STUDY

Research for the PECH Committee

European Parliament

Handbook of fishing gears used by the EU fleet

Fisheries

Policy Department for Structural and Cohesion Policies
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RESEARCH FOR PECH COMMITTEE

Handbook of fishing gears used by the EU fleet

Abstract

This handbook provides an illustrated overview of the main fishing gears currently used in the EU. For each gear, the handbook outlines the essentials of its design, operation method and target species, and shows the main Member State fishing fleets that use it. In addition, it indicates the name of the gears in Danish, German, Spanish, French, Italian, Dutch and Portuguese.

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CONTENTS

LIST OF ABBREVIATIONS

FAD	Fish aggregating device
FAO	Food and Agriculture Organization of the United Nations
ISSCFG	International Standard Statistical Classification of Fishing Gear

LANGUAGE CODES

DA	Danish
DE	German
ES	Spanish
FR	French
IT	Italian
NL	Dutch
PT	Portuguese

1. FOREWORD

Working on EU fisheries policy issues often involves dealing with a specialised vocabulary, full of technical terms and translated into different EU languages. The terminology associated with the wide range of gears used in fisheries is one of the most complex parts of this vocabulary. Indeed, fishing gears are conceived to target particular species or groups of species, which means that each gear has a specific design and operates in a specific way. Moreover, a multitude of regional and local variations have been developed over time, to adapt the gear design and fishing method to the particular conditions in which it operates. The nooks and crannies of the different gear types are described in detail in technical reports and academic literature, and a wealth of information is available at global, regional and national level.

The large variety of fishing gears may be classified in many different ways. A common classification based on the relative movements of the gear and the target species describes the gear as active, if it is towed or otherwise moved in a deliberate pursuit of the target species (e.g. trawls, dredges, seines...), or passive, if it is stationary, with the target species moving towards it (e.g. gillnets, traps...). Another classification, based on the main elements that the gear uses, distinguishes between gears using nets (e.g. trawls, seines, gillnets...), hooks (e.g. longlines, trolling lines...), or other devices (e.g. dredges, traps, harpoons...). Gears are also classified according to their position relative to the sea bottom, as bottom-contact gears (e.g. bottom trawls, dredges, set gillnets...) or non-bottom-contact gears (e.g. drift gillnets, trolling lines...). With a view to ensuring the collection of comparable data on fishing gears throughout the world, the Food and Agriculture Organisation of the United Nations (FAO) developed the International Standard Statistical Classification of Fishing Gear (ISSCFG). The ISSCFG, introduced in 1971 and revised in 1990 and 2016, provides a broad categorisation of all types of fishing gear and operational practices, and is widely used in fisheries statistics around the world (see Annex).

This handbook provides a general overview of the main fishing gears currently used in the EU, outlining the essentials of what each gear is and how it works. The gear categories are structured according to the latest 2016 version of the ISSCFG. For each gear, the handbook indicates:

- The **FAO standard abbreviation** and the **ISSCFG code**, which identify the gear in fisheries statistics;
- The name of the gear in Danish (DK), German (DE), Spanish (ES), French (FR), Italian (IT), Dutch (NL) and Portuguese (PT); [1]
- The **type** of fishing (i.e. active or passive);
- The **target** group of species (and, if relevant, the water depth or the bottom characteristics of the zone where the gear commonly operates). This refers in particular to:
  - pelagic species (living in the water column);
  - demersal species (living close to the seabed);
  - benthic species (living on or under the seabed).
- A concise **description** of the typical gear design and the basic principle of the **operation** method, accompanied by an illustration of the gear.[2]

[1] The translation of the gear names is based on Regulation 1379/2013 on the common organisation of the markets in fishery and aquaculture products (Annex III - Information on fishing gear), the French and Spanish versions of the FAO technical paper 672, 'Classification et définition illustrée des engins de pêche' and 'Clasificación y definición ilustrada de los artes de pesca', and the 'Multilingual dictionary of fishing gear'.

[2] This section is based in particular on the FAO technical paper 672 'Classification and illustrated definition of fishing gears', on the FAO online factsheets), and on the Seafish guide 'Basic fishing methods'.

- The **main EU fishing fleets** that use the gear, either as the main gear or as a subsidiary gear, according to the EU Fleet Register.[3]

For more information on each specific gear, a link to the corresponding FAO factsheet is provided. The handbook concludes with a list of further reading on the topic.

[3] Database consulted on 22 May 2024. The Fleet Register shows the fishing vessels registered by a Member State at a given time, based on information provided by Member States. However, in some cases, particular gears are absent from the list registered by a Member State, but mentioned as present in the Member State in question in other reports (e.g. in the Catalogue of fishing gear in the Mediterranean and Black Sea region).

2. SURROUNDING NETS

Purse seines

FAO standard abbreviation	**PS**
ISSCFG code	01.1

DA	Not
DE	Ringwaden
ES	Redes de cerco con jareta
FR	Sennes coulissantes
IT	Ciancioli
NL	Ringzegen
PT	Redes de cerco com retenida

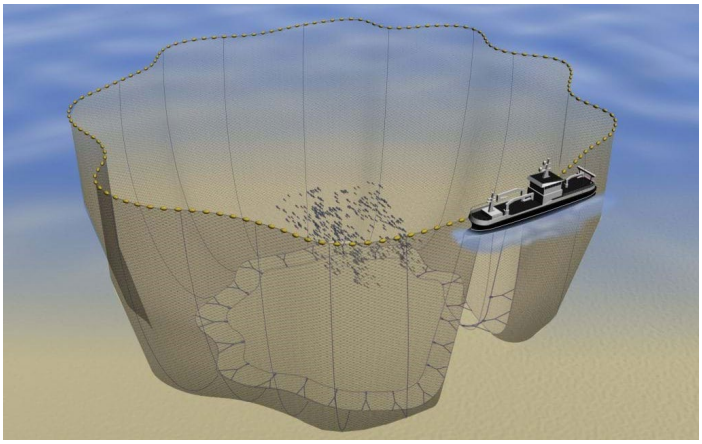

Image source: Seafish

Type	Active
Target	Shoaling pelagic fishes of all sizes, up to 300 m water depth
Description	A purse seine is a wall of netting framed by a headrope with floats along the upper edge and by a weighted footrope at the lower edge. A purse line runs through the purse rings that hang from the lower edge of the gear, which allows the pursing of the net.
Operation	The purse seine is set around a detected school of fish and the net is closed underneath it by hauling the purse line. Fish Aggregating Devices (FAD) may be used to concentrate the fish.
Main fleets	Bulgaria, Croatia, Cyprus, Denmark, Estonia, France, Greece, Ireland, Italy, Malta, Netherlands, Portugal, Romania, Slovenia, Spain, Sweden

More information: FAO Factsheet Purse seines

Surrounding nets without purse lines

FAO standard abbreviation	**LA**
ISSCFG code	01.2

DA	Uden snurpewire
DE	Umschließungsnetze ohne Schnürleine
ES	Redes de cerco sin jareta
FR	Filets tournants sans coulisse
IT	Rete da circuizione senza chiusura
NL	Ringzegen zonder sluitlijn
PT	Redes de cerco sem retenida

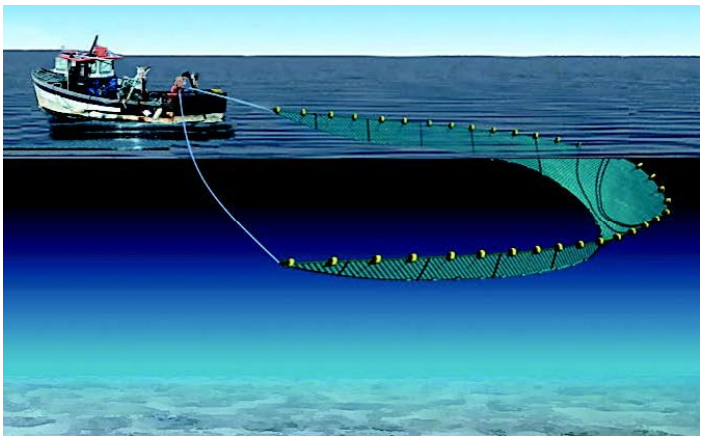

Image source: Lucchetti *et al.* (2023)

Type	Active
Target	Small pelagic species in coastal waters near the surface
Description	The gear consists of a wall of netting framed by an upper headrope with floats and a lower weighted footrope, with the footrope shorter than the headrope. The lampara net is the most representative type in this category. A light device is sometimes used at night to attract the fish.
Operation	With one of the wings attached to a marker buoy, the vessel deploys the central smaller-mesh part (termed bunt) and the other wing, to encircle the school of fish. The two wings are hauled simultaneously, concentrating the fish in the bunt.
Main fleets	Estonia, France, Malta

More information: FAO Factsheet Surrounding nets without purse line

3. SEINE NETS

Beach seines

FAO standard abbreviation	**SB**
ISSCFG code	02.1

DA	Landvod
DE	Strandwaden
ES	Chinchorros de playa
FR	Sennes de plage
IT	Sciabiche da spiaggia
NL	Strandzegens
PT	Xávegas

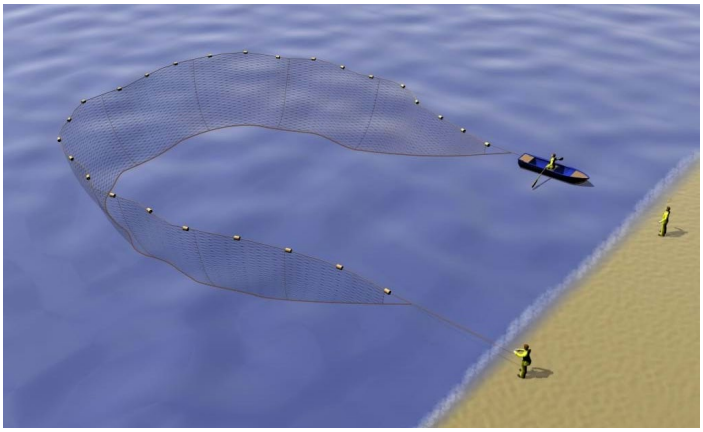

Image source: Seafish

Type	Active
Target	Pelagic and demersal species in shallow waters close to the shore
Description	A seine beach is a long-winged net, with the central part (bunt) consisting of smaller-mesh or a cone-shaped bag. It has a headrope with floats at the surface, and a weighted footrope that keeps it in contact with the bottom. The elongated wings are often prolonged with towing ropes.
Operation	With one end fastened on the beach, the gear is set out in a wide arc, and the other end is brought ashore. The two ends are towed from the beach, herding the fish in the bunt.
Main fleets	Bulgaria, Croatia, Estonia, France, Greece, Italy, Poland, Portugal, Romania, Sweden

