

DISCARDS

Developments in gear selectivity in towed gear

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Selectivity of trawls

Species selectivity starts with position that the gear is towed within the water column

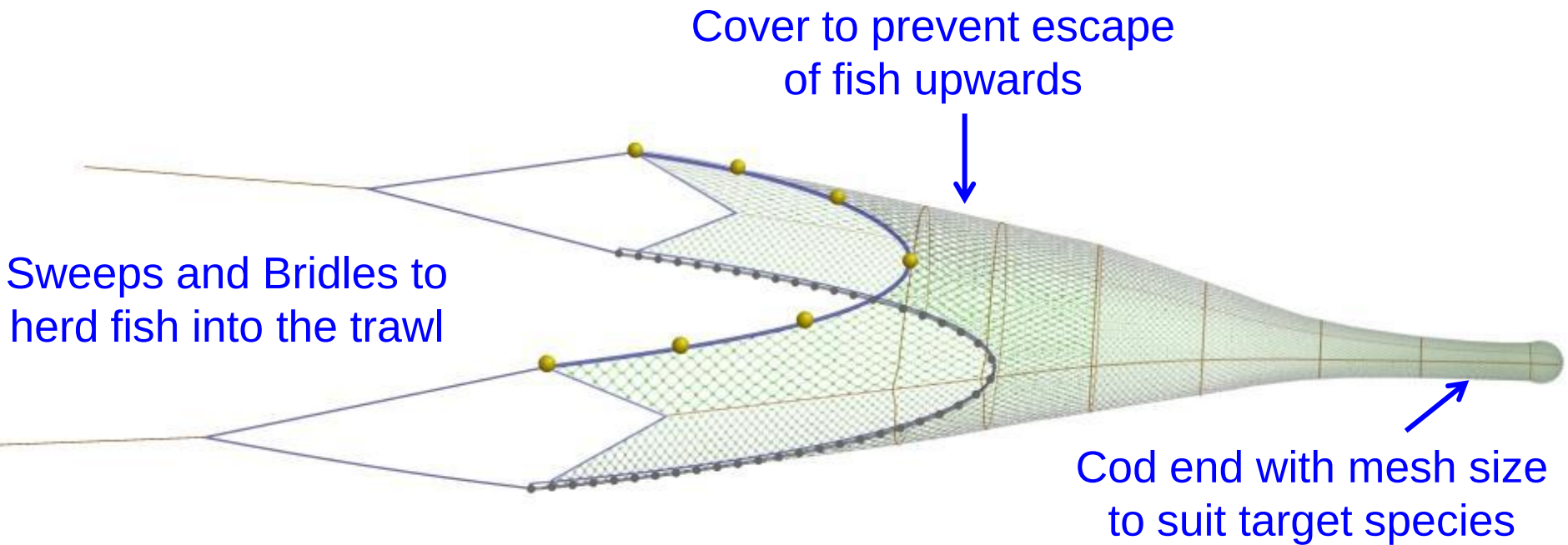
Pelagic gear high up in the water column to catch the fish that swim in mid water

Demersal trawls and beam trawls on the bottom to catch the fish that live closer to the seabed

The basic design of the gear and how its towed has a big influence on its species selectivity

