# Anglerfish

Lophius Piscatorius (Latin)

Breiflabb (N)
Baudroie commune (F)
Seeteufel (D)



SEASON Monkfish are sold all year round. SIZE Up to 200 cm, weight up to 79 kg.

# The fish/fishery

The monkfish, or anglerfish, can easily be recognised by its huge head, which constitutes half its entire length. Monkfish are found in tidal waters and down to depths of 600 metres, but during spawning season in the spring, they may go as deep as 2500 metres. Monkfish generally spawn in the waters to the West of the British Isles.

In the past, monkfish was only caught as a bycatch in Norway, but more recently, commercial fisheries have started targeting monkfish. Fishing for monkfish is mainly done along the coast of the western counties of Møre og Romsdal and Sogn og Fjordane.

# Fishing methods

Ground nets, bottom-trawling, ground lines.

## Use

Sold fresh or frozen, skinned and headless, or as f llets.

Monkfish was formerly considered an undesirable fish, but has become a favourite restaurant dish and is now regarded as one of the culinary delicacies of the sea. Its flesh is firm and white and well-suited to both poached and fried dishes.

### Nutritional content

Monkfish is a good source of protein and contains some vitamin A.

## Arctic char

Salvenlius alipnus (Latin)

Røye (N) Omble chevalier (F) Saibling (D)

Photographer: Eiliv Leren



Farmed Norwegan Arctic Char; All year availability.

Size

Depends on the life cycle and habitat. Seagoing Arctic Char in Norway can be as large as 5 kg, usually 1-2 kg.

# The fish/fishery

Arctic Char is the name given to farmed Norwegian Char. Thousands of years ago, when the polar ice cap receded from our land area, Arctic Char had already adapted to the harsh, cold, challenging environment of Arctic Norway.

The fish had developed a migratory pattern in which it alternated between the fresh water of rivers and lakes and the salt water of the sea. In addition to being Norway's oldest freshwater fish, Arctic Char is also the one that lives the

farthest north.

There are two types of Arctic Char: the anadromous char (which migrates to the sea), and the non-migratory char, which lives all its life in fresh water. The Arctic Char has an oblong body and a small head, and it comes in many different forms depending on its habitat, and other factors. In the sea, the fi sh are silver

with a dark back, but during the mating season, the abdomen becomes blood red. Non-migratory Arctic Char are often darker on the back and sides than anadromous Arctic Char. The flesh of the fi sh varies from red to pale red in colour.

At present, the salmonid Arctic Char is farmed in small facilities at many locations in Norway where there is good access to pure, cold fresh water. The emergence of this kind of small, quality-conscious fish farming industry has ensured a regular supply of Norwegian Arctic Char to retail outlets with well-stocked fish counters.

## Use

Norwegian Arctic Char is sold fresh and frozen, whole or in fi llets. It can be brine-cured, drycured, smoked or fermented. Arctic Char may be grilled, fried or poached and is well-suited to sushi and sashimi.

### Nutritional content

The <u>fat</u> content is lower than that of the other salmonids, and almost 80 % of the fat consists of healthy mono and polyunsaturated fatty acids. This fish is also rich in vitamins A, D and B12.



### Atlantic Halibut

Hippoglossus (Latin)

Kveite (N) Flétan de l'Atlantique (F) Heilbutt (D)



SEASON April to December. SIZE Up to 3 metres. Weight up to 300 kg.

# The fish/fishery

Atlantic halibut is the largest member of flatfish family, with its eyes on its greyish side and a white blind side. Juveniles are found along the coast of Norway in relatively shallow waters, whereas full-grown Atlantic halibut usually stay at depths of 300 to 2000 metres.

Atlantic halibut spawn at depths of 300 to 700 metres in deep hollows in the banks off the coast or in the fjords. In addition to the coast of Norway, Atlantic halibut also spawn off the Faroe Islands, along the ridge that runs between Greenland, Iceland and Scotland, in the Denmark Strait, in the Davis Strait and on the banks off Newfoundland.

Atlantic halibut is extremely vulnerable to overfishing – it is territorial, grows very slowly and matures late. In addition to minimum size limits and net mesh restrictions, fishing for Atlantic halibut using nets, trawl nets, Danish seine nets and other fixed equipment is prohibited between 20 December and 31 March. After many years of research and development work, the Atlantic halibut has been established as a farmed species.

# Fishing methods

Long lines, ground nets.

## Use

Sold fresh or frozen in slices, in fillets or as whole fish. With greater access to farmed Atlantic halibut, fresh Atlantic halibut will be available all year. Atlantic halibut can be prepared in many ways, e.g. fried, poached and grilled. It has delicate, white flesh and as "the queen of all fish", is served at banquets and special occasions in Norway.

### Nutritional content

Atlantic halibut usually contains 1 gram of omega-3 fatty acids per 100 grams of fillet and is also a good source of vitamin D. Omega-3 fatty acids are important for the development of various cells in the body; and they have a beneficial effect on heart and/or circulatory diseases and immunological defences.

The <u>fat</u> content can vary with size and the part of the fi sh's body where it is measured. Vitamin D is necessary in order for the body to be able to utilise calcium to develop and maintain bones and teeth.

# Blue mussel Mytilus Edilus (Latin)

Blåskjell (N)
Moule commune (F)
Miesmuschel, Pfahlmuschel (D)



## **SEASON**

All year round, but usually best from autumn and winter to early spring.

SIZE

Up to 10-15 cm.

# Biology, cultivation and harvesting

Blue mussels are found along the entire coast of Norway, often in vast quantities in belts in the tidal waters or a little way out in the fjords.

Blue mussels usually spawn between April and June, depending on their location. The larvae remain free-swimming for approximately one month and then attach themselves to a hard surface – rocks, cliffs, boats and moorings. Mussels attach themselves to solid objects by strands (byssus threads) that are secreted from the bottom of the shell, and later they are able to move a little by stretching out new threads.

Blue mussels are grown on suspension culture systems: a network of horizontal lines suspended in the water from buoys from which ropes or lines called droppers are hung. The larvae, driven by the water, attach themselves to the droppers and grow into marketable mussels in a year or two. The shells are gradually thinned out, harvested and sorted, and the byssus threads are removed by machines onboard the harvesting vessels or at the landing and processing plants.

