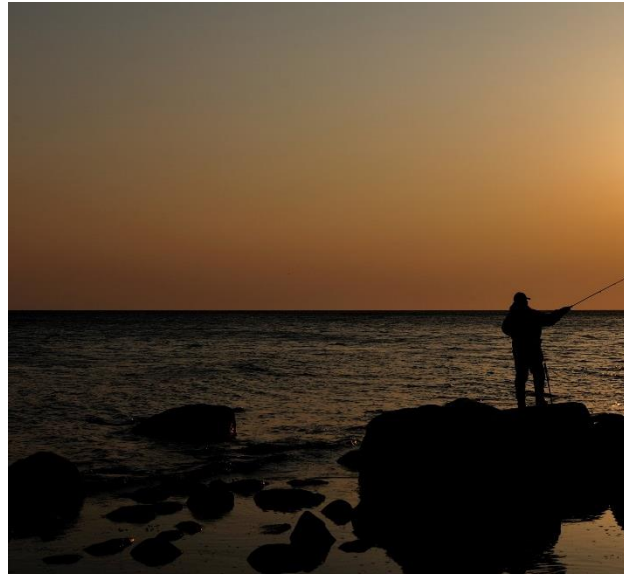
DKK million



Note: The retail value of cod is estimated based on the relative value added in each part of the value chain for cod caught in Iceland and sold in the US  
Sources: Copenhagen Economics based on HAV, Statistics Denmark, Øresundsvandsamarbejdet (2018) & Gudmundsson et al. (2016)



**1**  
COMMERCIAL FISHING  
ACTIVITIES



**2**  
RECREATIONAL FISHING  
ACTIVITIES



**3**  
ACTIVITIES IN HARBOURS AND  
ON TOUR BOATS

The background image shows a close-up view of a fishing boat's deck. In the foreground, several large, spherical buoys are visible, some with a grid-like pattern and others solid-colored (pink, orange, and blue). A fishing net is draped over the right side of the frame. In the background, the white hull of the boat and a metal railing are visible, along with more fishing equipment and a yellow crane-like structure. The overall scene is brightly lit, suggesting a sunny day.

**1**

# COMMERCIAL FISHING ACTIVITIES IN ÖRESUND

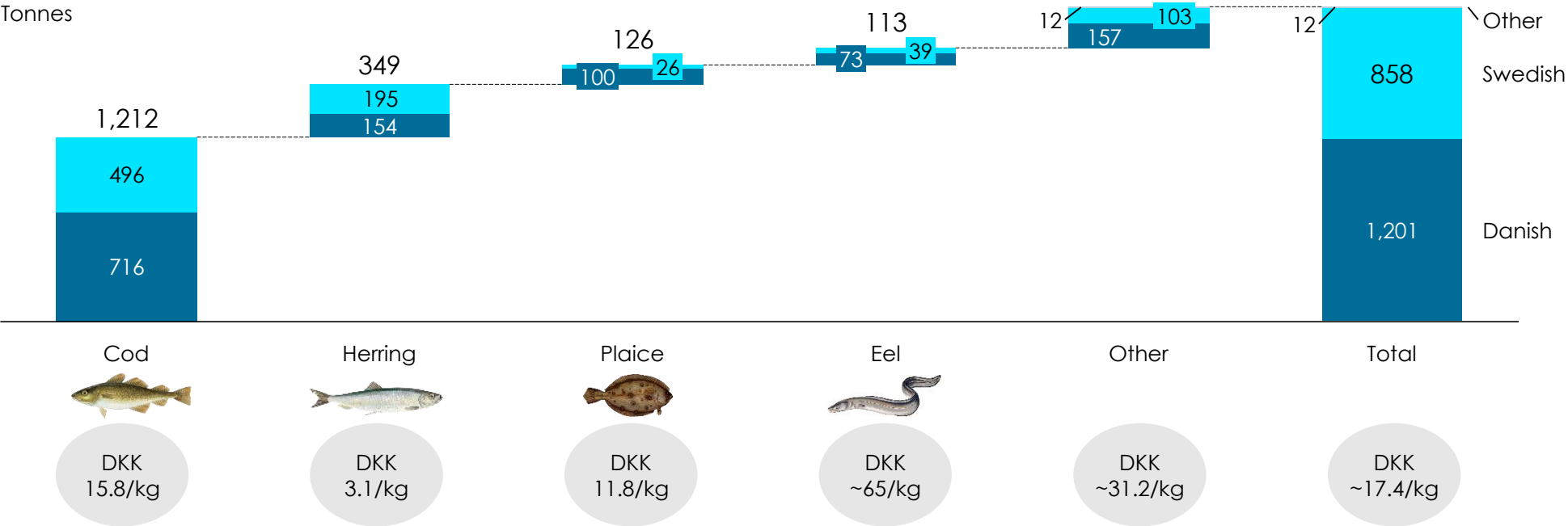
# Cod is the most important species, but the commercial value of the fish in Öresund is limited

The commercial catches of fish and shellfish in Öresund amounted to a total of 2,070 tonnes in 2015. Cod and herring are the main species, with catches in 2015 of 1,212 tonnes and 349 tonnes respectively, see the figure below.

The total value of the catches in Öresund was approximately DKK 36 million, half of which stems from cod. The average landing price of cod for Danish fishers in Öresund was DKK 15.8 per kg in 2015. This is five times the price of herring, whereas the kilo-prices of eel and other species were significantly higher.

Almost all of the commercial fishery in Öresund is conducted by Danish or Swedish registered vessels., with the majority of the catches (58% in 2015) stemming from Danish vessels.

Catches in the commercial fishery in Öresund in 2015



Note: The division of catches are related to Swedish and Danish registered vessels. For example Danish vessels caught 716 tonnes of cod, while Swedish vessels caught 496 tonnes of cod. The prices are for the Danish commercial vessels only

Source: Copenhagen Economics based on ICES and The Danish Agricultural Agency

# The commercial fishery is conducted by many small vessels primarily using gillnets

Around 160 different vessels fished commercially in Öresund in 2016. Many of these vessels do not only fish in Öresund but also in other waters. However, the vessels typically reside in harbours along the coast of Öresund. Only few vessels that reside outside of Öresund occasionally fish in Öresund.