More information: FAO Factsheet Beach seines

Boat seines - Danish seines

FAO standard abbreviation	**SV-SDN**
ISSCFG code	02.2

DA	Snurrevod
DE	Snurrewaden
ES	Redes de tiro danesas
FR	Sennes danoises
IT	Sciabiche danesi
NL	Deense zegens
PT	Redes de cerco dinamarquesas

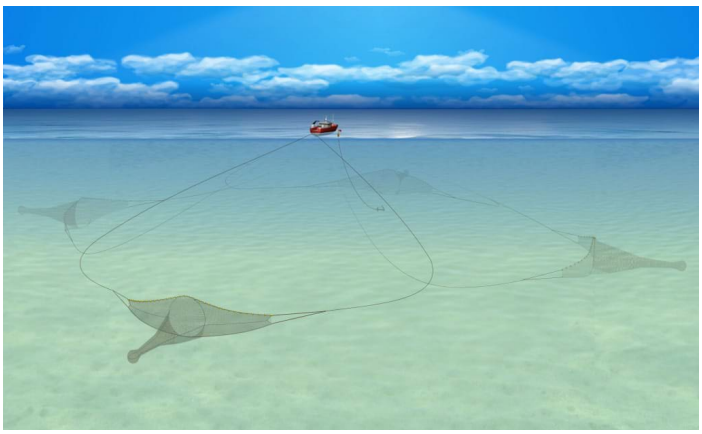

Image source: Seafish

Type	Active
Target	Demersal and benthic species, mainly on smooth grounds up to 500 m water depth
Description	Boat seines are cone-shaped nets with elongated wings extended by long heavy seine ropes. The net is framed by a headrope with floats at the upper part, and by a weighted footrope that keeps it in contact with the bottom.
Operation	With one end of the gear attached to a marker (termed highflyer), the vessel lays the ropes and the net on the sea bottom, encircling the area, and returns to the highflyer. In Danish seining (also known as anchor seining), the highflyer is anchored. Back to the highflyer, the vessel attaches to the anchor and the net is hauled, with the ropes herding the fish towards the net. This operation can be repeated (see figure above showing four consecutive sets).
Main fleets	Denmark, Estonia, France, Germany, Ireland, Netherlands, Poland, Sweden

More information: FAO Factsheets Boat seines and Danish seining

Boat seines - Scottish seines

FAO standard abbreviation	**SV-SSC**
ISSCFG code	02.2
DA	Skotsk snurrevod (flyshootervod)
DE	Schottische Wadennetze
ES	Redes de tiro escocesas
FR	Sennes écossaises
IT	Sciabiche scozzesi
NL	Schotse zegens
PT	Redes escocesas

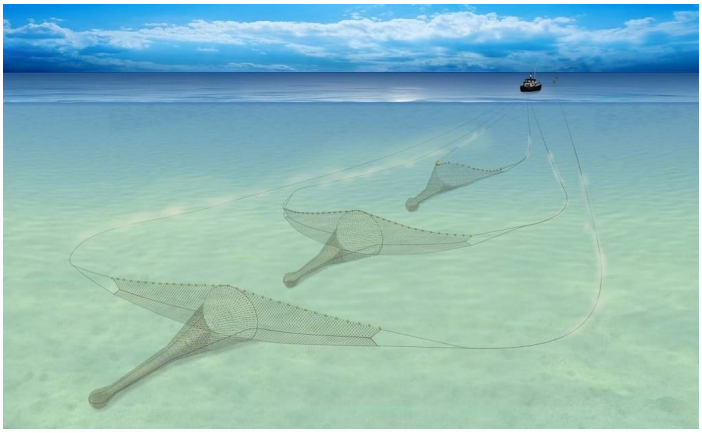

Image source: Seafish

Type	Active
Target	Demersal and benthic species, mainly on smooth grounds up to 500 m water depth
Description	Boat seines are cone-shaped nets, with elongated wings extended by long, heavy seine ropes. The net is framed by a headrope with floats at the upper part, and by a weighted footrope that keeps it in contact with the bottom.
Operation	With one end of the gear attached to a marker (termed highflyer), the vessel lays the ropes and the net on the sea bottom, encircling the area, and returns to the highflyer. In Scottish seining (also known as fly dragging), the highflyer floats freely. After retrieving the highflyer, the vessel moves forward and the net is hauled, with the ropes closing up and herding the fish towards the net (see figure above showing three successive shapes during one set).
Main fleets	Belgium, Denmark, Estonia, Finland, France, Germany, Ireland, Netherlands

More information: FAO Factsheet Boat seines and Scottish seining

Boat seines - Pair seines

FAO standard abbreviation	**SV-SPR**
ISSCFG code	02.2
DA	Vod trukket af to fartøjer
DE	Zweischiff-Wadennetze
ES	Redes de tiro de pareja
FR	Sennes manœuvrées par deux navires
IT	Sciabiche a coppia
NL	Spanzegens
PT	Redes envolventes-arrastantes de parelha

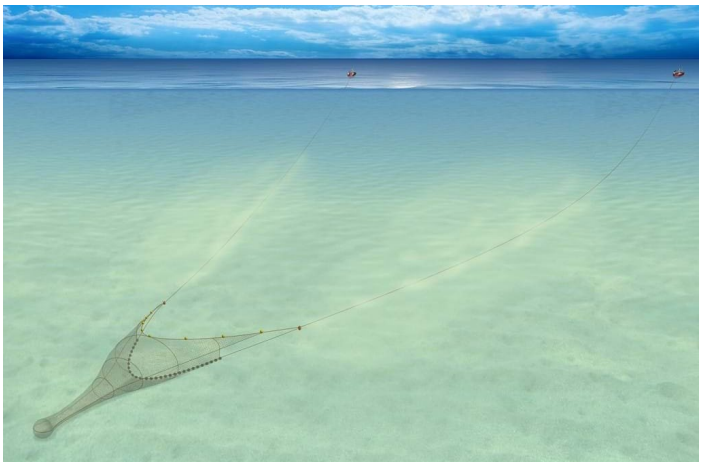

Image source: Seafish

Type	Active
Target	Demersal and benthic species, mainly on smooth grounds up to 500 m water depth
Description	Boat seines are cone-shaped nets, with elongated wings extended by long heavy seine ropes. The net is framed by a headrope with floats at the upper part, and by a weighted footrope that keeps it in contact with the bottom.
Operation	The pair seine is operated by two boats. The main (shooting) vessel pays out one rope to deploy the seine and encircle an area of seabed, while a second vessel picks up the end of the other rope. The two vessels tow the net gradually closing up the ropes. When the net is closed, the second rope is passed to the main vessel and the net is hauled onboard.
Main fleets	France, Ireland, Netherlands

More information: FAO Factsheets Boat seines and Pair seining

4. TRAWLS

Beam trawls

FAO standard abbreviation	**TBB**
ISSCFG code	03.11
DA	Bomtrawl
DE	Baumkurren
ES	Redes de arrastre de vara
FR	Chaluts à perche
IT	Sfogliare
NL	Boomkorren
PT	Redes de arrasto de vara

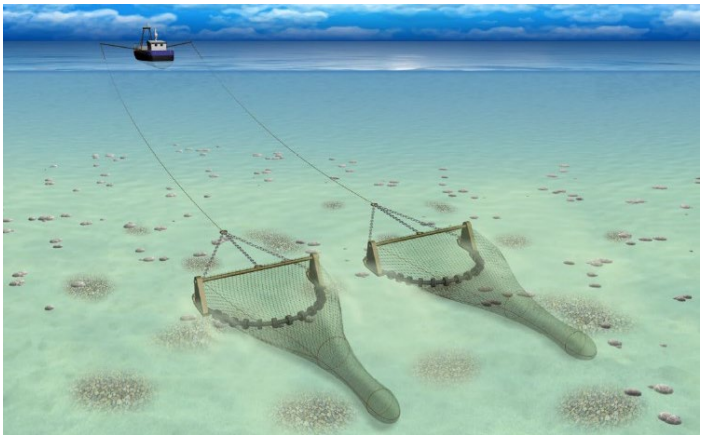

Image source: Seafish

Type	Active
Target	Benthic species (mainly flatfish and shrimp), normally at less than 100 m water depth
Description	The beam trawl is a cone-shaped net ending in a bag (codend) that retains the catch. A heavy rigid beam maintains the horizontal opening of the net. The weighted groundgear at the lower edge of the net, often equipped with tickler chains, keeps it in close contact with the bottom.
Operation	The vessel tows one or (more commonly) several beam trawls on the seabed, often from outriggers (see figure above showing one beam trawl on each side of the vessel). The tickler chains running ahead of the groundgear stir up the fish from the seabed into the net.
Main fleets	Belgium, Bulgaria, Denmark, France, Germany, Ireland, Italy, Netherlands, Portugal, Romania

More information: FAO Factsheet Beam trawls

Single boat bottom otter trawls

FAO standard abbreviation	**OTB**
ISSCFG code	03.12
DA	Skovlbundtrawl
DE	Grundscherbrettnetze
ES	Redes de arrastre de fondo de puertas
FR	Chaluts de fond à panneaux
IT	Reti a strascico a tavoloni
NL	Bodemottertrawls
PT	Redes de arrasto pelo fundo

