

Classification of Fishing Boats

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The term "Fishery Vessel" comprises mobile floating objects of any kind and size operating in fresh water, brackish water and marine areas and used for catching, transporting, landing, preserving and/or processing of fish, shell fish and other aquatic vessels performing other functions related to fisheries such as supplying, protecting, rendering assistance or conducting research or training. The term "Fishing vessel" is used to distinguish fishing vessels engaged in catching operations. The remaining fishery vessels are covered by the term "non fishing vessels".

A large number of fishery vessels operate throughout the world and many of them using the same fishing gear or performing the same fishery functions differ (sometimes radically) in general arrangement and deck layout. From these various alternatives of each of the fishery vessel types the most representative ones have been selected for description.

CATEGORIES OF VESSELS

FISHING VESSELS

1. TRAWLERS

These vessels use trawls as fishing gear and are provided with engines of sufficient power to tow the net at the appropriate trawling speed. They are fitted with trawl winches and equipment necessary to trawl the net onboard and lift the cod end over the deck.

1.1 SIDE TRAWLERS

On side trawlers the trawl is set over the side and warps pass through blocks hanging from two gallows, one forward and one aft. Usually the super structure and the wheel house are placed aft, the fish hold is situated amidships and the trawl winch transversally at the front of the super structure.

1.2 STERN TRAWLER

On these vessels the warps are led from the trawl winch through various lead blocks to the after deck and over the stern. Towing blocks on small vessels are attached to two stems gallows. On larger vessels to a gantry or similar fixed structure aft on stern trawlers the wheel house or bridge is usually situated in the forward part of the vessel. The trawl winch is placed transversally usually behind the wheel house on small vessels the fish holds is situated amidships and on medium sized and large stern trawlers also in the forward part of the vessel.

1.3 WET FISH TRAWLERS

This term is used for trawlers on which the fish is kept in the hold in the fresh "wet" condition. Wet fish trawlers therefore operate usually in areas not too far distant from the landing place.

1.4 FREEZER TRAWLER

These are trawlers on which the fish is preserved by freezing. The majority of trawlers operating on distant waters are freezer trawlers. Freezer trawlers are fitted with refrigerating plant and freezing equipment. The holds are insulated and refrigerated.

1.5 FACTORY TRAWLERS

These are generally large stern trawlers equipped with processing plants including mechanical gutting and filleting equipments with accompanying

freezing installation, fish oil, fish meal and sometimes canning plants. Separate holds for each of the products are provided. Factory vessels have large crew, the greatest portion of which consists of fish factory crew. Extensive superstructures combined with stern trawling arrangements are typical features of factory vessels.

1.6 OUTRIGGER TRAWLERS

These trawlers use strong outrigger booms to tow their fishing gear. These outriggers are usually fastened to the mast and extended out from the sides of the vessel each towing one or two trawls by means of warps passing through blocks at the ends of the outrigger.

2. SEINERS

These vessels use surrounding and seine nets. They comprise a large group appearing in all sizes ranging from open boats and canoes upto large ocean going vessels. They are used to catch predominantly pelagic species. Relatively high manouerability is required for operating of the surrounding and seine nets. Large seiners are often fitted with lateral thrusters. To assist in fish shoal spotting observations crows nests are fitted on masts. The equipment of seiners consists of a power block and/or a net drum for hauling and stowing the net aboard and one or more winches for setting and hauling operations. For removing of fish collected in the purse seine a trailer attached to a derrick is provided. Species of small size can be removed by the use of a fish pump.

2.1 PURSE SEINERS

Vessels using purse seine are equipped with pursing gallows and pursing winch for hauling the purse line which close the net after setting. From the view point of deck arrangement two main types of one boat purse seines can be distinguished.

2.1.1 NORTH AMERICAN TYPE PURSE SEINERS

These seiners have the bridge and accommodation placed forward. The power block is slung from a derrick attached to the mast behind the wheel house. The winch is usually fitted with parallel drums and is situated opposite the pursing gallow. The net is carried at the stern of the vessel.

2.1.2 EUROPEAN TYPE PURSE SEINERS

This type of purse seiner has the bridge and accommodation located aft. The fish hold is situated amidships. The net is mostly carried on the upper deck and the power block is fitted to the side of the bridge with separate transport blocks or rollers to stow the net on the aft deck. The pursing winch is normally situated forward with the drums facing the pursing davit.