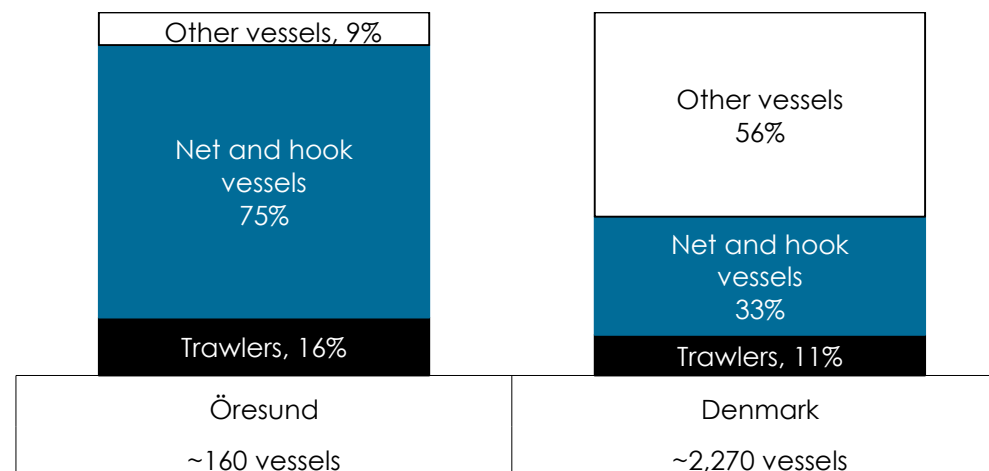
The 160 vessels were equally split between Danish and Swedish owners.

Most of the commercial fishery is conducted by smaller gillnet and hook-vessels that fish one day at the time. Whereas three out of four Öresund vessels use gillnet and hook as the main catch method, this method is used by only a third of all Danish vessels, see the figure on the right. The reason is that there is a higher degree of combination vessels and Danish seine vessels in Denmark than in Öresund.

16% of the vessels with registered catches in Öresund in 2016 are trawlers that trawl in the area *Kilen* in the northern part of Öresund, as well as in waters outside of Öresund, both of which are not covered by the trawl ban otherwise in effect in Öresund.

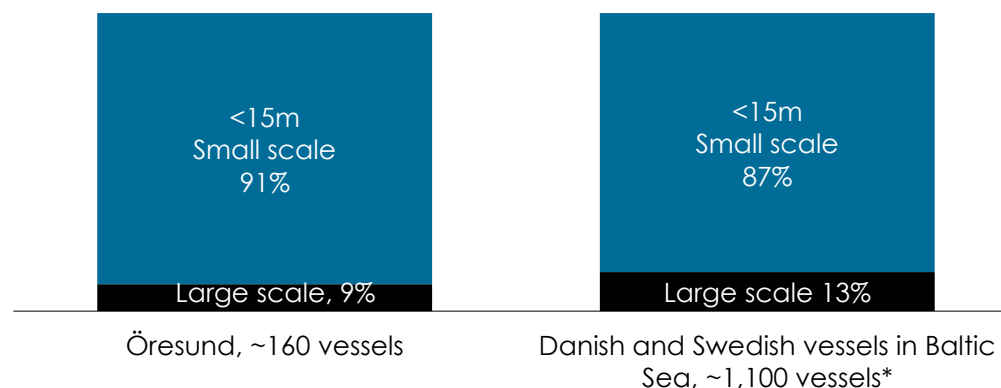
The vessels in Öresund are mostly small vessels with an overall length less than 15 meters. 91% of the vessels in Öresund are small-scale vessels under 15 meters. Among Swedish and Danish vessels fishing in the Baltic Sea, the comparable number is lower at 87%. This reflects that larger trawling vessels are present in the Baltic sea, however, even that part of the sea is, in terms of number of vessels, dominated by small scale ones.

## Vessels registered in Swedish and Danish harbours along Öresund and in Denmark in 2016



Note: 'Other vessels' include combination vessels, Danish seine and other not defined vessels  
Sources: Copenhagen Economics based on Statistics Denmark and Øresundsvandsamarbejdet (2018)

## Vessels fishing in Öresund and in the Baltic Sea in 2016



Note: The definition of small scale versus large scale vessels differs from report to report. We have used a cut-off at 15 meters  
\*A total of 6,194 vessels are fishing in Baltic Sea with a size distribution similar to the one shown here  
Source: Copenhagen Economics based on ICES, STECF (2017) and Øresundsvandsamarbejdet (2018)

# Prices are higher in Öresund than in Eastern Baltic Sea, which reflects a higher quality of the fish

In the first months of 2018, the average landing price of cod caught by Danish vessels in Öresund was approximately DKK 21 per kg. This was twice the price of cod caught in the Eastern Baltic Sea, which sold for DKK 11 per kg. While this significant price premium of cod from Öresund compared to Eastern Baltic Sea has been present over the last decade, there is no premium compared to either Western Baltic sea or Denmark in general, see the figure below.

The price difference indicates that there is a difference in the quality of the catches. The quality of cod caught in Eastern Baltic Sea is likely to be lower than the quality of cod caught in Öresund.

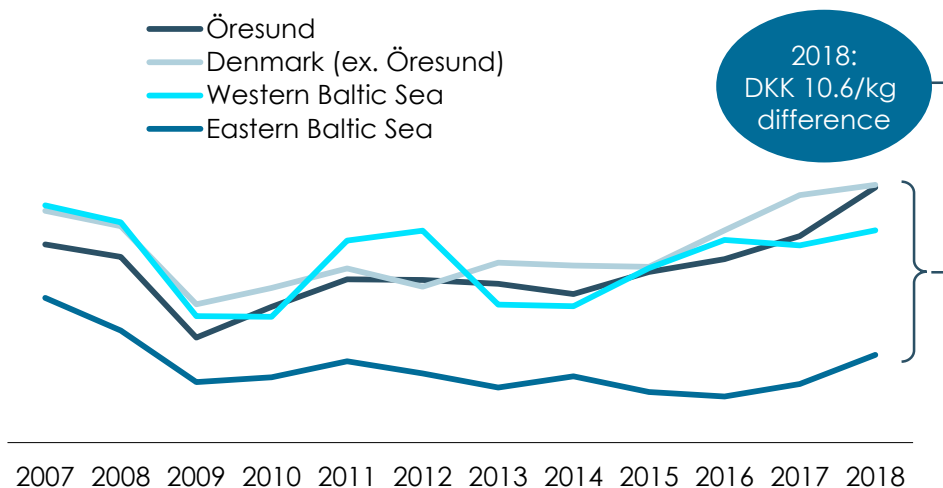
The quality of the cod depends on both the size and the freshness of the fish, as

well as the amount of damages on the fish. The faster the cod can be sold ashore and the faster and smoother the cod can be cooled on-board the vessel, the better is the quality. The damages on the cod can stem from the catching or from episodes prior to the catching (seal bites etc.).