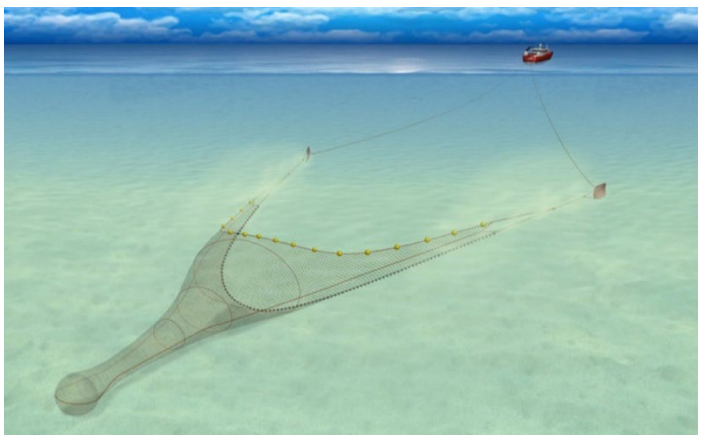

Image source: Seafish

Type	Active
Target	Demersal and benthic species (especially gadoids, flatfishes and shrimps), up to >1 000 m depth
Description	The bottom otter trawl is a cone-shaped net ending in a bag (codend) that retains the catch. Its wingends are connected through bridles and sweeps to two otter boards (termed doors), which maintain the horizontal opening of the net. The heavy otter boards and groundgear keep the net in close contact with the bottom. It is the most common type of bottom trawl.
Operation	The vessel tows the otter trawl on the seabed. The otter boards, along with the bridles and the sweeps, herd the fish into the path of the net.
Main fleets	Belgium, Croatia, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Poland, Portugal, Slovenia, Spain, Sweden

More information: FAO Factsheet Single boat bottom otter trawls

Twin bottom otter trawls

FAO standard abbreviation	**OTT**
ISSCFG code	03.13
DA	Dobbelttrawl
DE	Grundscherbrett-Hosennetze
ES	Redes de arrastre gemelas con puertas
FR	Chaluts jumeaux à panneaux
IT	Reti gemelle a divergenti
NL	Dubbele bordentrawls
PT	Redes de arrasto geminadas com portas

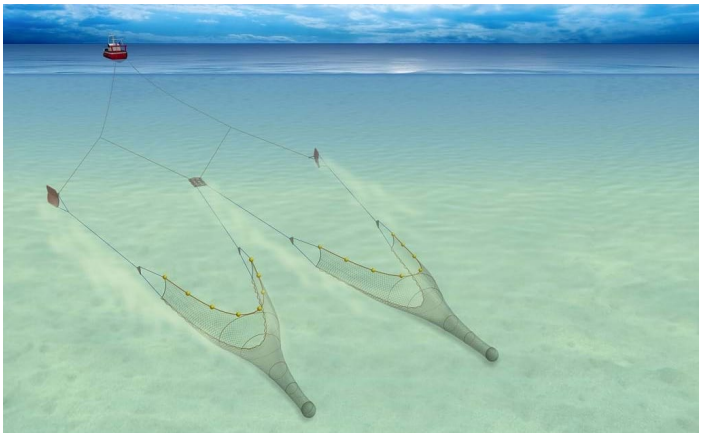

Image source: Seafish

Type	Active
Target	Demersal and benthic species (mainly flatfishes and shrimps), typically in shallow coastal waters
Description	The twin trawl combines two bottom otter trawls (see OTB), each of which is usually rigged between one of the two otter boards and a central clump weight.
Operation	One vessel tows two adjacent otter trawls on the seabed (to cover a wider area than with a single one). The otter boards, the bridles and the sweeps herd the fish into the path of the nets.
Main fleets	Denmark, France, Germany, Ireland, Netherlands, Poland

More information: FAO Factsheet Twin bottom otter trawls

Bottom pair trawls

FAO standard abbreviation	**PTB**
ISSCFG code	03.15
DA	Parbundtrawl
DE	Zweischiffgrundschleppnetze
ES	Redes de arrastre de fondo a la pareja
FR	Chaluts-boeufs de fond
IT	Reti a strascico a coppia
NL	Spantrawls
PT	Redes de arrasto pelo fundo de parelha

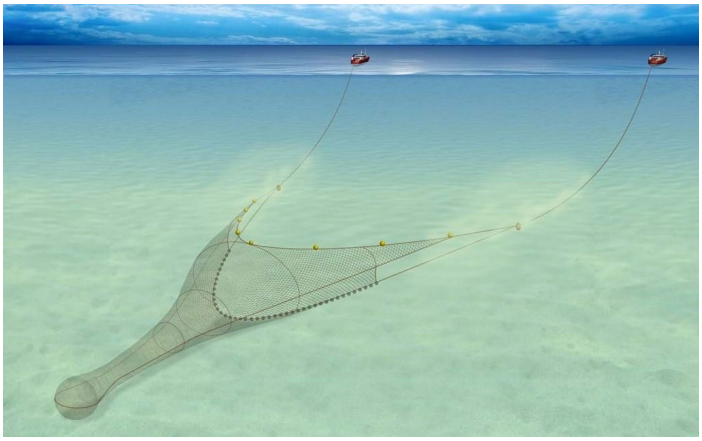

Image source: Seafish

Type	Active
Target	Benthic species (mainly flatfishes and, to a lesser extent, shrimps), up to 800 m water depth
Description	The bottom pair trawl is a cone-shaped net ending in a bag (codend) that retains the catch. Each of the two wingends is connected to a vessel through bridles and sweeps, extended by long heavy towing wires. The distance between the vessels maintains the horizontal opening of the net.
Operation	Two vessels simultaneously tow the trawl on the seabed. One of the vessels handles the trawl and takes the catch, while the other is only a towing vessel. The two vessels must maintain a constant distance between them and an equal towing pull, so that the trawl is symmetrical during fishing. The bridles and the sweeps, as well as the towing wires, herd the fish into the path of the net.
Main fleets	Estonia, Finland, France, Germany, Ireland, Netherlands, Poland, Spain, Sweden

More information: FAO Factsheet Bottom pair trawls

Single boat midwater otter trawls

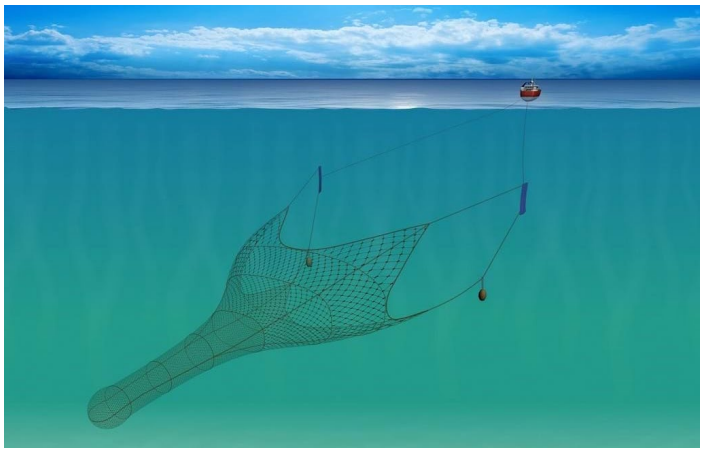

Image source: Seafish

FAO standard abbreviation	**OTM**
ISSCFG code	03.21
DA	Skovlflydetrawl
DE	Pelagische Scherbrettnetze
ES	Redes de arrastre pelágico de puertas
FR	Chaluts pélagiques à panneaux
IT	Reti da traino pelagiche a divergenti
NL	Zwevende ottertrawls
PT	Rede de arrasto pelágico com portas

Type	Active
Target	Shoaling pelagic fishes
Description	The midwater (or pelagic) otter trawl is a cone-shaped net, with very large meshes in the front part and smaller meshes in the narrow section, equipped with circumferential strengthening ropes to prevent bursting. It has a large vertical opening, often maintained by clump weights attached to the lower wingends. The horizontal opening of the net is due to two lightweight hydrodynamic otter boards, connected to the wingends through bridles.
Operation	The vessel tows the trawl in midwater, adjusting the depth of the net to intercept a detected school of fish. The large meshes of the trawl mouth direct the shoaling fish towards the body of the net.
Main fleets	Bulgaria, Croatia, Denmark, Estonia, Finland, France, Germany, Ireland, Latvia, Lithuania, Malta, Netherlands, Poland, Portugal, Romania, Slovenia, Sweden

More information: FAO Factsheet Single boat midwater otter trawls

Midwater pair trawls

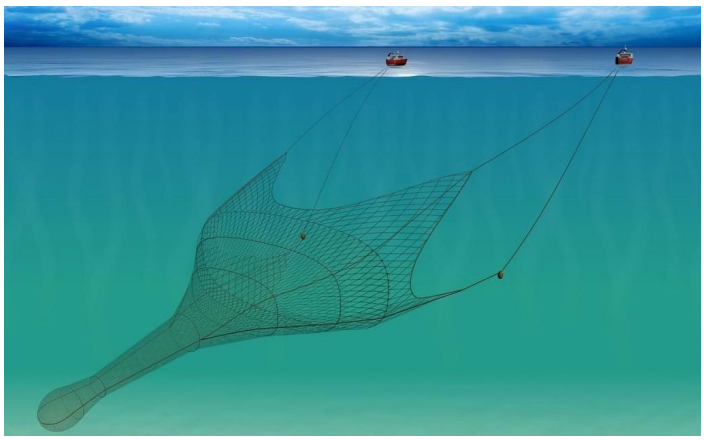

Image source: Seafish

FAO standard abbreviation	**PTM**
ISSCFG code	03.22
DA	Parflydetrawl
DE	Pelagische Zweischiffschleppnetze
ES	Redes de arrastre pelágico a la pareja
FR	Chaluts-boeufs pélagiques
IT	Reti da traino pelagiche a coppia
NL	Pelagische spantrawls
PT	Redes de arrasto pelágico de parelha