Selectivity of trawls

Catching mechanism of a standard demersal trawl



Selectivity of trawls

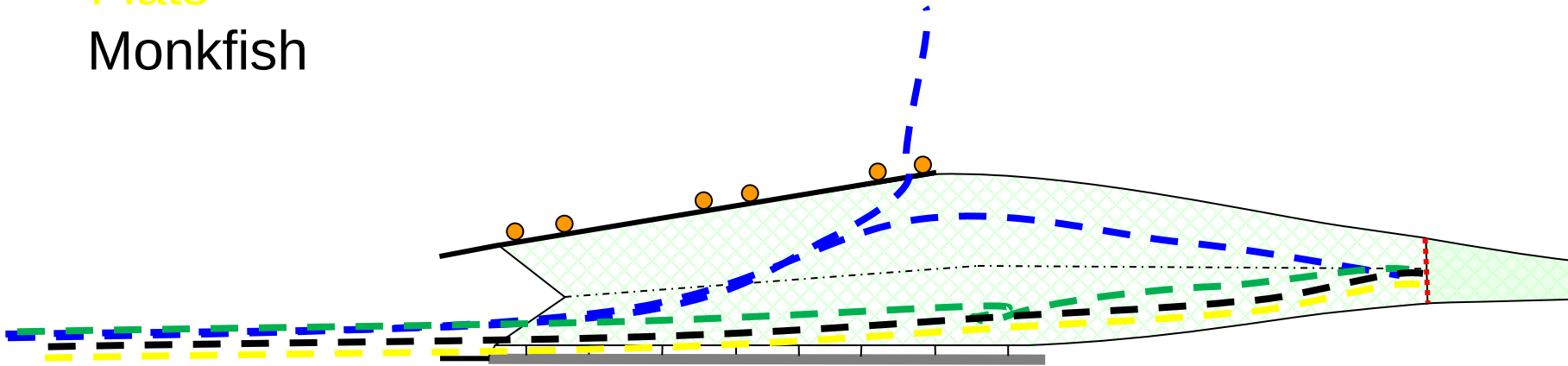
Fish Behaviour in the path of a trawl

Whiting and haddock

Cod

Flats

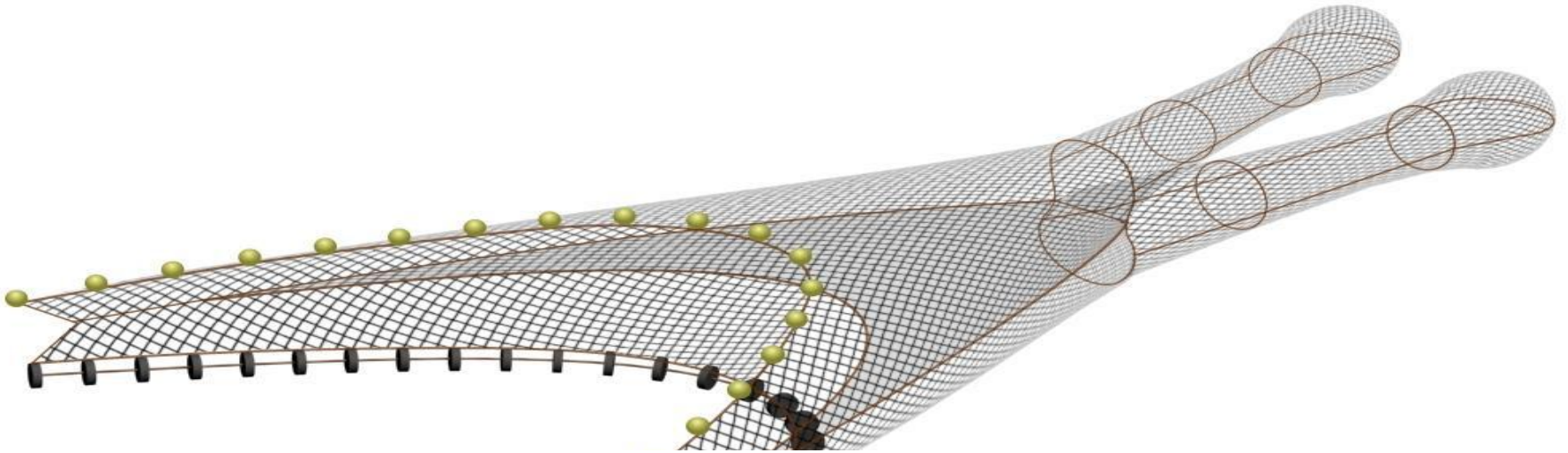
Monkfish



Small fish tend to stay low in the trawl

Selectivity of trawls

Separator Panels



Difficulty with legislation as there may be two cod end mesh sizes



Selectivity of trawls

Separator Panels



Selectivity of trawls

Coverless Trawls

Coverless trawls , shorter sweeps and lower headlines prevent capture of certain species rather than catch the fish then try to release them from the trawl