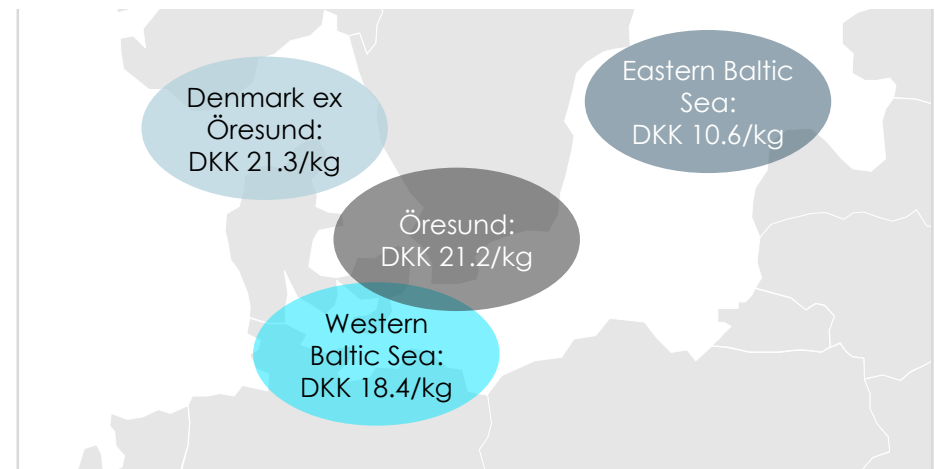
The size is an important quality measure, as larger cods have relatively more eatable meat on them. Larger cod are therefore more valuable *per kg* caught. The determinant of the cods' sizes include the biological environment, such as oxygen levels, salt water content, sources of food, pollution etc., but can also be influenced by the amount of fishing. If the cods are caught before they grow big, there are fewer large cod to catch.

## Landing prices of cod

DKK/kg



## Landing prices of cod, Jan-Feb 2018



*Note: The figures show the landings by Danish vessels only, which comprise 60% of all commercial catches of cod in Öresund, 52% in Western Baltic Sea and 25% in Eastern Baltic Sea (based on 2015 volumes from ICES)*  
*Source: Copenhagen Economics based on The Danish Agricultural Agency*

# Some fish are sold directly at the local harbour, others are auctioned and are eventually sold in retail

Some of the fish from Öresund are sold directly from the pier to the end costumer. By doing so, the fishers can sell their catch at a higher price. Fishers also sell the fish directly to restaurants or fish stores.

In Denmark the website *havfriskfisk.dk* announces landings of several Danish vessels along the coast. The website announces the landing times, the type of fish or shellfish that the fisheries have caught and in some instances also the size or quality of the catch.

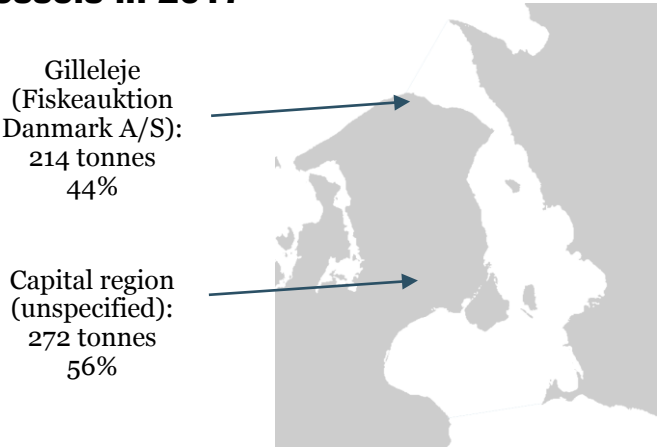
In Sweden, there are initiatives on a larger scale with the purpose of increasing the sales prices. The first Swedish Community Supported Fishery (CSF) is called *Öresundsfisk*. Private consumers with a subscription can receive freshly caught

fish for a fixed monthly price, which goes to the fishers without any middlemen.

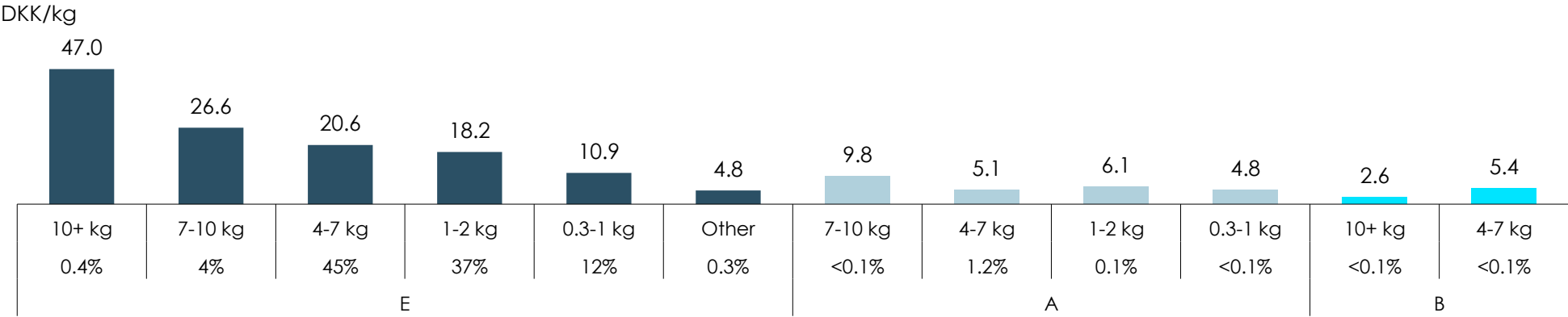
Another option is to sell the fish at the auction 'Fiskeauktion Danmark' in Gilleleje. The average price of cod sold at the auction was 18.7 DKK/kg in 2017, which is comparable to the average landing price in Öresund of 17.5 DKK/kg in 2017 (not looking at costs).