Type	Active
Target	Shoaling pelagic fishes, in particular near the surface
Description	The net is similar to the midwater otter trawl (OTM), but the horizontal opening of the net is determined by the distance between the two vessels towing the net.
Operation	The two vessels simultaneously tow the trawl in midwater, adjusting the depth of the net to intercept a detected school of fish. The large meshes of the trawl mouth direct the shoaling fish towards the body of the net.
Main fleets	Bulgaria, Estonia, Finland, France, Germany, Ireland, Italy, Lithuania, Netherlands, Poland, Sweden

More information: FAO Factsheet Midwater pair trawls

5. DREDGES

Towed dredges

FAO standard abbreviation	**DRB**
ISSCFG code	04.1
DA	Skrabere
DE	Bootdredgen
ES	Rastras para embarcación
FR	Dragues remorquées par bateau
IT	Draghe tirate da natanti
NL	Vanaf een schip bediende korren
PT	Dragas rebocadas por embarcação

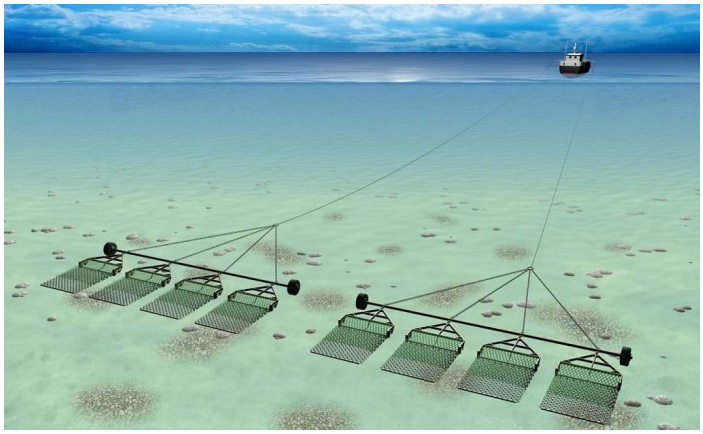

Image source: Seafish

Type	Active
Target	Shellfish species (mainly mussels, oysters, scallops and clams)
Description	A dredge is a cage-like structure with a rigid metallic frame and a chain mail collecting bag. The lower edge of the frame (termed cutting bar) may be equipped with teeth or a blade that scrape the sea bottom.
Operation	The vessel tows one or several dredges on the sea bottom. In the latter case, the dredges are attached side by side to a towing bar, connected by bridles to a single towing warp. The gear digs the shellfish out of the substrate and collects them into the cage.
Main fleets	Belgium, Croatia, Denmark, Estonia, France, Germany, Ireland, Italy, Netherlands, Portugal, Romania, Slovenia

More information: FAO Factsheet Towed dredges

Hand dredges

FAO standard abbreviation	**DRH**
ISSCFG code	04.2
DA	Håndbetjente skrabere
DE	Handdredgen
ES	Rastras de mano
FR	Dragues à main
IT	Draghe a mano
NL	Handskorren
PT	Dragas de mão

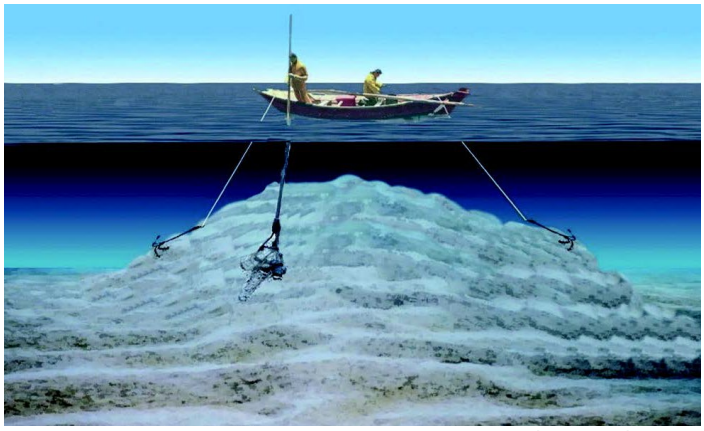

Image source: Lucchetti *et al.* (2023)

Type	Active
Target	Shellfish species (mainly mussels, oysters, scallops and clams), in shallow waters
Description	A dredge is a cage-like structure with a rigid metallic frame and a chain mail collecting bag. The lower edge of the frame (termed cutting bar) may be equipped with teeth or a blade that scrape the sea bottom. The hand dredge is smaller and lighter than the towed dredge.
Operation	The hand dredge can be pulled manually or towed from a small boat, to dig the shellfish out of the substrate and collect them in the cage.
Main fleets	France, Greece, Ireland, Netherlands, Portugal, Sweden

More information: FAO Factsheet Hand dredges

Mechanized dredges

FAO standard abbreviation	**DRM**
ISSCFG code	04.3
DA	Motoriserede skrabere
DE	Mechanisierte Dredgen
ES	Rastras mecanizadas
FR	Dragues mécanisées
IT	Draghe automatiche
NL	Gemechaniseerde dreggen
PT	Dragas mecanizadas

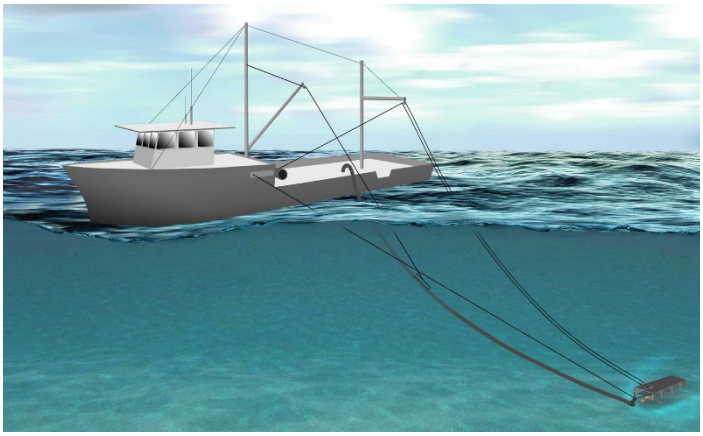

Image source: He *et al.* (2021)

Type	Active
Target	Shellfish species (mainly mussels and clams)
Description	A dredge is a cage-like structure with a rigid metallic frame and a chain mail collecting bag. Mechanized (or hydraulic) dredges are equipped with extensive accessory gear such as hoses and high--pressure hydraulic jet pumps.
Operation	The mechanised dredge uses hydraulic pressure to dislodge shellfish from the sediment. The boat either operates while anchored, or slowly tows the gear. The shellfish are scooped up by the dredge located behind the water jets. Sometimes the gear may be combined with suction pumps, escalators or conveyors.
Main fleets	France, Ireland, Netherlands

More information: FAO Factsheet Mechanized dredges

6. LIFT NETS

Boat-operated lift nets

FAO standard abbreviation	**LNB**
ISSCFG code	05.2

DA	Synkenot
DE	Senktücher (von Booten ausgesetzt)
ES	Redes izadas maniobradas desde embarcación
FR	Filets soulevés manœuvrés par bateau
IT	Reti da raccolta manovrate da natanti
NL	Vanaf een schip bediende kruisnetten
PT	Redes de sacada manobradas de embarcações

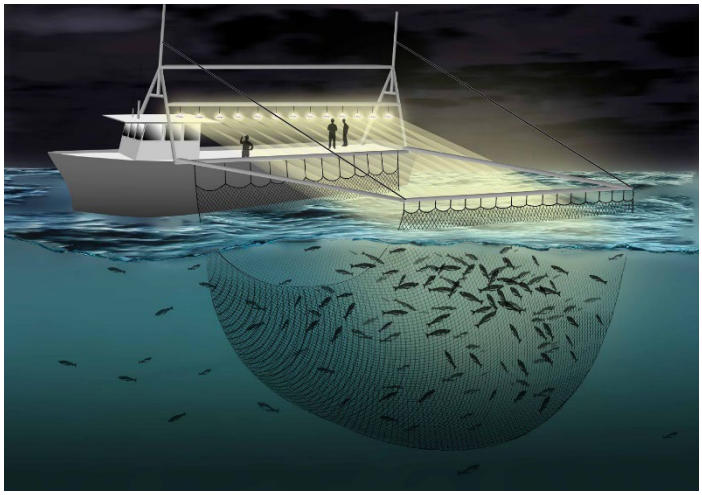

Image source: He *et al.* (2021)

Type	Active
Target	Small pelagic species
Description	A lift net is a piece of netting mounted on a rectangular frame.
Operation	The gear is deployed in the water column from one or more boats. The fish, often attracted above the net by bait or (at night) by lights, are caught by lifting the net.
Main fleets	Finland, France, Greece, Ireland, Portugal

More information: FAO Factsheet Boat-operated lift nets

Shore-operated stationary lift nets

FAO standard abbreviation	**LNS**
ISSCFG code	05.3

DA	Faststående løftenet
DE	Stationäre Hebenetze
ES	Redes izadas maniobradas desde la costa
FR	Filets soulevés fixes manœuvrés du rivage
IT	Reti da raccolta fisse manovrate da terra
NL	Vanaf de oever bediende kruisnetten
PT	Redes de sacada manobradas de terra

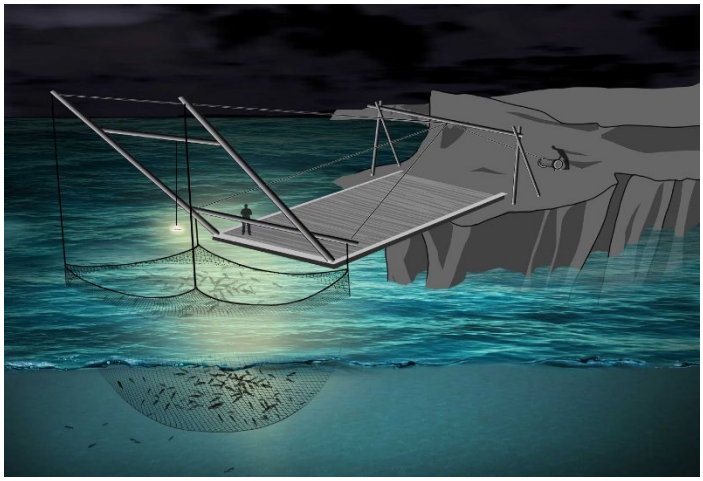

Image source: He *et al.* (2021)