### Catch

Collecting blue mussels is a popular pastime in Norway, and the shells are often plucked by hand and taken home for dinner or cooked on a bonfi re on the beach. In particularly rich mussel banks, blue mussels are harvested using dredges from boats. Remember to check whether the mussels are safe enough to harvest!

## Use

Blue mussels are usually steamed and can be eaten by themselves or with a variety of garnishes. The boiled mussels can be served au gratin, prepared as special dishes or as a garnish to other dishes. Blue mussels can also be served raw in the same way as oysters.

### Nutritional content

Blue mussels are a good source of iron, selenium and vitamin B12, and the small amount of <u>fat</u> they contain is the type that is good for your health. Iron is an important component of the haemoglobin in the blood, which has the function of transporting oxygen.



# Brown Crab, Common Crab

Cancer Pagurus (Latin)

Krabbe (N)
Tourteau (F)
Taschenkrebs, Kurzschwanz-Krebs (D)

**SEASON** 

August to November.

SIZE

The male brown crab can be up to 30 cm across the carapace, females up to 20 cm.

# Biology/catch

The brown crab lives along the Norwegian coast as far north as Troms County. It is most common at depths up to 50 m. The female crab has a broader apron than the male, whereas the male has a fl atter carapace and larger claws.

Normally, brown crabs spawn in the autumn after they have reached maturity at the age of roughly five years. The female crab carries the eggs around in her abdominal apron throughout the winter until they hatch in the summer. The crab larvae are pelagic, i.e. they swim around in the water for the fi rst 4-6 weeks of their lives, before descending to the sea floor.

## Fishing methods

Pots.

## Use

Sold live, or cooked and dressed and presented in the shell, as well as frozen and tinned. Prepared crab is eaten by itself, but it can also be included in special dishes or as a garnish for other seafood recipes. Try a sour cream dressing with herbs and chillies as a variation from mayonnaise when serving crab by itself.

### Nutritional content

Brown crab is a good source of vitamins E and B12, selenium and zinc.

For more nutritional data, cf. www.nifes.no/sjomatdata. Brown Crab, Common Crab



## Capelin

Mallotus villosus (Latin)

Lodde (N)
Capelan Atlantiqoe (F)
Lodde (D)

## **SEASON**

Winter capelin fishery: January to April

Summer capelin fishery: August to November.

SIZE

Rarely more than 20 cm.

# The fish/fishery

Our capelin stock, which we manage in cooperation with Russia, has its spawning grounds on the coast of Northern Troms County, in Finnmark County and along the Kola Peninsula. Their growing and feeding grounds extend from Svalbard in the West to Novaja Zemlja in the Russian zone to the East.

The capelin's German and Norwegian name, Lodde, derives from the stripe of scales with hairlike elongations that develops along the flank of the male during the spawning period. In Norwegian, the male is called "faks-lodde", whereas the female, which lacks this stripe, is called "sil-lodde". A female capelin full of roe is

regarded as a great delicacy in Japan.

The capelin becomes sexually mature at 3–5 years of age. After the fi rst spawning, most of the fish will die, and this also explains the enormous variations in the size of the capelin stock. In recent years, the capelin stock in the Barents Sea has been at a very low level. This is of concern because the capelin is an important source of food for cod and herring that grow up in this area. Researchers think that the small size of the stock has three causes: poor recruiting year classes, increased natural death rates (feeding pressure from herring and cod) and lower individual growth.

No capelin were fished in the Barents Sea in the period 1994–1998. At present the fishery is banned again because of the problematic situation with the stock.

# Fishing methods

Purse seine.

Use

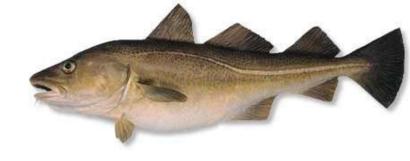
Little used in Norway, but in Japan it is a delicacy. Place it on a red-hot grill or in a dry frying pan for a couple of minutes on each side. Sprinkle with spices and eat from head to tail.

## **Nutritional content**

The capelin is a fatty fish and is rich in omega-3 fatty acids. The <u>fat</u> content varies seasonally.

# Cod Gadus Morhua (Latin)

Torsk (N) Morue, Cabillaud (F) Dorsch, Kabeljau (D)



Photographer: Eiliv Leren

Season: Norwegian Arctic cod (spawning cod): January to April

Spring cod: April to June Coastal cod: All year round

Size: Up to 150 cm

# The fish/fishery

Cod is one of the most common and economically important marine fishes in Norway. Cod is found extensively in the northern reaches of the Atlantic Ocean, and there are two main types: the migratory, oceanic cod and the non-migratory coastal cod. The coastal cod is a typical bottom-dwelling fi sh, whereas the migratory cod is more pelagic.

Of the various stocks of cod in Norwegian waters, the Norwegian Arctic cod (spawning cod) is the most important. It spends most of its life in the Barents Sea, but migrates both as a juvenile and as a mature spawning cod. The cod's spawning grounds extend from the coast of Finnmark County all the way down to the Stad peninsula in western Norway, but the most important spawning grounds are out beyond the Lofoten Islands.

The migrations of spawning cod still form the basis for the most important seasonal fishing activity in Norway, the Lofoten fishing season.

Young cod in the Barents Sea migrate toward the Finnmark coast in the spring in pursuit of mature spawning capelin. It is called juvenile cod and forms the basis for the traditional spring cod fishery. Coastal cod are basically equivalent to the cod in the Barents Sea, but they are more non-migratory in shallow water. They live in the intertidal zone and down to depths of approx. 600 metres.

The large stock of cod in the Barents Sea is growing at a healthy rate, and each year about 450–500,000 tonnes are harvested from this stock. In some other places, the cod stock is not doing well. Farming of cod is on the rise.

# Fishing methods

Bottom-trawling, Danish seines, long lines, nets, hand lines, pots.

### Use

Sold fresh or frozen in slices, fillets or as whole fish. It is also sold lightly salted and smoked and as clipfish and stockfish. Cod has a mild taste that goes well with many different types of garnishes and fl avourings. Cod flakes easily, so it should not be divided into very small portions for cooking.