At the auction, the fish are sorted according to sizes in kg and the quality defined by letters from highest quality E to lowest B. It is clear from the figure below that the kilo-prices are higher for larger and better quality fish, which is aligned with the price difference on the previous slide.

## Landings of Öresund cod by Danish vessels in 2017



## Average prices of cod sold at Fiskeauktion Danmark in 2017



Note: The auction uses the quality measures E+: Alive, E top: Super quality, A: Iced fish, B: B-quality  
214 tons of cod were sold from Fiskeauktion Danmark in 2017. The percentages indicate the volumes sold  
Source: Copenhagen Economics based on The Danish Agricultural Agency

# In Vedbæk, some fisheries sell fish directly from the boat

Vedbæk Harbour, Denmark



When logging on to *havfriskfisk.dk* (“fresh fish from the sea”) you will find several fishers who are notifying that they are coming ashore to sell their freshly caught fish for you to buy on the quay side.

The website allows you to be notified in advance about the catch, time and place for landing of the fish. This gives you the opportunity to be present at the harbour at the right time and buy the catch of your preference.

At Vedbæk Harbour, at least two fisheries are signed up to *havfriskfisk.dk* to attract costumers. In January and February 2016, cod and lumpfish among others were sold from Vedbæk Harbour. Other fishers with Vedbæk Harbour as their primary

harbour, sell their catch at the auction at Gilleleje harbour.

Despite several fishing boats being registered at Vedbæk Harbour, the harbour’s financial situation is not depending on commercial fisheries. In its financial statement the purpose of the harbour is presented as encouraging outdoor recreation, including recreational fishing. There is not a specific focus on the commercial fisheries.

*It is the fund’s purpose to encourage outdoor recreation from operating the harbour and make the harbour’s buildings and facilities available for activities within water sports including sailing, sport diving and recreational fishing*

[Financial Statement, Vedbæk Harbour](#)

## Hard facts

- Established: 1919
- Boat spaces: 580
- Activities on the harbour: Restaurants, recreational boats, sailing club, commercial and recreational fisheries

# Danish cod catches in Öresund dropped by three quarters from 2007-2009 due to new regulation

From 2007 to 2009, Danish catches of cod in Öresund dropped by almost 75%. Catches of several other species including plaice, sole, herring and flounder fell as well.

We find three reasons for the drop in the catches:

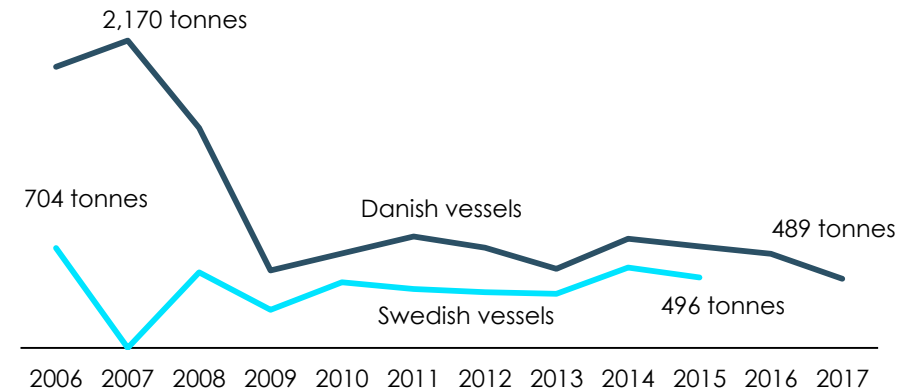
*First*, the Öresund vessel fleet decreased significantly over the years from 2007-2010 in both Sweden and Denmark. This could be the result of the introduction of vessel quota shares, called *FKA* quotas, in the Danish fishery in 2007. This new regulation opened for the possibility for Öresund fishers to sell their quotas to fishers outside of Öresund (but still inside the same quota area) and made it more attractive to leave the fisheries in Öresund.

*Second*, a seasonal ban on cod fishing from February 1<sup>st</sup> to March 31<sup>st</sup> was introduced in 2009 on both sides of Öresund.

*Third*, a ban on fishing with Danish seine was introduced in Northern Öresund in 2009. This resulted in a large part of the fisheries with Danish seine having to relocate to other areas.

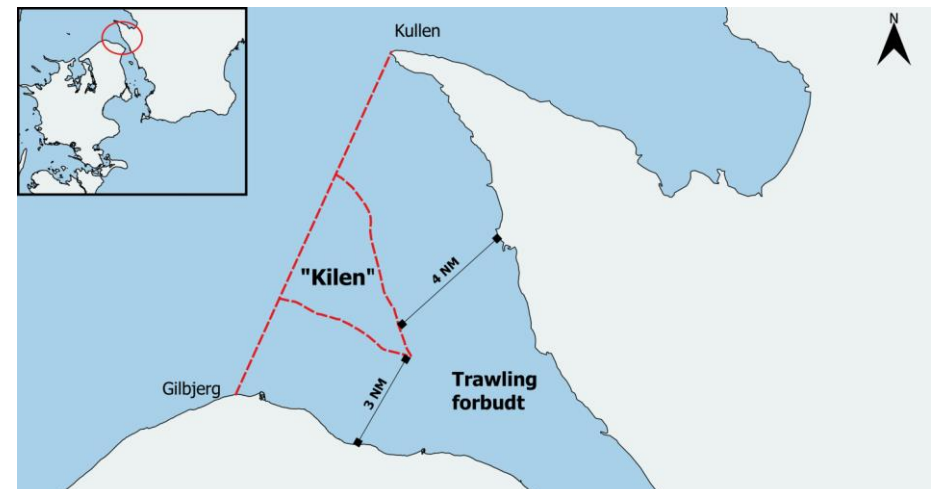
In 2010, a new agreement came into place that extended the ban on trawl fishing to new areas, further limiting the option to trawl. The ban now extends 3 nautical miles from the Danish shore and 4 nautical miles from the Swedish shore. This means that trawling is now only permitted in *Kilen* in Northern Öresund.

## Catches of cod in Öresund



Source: ICES and The Danish Agricultural Agency

## 'Kilen' in Northern Öresund



Source: Øresundsvandsamarbejdet (2018)

The background of the slide is a photograph of a sunset over the ocean. The sun is a bright, glowing orb in the upper right corner, casting a long, shimmering reflection across the water's surface. In the middle ground, a person is silhouetted against the bright light, standing on a rocky shore and holding a fishing rod that extends towards the horizon. The foreground is dark, showing the silhouettes of rocks and the gentle ripples of the water.

