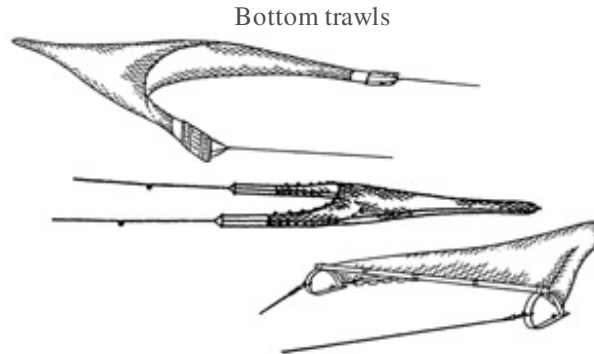




Fishing Gear Types

Bottom trawls



Characteristics

Overview A bottom trawl is constructed like a cone-shaped net that is towed (by one or two boats) on the bottom. It consists of a body ending in a codend, which retains the catch. Normally the net has two lateral wings extending forward from the opening. The mouth of the trawl is framed by headline and groundrope. It is designed and rigged to catch species living on or near the bottom. Bottom contact with the gear is needed for successful operations. Three categories of bottom trawls can be distinguished based on how their horizontal opening is maintained: **beam trawls**, **bottom otter trawls**, and **bottom pair trawls**. Beam trawls are commonly designed without wings.

Accessory Equipment The groundrope equipped with rubber discs, bobbins, spacers etc. protect the trawl from damage. On very rough bottom special rock hopper gears are used. Beam trawls are designed and equipped in a different way.

Handling Equipment Trawl winches installed on deck control the trawling warps and store them when not in use. Gilson winches and lifting tackles support the handling on deck.

Vessel Overview **Bottom Trawlers** range in size from small, undecked boats, powered by outboard engines up to large vessels with up to 8 000 HP engines and size up to 3 000 GT.

Fish Operation Bottom trawls are designed and rigged to have bottom contact during fishing. They are towed across the bottom at speeds ranging from 1 to 7 knots (0.5-3.5 m/s), frequently between 3 and 5 knots. Duration of a tow mainly depends on the expected density of fish (whether fish is aggregated or not) the shape of the bottom and the slope in the fishing area, from a few (10-15 minutes) up to 10-12 hours, commonly 3-5 hours.

Target Species Bottom and demersal species.

Water Area Overview All over the world.

Gear Environment Bottom trawls can be operated in a very wide range of depths (from a few meters to 1 500-2 000 m), mainly at sea, but also, in some cases in inland waters e.g. lakes.

Impacts

Environmental Bottom trawls interact physically with the bottom sediment, which might result in removal or damage of sedentary living organisms (including seaweed and corals) and in the case of uneven

bottom surface displacement of stones or other larger objects. On flat sandy/muddy bottom the sediments might be whirled up into the water masses and suspended. The short and long-term impact on the bottom environment is poorly documented despite some scientific experiments. More research on possible impact of bottom trawling is urgently needed to evaluate the effect on the environment.

Species The major potential detrimental impact of bottom trawling on species can be the capture and removal from the ecosystem of small sized organisms and non-target species, which frequently are discarded at sea. Such impact can be mitigated by using larger meshes in the codends and/or devices in the trawl that reduce capture of small and unwanted organisms.