## **Nutritional content**

Cod is a good source of protein and is also rich in vitamin B12 and selenium.



# Deep-water prawn

Pandalus Borealis (Latin)

Reker (N)
Crevette Nordique (F)
Tiefsee garnele (D)

SEASON All year round. SIZE Up to 10–12 cm.

# Biology/catch

Deep-water prawns are found in the fjords, offshore banks and in the Arctic regions. The pink deep-water prawn is the most common prawn in most catches.

Deep-water prawns thrive in cold water and occasionally disappear altogether from known shrimping fields in the south of Norway if the water temperature gets too high.

Deep-water prawns start life as a male and then, sometime between the age of 2 and 4 years, they change <u>sex</u> and become female. Prawns mate in the autumn, and the female carries the eggs round in her abdomen throughout the winter.

Trawling for deep-water prawn is done in the Skagerrak, along the coast of Norway and in the fjords using smaller vessels, whereas the prawn fi shery in the Barents Sea and up near Svalbard and Greenland is performed using large ocean-going trawlers. Deep-water prawns are processed to varying extents, i.e. everything

from fresh and frozen to onshore processing and direct exports. In the Skagerrak and to a lesser degree in the North Sea, prawns are caught using small shrimp trawlers.

# Fishing methods

Trawl nets.

Use

Sold cooked, either chilled or frozen in their shell, peeled and frozen or preserved in brine. Deepwater prawns are eaten by themselves, or in various cold and hot dishes. Make a salad with plenty of deep-water prawns, stuff it in the pocket of a pitta bread and lunch is ready. Care should be taken when re-heating cooked deepwater prawns; it must be done quickly if at all.

### Nutritional content

Deep-water prawns are a good source of vitamin B12 and are also rich in the fat-soluble vitamins A, E and D. Deep-water prawns contain very little fat.



### Eel

Anguilla anguilla (Larin)

ÅI (N) Anguille (F) AaI (D)

Season: Autumn

Size: Females up to 150 cm, males up to 50 cm

### The fish

Eels spawn in the Sargasso Sea off the coast of Florida. The eel larvae, leptocephali, are then carried across the Atlantic Ocean to Europe by currents. During the course of the three years in which the larvae drift northwards towards their growing grounds, they metamorphose to become transparent glass eel or elvers, measuring some 7 cm in length.

Elvers then migrate into freshwater and change colour to become yellow eels. When they reach maturity, after approx. 10 years, they change colour again and become silver eels with a shiny black back and pale underside. They then migrate out to sea and disappear from coastal waters.

# **Fishery**

Relatively few eel are caught in Norway, and the stock would tolerate further exploitation.

# Fishing methods

Pots.

# Use

Eel is sold fresh and smoked and is regarded by many people as a great delicacy.

### Nutritional value

Eel is extremely rich in omega-3 fatty acids, containing more than 5 grammes per 100 grammes. It is also a very good source of vitamin A.



# Flat Oyster, Common Oyster Ostrea Edulis (latin)

Østers (N) Huître plate (F) Auster (D)

# SEASON

All year round, but best in autumn, winter and spring.

# **Biology and cultivation**

The flat oyster is the only species of oyster that is found naturally in Norway, and it is the most commercially valuable type of oyster in Europe. It is also possible to buy Japanese oysters (Crassostrea gigas), which are narrower, longer and easier to farm than their European cousins. Until the middle of the nineteenth century, fl at oysters were common along the whole coastline of Norway, and relatively large quantities were harvested. Since then, the oyster has been on the decline and is now only found halfway up the coast, as far north as Trøndelag, in protected coves that are heated by the sun and shallow areas, where the water reaches a sufficient temperature in the summer.

Oysters start building up roe and milt from the spring until they breed in late summer, but they only spawn if the temperature is high enough. The eggs are fertilised inside the shell, and the larvae stay there for one week before leaving their mother. They are then released as <a href="free">free</a> swimming larvae before attaching themselves to a substrate for the rest of their lives. Traditionally, oysters were cultivated in protected coves heated by the sun, where the parent oysters released larvae into the water and the young oysters, known as spat, were then gathered using various different devices. Nowadays, oysters are also cultivated under slightly more controlled conditions, in hatcheries or in a combination of a hatchery and temperate conditions in which oysters grow naturally.

The shells are cultivated up to a marketable size in cases in the sea or in protected coves.

### Use

Oysters are usually served raw with a dash of lemon juice and Tabasco. Oysters can also be heated and served, e.g. on toast as a starter.

### Nutritional content

Oysters are a good source of zinc and have a high content of other important trace substances, such as copper, iron and niacin. In combination with small traces of phosphorus, these substances are good for our endurance.

# **Great Scallop**

Pecten Maximus (Latin)

Kamskjell (N) Coquille St. Jacques (F) Kamm-Muschel (D)



## **SEASON**

All year round, but it only has seasonal roe, with the season depending on the geographical region.

SIZE

Up to 17 cm in diameter.

# Biology, cultivation and harvesting

The king scallop is the largest of the scallop species found in Norway and are generally simply called scallop. Scallops are found from depths of a couple of metres down to several hundred metres, but occur most frequently at depths of between 10 and 30 metres. King scallops often live in areas with sandy bottoms,

resting in small hollows with the less-sculptured upper shell covered by sand, but they are also found on other types of seabed. Scallops are hermaphrodites. They carry their eggs in a special sac in front of the adductor muscle, where the orange part is the egg and the grey-white part is the milt. Scallops spawn in the summer.

The larvae swim freely for approximately one month before attaching themselves to a surface. Juvenile scallops remain stationary until they reach a size of 10–15 mm, when they settle on the sea fl oor. Scallops are marketable after four or five years, when they have reached a size of 10–12 cm.

In Norway, king scallops are primarily collected by divers. In some countries, scallops are harvested by dredging the seabed, but this is rarely an option in Norway as the seabed around the coast is not flat. More refined methods and

equipment for harvesting king scallops from the seabed are currently being developed. Research is currently underway to develop commercial scallop farming. Scallops are hatched artificially in incubators and are nurtured in cases in the sea, before being released on the seabed.

# Fishing methods

Dredging, diving.