Type	Active
Target	Pelagic species near the shore
Description	A lift net is a piece of netting mounted on a rectangular frame.
Operation	The gear is deployed in the water column from a stationary platform located on the shore. The fish, often attracted above the net by bait or (at night) by lights, are caught by lifting the net.
Main fleets	France

More information: FAO Factsheet Shore-operated stationary lift nets

7. GILLNETS AND ENTANGLING GEAR

Set gillnets (anchored)

FAO standard abbreviation	**GNS**
ISSCFG code	07.1

DA	Bundsat garn
DE	Stellnetze-Kiemennetze
ES	Redes de enmalle de fondo (ancladas)
FR	Filets maillants calés (ancrés)
IT	Reti da posta (ancorate)
NL	Geankerde kieuwnetten
PT	Redes de emalhar de fundo (fundeadas)

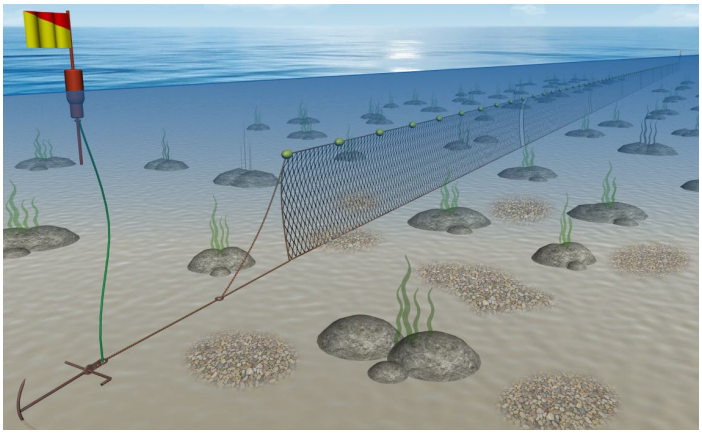

Image source: Seafish

Type	Passive
Target	Demersal and benthic species, mainly in waters up to 100 m depth (but possible up to 1 000 m)
Description	Gillnets are long rectangular walls of netting, held open vertically by an upper headrope with floats and by a lower weighted footrope. Most often, they form a long chain of nets tied together, stretching for up to several kilometres. The set gillnet is fixed to the seabed, usually at both ends, and marked with buoys at the surface. It is the most common type of gillnets.
Operation	The vessel sets the gillnet, usually on the sea bottom, or at different depths depending on the target species. Fish that swim into the net are caught in the meshes by their gills.
Main fleets	Belgium, Bulgaria, Croatia, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Poland, Portugal, Romania, Slovenia, Spain, Sweden

More information: FAO Factsheet Set gillnets (anchored)

Drift gillnets

FAO standard abbreviation	**GND**
ISSCFG code	07.2

DA	Drivgarn
DE	Treibnetze
ES	Redes de enmalle de deriva
FR	Filets maillants dérivants
IT	Reti da posta derivanti
NL	Drijfnetten
PT	Redes de emalhar derivantes

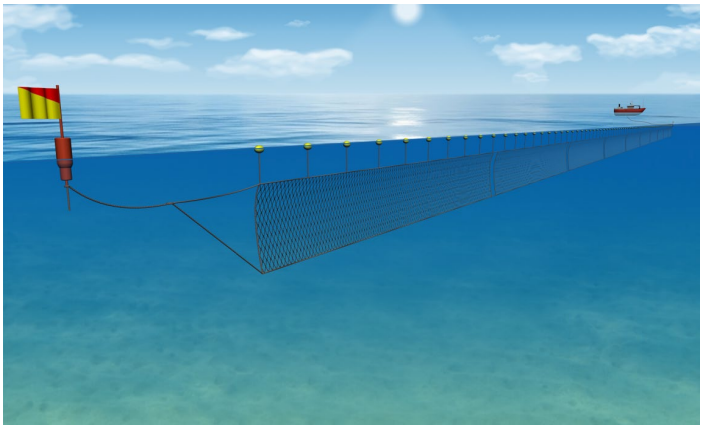

Image source: Seafish

Type	Passive
Target	Pelagic fishes near the surface
Description	Gillnets are long rectangular walls of netting, held open vertically by an upper headrope with floats and by a lower weighted footrope. Most often, they form a long chain of nets tied together. The maximum total length of drift gillnets allowed in the EU is 2.5 km. A drift gillnet is not fixed but is allowed to drift with the current, attached to the vessel or to a marker buoy.
Operation	The vessel suspends the drift gillnet, usually near the surface, or at different depths depending on the target species. Fish that swim into the net are caught in the meshes by their gills.
Main fleets	Bulgaria, Denmark, Estonia, Finland, France, Ireland, Italy, Lithuania, Netherlands, Poland, Portugal, Slovenia, Sweden

More information: FAO Factsheet Drift gillnets

Encircling gillnets

FAO standard abbreviation	**GNC**
ISSCFG code	07.3
DA	Omkredsende garn
DE	Umschließende Kiemennetze
ES	Redes de enmalle de cerco
FR	Filets maillants encerclants
IT	Reti da posta circuitanti
NL	Omringende kieuwnetten
PT	Redes de emalhar envolventes

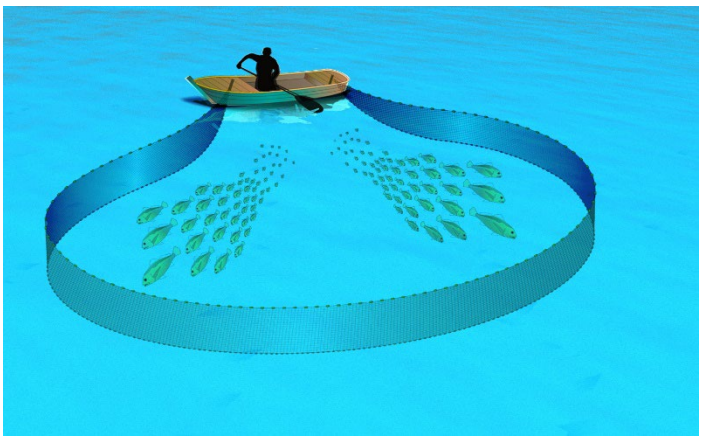

Image source: He *et al.* (2021)

Type	Passive
Target	Pelagic and demersal species in very shallow coastal waters
Description	Gillnets are long rectangular walls of netting, held open vertically by an upper headrope with floats and by a lower weighted footrope.
Operation	The vessel deploys the encircling gillnet around a fish aggregation, with the headrope at the surface and the footrope on the seabed. The fish, driven towards the net with noises or visual stimuli, are entangled or caught in the meshes by their gills.
Main fleets	Finland, France, Germany, Greece, Ireland, Netherlands, Poland

More information: FAO Factsheet Encircling gillnets

Fixed gillnets (on stakes)

FAO standard abbreviation	**GNF**
ISSCFG code	07.4
DA	Garn fastgjort (til pæle)
DE	Stellnetze (an Stangen)
ES	Redes de enmalle fijas (en estacas)
FR	Filets maillants fixes (sur perches)
IT	Reti da posta (a pali)
NL	Staand kieuwnet (op palen)
PT	Tapa-esteiros (em estacas)

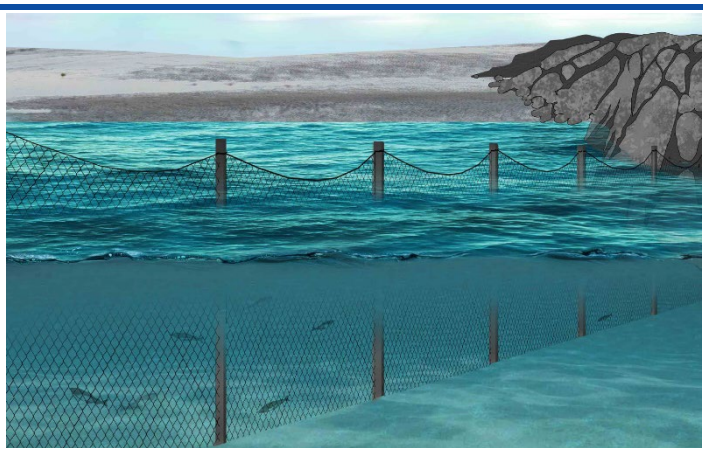

Image source: He *et al.* (2021)

Type	Passive
Target	Pelagic and demersal species in very shallow coastal waters
Description	A fixed gillnet is a long rectangular wall of netting, held open vertically by hanging the net on an alignment of stakes driven into the seabed along the coast.
Operation	The fixed gillent is deployed in coastal areas with significant tides. Fish reaching the area at high tide become entangled or caught in the meshes by their gills, or concentrate at the bottom of the net at low tide.
Main fleets	Denmark, France

More information: FAO Factsheet Fixed gillnets (on stakes)

Trammel nets

FAO standard abbreviation	**GTR**
ISSCFG code	07.5
DA	Toggergarn
DE	Stellnetze-Verwickelnetze
ES	Trasmallos
FR	Trémails
IT	Tremagli
NL	Schakels
PT	Tresmalhos

Image source: He *et al.* (2021)

Type	Passive
Target	Demersal species
Description	The trammel net is a long rectangular wall of netting, held open vertically by an upper headrope with floats and by a lower weighted footrope; but unlike the gillnet, it consists of three layers of netting: two outer layers of large mesh, with an inner layer of fine, small mesh hanging loosely in between. In the figure above, the outer and inner layers are shown in white and black respectively.
Operation	The trammel net is deployed on the seabed, similarly to the set gillnet (GNS). As fish swim through one of the outer layers of the large-mesh net, the inner fine-mesh slack layer entraps them in a pocket or entangle them in the net.
Main fleets	Belgium, Bulgaria, Croatia, Cyprus, Denmark, Estonia, France, Germany, Greece, Ireland, Lithuania, Malta, Netherlands, Poland, Portugal, Slovenia, Spain, Sweden