## 2

# RECREATIONAL FISHING ACTIVITIES IN ÖRESUND

# Öresund is the centre of several types of recreational fishing activities

There is a significant amount of recreational fishing activities around Öresund. This type of fishing is defined by the fact that the fishers are not allowed to sell the fish. The catches are only for own consumption or as a 'catch and release' activity. Fishers fish in their spare time, and there are no quotas attached to this type of fishing. It is a hobby.

Recreational fishing can be divided into three main categories: angling, passive gear fishing and spearfishing and snorkelling, with angling being the main activity.

Recreational fishers usually target the same species as in the commercial fishery. However, there are limitations put in place in Öresund such as 'maximum five cod per person per day'.

1	<b>ANGLING ('LYSTFISKERI' OR 'METE')</b> Angling is carried out by private persons standing in waders along the coastline or from boats. Most types of edible fish are caught by anglers.	~90% of catches
2	<b>PASSIVE GEAR FISHING ('FRITIDSFISKERI' OR 'FRITIDSFISKE')</b> A smaller part of the recreational fishing around Öresund are with passive, stationary gear such as gillnets. This bear a resemblance to the commercial fishing except for the fact that it is leisure based, hobby activities. It is not legal for the passive gear fishers to sell their catches.	~10% of catches
3	<b>SPEARFISHING AND SNORKELLING ('UNDERVANDSJAGT' OR 'HARPUNFISKE')</b> The Öresund area is highly popular for recreational fisheries to fish underwater. Flatfish on the sea floor are the main target when snorkelling dressed fishers hunt with their harpoon or spear, but other fish are also possible to catch. This type of fishing has been present in Denmark since the 1960ies. Around the same time Sweden made harpoon fishing illegal. It is however still legal to catch fish underwater with ones bare hands.	No data

*Note: The surveys are based on national citizens only, and the Swedish data are based on very few respondents. For Sweden, the data cover Öresund and the coast from the south of Öresund to Karlskrona.*

*Source: The percentages are based on DTU Aqua (2010) & Estimates from Havs- och Vattenmyndigheten, SCB for 2013-2016*

## Three types of angling

Tour boats	Street fishing	Trolling fishing
In Öresund there are many possibilities to go on a tour boat which can carry from 10 to more than 50 recreational fishers. The tour boats are present in most parts along the coasts of Öresund.  An estimate for the total number of passengers is 250.000-300.000 per year.	Over time and with increased accessibility it has become more popular to fish from the piers in the harbours. The need for equipment when street fishing is limited which makes this type of fishing attractive.  Street fishing has especially been seen in Malmö and Copenhagen where fishing competitions have also been held.	This mode of fishing drags fishing lures attached to fishing rods on a boat. The fishing lines are attached to weights under water that are dragged from the boat with wires. The weights control the depth of the fishing.  When the fish bites the fishing line detaches from the weights and is can be dragged to the boat with the rod.

# Estimates suggest that the catches in the recreational fishery could be as large as in the commercial fishery

The recreational fishing activities around Öresund are significant, but the exact amount is highly uncertain. A central estimate puts the volume of fish caught in the recreational fishery to 1,350 tonnes per year. This represents 40% of the total commercial catches in Öresund.

Other estimates puts the volume closer to 1,700 tonnes, making the recreational fisheries almost as

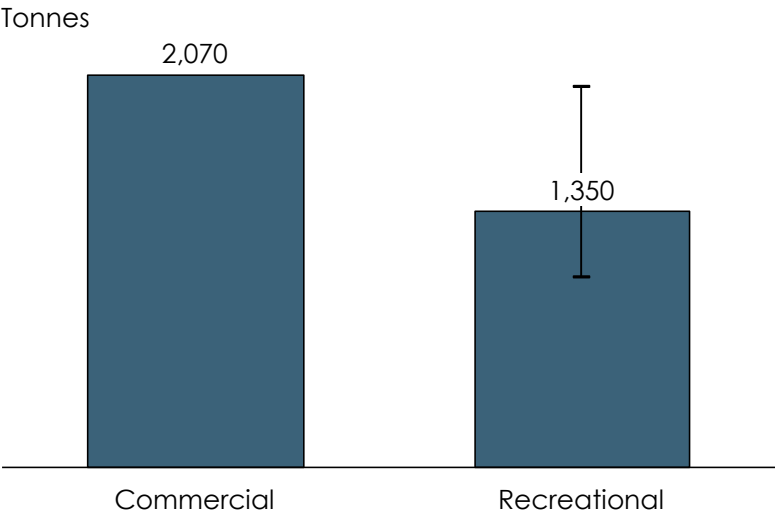
large as the commercial fisheries in Öresund. The numbers are uncertain because, unlike the commercial fisheries, the recreational fisheries are not legally obligated to report their catches. Therefore, the catches are estimated from surveys from Denmark and Sweden, making the reported numbers uncertain.

Cod is the main species in the recreational fishery.

The cod catches are estimated by Danish technical university DTU Aqua and Havs- och Vattenmyndigheten to around 500 tonnes on the Danish side and 235-645 tonnes on the Swedish side.

Other catches include herring and flounder, but the numbers on the Danish side are not estimated, see the table below. Spearfishing and snorkelling are not included in the Danish numbers in the table.

Total catches in Öresund in 2015



*Note: The table does not include catches from spearfishing and snorkelling. Recreational catches of other species than cod, seatrout and eel are not estimated in Denmark*  
*Source: 1) DTU Aqua homepage, 2) DTU (2015), 3) Estimates from Havs- och Vattenmyndigheten, SCB for 2013-2016, 4) Öresundsvandsamarbejdet (2018)*