# Use

King scallops are sold fresh, frozen au gratin in their shells, frozen without their shells and in brine. They can be eaten raw, lightly steamed, fried or au gratin, and they are particularly appetising when served in their decorative shells.

## **Nutritional content**

The king scallop is lean but still has a very high content of omega-3 fatty acids.

## **Greenland Halibut**

Reinhardtius Hippoglossoides (Latin)

Blåkveite (N) Flétan noir (F) Schwarzer Heilbutt (D)



## **SEASON**

All year round – rarely sold fresh in the summer.

SIZE

The male is rarely greater than 0.7 m and 4 kg; the female rarely greater than 1 m and 13 kg.

# The fish/fishery

Greenland halibut is an Arctic fish that is not found in water warmer than 4°C. It is similar to Atlantic halibut, but its blind side is a little lighter than its eyed side.

The spawning grounds for Greenland halibut extend along the edge of the continental shelf between Vesterålen and Spitsbergen. The species reaches sexual maturity at a late age: the male at 4–5 years of age and the female at 9–10 years of age at the earliest. The growing grounds are primarily off the coast of Svalbard. As an adult, sexually mature fish, it lives along the edge of the continental shelf at depths of

600 to 1200 m, but it can also live in more shallow water.

Greenland halibut consumes fi sh, squid and crustaceans and is famous for its ability to migrate for long distances.

Most of the fishing for Greenland halibut takes place along the edge of he continental shelf as far north as the island of Prins Karls Forland in the Svalbard archipelago.

The stock has remained at a low level during the last 15 years, but is slowly starting to pick up again. Commercial fishing is subject to strict regulations in an attempt to increase the Norwegian stock.

# Fishing methods

Bottom trawling, long lines, nets.

### Use

Sold mostly smoked, whole and sliced. Smoked Greenland halibut is best suited for poaching or dishes baked in the oven. In Norway it is usually served with a light sauce and boiled vegetables.

### Nutritional content

The content of omega-3 fatty acids varies seasonally. Greenland halibut is also a good source of vitamin D. The body needs vitamin D in order to make use of calcium. Calcium is the most important component of the bones and teeth.

## Haddock

Melanogrammus Aeglefinus (Latin)

Hyse (N) Églefin (F) Schellfisch (D)



SEASON All year round.

SIZE

Up to 110 cm and 19 kg, seldom longer than 80 cm.

# The fish/fishery

Haddock is a bottom-dwelling fi sh that lives at depths of between 40 and 300 metres. It's most important spawning grounds are in the North Sea, along the edge of the continental shelf off Møre og Romsdal County and off Southwest Iceland and the Faeroe Islands.

Young haddock in the Barents Sea are relatively territorial, whereas larger fish undertake long migrations. For example, they migrate down along the coast of Northern Norway and the banks off the coast of Troms County (Tromsøflaket) to spawn.

Haddock is one of the most important edible fish in Norway. Haddock fishing primarily occurs in coastal waters, but in the north, haddock is also caught on the banks in the eastern parts of the Norwegian economic zone. Haddock is fished all year, but in the summer, there is a special haddock fishery off the coast of eastern

Finnmark using floating long lines.

Haddock is also fished all year in the North Sea, where it is caught along with other species of food fi sh. Along the coasts of Møre og Romsdal and Trøndelag, haddock is caught using long lines and nets in the summer.

The stock of haddock north of 62° N is healthy and is producing year classes that will provide a basis for a good haddock fishery in the coming years. The haddock stock in the North Sea has also been healthy, but several weak year classes in recent years have resulted in more restrictive quotas.

# Fishing methods

Danish seines, trawlers, long lines, nets.

### Use

Sold fresh as fi llets or whole fi sh, as frozen fi llets or salted and smoked. Haddock can be fried and boiled and is well-suited for processing as fish cakes, fish balls and Norwegian fish pudding.

## **Nutritional content**

Haddock is a good source of protein and also contains vitamin B12, pyridoxine and selenium. For more nutritional data, cf. www.nifes.no/sjomatdata.

## Herring

Clupea harengus (Latin)

Sild (N) Hareng (F) Hering (D)



Photographer: Eiliv Leren

## SIZE/SEASON

Winter herring: 2–6 fi sh/kg. January to March. <u>Fat</u> herring: 3–6 fi sh/kg. July to December. Fjord herring: 3–20 fish/kg. August to April. North Sea herring: 3–7 fish/kg. January to March.

## The fish/fishery

In our marine areas, there are several different stocks of herring, but Norwegian spring-spawning herring are definitely the largest. In addition, there are other herring stocks, e.g. near Iceland, in the North Sea and in the Skagerrak.

Norwegian spring-spawning herring spend the winter in the Vestfjord area. In February/March, they begin migrating toward the grounds off the northerly part of the West Norwegian coast (Nordvestlandet), where most of the spawning occurs. The growing grounds for youngherring are located in the Barents Sea.

In the past, Norwegian spring-spawning herring formed the basis for the Norwegian catch of winter herring, fat herring and whitebait. However, the changes in fishing methods as the result of developments in technological aids in the 1960s led to the near depletion of the stock through overfi shing in the early 1970s, and herring had to be protected.

By imposing strict regulations for a period of about 20 years, the stock has now been replenished and once again makes a major contribution to Norwegian fisheries. The Norwegian fishing season mainly occurs during the period from October to March when the herring have attained a high quality and are easily accessible.

The herring fishing season for the North Sea and the Skagerrak mainly occurs during summer and autumn.

# Fishing methods

Purse seines, pelagic trawlers and nets.

### Use

Herring is sold as fresh and frozen fi llets and as whole fish. Processed herring comes in an abundance of varieties, e.g. salted, hot-smoked and cold-smoked. There are many different types of marinated herring spread, such as pickled herring,

herring with tomato sauce and sour cream herring. Fresh herring is well-suited for breading and frying; it becomes crisp and golden and goes well with many garnishes.

## **Nutritional content**

Herring is an excellent source of vitamins A, D and  $B_{12}$ . The fat content varies seasonally. It is also rich in omega-3 fatty acids.

# Ling

Molva Molva (Latin)

Lange (N) Linque (F)

Leng (D)



SEASON All year round. SIZE Up to 180 cm.