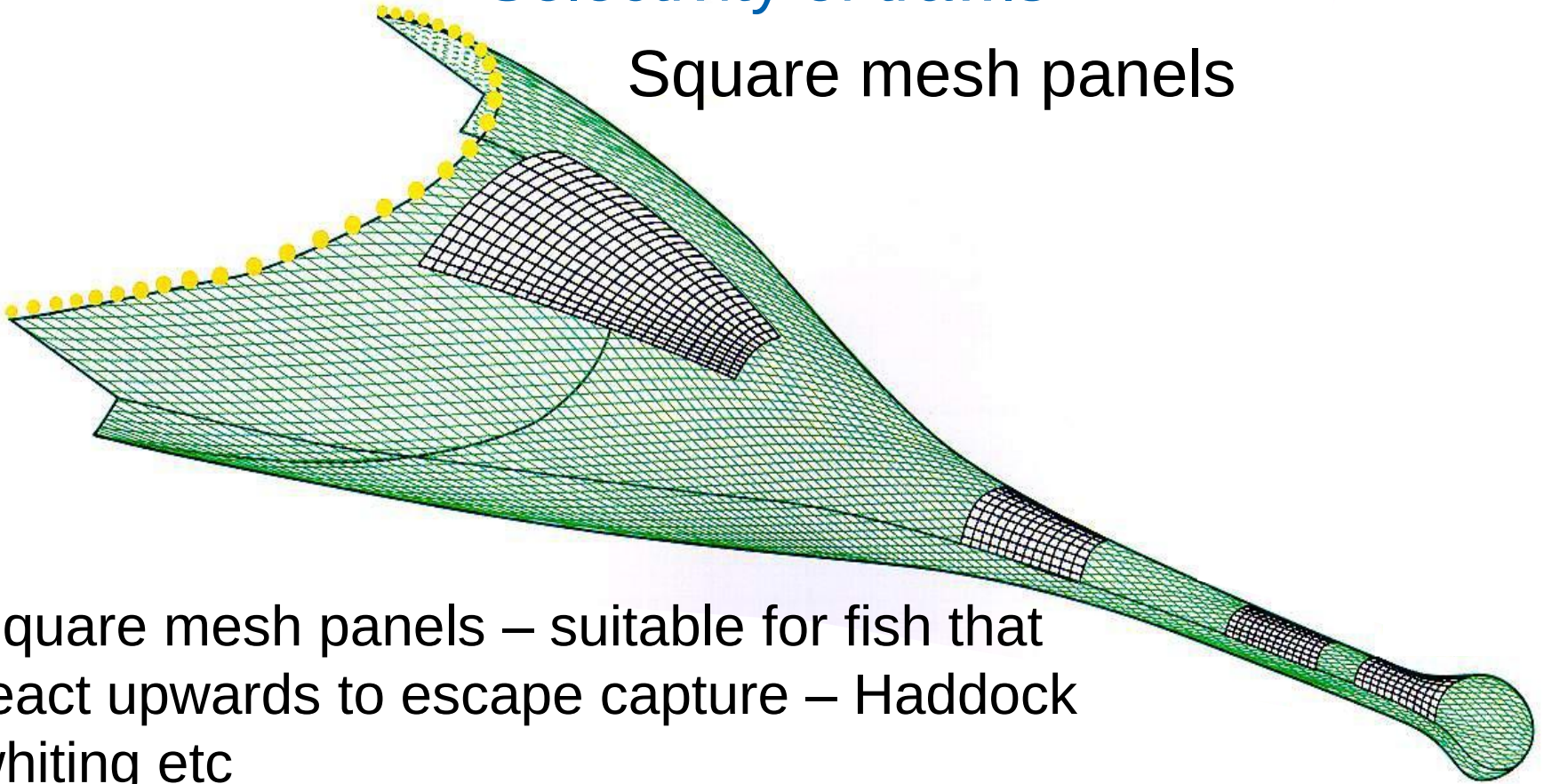


Difficult to legislate for. In use by some skippers as a voluntary selective measure.

‘letterbox trawl’

Selectivity of trawls

Square mesh panels

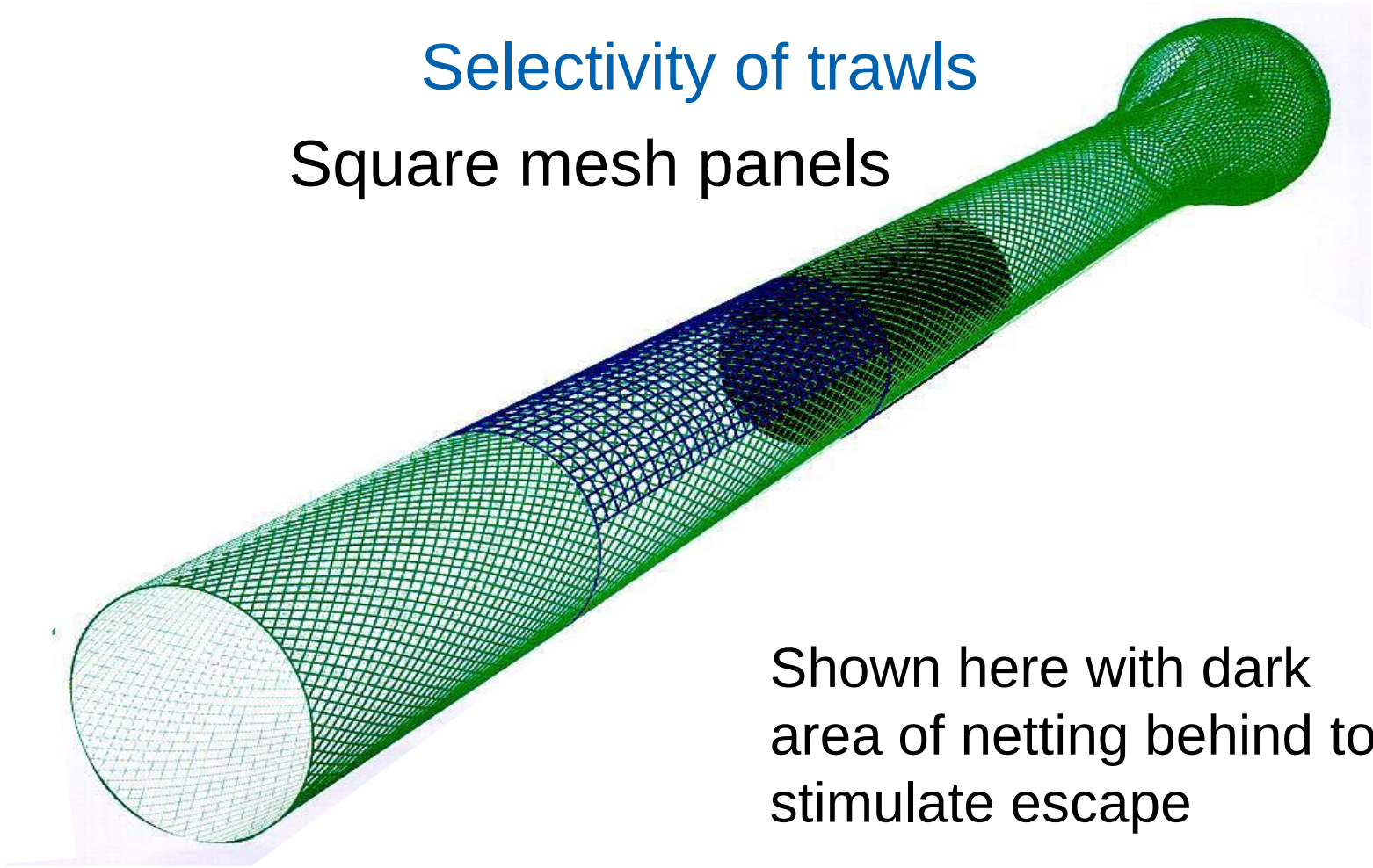


Square mesh panels – suitable for fish that react upwards to escape capture – Haddock whiting etc