Estimated recreational catches in Öresund

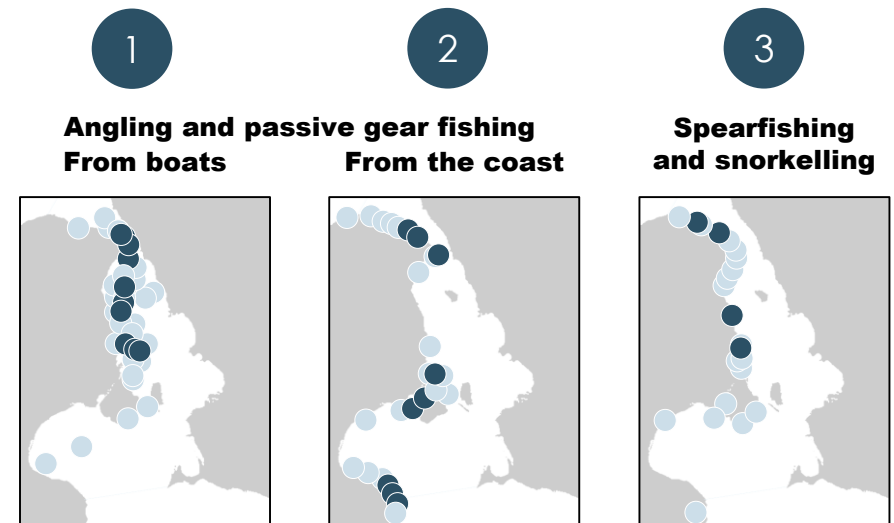
Tonnes	Denmark	Sweden	Total
Cod	~500 <sup>1</sup>	235-645 <sup>3</sup>	735-1,145
Seatrout	30 <sup>2</sup>	25-50 <sup>4</sup>	55-80
Herring	...	50-100 <sup>4</sup>	At least 50-100
Eel	7 <sup>2</sup>	0 <sup>4</sup>	7
Flounder	...	50-100 <sup>4</sup>	At least 50-100
Other species	...	125-250 <sup>4</sup>	At least 125-250
<b>Total</b>	<b>At least 540</b>	<b>485-1,145</b>	<b>At least 1,022-1,682</b>

# The recreational fishing activities are spread all along the coast line on the Danish side of Öresund

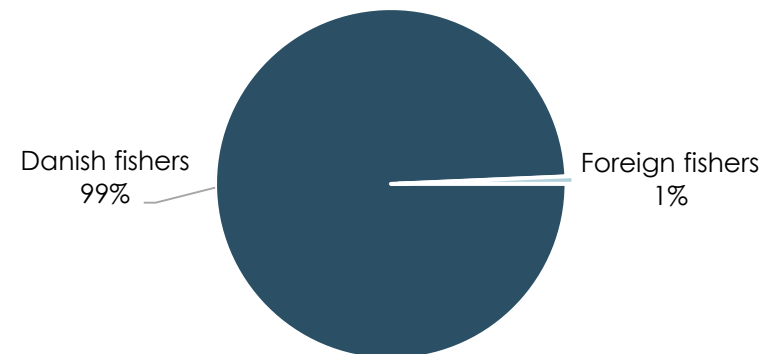
On the Danish side, the recreational fishery is spread all along the coast of Öresund. Fishing from boat is mainly conducted along the coast from Copenhagen to Elsinore, see the left-most map. The coast fishing is mainly present from the piers in Copenhagen, Elsinore and from shore in the Southern and Northern most parts of Öresund. Most instances of spear- and snorkelling fishing are found from Gilleleje to Elsinore in the northern part of Öresund and just north of Copenhagen where an area of low water makes this type of fishing ideal.

In Denmark, the recreation fishery is mainly conducted by local Danish residents. A survey from 2008 indicates that 99% of the consumption of recreational fishers in the Capital region are made by Danes. We do not have data on the distribution of recreational fishers consumption in Sweden, only an estimate of the total consumption from Havs- och Vattenmyndigheten.

## Recreational fishing activities on the Danish side



## Estimated consumption of recreational fishers on the Danish side



*Note: The percentages are based on data from 2008  
Source: Jacobsen, L. B. (2010)*

## The largest cods are smaller than they used to be

M/S Odysseus, Kalkbrænderihavnen



For more than 30 years, Jens Wrona has provided fishing tours to people excited to go fishing on a tour boat. Since 1990, he has been a skipper and in 2015 he bought the red coloured M/S Odysseus making him able to run his own tour boat from Kalkbrænderihavnen in Copenhagen sailing primarily in Öresund. In Kalkbrænderihavnen, there are several other tour boats competing for customers.

M/S Odysseus was built in 1960 in Esbjerg in Western Denmark and was used for trawl fishing in the North Sea, carrying up to 50 tonnes of fish. In 1987 the ship was repurposed to carry passengers for tour fishing.

The boat carries up to 30 people and ticket prices are around DKK 275 to 330 for a single adult.

Around 100 fishing tours take place a year with up to 2,000 passengers in total.

The passengers are of all sorts: Individuals, companies, bachelor parties, picnics and many passengers make several tours each season.

The main target catch is cod and usually, at least one cod is caught per passenger. It is often the first catch that means the most to the passengers. In total up to 8,000 cods are caught every year from M/S Odysseus, which are around 4 per person. The rule of *max five cods per day per person* limits the catches of cod.

The costs of running the boats primarily stems from diesel consumption, repairs and amendments from Gilleleje Ship Yard, insurance and safety.

Over time, the conditions in Öresund have worsened. According to Jens Wrona, the cods caught today are much smaller than previously. The flocks of cods are also smaller. It is especially a problem south of Vedbæk.

### Hard facts

- Size: 19.35 meters x 5.5 meters
- Top speed: 9.5 knots
- Net revenue 2016: DKK 402 thousand
- ~2,000 passengers per year
- ~8,000 cods caught per year

## There are more than 150 different species to catch in Öresund

Sportfiskarna – Sweden's sports fishing and fish preservation association



The association Sportfiskarna is the Swedish voice of the sports fishers. They advocate for preservation and conservation of the waters, and for improving the water environment.

According to Anders Karlsson, the Deputy Secretary General in Sportsfiskarna, the trawl ban in Öresund is of great value to the many recreational fishers in Öresund because it conserves the nature. Öresund is the most popular sea based recreational fishing area in Sweden and it attracts recreational fishers from all of the country.

Despite the vast traffic in Öresund and the large population around the narrow sea, the conditions for the fish in Öresund are much better compared to those of the Baltic Sea and Kattegat, according to Karlsson. There are more than 150 different species

of fish to catch in Öresund. Further, the quality of the fish in Öresund is good and there is an abundance of fish for the sports fishers to catch. The possibility to catch fish and to fish in unadulterated nature are the two most important factors for the sports fishers, says Karlsson.