More information: FAO Factsheet Trammel nets

Combined gillnets-trammel nets

FAO standard abbreviation	**GTN**
ISSCFG code	07.6
DA	Kombineret garn og toggergarn
DE	Kombinierte Kiemen-/Verwickelnetze
ES	Redes atrasmalladas y redes de enmalle combinadas
FR	Trémails et filets maillants combinés
IT	Reti combinate (da imbrocco-tremagli)
NL	Gecombineerde kieuwnetten en schakels
PT	Redes mistas de emalhar-tresmalho

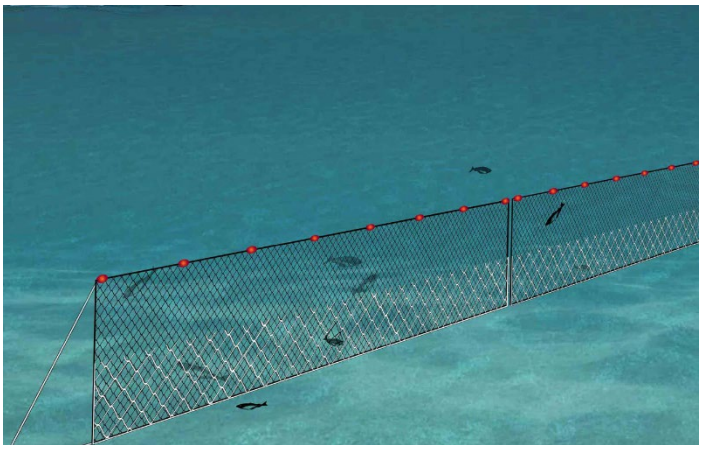

Image source: He *et al.* (2021)

Type	Passive
Target	Demersal and pelagic species, near the seabed
Description	The combined gillnet-trammel net consists of a regular gillnet (GNS) in the upper part, to gill semi-demersal or pelagic fish, and a trammel net (GTR) in the lower part, to entangle bottom fish.
Operation	The gear is deployed on the seabed similarly to the set gillnet (GNS).
Main fleets	Croatia, Estonia, Finland, France, Greece, Ireland, Malta, Netherlands, Slovenia

More information: FAO Factsheet Combined gillnets-trammel nets

8. TRAPS

Stationary uncovered pound nets

FAO standard abbreviation	**FPN**
ISSCFG code	08.1

DA	Ikke overdækket bundgarn
DE	Nicht bedeckte stationäre Reuse
ES	Almadrabas fijas descubiertas
FR	Filets-pièges fixes non couverts
IT	Rete trappola non coperta
NL	Onbedekte kom
PT	Almadravas

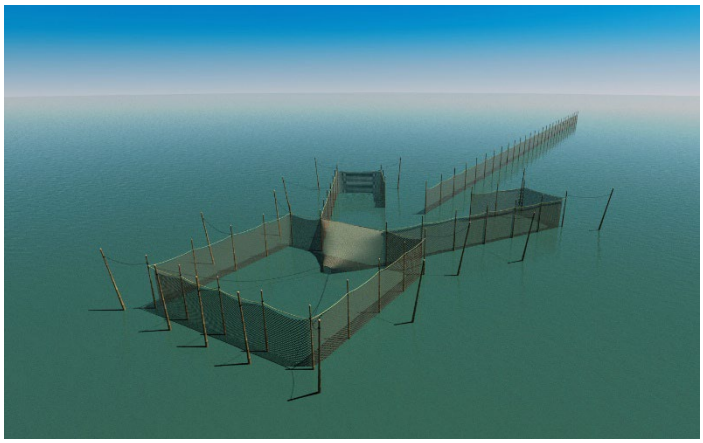

Image source: Seafish

Type	Passive
Target	Mainly migratory fish species, in shallow coastal waters
Description	The pound net is usually a large net, anchored with a mooring system or fixed on stakes, so as to form one or more chambers. The opening of the chamber, commonly funnel-shaped, is designed to provide easy entry and difficult exit.
Operation	The gear is placed in the path of fish migration or daily movement. Long leader nets intercept the fish and guide them to the holding chamber where they are captured.
Main fleets	Denmark, Estonia, Germany, Poland, Romania

More information: FAO Factsheet Stationary uncovered pound nets

Pots

FAO standard abbreviation	**FPO**
ISSCFG code	08.2

DA	Tejner
DE	Reusen
ES	Nasas
FR	Nasses (casiers)
IT	Nasse
NL	Korven
PT	Nassas

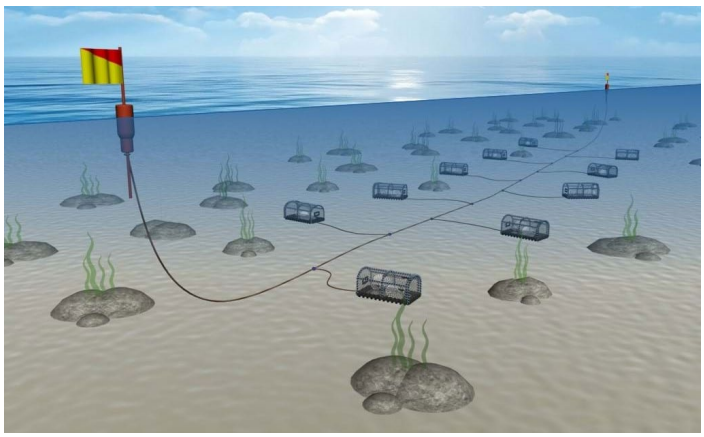

Image source: Seafish

Type	Passive
Target	Mainly shellfish (lobsters, crabs, shrimps, cephalopods), and all kinds of reef fish
Description	Pots are cages of different shapes, with one or more entrances, one or more chambers, a bait container and a lid or side door for accessing the catch and rebaiting. The opening of the chamber, commonly funnel-shaped, is designed to provide easy entry and difficult exit.
Operation	The pots are set on the seabed, usually baited, connected by a rope to a marker on the surface. Animals attracted into the pot are prevented from escaping.
Main fleets	Bulgaria, Croatia, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Latvia, Lithuania, Malta, Netherlands, Poland, Portugal, Romania, Slovenia, Spain, Sweden

More information: FAO Factsheet Pots

Fyke nets

FAO standard abbreviation	**FYK**
ISSCFG code	08.3
DA	Garnruse
DE	Garnreuse
ES	Garlitos
FR	Verveux
IT	Cogollo
NL	Fuik
PT	Galricho

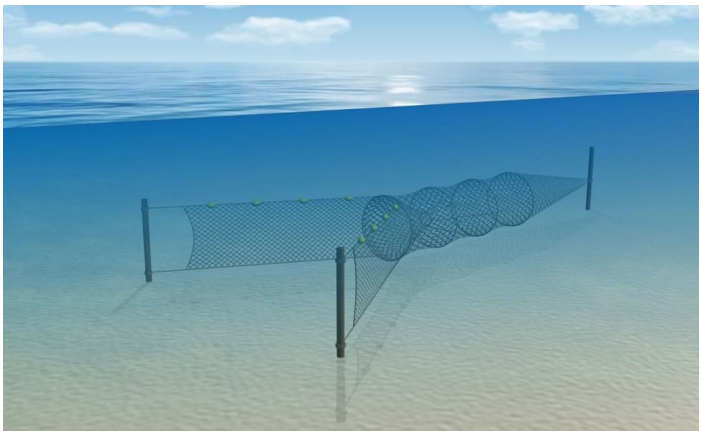

Image source: Seafish

Type	Passive
Target	Coastal species, in particular on sandy bottoms in shallow waters
Description	A fyke net is a tubular net closed at one end, mounted on hoops and fitted with funnel-shaped structures inside. It is fixed on the seabed with anchors, weights or stakes. Usually the entrance is equipped with long wings.
Operation	The wings and the inside structure guide the fish towards the closed end of the fyke net.
Main fleets	Denmark, Finland, France, Netherlands, Poland

More information: FAO Factsheet Fyke nets

9. HOOKS AND LINES

Handlines and hand-operated pole-and-lines

FAO standard abbreviation **LHP**

ISSCFG code 09.1

DA	Håndliner og stangliner (håndbetjente)
DE	Hand- und Angelleinen (handbetrieben)
ES	Líneas de mano y cañas (manuales)
FR	Lignes à main et lignes avec cannes (manœuvrées à la main)
IT	Lenze a mano e a canna (manovrate a mano)
NL	Handlijnen en hengelsnoeren (met de hand bediend)
PT	Linhas de mão e linhas de vara (operadas manualmente)

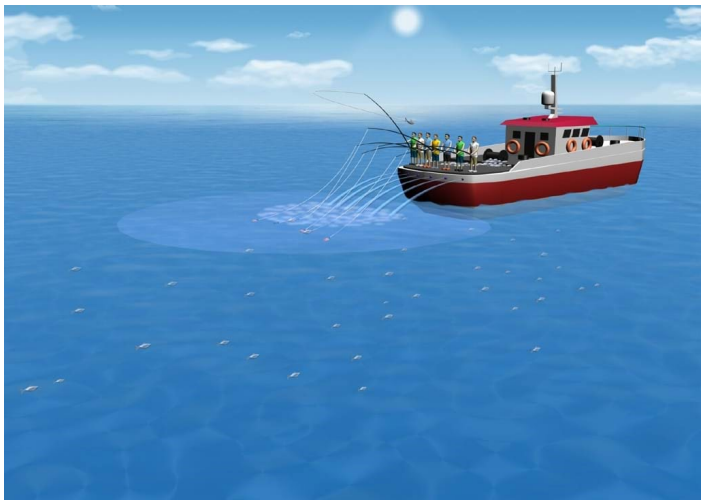

Image source: Seafish

Type	Active
Target	Diverse (in particular tuna in tropical waters)
Description	This category includes handlines operated by a fisher. The hooks, baited with natural baitfish or artificial lures, are attached either to the line or to an additional pole. Manual reels may be used to retrieve the line when fishing in deep water.
Operation	The line is baited and cast from the shore or from a boat, capturing the fish that take the bait. In the case of jigging lines operated by hand, also included in this category, the hooks are moved rhythmically up and down, to simulate the movement of small fish.
Main fleets	Bulgaria, Croatia, Cyprus, Estonia, France, Germany, Greece, Ireland, Italy, Malta, Netherlands, Poland, Portugal, Romania, Slovenia, Spain, Sweden