Better results for cod in lower standing trawls

Selectivity of trawls

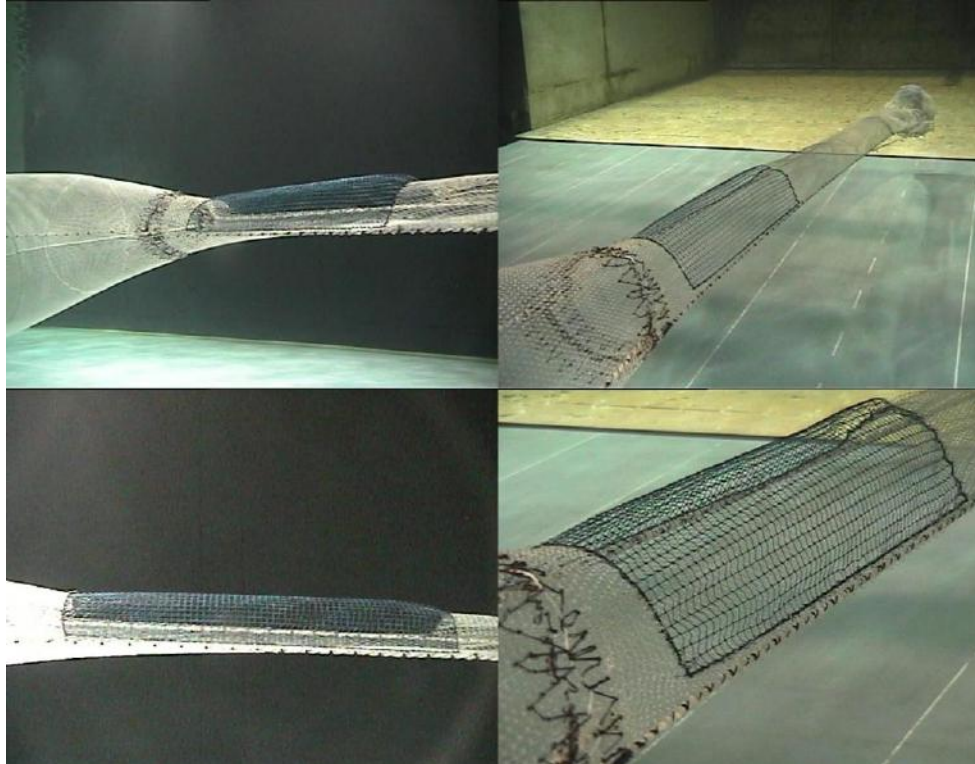
Square mesh panels



Shown here with dark area of netting behind to stimulate escape

Selectivity of trawls

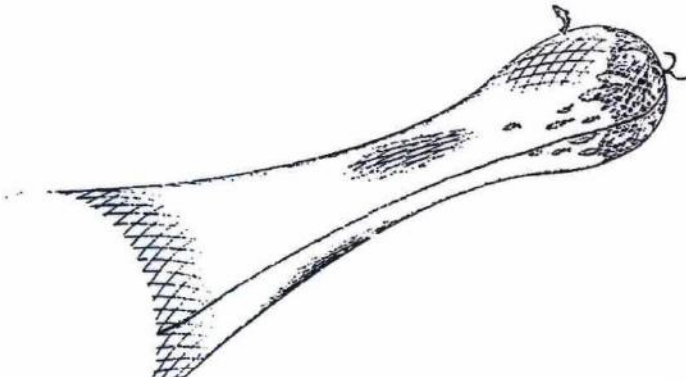
Square mesh panels



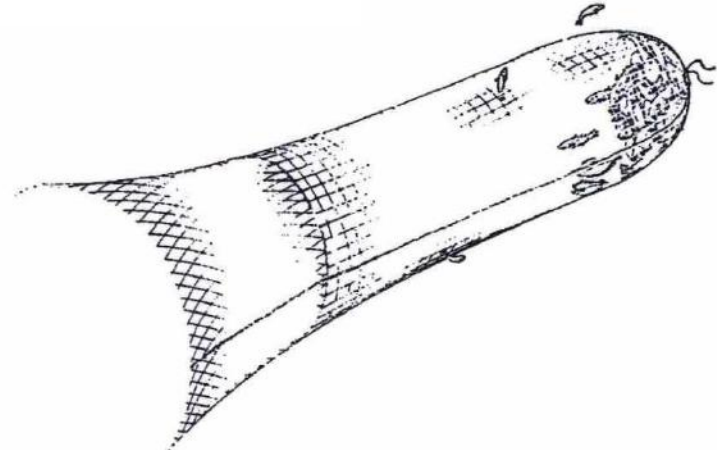
Square mesh panels – Not a big escape area as the fish travel down the trawl

Selectivity of trawls

Square Mesh Codends



Diamond mesh cod end
Showing constriction of
codend due to closing of
diamond mesh