# The fish/fishery

The species was given its Norwegian name, *Lange*, because it has a long, narrow body. Ling are found at depths of 60 to 1000 m, but are most common at depths of 300 to 400 m. As a rule, only young fish are found in water shallower than 100 m.

In Norway, ling are most plentiful between the Stad peninsula in West Norway and the Vesterålen archipelago in the North. Young fish tend to stay in deep waters near the coast. From there, they migrate out to the spawning grounds in the North Sea and in the area north of the British Isles. Ling are mostly caught using long lines along the edge of the continental shelf, but ling have also been caught in deep fjords.

Fishing for ling continues all year, as well as a bycatch when fishing for other species.

# Fishing methods

Ground lines, ground nets.

### lleα

Ling has white, tasty, relatively firm flesh. The taste may remind you of cod, and it can be prepared in the same way as cod with good results.

### Nutritional content

Ling is a good source of protein and also contains selenium.

### Lobster

Homarus Gammarus (Latin)

Hummer (N)

Homard (F)

Hummer (D)



SEASON
October to December.
SIZE
Up to 50 cm, weight up to 4 kg.

# Biology/catch

The lobster is one of the largest crustaceans found in Norwegian waters. However, it grows very slowly, roughly 2–3 cm per year, and the females only reach maturity when they are about 23 cm long.

Lobsters only thrive in shallow waters, down to depths of 40 metres, with rock or stony beds where they can find plenty of good hiding places.

Lobsters spawn in the summer, and the female carries the roe throughout the winter until they hatch in June or July of the following year. The larva swim around in the upper waters for about 3-4 weeks or so until, at a length of 18 mm, they begin to resemble adult lobsters and settle down to life on the sea floor.

We have seen a dramatic drop in the stock of lobster in Norwegian waters during the last fifty years, and that is why they are now protected by conservation orders and minimum sizes. Lobster may only be caught using lobster pots. Attempts are being made to develop lobsterfarming. Sea ranching and/or stocking with

young lobsters raised in captivity are also beingcarried out to bolster local stocks.

# Fishing methods

Lobster pots.

Use

Sold alive, cooked, frozen or tinned. Preparedlobster is mainly served by itself, but it can also be served as a special cold or hot dish. Served by itself it is tasty with a well-seasoned dressing instead of the traditional mayonnaise.

## **Nutritional content**

Lobster is rich in vitamin B12 and zinc. Zinc is an important trace element, which is necessary for many of the body's important metabolic functions. For example, there are about 80 zincdependent enzymes in the body.



Scomber scombrus (Latin)

Makrel (N) Maquereau (F) Makrell (D)



Season

April to November.

Size

Up to 66 cm, seldom longer than 40 cm.

## The fish/fishery

Mackerel is a pelagic fish that can swim at great speeds, and in summer and autumn it moves in huge shoals along the coast of Norway and into Skagerrak, the North Sea and the southern reaches of the Norwegian Sea.

In Europe, the mackerel family is divided into three main stocks: one to the west of the British Isles, one in the North Sea and Skagerrak and a third in the Gulf of Biscay. The mackerel fi shed in the North Sea, Skagerrak and the Norwegian Sea are generally managed together with the western stock of mackerel.

Each year, Norwegian fishermen land between 140,000 and 160,000 tonnes of mackerel in Norway. Most of these fish are Atlantic mackerel that migrate into the North Sea and Skagerrak in the autumn.

Towards the end of the year, the fully matured mackerel migrate out of the North Sea toward their spawning grounds to the west and southwest of Ireland, where they start spawning in March.

The fishery takes place primarily during the summer half of the year. The vessels used vary from boats that use nets and trolling lines along the coast, to large ocean-going seiners.

# Fishing methods

Purse seines, pelagic trawlers, nets and trolling lines.

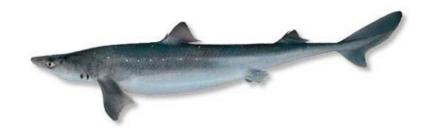
## Use

Mackerel is sold as fresh and frozen fillets and as whole fi sh. There are many processed mackerel products, including hot-smoked, coldsmoked and pepper-smoked mackerel. In addition, there are many varieties of tinned mackerel and mackerel spreads in tomato sauce. Fresh mackerel can be fried, poached and grilled and is well-suited to brine-curing.

Fried mackerel in a sour cream sauce is a popular delicacy in Norway.

## **Nutritional content**

In the spring, mackerel have a low <u>fat</u> content, about 3%, whereas autumn mackerel may contain up to 30%, and hence large concentrations of omega-3 fatty acids. It is also a good source of vitamins D and B12. Vitamin B12 plays an important role in maintaining nerve fibres.



# Picked dogfish

Squalus acanthias (Latin)

Pigghå (N) Aiguillat commun (F) Dornhai (D)

Photographer: Eiliv Leren

Season: All year Size: Up to 120 cm

# The fish

The spiny dogfish is the most common kind of shark in Norwegian waters and is often found in dense shoals. The two dorsal fins have a long spine at the front that contains venom and can give a painful wound if touched.

This species of shark lives at depths of from 10 to 200 metres, but has also been found at 960 metres. Tagging of individuals by Norwegian researchers has demonstrated that in the autumn, the spiny dogfish migrates to the waters west of the Shetland and Orkney Islands and returns to the Norwegian coast in the early spring.

# **Fishery**

Most longline fishing for spiny dogfish is carried out in the winter when the species is closest to the coast.

# Fishing methods

Longlines, nets.

# Use

In the past, spiny dogfish was fished for its liver alone. More recently, however, the fish has become popular as a food fish. Sold as fresh or frozen filet. It can also be smoked. Picked dogfish can be fried or broiled and used in various dishes.

## **Nutritional value**

Spiny dogfish is a good source of omega-3 fatty acids – 100 grammes of meat providing roughly 2 grammes of these essential fatty acids.



## **Plaice**

Pleuronectes Platessa (Latin)

Rødspette (N)
Plie, Carrelet (F)
Goldbutt, Scholle (D)

SEASON
July to December.
SIZE
25 to 40 cm.