Cod is the most important species for the sport fishing in Öresund. The cods are mainly caught from tour or private boats, but angling from a pier is also possible in many harbours in Öresund, for example in the large harbour areas in Malmö and Helsingborg. Flatfish are also important catches in Öresund. The sport fishers mainly catch fish for their own consumption or release the catch into the sea. It is important to maintain the fish stock by treating the released fish in such a way that they can live on, emphasises Karlsson. The sports fishers spend

money on boats, equipment and transport in order to go fishing.

The rule of *maximum five cods per person per day* is not optimal as a length based rule would work better, according to Anders Karlsson. A length based rule would improve the well-being of the cods in Öresund, and, additionally, enhance the quality of the fish caught, he ends.

### Hard facts

- Founded 1919
- 60,000 members, whereof 35,000 are members in one of the 400 local associations
- Membership annual cost: SEK 370 per adult

A scenic view of a harbour at dusk or dawn. In the foreground, a wooden pier extends into the water, with a small blue and white boat moored alongside it. To the right, a modern multi-story building with large glass windows and balconies stands on a cobblestone walkway. In the background, several sailboats are visible in the calm water under a blue sky with soft clouds. A semi-transparent white box is overlaid on the image, containing the text.

**3**

# ACTIVITIES IN HARBOURS AND ON TOUR BOATS

# The spending supports jobs and income at tour boat operators and harbours, but the impact seems modest in size

There are currently 8-10 harbours with commercial fishing activities on each side of Öresund. Gilleleje is the harbour with the most commercial fishers with 12 registered vessels in 2016. These fishers primarily fish in Kattegat but also in Öresund. Several boats from outside Öresund have quotas in Öresund, and they sometime land in a harbour in Öresund as well.

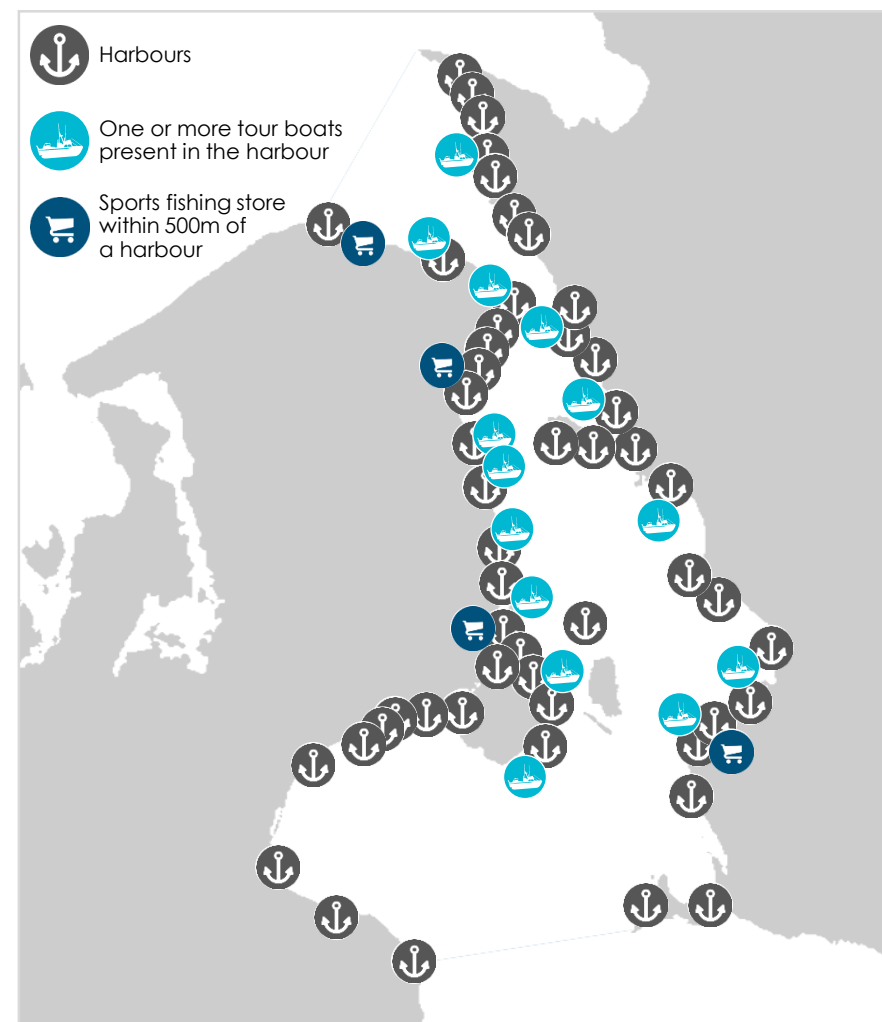
Historically, the harbours were very dependent on revenues from the fishery, but the number of fishers has declined a lot. For example, 100 years ago there were 175 fishers in Råå. Today there are just a few left.

Consequently, most harbours in Öresund are not dependent on fishing today apart from some harbours such as Gilleleje or Lomma. The most harbours' revenues stem from other sources such as the renting out of berth spaces for leisure boats and renting out land areas. Leisure boats, sailing clubs, shipping activities, transportation, restaurants, culture, tourism, and the fact that some harbours lie in a city centre are some of the other elements that create activity in many harbours in Öresund.

Of the 30 registered harbours on the Danish side, 22 describe their main

activity as recreational ports. The remaining harbours are commercial ports.

The relatively low fishing activity in many harbours can also be seen from the few related services such as blacksmiths and shipyards for the commercial fishing, and the lack of sport fishing stores on the harbours for the recreational fishing. From our search, just three sports fishing stores were found close to the Danish harbours and one store were close to the Swedish harbours. The few sport fishing stores on, or close by, the harbours suggest that the fishing gear is bought inland or online, where several options are available. Our search showed several inland stores (many in Copenhagen) and that most of the sports fishing stores have online shipping of the fishing gear.



Sources: Copenhagen Economics data gathering, harbour financial statements, Øresundsvandsamarbejdet (2018)

# Recreational fishers around Öresund spend almost DKK 400 million on goods and services per year

Recreational fishers in Öresund spend around DKK 400 million on an annual basis on goods and services related to their hobby. The spending on the Danish side is estimated to be between DKK 260-288 million each year (Øresundsvandsamarbejdet, 2017), whereas the spending on the Swedish side is estimated to DKK 105-122 million (Havs- och Vattenmyndigheten).