More information: FAO Factsheet Handlines and hand-operated pole-and-lines

Mechanized lines and pole-and-lines

FAO standard abbreviation **LHM**

ISSCFG code 09.2

DA	Håndliner og stangliner (mekaniske)
DE	Hand- und Angelleinen (mechanisiert)
ES	Líneas de mano y cañas (mecanizadas)
FR	Lignes à main et avec cannes (mécanisées)
IT	Lenze a mano e a canna (meccanizzate)
NL	Handlijnen en hengelsnoeren (machinaal)
PT	Linhas de mão e linhas de vara (mecanizadas)

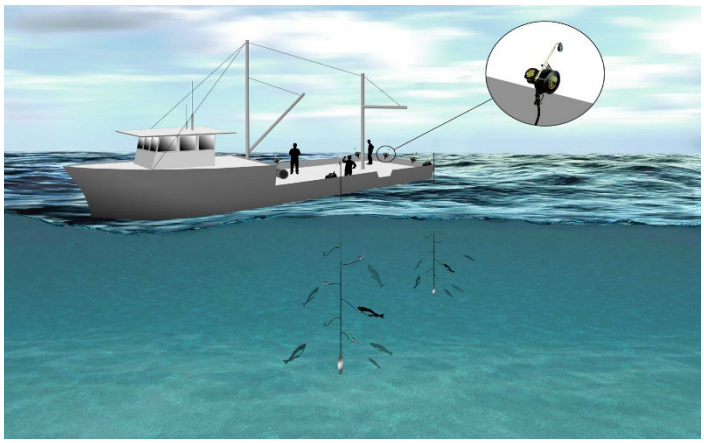

Image source: He *et al.* (2021)

Type	Active
Target	Diverse
Description	This category includes handlines operated mechanically by powered reels. The hooks, baited with natural baitfish or artificial lures, are attached either to the line or to an additional pole.
Operation	The line is baited and cast from the shore or from a boat, capturing the fish that take the bait. Mechanized jigging lines, also included in this category, use jigging machines to move the hooks rhythmically up and down, to simulate the movement of small fish.
Main fleets	Bulgaria, Denmark, Estonia, France, Greece, Ireland, Malta, Netherlands, Poland

More information: FAO Factsheet Mechanized lines and pole-and-lines

Set longlines

FAO standard abbreviation	**LLS**
ISSCFG code	09.31
DA	Langliner til bundfiskeri
DE	Grundlangleinen
ES	Palangres de fondo
FR	Palangres calées
IT	Palangari fissi
NL	Grondbeugen
PT	Palangres de fundo

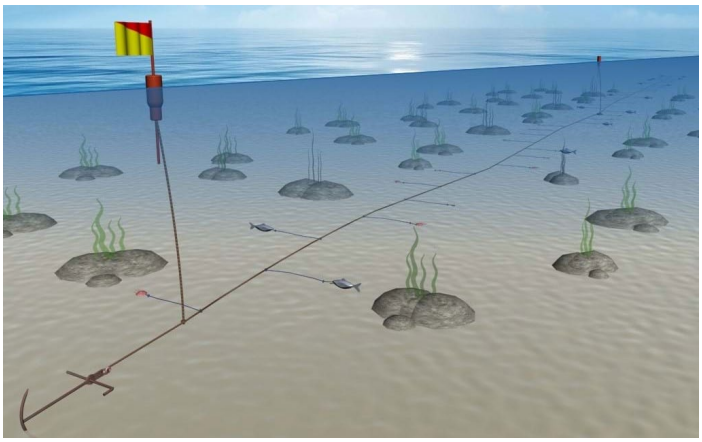

Image source: Seafish

Type	Passive
Target	Demersal and benthic species on all types of bottoms
Description	A longline consists of a horizontal mainline attached to branch lines (termed snoods) that end with baited hooks. Set (or demersal) longlines are fixed on or near the seabed at both ends of the mainline, with a marker buoy at one end. The gear may be tens of kilometres long. It is the most common type of hooks-and-lines gear.
Operation	The longlines are baited and set on the seabed, capturing the fish that take the bait.
Main fleets	Bulgaria, Croatia, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Poland, Portugal, Romania, Slovenia, Spain, Sweden

More information: FAO Factsheet Set longlines

Drifting longlines

FAO standard abbreviation	**LLD**
ISSCFG code	09.32
DA	Flydeliner
DE	Langleine (treibend)
ES	Palangres de deriva
FR	Palangres dérivantes
IT	Palangari derivanti
NL	Drijvende beugen
PT	Palangres derivantes

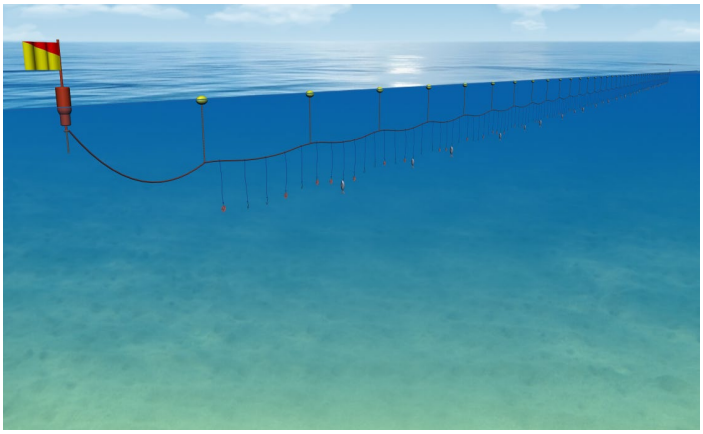

Image source: Seafish

Type	Passive
Target	Large pelagic fishes (mainly tuna, swordfish and sharks)
Description	A longline consists of a horizontal mainline attached to branch lines (termed snoods) that end with baited hooks. Drifting (or pelagic) longlines move passively with the current. The main line, suspended from floats, moves near the surface or in the water column, usually with one end attached to the drifting vessel. The gear may be tens of kilometres long.
Operation	The longlines are baited and deployed, capturing the fish that take the bait.
Main fleets	Bulgaria, Croatia, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Latvia, Malta, Netherlands, Poland, Portugal, Spain

More information: FAO Factsheet Drifting longlines

Vertical lines

FAO standard abbreviation	**LVT**
ISSCFG code	09.4
DA	Lodret snøre
DE	Vertikale Leinen
ES	Líneas verticales
FR	Lignes verticales
IT	Lenze verticali
NL	Verticale lijnen
PT	Linhas verticais

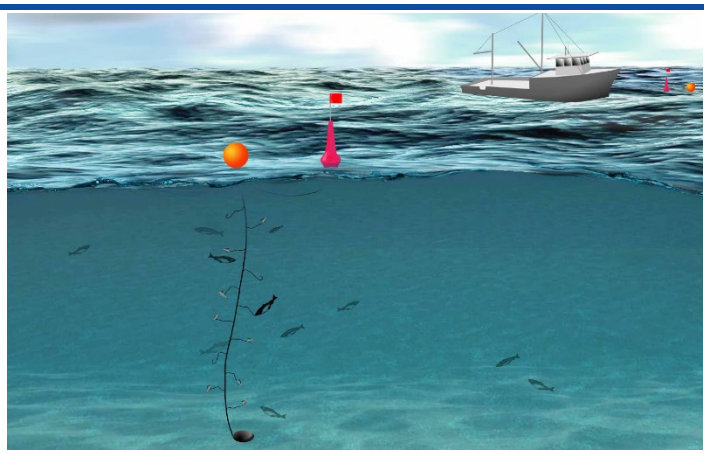

Image source: He *et al.* (2021)

Type	Passive
Target	Pelagic, demersal and benthic species
Description	The vertical line (also called drop line or buoy gear) consists of one line set vertically with one or more baited hooks attached. The upper end is usually attached to a marker buoy, or alternatively to the vessel, while the lower end is weighted. Several vertical lines may be connected to a horizontal line that keeps them together.
Operation	The line is baited and deployed, capturing the fish that take the bait.
Main fleets	France, Poland

More information: FAO Factsheet Vertical lines

Trolling lines

FAO standard abbreviation	**LTL**
ISSCFG code	09.5
DA	Dørgeliner
DE	Schleppangeln
ES	Curricanes
FR	Lignes de traîne
IT	Lenze al traino
NL	Sleeplijnen
PT	Corricos

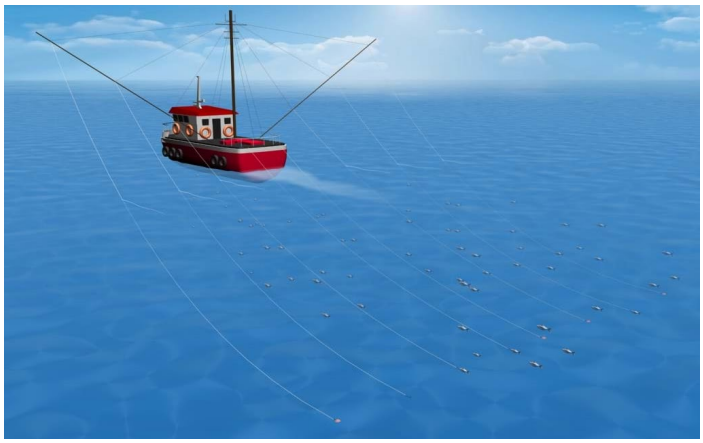

Image source: Seafish

Type	Active
Target	Pelagic fishes
Description	A trolling line is a line with baited hooks towed behind a vessel.
Operation	The vessel trolls one or (most commonly) several lines, near the surface or at a certain depth in the water column, hooking the fish that take the bait. Outrigger poles are often used to increase the number of lines trolled simultaneously.
Main fleets	Croatia, Cyprus, Denmark, Finland, France, Greece, Ireland, Italy, Malta, Netherlands, Poland, Portugal, Sweden