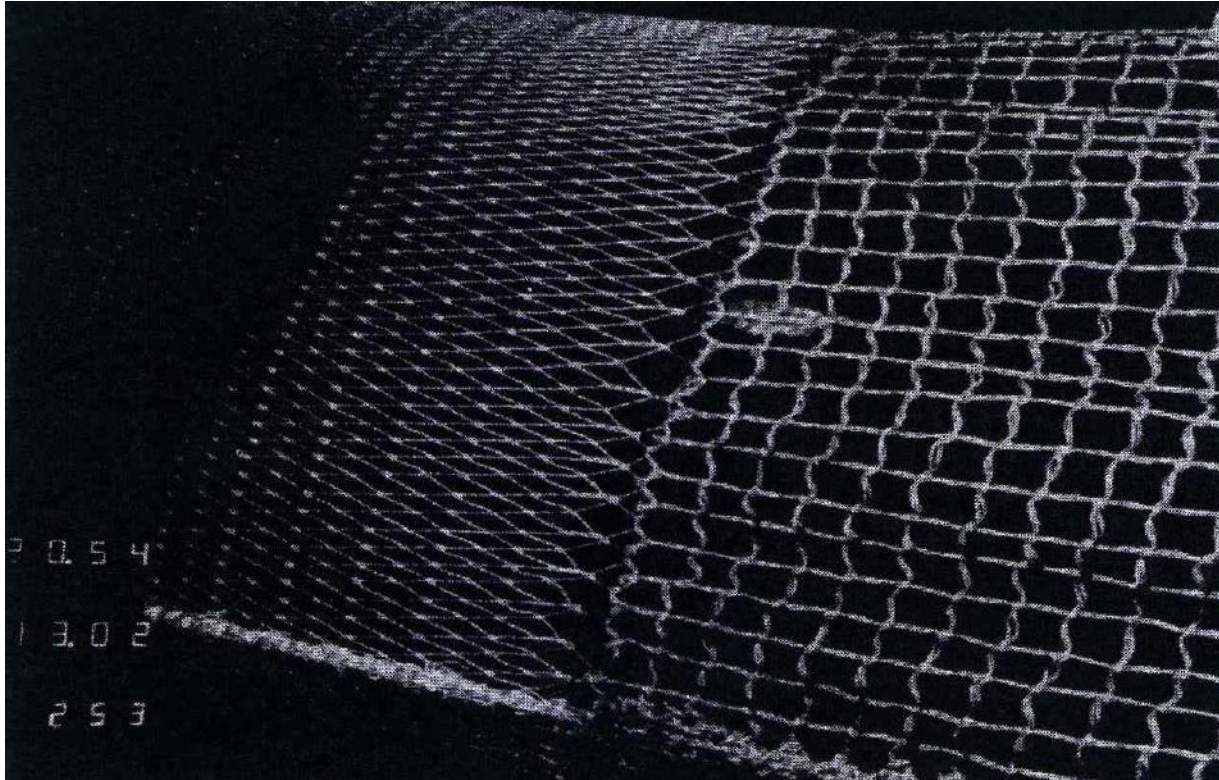


Square mesh cod end
Showing open cylindrical
shape with wide open meshes

Much of the size selection happens in the codend by
mesh size or shape

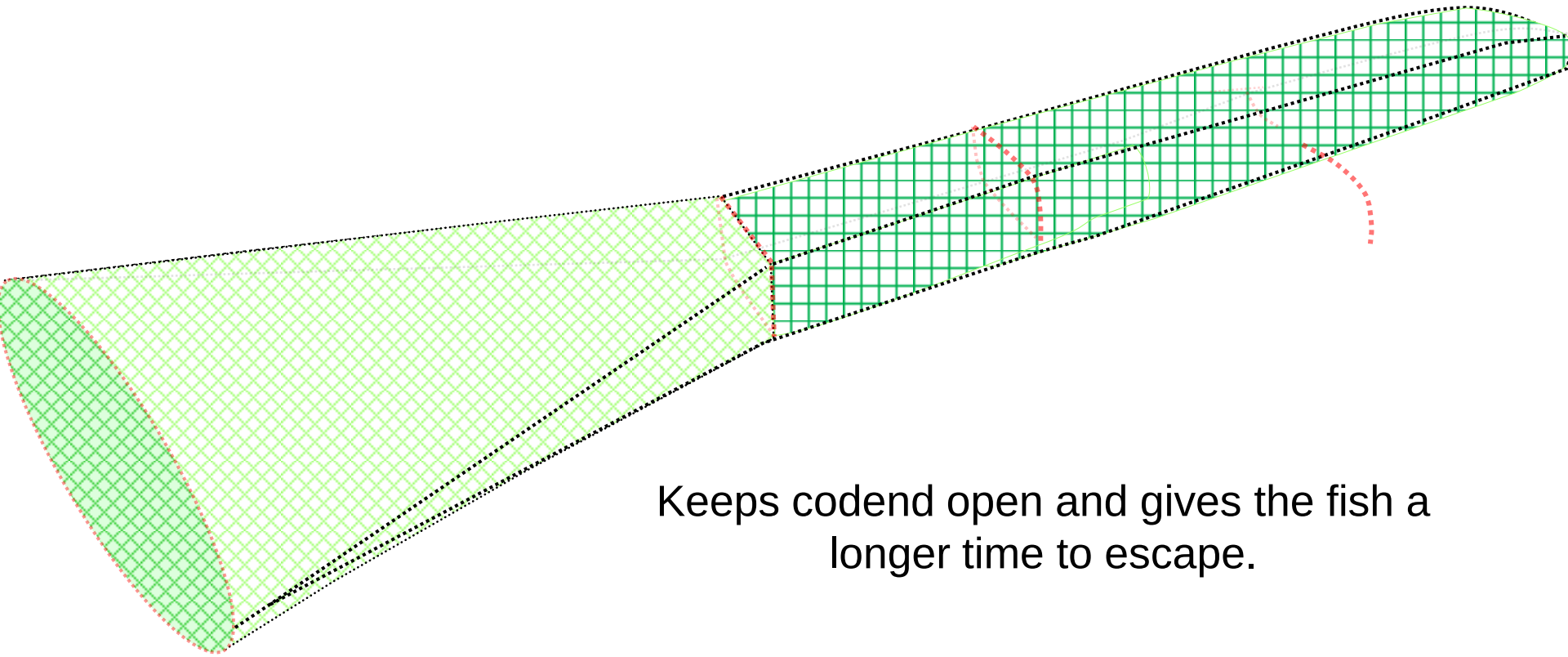