Although the DKK 400 million is a highly uncertain figure, it indicates that the activities supported indirectly by the recreational fishery exceed those

supported by the commercial fishery.

It seems, however, that some of the activities supported by the recreational fishery are not locally produced.

Looking at the distribution of the spending of recreational fishers, boat rental and boat purchase constitute 28% of the spending. These purchases are likely to be a mix of imports and domestic purchases. Likewise a significant portion of purchases of fishing gear, clothes, footwear and petrol and diesel are

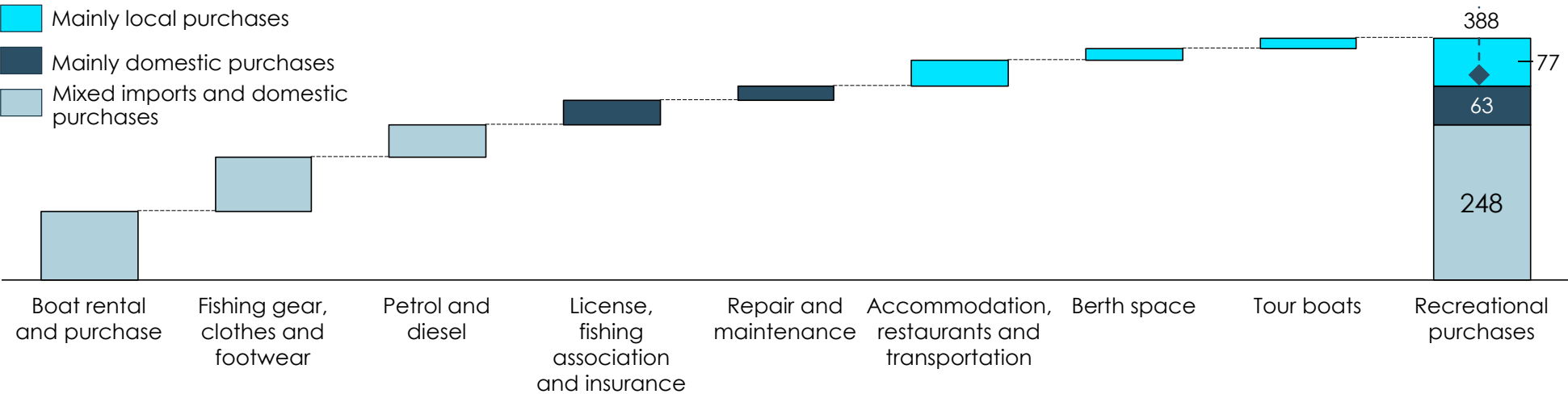
likely to be imported via online channels.

Domestic purchases include licenses, fishing association costs, insurance and repair and maintenance.

Purely local purchases are accommodation, restaurants, local transportation, berth spaces and tour fishing. We estimate that these categories account for ~20% of the total spending of recreational fishers.

## Estimated spending of recreational fishers in Öresund

DKK million



*Note: The distribution is from purchases in the region 'Hovedstaden', Denmark from Jacobsen, L. B. (2010). The aggregate numbers are from Øresundsvandsamarbejdet. The types of purchases that are imports, domestic or local are assumed. Sources: Øresundsvandsamarbejdet, (2018) & Jacobsen, L. B. (2010)*

# Commercial fishing is present in Lomma Harbour but is only a small part of the economic activity

Lomma Harbour, Sweden



Lomma Harbour is beautifully located in a bay with nature all around the city. When measured by the number of commercial fishing boats, Lomma harbour is one of the biggest harbours on the Swedish side of Öresund. Around ten commercial fishing boats reside in the harbour.

The fishers typically have other jobs outside commercial fishing, because fishing alone cannot support a viable income.

The fish caught by commercial fishing are mostly consumed locally, as the fishers sell the fish to local fish stores. One of these stores is also a restaurant in Lomma serving the daily caught local fish. When the fish are not sold locally, they are sold on the fish auction in Gothenburg.

As it is with most harbours around Öresund, commercial fishing historically has mattered much more to Lomma Harbour than it does today. Today, commercial fishing is just a small part of the overall activity in Lomma Harbour.

The harbour's revenue from the commercial fishing consists of the rent that the fisher boats pay for berth spaces. This is estimated to 10-15% of the revenue. The harbour's main income is rent generated by berths to recreational use, shops and restaurants.

Sailing sports, the many restaurants, and tourists, visiting in their own boat, generate a lot of activity around the harbour, especially in the summer time. Recreational angling from the piers and boats is also one of the many activities from Lomma Harbour.

The harbour focusses on maintaining the environment around the harbour and is therefore pleased with the trawl ban and the cap on cod catches in Öresund.

## Hard facts

- ~10 commercial fishing boats
- ~800 berths, where ~450 are large
- ~1,000 boats with tourists per year

## Recreational fishing is a small part of the activities in Rungsted Harbour

Rungsted Harbour, Denmark



In the early 20<sup>th</sup> century, Rungsted Harbour was created as an '*øhavn*'<sup>1</sup>, primarily for fishers to store their boats in waters that were deep enough for the boats.

After a large restauration in the 1970'ies, the harbour became more focussed on other things than fishing.

Today most of the activity in Rungsted Harbour is centred around private boats (~780 spaces) and the atmosphere from the 12 restaurants located on the harbour. Other activities in the harbour include offices and Rungsted beach next to the harbour.

There are no longer any commercial fishing boats in Rungsted Harbour, and so the trawl ban in Öresund does not matter for the harbour's activities today.

While fishing is no longer the harbour's main activity, there are still some activities related to fishing. Two boats, Hanne Berit and Store Teisten sell fishing trips on their boats for people to adjourn to the sea and fish in the neat fishing area close to the Swedish island Ven, where the water is relatively deep.

Rungsted Harbour experiences many one-day fisheries with own boat, because of the close proximity to Ven and because Rungsted Harbour has a boat slope that is less steep than other harbours.

Recreational fishers launch their boat in the water and go fishing from Rungsted Harbour. 1,000 one day tickets at DKK 120 are sold every year and there are 60-70 passes for annual use (DKK 1,200).

The fish store *Fiskerikajen* sells fish and shell fish to local costumers. The fish itself is not usually local as it is bought on various fish auctions around Denmark.



1: An '*Øhavn*' is a pier that goes straight out from shore with boats on both sides

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# Hard facts. Clear Stories.

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