# The fish/fishery

Plaice is a flatfish that has its eyes on the right side, and smooth grey or brown skin with numerous characteristic red spots. The species is common in the North Sea from the intertidal zone down to depths of 250 metres.

Plaice is regarded as a territorial species, but when the spawning period pproaches, it may undertake long migrations to particular spawning grounds. The main spawning grounds for North Sea plaice are south of Dogger Bank.

# Fishing methods

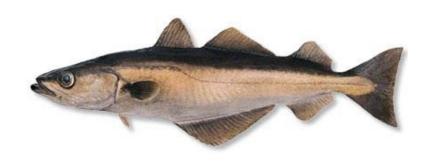
Bottom trawling, Danish seines, ground nets.

Use

Sold fresh as whole fish and fillets or as frozen fillets. Plaice can be fried, poached and grilled. It can also be breaded, deep-fried and served as the well-known dish fish and chips.

### Nutritional content

Plaice contains vitamins A and D.



## **Pollack**

Pollachius Pollachius (Latin)

Lyr (N) Lieu jaune (F) Pollack, Steinköhler (D)

SEASON All year round. SIZE Up to 130 cm

# The fish/fishery

Pollack can be distinguished from its cousin, the saithe, by its large, prominent lower jaw. It also has a dark, wavy lateral line, while the saithe has a pale, straight one. The species is pelagic at depths up to 200 m.

In Norway, the number of pollack varies along the South and West coasts. In general, pollack prefer warmer waters and only migrate out to deeper waters in the winter.

Pollack are usually caught as a bycatch of cod fishing.

# Fishing methods

Nets, trawlers, trolling lines.

### .

Use

Pollack is well-suited to making stuffing. It can also be poached and fried and is used in the same dishes as cod and haddock. Pollack can also benefit from marinating before cooking.

### Nutritional content

Pollack is a good source of protein and is also rich in vitamin B12 and selenium. Selenium is a necessary element in many of the body's chemical reactions, e.g. in the decomposition of the so-called "free radicals". These radicals are potentially toxic to the cells and can be formed in the body by ingesting medication, alcohol, cigarette smoke, etc.

For more nutritional data, cf. www.nifes.no/sjomatdata.

**IDEAS AND RECIPIES** 

www.seafoodfromnorway.com

## Red King Crab

Paralitodes Camtschaticus (Latin)

Kongekrabbe (N) Crabe Rouge Royale (F) Kamschatka-krabbe (D)

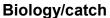
Photographer: Eiliv Leren

**SEASON** 

October to December.

SIZE

Up to 8 kg and a carapace length of 23 cm in Norwegian waters.



The Red King Crab is a cold water species that is currently found in both coastal stretches and at sea in the southern reaches of the Barents Sea, at depths of 5 to 400 metres, depending on the season. The Red King Crab feeds on benthic

fauna and many kinds of flora, particularly bristle worms and other small mussels.

Russian researchers introduced the Red King Crab to the Barents Sea from the Sea of Okhotsk on the Pacific Coast of Russia in the 1960s. Their intention was to increase the value base for the population in Murmansk. Since then, the Red King Crab has dispersed eastward and westward into the southern Barents Sea and

is probably here to stay.

The Red King Crab is a resource that we manage jointly with Russia. The Norwegian catch of Red King Crab did not get underway until 1994, initially for research purposes, but also from 2002 on a commercial basis.

The Red King Crab is a valuable resource, but as a non-native species, great care is taken in Norway to prevent it from dispersing to new areas. Thus, one of the main objectives of the management of the Red King Crab is to limit the stock as much as possible west of 26° E longitude (the North Cape).

# Fishing metods

Pots.

### Use

Usually sold cooked, but also frozen raw. Boiled Red King Crab claws are regarded by many as a delicacy and can be used as a garnish in hot dishes or as special cold dishes. It can be served by itself in a similar way to other crustaceans. Raw Red King Crab claws can be boiled or served au gratin and can be prepared

in various dishes in a similar way to lobster or crayfish.

## **Nutritional content**

The meat of the Red King Crab is a good source of protein and contains little fat.



### Redfish

Sebastes spp. (Latin)

Uer (N) Sébaste, Chèvre (F) Rotbarsch, Goldbarsch (D)



SEASON
All year around.
SIZE
Up to 1 metre, weight up to 15 kg.

## The fish/fishery

There are three species of redfish in Norwegian waters. Those that are sold commercially are usually common redfi sh (Sebastes marinus) and rosefish (Sebastes mentella), whereas Norway redfi sh (Sebastes viviparus) is too small (max 32 cm) to be sold commercially. Redfish are found along the edge of the continental slope at depths of 100 to 500 metres, although individual specimens have been caught at depths of up to 900 metres. In the Norwegian Sea, redfish are pelagic fish. The three species have different dispersals, which overlap each other.

Common redfi sh migrate in the summer. Fully matured common redfish have their feeding grounds in the Barents Sea, where they mate from August to October. In the winter, they begin to migrate south to their spawning grounds off the Vesterålen archipelago. The largest catches of redfish are made by nets and trawlers in the north of Norway. Secondary catches of redfish are made all year in most of the Norwegian economic zone and in the zone around Svalbard. Strict regulations are necessary in order to replenish vulnerable stocks.

# Fishing methods

Trawler, Danish seine nets, nets.

### Use

Sold as fresh fi llets, and salted whole fish or fillets. Fresh fillets can be fried and grilled. Redfish is also an excellent fish for stir-fry dishes and goes well with chillies, garlic and soy sauce. Salted redfish, on the other hand, are best suited for poaching with traditional Norwegian garnishes, such as root vegetables and potatoes.

### Nutritional content

The <u>fat</u> content in redfi sh may vary somewhat, but it usually amounts to about 1 gram of omega-3 fatty acids per 100 grams of fillet. Redfish is also a good source of protein. For more nutritional data, cf. <u>www.nifes.no/sjomatdata</u>.



## Saithe

Pollachius Virens (Latin)

Sei (N) Lieu noir (F) Köhler, Seelachs (D)

Season: All year Size: Up to 120 cm

# The fish/fishery

The saithe stock in Norwegian waters is usually divided into two groups, living north and south respectively of 62° N latitude. Both of the stocks have remained at a relatively stable level. Saithe is both a pelagic fi sh and a bottom-dwelling fi sh, living at depths of between 0 and 300 metres. It swims in shoals, which can be enormous where there is plenty of food.