Selectivity of trawls

Square Mesh Codends



Selectivity of trawls

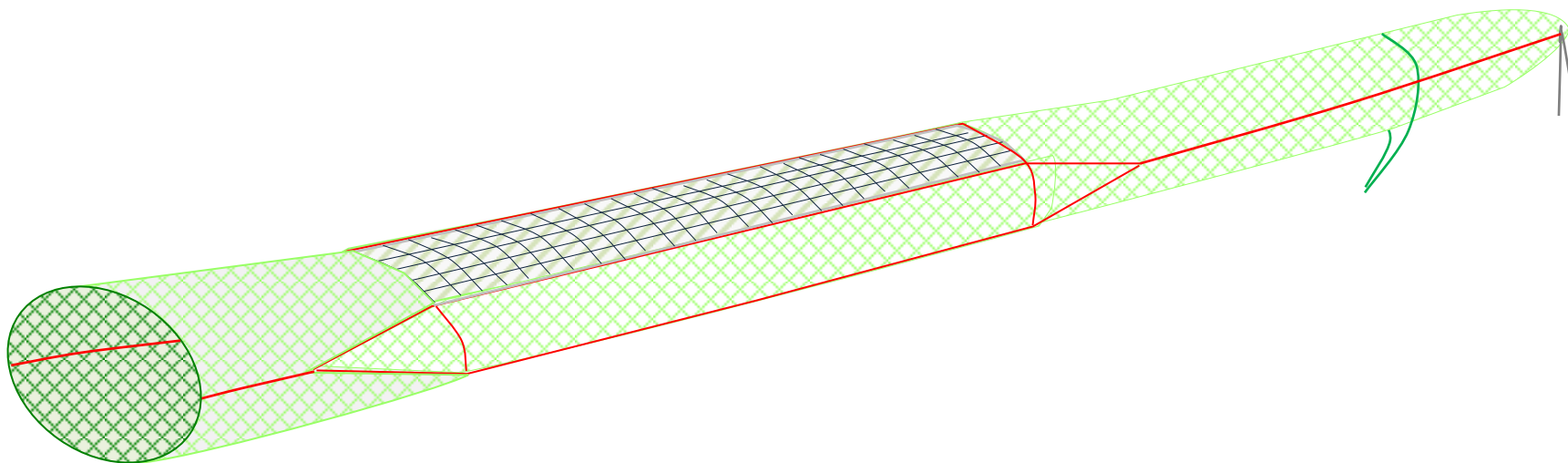
4 Panel Square Mesh Codends



Keeps codend open and gives the fish a longer time to escape.