2.1.3 TUNA PURSE SEINERS

These vessels are large purse seiners with same general arrangement as the North American type equipped to handle very large and heavy purse seines for tuna. They are normally equipped with a skiff, located on top of the net at the sloped part of the stern of the vessel. Their equipment (deck) consist of a three drum purse seine winch and a power block with topping, vang, cork and other specific winches to handled the heavy boon and net. A crows net is placed at the top of the mast. The search for tuna shoals is often carried by a helicopter for which a landing platform is provided.

3. DREDGERS

These vessels use a dredger for collecting molluscs from the bottom. The vessel drags the gear and the power requirements can therefore be similar to those of a small trawler. A powerful water pump is necessary to operate the water jets of a mechanical dredge. For lowering and lifting of the dredge, derricks and winches are installed. Small boat dredges are operated from boats and other

small vessels. Some small inshore dredges operating in shallow waters can also push a gear fixed to a beam extended from the bow.

4. LIFT NETTERS

These vessels are equipped for the operation of large lift nets which are held out from the ships side and raised and lowered by means of outriggers. Sets of powerful lights for fish attraction are mounted and often used simultaneously with under water lights. These vessels have bridge amidships and are fitted with derricks and winches for handling the lifting lines outriggers and light booms.

5. GILL NETTERS

Gill netters can be operated from boats and canoes on inland waters and inshore decked small vessels in coastal waters and from medium sized vessels fishing offshore. Small gill netters have their wheel house either aft or forward. On medium sized vessels using drifting gill nets are called drifters, the bridge is usually located aft. For drifters it is essential that they lay to windward when drifting with the net. They are therefore often fitted with a steadying sail. On small vessels setting and hauling operations are performed by hand. Larger vessels are often equipped with hydraulic net haulers or net drums.

6. TRAP SETTERS

This term include vessels setting traps and pots but also pound nets, fyke nets, stow nets etc.

6.1 POT VESSELS

These vessels are used for setting pots for catching lobsters, crabs, cray fish and other similar species. Pot vessels range from open boats operating inshore upto larger decked vessels of 20-50 m operating to the edge of a continental shelf.

On open and partly open boats the wheel-house is placed forward. In the cockpit a suitable place to store pots is provided. A live well with sea water for transport of the catch is also situated in the cockpit. On small decked pot vessels the wheel house is located either forward or aft and the fish hold amidships. Larger pot vessels are equipped with derricks, cranes or davits for setting and hauling of pots.

7. LINERS

These vessels uses lines and hooks with or without bait or lure. Containers or tanks for storing bait, sufficient deck area for attaching bait to the hooks and a convenient place for preparing the lines for setting and hauling are typical features for line fishing vessels.

7.1 HAND LINERS

Hand liners are operated from boats, canoes and other small vessels without any special features for gear handling. Hand liners can be set and hauling either manually or by mechanized reel. If mechanized reels are used, these are fastened to the gunwale.

7.2 LONG LINERS

Long liners can be operated from vessels of any size adapted for the length of long line to be set. The wheel house can be situated aft or forwards but on larger vessels the bridge is generally placed aft. Several automatic and semiautomatic devices systems are used on bigger boats to bait the hooks and to shoot and haul the lines.

7.3 TUNA LONGLINES

These are generally medium sized vessels. The line haulers on tuna long liners is usually placed on the star board side forward and a gate in the rail is provided

to haul in the fish. The long lines and the buoys are then carried by a conveyor to the after deck ready for baiting and setting. A baiting table and chute are located on the stern from where the lines are set. Typical equipments of a tuna long liner includes brine freezing tanks in which tuna is preserved.

7.4 POLE AND LINE VESSELS

These are vessels primarily used for catching of tuna and skip jack. The fishermen stand on the railing or on special platforms and fish with poles to which a line with hook is attached. Tanks with live bait and a water spray system for fish attraction are typical features of these vessels. Two types of pole and line vessels can be distinguished.

7.4.1 JAPANESE TYPE POLE AND LINE VESSELS

On these vessels the fishermen stand at the railing on the forward part of the vessel and the bridge is accommodated aft. The holds are placed in the middle part of the vessel.

7.4.2 AMERICAN TYPE POLE AND LINE VESSEL

ON these vessels the platforms for fishermen are located round the stern of the vessel with bait tanks on the deck aft and wheel house situated forward.

7.5 TROLLERS

Equipped for catching pelagic swimming fish close the surface. These vessels tow a number of lines fitted with lures. The lines are attached to trolling booms which are raised and lowered by tapping lifts and fore and aft stays. Hydraulic or electrically powered reels (gurdies) are frequently used in the lines. According to the area of operation vessels may be laid out with wheel house and mast either forward or in the after part of the vessel.