Saithe spawn along the coastal banks from the Lofoten Islands and south to the North Sea. The saithe fry then drift northwards, carried by the coastal currents, and young saithe start to appear in the South and Southwest of Norway in the spring, arriving off the coast of Finnmark as late as August. Saithe migrate huge distances

from their feeding and growing grounds to their spawning grounds.

Saithe is an important commercial species in Norway. Fishing for saithe takes place in coastal waters and in the far north to the west of the North Cape. In the fjords and in the waters off the coast of Finnmark County, many saithe are caught using purse seines. In addition, the North Sea and banks to the north of western Finnmark are also good fi shing grounds.

# Fishing methods

Bottom trawling, Danish seines, purse seine, nets, hand lines.

### Use

Sold fresh as fi llets or as whole fi sh or frozen in slices. Saithe can be fried, poached and grilled. It is well-suited for processing, e.g. as thick, juicy saithe steaks.

### Nutritional content

Saithe is generally regarded as a good source of protein, but it is also rich in vitamin B12 and selenium. Selenium is a necessary component in many of the body's chemical reactions and is also necessary for maintaining the fluid balance in the body.



# **Salmon** Salmo salar (Latin)

Laks (N)
Saumon Atlantique (F)
Lachs (D)

Season: Protection laws determine the fishing season. Farmed salmon is sold all year.

Size: Up to 150 cm, weight up to 35 kg.

## The fish/fishery

The Atlantic salmon is an anadromous fish, which means it migrates into freshwater to spawn, but otherwise lives in the sea. After two to five years in a river, the salmon fry undergoes a change, known as smoltification, rendering it able to live in saltwater. Once the salmon fry has become a smolt, it leaves the river and

migrates out to sea. After two to four years, the fish is fully matured and starts the migration back to its native river to spawn.

Nowadays, fishing wild salmon is limited for the most part to sports anglers.

# Fish farming

Norway has been a pioneering nation in the development of salmon farming, and since the breakthrough with sea-based farming in the 1970s, it has kept its position as the world's leading producer of Atlantic salmon.

As a coastal trade and export industry, the salmon industry has been extremely important for Norway. As a result of the tremendous growth in production, which picked up speed significantly in the 1980s, the salmon industry currently accounts for about 40 per cent of the total export value of Norwegian fi sh products.

### Use

Atlantic salmon is sold fresh or frozen in slices, fi llets or as whole fish. Salmon fillets can also be cured, cold-smoked and hot-smoked. Fresh salmon can be used raw

in sashimi and sushi. It can be poached, fried or grilled and is very well-suited to stir-fry and casserole dishes. Smoked salmon can be served as a sandwich fi lling or in salads, with pasta and in many other combinations.

### Nutritional content

In terms of nutritional value, farmed salmon is an excellent product. It contains plenty of omega-3 fatty acids and is rich in the fat-soluble vitamins A and D. Omega-3 fatty acids are important for various cells in the body; they have a benefi cial effect on heart and/or circulatory diseases and on bolstering our immunological defences.

## Sea Urchin

Echinus Esculentus (latin)

Kråkebolle (N) Oursin (F) Seeigel (D)

Photographer: Per Eide

**SEASON** 

Best in autumn and winter.

SIZE

Rarely larger than 100 mm. The largest sea urchins are probably 7–8 years old.



Sea urchins are dispersed throughout the Northeastern Atlantic from Portugal to Northern Norway and Iceland. On the Norwegian coast, 7 different species of sea urchins have been registered, where the Edible Sea Urchin is the most common. This species thrives among algae on hard substrates from the supratidal zone down to about 40 m.

The Edible Sea Urchin, also known as the Common Sea Urchin, is our largest sea urchin. It has a spherical red and/or pink shell densely packed with relatively short, violet-tipped spines, of roughly the same length. The spines have white bosses.

The species grazes primarily on larger species of algae, especially kelp, and particularly those that are overgrown. It also consumes other attached fauna. Propagation occurs in early summer.

The gonads (reproductive glands) are a highly prized delicacy in many countries, e.g.

Japan, Great Britain and Portugal. The gonads taste best before propagation occurs in early summer.

There is increasing interest in harvesting sea urchins in Norway, and our sea urchin resources are more or less unexploited. Harvesting sea urchins for feed or direct sale could become a new industry for Norwegian coastal communities.

## Catch/harvest

Harvesting sea urchins is only done by divers at present.

### Use

The roe and gonads are edible. They are served raw in the same way as oysters, but they can also be heated and added directly to a hot sauce as a garnish.

### Nutritional content

Sea urchins are extremely rich in A vitamins.





# Sprat

Sprattus sprattus (Latin)

Brisling (N)
Sprat, Esprot (F)
Sprotte (D)

Season: January, June to December Size: 14-15 cm, up to 15 grammes

# The fish/fishery

Sprats resemble herrings, but are much smaller. Sprats are a pelagic fi sh that swim in enormous shoals, but are seldom found deeper than 150 m.

In Norwegian waters, the fjord sprats spawn each year in the Oslo fjord and in the eastern parts of the Skagerrak coast. Occasionally, sprats also spawn in the fjords between Lindesnes and Farsund on the South coast of Norway and in some fjords on the West coast.

Most of the commercial fi shing for fjord sprats takes place in the fjords of southern Norway. Catches are left in impoundment nets or pens for at least three days to allow the intestines to empty before the fish are sent to processing plants. In addition, commercial fishing for sea sprats takes place in the North Sea.

# Fishing methods

Purse seine.

Use

Sprats are mostly sold frozen or in processed form. Sprats are an important raw material for the fish-processing industry, where, among other things it is processed into "anchovies". In Norway, tinned sprat spreads are marketed as sardines or anchovies. Fresh sprats may be fried and grilled. Sprats are also an important

fish for meal and oil production.

### Nutritional content

Sprats are a good source of omega-3 fatty acids and vitamin D and also has a high content of vitamin  $B_{12}$ .