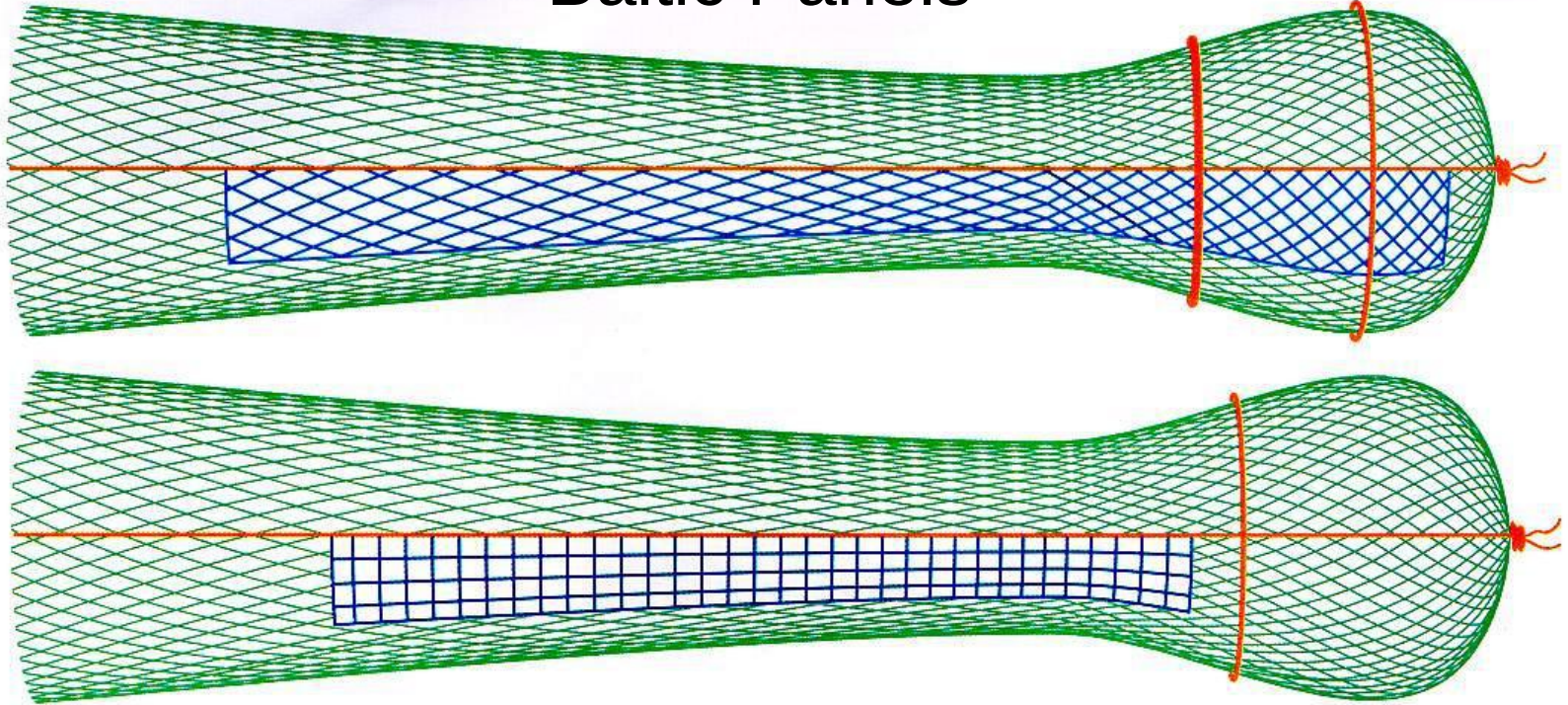
Selectivity of trawls

SELTRA style codend



Selectivity of trawls

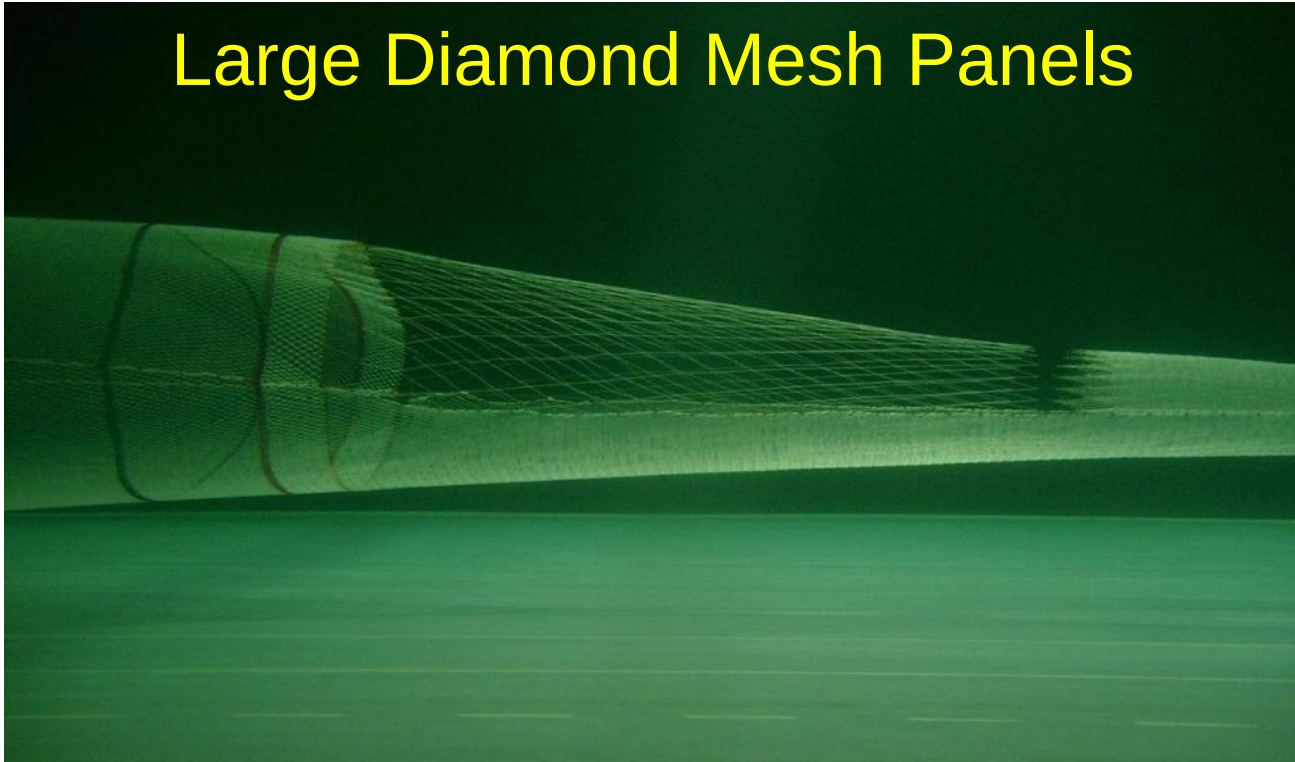
Baltic Panels



Baltic Panels- stiffened square or diamond mesh in sides of cod end and /or extension to allow release of fish sideways

Selectivity of trawls

Large Diamond Mesh Panels



Large mesh top panels (400mm) as tested in cod recovery project. Released 40 – 50% of haddocks and whiting but had very little effect on cod catches