8. VESSELS USING PUMPING FOR FISHING

These Vessels are provided with pumps of special construction. During the fishing operations the pumps is lowered under the surface of the water. The pump is suspended on the hook of a derrick and is operated from the vessels electrical plant. Small fishes attracted by light from a lamp situated above the suction side of the pump are sucked and pumped with water onboard, where a fish-water separator is installed.

9. MULTI PURPOSE VESSELS

These are vessels which are equipped for alternative use of two or more different fishing gears without major modifications to the vessels outfit and equipment. Examples of combinations in common use are purse seiner/hand liner, gill netter/long liner, trawler/gill netter, trawler/purse seiner etc. with a variety of other gears being used in cases where gear and equipment investment is not high and layout changes minimal.

NON FISHING VESSELS

10. MOTHER VESSELS

These vessels provide fishing vessels at sea with supplies of fuel, provisions, fresh water and other consumable goods, transfer the catch from the vessels, process and preserve the fish, render medical and social services to the crew. They also transport and land fish products in the port. Two types of mother ships can be distinguished (a) Salted mother ship and factory mother ship. The term "mother ship" is also used for vessels which carry onboard small fishing vessels. On arrival at fishing grounds the fishing vessels are launched and perform the fishing operations. The catch is transferred to the mother ship for processing and preserving. At the end of the fishing period, the fishing vessels are hauled aboard and the mother ship returns to the port. There are two type of

vessels of this category (a) mother ship with tuna long liners aboard (b) mother ship for two boat purse seining.

10.1 SALTED FISH MOTHER SHIPS

These vessels cooperates with trawlers or drifters in unloading wet fish on the mother ship where the fish is salted, cured and put into barrels which are then stored in dry or refrigerated holds depending upon the degree of salting. The accommodation and bridge are concentrated amidships and the holds are situated forward and aft. For the loading operation masts, derricks and winches are installed. The vessel has sufficient tank capacity and provision rooms to provide the fishing vessels with fuel, fresh water and provisions.

10.2 FACTORY MOTHER SHIPS

In this category of mother ship fresh fish transferred at sea from fishing vessels undergoes processing and preservation operation similar to those which are provided on factory trawlers. The engine room and main part of the crew quarters are located aft. The bridge and remaining part of accommodation on larger vessels could be situated forward. In the middle part of the vessel the processing and freezing lines are installed on the tween decks and refrigerated holds are placed under the main deck.

10.3 MOTHER SHIPS WITH CATCHING VESSELS ABOARD

This types of mother ship carries small tuna long liners onboard. The long liners are launched at the fishing grounds and perform the fishing operations, transferring the catches to the mothership for processing, freezing and storing in refrigerated holds. The vessel has the engine room, accommodation and bridge situated aft. Holds are located in the middle and forward part. The catcher vessels are carried on the upper deck and their lowering and hoisting is accomplished by special booms and derricks.

10.4 MOTHERSHIPS FOR TWO BOAT PURSE SEINING

These vessels carry two purse seiners onboard. They are lowered when the vessel is approaching a fish shoal. The purse seiners set the purse seine, pursing and hauling the net. The mothership then comes along side and the fish is brailed or pumped into the mothership. In a typical arrangement, the engine room and part of the accommodation are placed aft and the bridge with remaining quarters is situated forward. The purse seiners are placed a long superstructures in the after part of the vessel. The holds are situated amidships between the two superstructures.

11. FISH CARRIERS

These are non fishing vessels used exclusively for fish transport. Fish carriers are generally large vessels with refrigerated holds equipped for transport of fish and fish products. The general arrangement of large fish carriers is similar to that of other refrigerated ship. The engine room and the super structure are located aft or amidships.

12 HOSPITAL SHIPS

These vessels render medical services to the crews of fishing vessels operating offshore. The spaces in the large super structures are suitably arranged as sick bag, operation theatre, laboratories etc. Lifting appliances to haul injured and sick people on stretchers aboard are provided. The general arrangement of hospital ships resembles in outline that of a passenger ship.

13 FISHERY PROTECTION VESSELS

These vessels are mainly engaged in fish stock assessment, experimental fishing using various gear and in fish handling/storage experiments. The size of fishery research vessel depends on the area of operation and on research programmes. The vessels are usually fitted for the operation of two or more fishing gears.

Special winches for taking samples and apparatus for measurements of environmental characteristics are provided. The accommodation comprises space for laboratories and quarters for scientific staff, store rooms for instruments and samples are also provided.

14. FISHERY TRAINING VESSELS

These vessels are used for training future fishermen in navigation, seamanship, fishing operations and fish handling. They are mostly typical fishing vessels with additional accommodation for trainees.

(Ref. Definition and classification of fishery vessels type, FAO Technical Paper 267)