### Trout

Ørret (N)

Truite (F)

Forelle (D)

Season: May to September.

Farmed trout is sold all year round. Freshwater trout: up to 120 cm

Sea trout: up to 100 cm Rainbow trout: up to 80 cm

## The fish/fishery

Trout is a name that is used for many species of salmonids. They come in many different varieties and have different life cycles, depending, among other things on the habitat in which they live. We generally distinguish between sea trout and freshwater trout, brown trout (brook trout) and rainbow trout.

Freshwater trout and sea trout are also referred to as "common" trout, and they belong to the same genus as Atlantic salmon – i.e. Salmo, which means to leap or jump.

Rainbow trout were introduced to Europe from the USA at the close of the nineteenth century. The name of the genus, Onocorhynchus, means hooked nose.

Farmed trout are mostly rainbow trout. It is a fi sh that farms well. In Norway, trout are mostly farmed in the sea, where they grow to a considerable weight.

# Fishing methods

Nets, fishing rod.

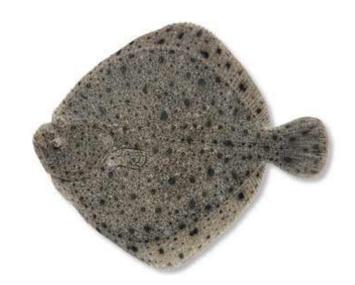
Use

Trout is sold fresh or frozen in slices, fillets or as whole fish.

Trout fi llets may be cold-smoked and hotsmoked, sugar-salted and cured. Trout goes well with very many types of dishes: raw in sushi and sashimi, poached, fried and grilled. It is excellent in stir-fry and casserole dishes. Coldsmoked and hot-smoked trout may be served in sandwiches or in salads, pasta or other ombinations.

### Nutritional content

Like salmon, farmed trout is a good fi sh nutritionally, with high concentrations of omega-3 fatty acids. Trout is also rich in vitamins A and D.



# Turbot

Psetta Maximus (Latin)

Piggvar (N) Turbot (F) Steinbutt (D)

SEASON All year round. SIZE Up to 1 metre.

# The fish/fishery

Turbot is a member of the Scophthalmidae family of flatfish and is almost completely circular. Turbot has both its eyes on its left side and has large, bony knots on its dark eyed side. It lives in the intertidal zone and down to depths

of approx. 80 metres.

Turbot is often found partially buried in the seabed in sand, gravel, rocks and sediment. It is an active predator, and adult turbot live almost exclusively off other fish.

The best places to fish for turbot in the North Sea are along the banks off the coast of northern Jutland in Denmark. Much of the turbot that is sold in Europe is farmed, mainly in Southern Europe. In Norway, production is low because turbot requires relatively warm water.

# Fishing methods

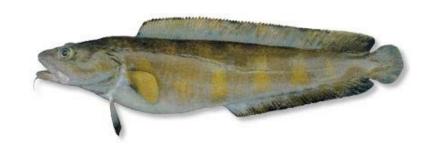
Danish seines, bottom-trawling, ground nets.

# Use

Stocks are low in Norwegian waters, so it is only rarely found on sale here. Sold fresh in slices, fillets or as whole fish. Turbot flesh is white, firm, delicate and in great demand. Turbot can be fried, poached and grilled, and the meat is at its best from September to April.

### Nutritional content

Turbot contains about 1 gramme of omega-3 fatty acids per 100 grammes of fillet.



# Tusk, Cusk

Brosme Brosme (Latin)

Brosme (N) Brosme (F)

Lumb (D)

SEASON All year round. SIZE

Up to 110 cm, weight up to 15 kg.

# The fish/fishery

In terms of body shape, tusk slightly resembles ling, but it is slightly plumper and has a single, continuous dorsal fin.

In Norway, tusk is common in the deepest fjords of the West Coast and along the continental slope (the edge of the continental shelf). It is found at depths of 50 to 1000 metres, but is most common at depths of between 200 and 500 metres. The tusk's main spawning grounds are between Scotland, the Faroe Islands and Iceland.

In Norway, tusk is caught throughout the year; in the north, mostly along the edge of the continental shelf up to approx. 72° N. Some tusk is also caught as a bycatch of trawls. Further south, tusk is mainly caught using long lines on the banks off Møre og Romsdal and Sogn og Fjordane counties.

# Fishing methods

Bottom-trawling, ground lines, ground nets.

### Use

Sold as fresh or frozen fi llets or as lightly salted f llets. Tusk has firm flesh with a taste that is somewhat like lobster, and it is easy to prepare small pieces, which makes it well-suited for stir-fries. The flesh is juicy and delicate, and in addition to fried dishes it is ideal for dishes baked in the oven. Lightly salted fillets can be

poached or served in a range of culinary styles.

## **Nutritional content**

Tusk is a lean fi sh and a good source of protein. It is also rich in vitamin B12.



## Wolffish, Catfish

Anarhichas spp. (Latin)

Steinbit (N) Loup de mer (Fr Katfisch (D)

SEASON All year round. SIZE Up to 120 cm.

# The fish/fishery

The characteristic powerful jaws and teeth of this species testify to its natural adaptation to its <u>diet</u> of sea urchins, mussels, snails and crabs.

The Atlantic wolffish (Anarhichas lupus) is generally found in rocky areas with seaweed, and in the spawning period, often all the way up to the intertidal zone. Wolffish spawn between November and February at depths of 40 to 200 metres. Spawning is earlier in more northerly areas and later in southern climes.

The spotted catfish or spotted wolffish (Anarhichas minor) is more commonly found in arctic areas. Commercial fishery takes place in the Barents Sea and the banks off the north of Norway. Wolffish is now also farmed.

# Fishing methods

Bottom-trawling, ground lines, ground nets.

### Use

Sold as fillets, fresh or frozen. Once regarded as an unappealing fish that nobody wanted, wolffish has now become a culinary delicacy in great demand. Its flesh has a firm consistency, so there are many ways to prepare it in the kitchen. It can be cut in strips or bite-sized portions and stir-fried with vegetables, spices and spicy

sauces. Wolffish can be fried, and due to its firm consistency, it is easy to handle on a grill.

### **Nutritional content**

Wolffish is a good source of vitamins A and B12.