More information: FAO Factsheet Trolling lines

10. MISCELLANEOUS GEAR

Harpoons

FAO standard abbreviation	**HAR**
ISSCFG code	10.1
DA	Harpuner
DE	Harpunen
ES	Arpones
FR	Harpons
IT	Arpioni
NL	Harpoenen
PT	Arpões

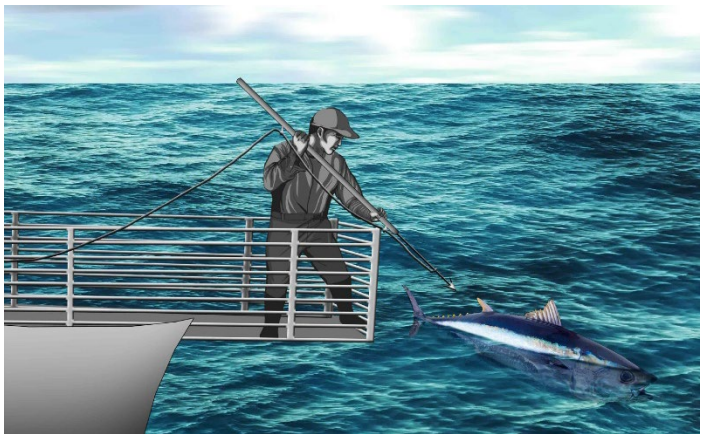

Image source: He *et al.* (2021)

Type	Active
Target	Large pelagic fishes (mainly swordfish, tuna, sharks)
Description	A harpoon is a spear-like device with a long shaft and a detachable sharp point, usually barbed, secured with a retrieving line.
Operation	The harpoon is thrown manually or shot from a gun, with the sharp point separating from the shaft when it pierces the fish.
Main fleets	Croatia

More information: FAO Factsheet Harpoons

Hand implements

(wrenching gear, clamps, tongs, rakes, spears)

FAO standard abbreviation	**MHI**
ISSCFG code	10.2
DA	Håndredskaber
DE	Handgeräte
ES	Implementos de mano
FR	Engins à main
IT	Attrezzi manuali
NL	Handwerktuigen
PT	Implementos manuais

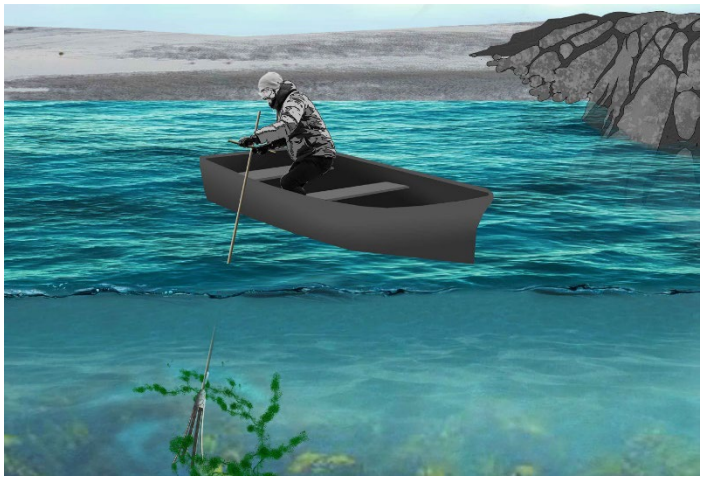

Image source: He *et al.* (2021)

Type	Active
Target	Diverse, depending on the type of implement
Description	This category includes various types of fishing gear operated by hand in very shallow waters, either from a boat or by wading in the water.
Operation	The wrenching gear harvests seaweed by tangling it in a twisting movement (see image above). Clamps are bifurcated sticks that harvest shellfish, mainly mussels, by clamping them between the prongs. Rakes are used to dig clams out of the sediment. Tongs consist of a pair of rakes with long handles that collect shellfish on the seabed. Spears are used to catch fish by piercing them with a sharp point (which, unlike in harpoons, does not detach from the handle).
Main fleets	France

More information: FAO Factsheet Hand Implements (wrenching gear, clamps, tongs, rakes, spears)

Diving

FAO standard abbreviation	**MDV**
ISSCFG code	10.8
DA	Dykning
DE	Tauchen
ES	Buceo
FR	Plongée
IT	Immersione
NL	Duiken
PT	Mergulho

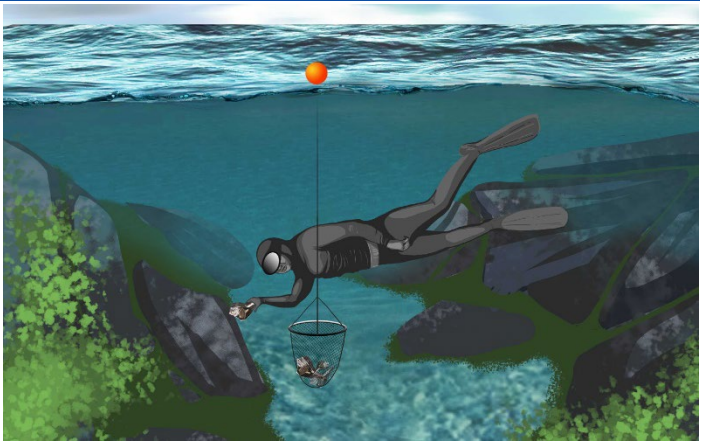

Image source: He *et al.* (2021)

Type	Active
Target	Mainly shellfish in coastal areas
Description	While not a fishing gear in a strict sense, diving refers to underwater gathering by hand.
Operation	This category includes free diving with a mask and snorkel, and assisted diving with scuba equipment or surface air supply.
Main fleets	France, Romania

More information: FAO Factsheet Diving

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ANNEX

Revised International Standard Classification of Fishing Gears (ISSCFG), 2016

Gear category (First tier)	Subcategory (Second tier)	Standard abbreviation	ISSCFG code
SURROUNDING NETS			01
	Purse seines	PS	01.1
	Surrounding nets without purse lines	LA	01.2
	Surrounding nets (nei)	SUX	01.9
SEINE NETS			02
	Beach seines	SB	02.1
	Boat seines	SV	02.2
	Seine nets (nei)	SX	02.9
TRAWLS			03
	Beam trawls	TBB	03.11
	Single boat bottom otter trawls	OTB	03.12
	Twin bottom otter trawls	OTT	03.13
	Multiple bottom otter trawls	OTP	03.14
	Bottom pair trawls	PTB	03.15
	Bottom trawls (nei)	TB	03.19
	Single boat midwater otter trawls	OTM	03.21
	Midwater pair trawls	PTM	03.22
	Midwater trawls (nei)	TM	03.29
	Semipelagic trawls	TSP	03.3
	Trawls (nei)	TX	03.9
DREDGES			04
	Towed dredges	DRB	04.1
	Hand dredges	DRH	04.2
	Mechanized dredges	DRM	04.3
	Dredges (nei)	DRX	04.9
LIFT NETS			05
	Portable lift nets	LNP	05.1
	Boat-operated lift nets	LNB	05.2
	Shore-operated stationary lift nets	LNS	05.3
	Lift nets (nei)	LN	05.9

Gear category (First tier)	Subcategory (Second tier)	Standard abbreviation	ISSCFG code
FALLING GEAR			06
	Cast nets	FCN	06.1
	Cover pots/Lantern nets	FCO	06.2
	Falling gear (nei)	FG	06.9
			07
	Set gillnets (anchored)	GNS	07.1
	Drift gillnets	GND	07.2
	Encircling gillnets	GNC	07.3
	Fixed gillnets (on stakes)	GNF	07.4
	Trammel nets	GTR	07.5
	Combined gillnets-trammel nets	GTN	07.6
	Gillnets and entangling nets (nei)	GEN	07.9
TRAPS			08
	Stationary uncovered pound nets	FPN	08.1
	Pots	FPO	08.2
	Fyke nets	FYK	08.3
	Stow nets	FSN	08.4
	Barriers, fences, weirs, etc.	FWR	08.5
	Aerial traps	FAR	08.6
	Traps (nei)	FIX	08.9
HOOKS AND LINES			09
	Handlines and hand-operated pole-and-lines	LHP	09.1
	Mechanized lines and pole-and-lines	LHM	09.2
	Set longlines	LLS	09.31
	Drifting longlines	LLD	09.32
	Longlines (nei)	LL	09.39
	Vertical lines	LVT	09.4
	Trolling lines	LTL	09.5
	Hooks and lines (nei)	LX	09.9
MISCELLANEOUS GEAR			10
	Harpoons	HAR	10.1

Gear category (First tier)	Subcategory (Second tier)	Standard abbreviation	ISSCFG code
	Hand implements (Wrenching gear, Clamps, Tongs, Rakes, Spears)	MHI	10.2
	Pumps	MPM	10.3
	Electric fishing	MEL	10.4
	Pushnets	MPN	10.5
	Scoopnets	MSP	10.6
	Drive-in nets	MDR	10.7
	Diving	MDV	10.8
	Gear nei	MIS	10.9
GEAR NOT KNOWN			99
	Gear not known	NK	99.9

Source: FAO

This handbook provides an illustrated overview of the main fishing gears currently used in the EU. For each gear, the handbook outlines the essentials of its design, operation method and target species, and shows the main Member State fishing fleets that use it. In addition, it indicates the name of the gears in Danish, German, Spanish, French, Italian, Dutch and Portuguese.

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