Selectivity of trawls

Large Diamond Mesh Panels

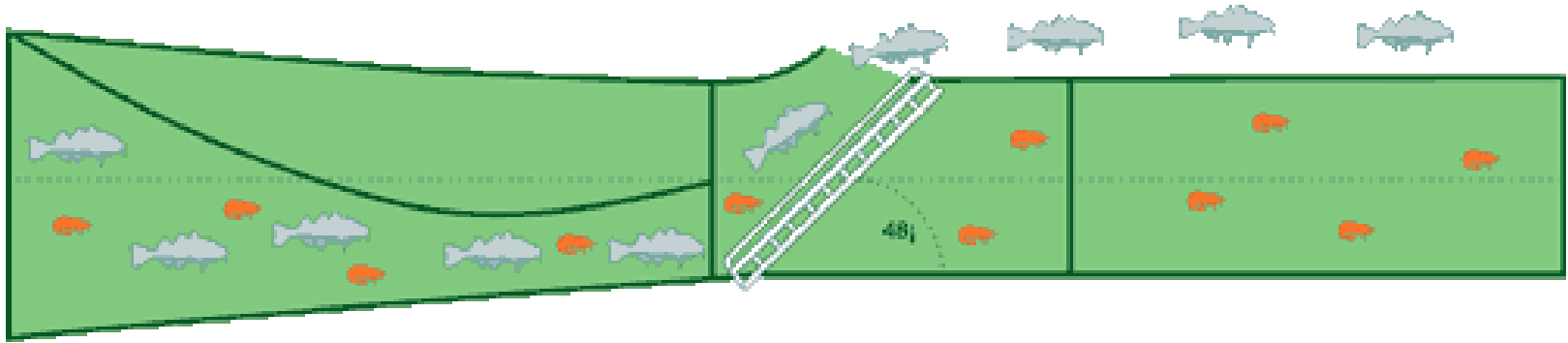


Large mesh panels in top sheet

400mm panels fitted into top panels of prawn trawl. Covering the majority of the top of the net behind the fishing circle

Selectivity of trawls

Rigid Grids



Principle of grid – fish deflected up and prawns / shrimp pass through into cod end

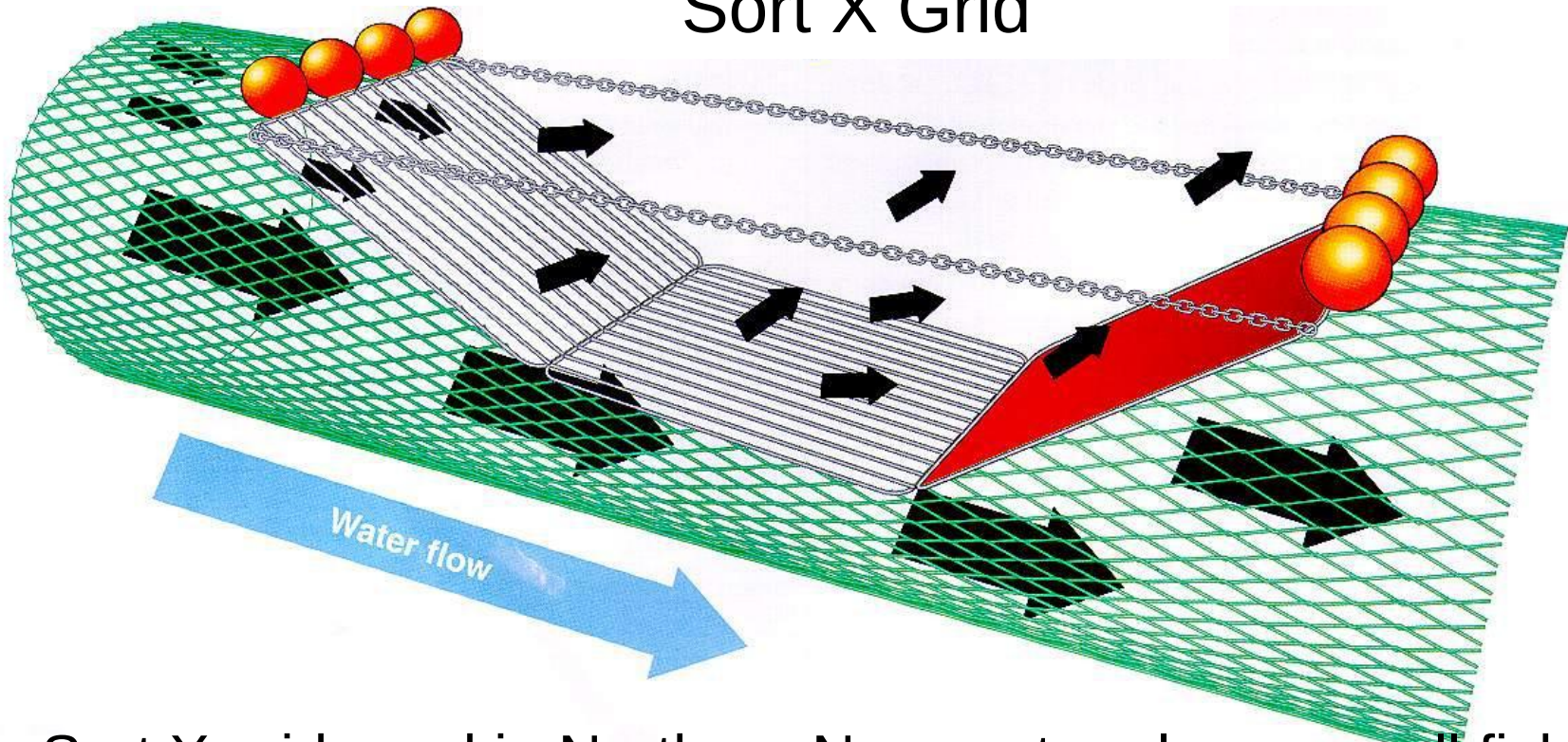
Used in many overseas fisheries

Good for segregating species when there is a big size difference

Difficult to handle

Selectivity of trawls

Sort X Grid



Sort X grid used in Northern Norway to release small fish

Each of the 3 sections is about 2 metres long

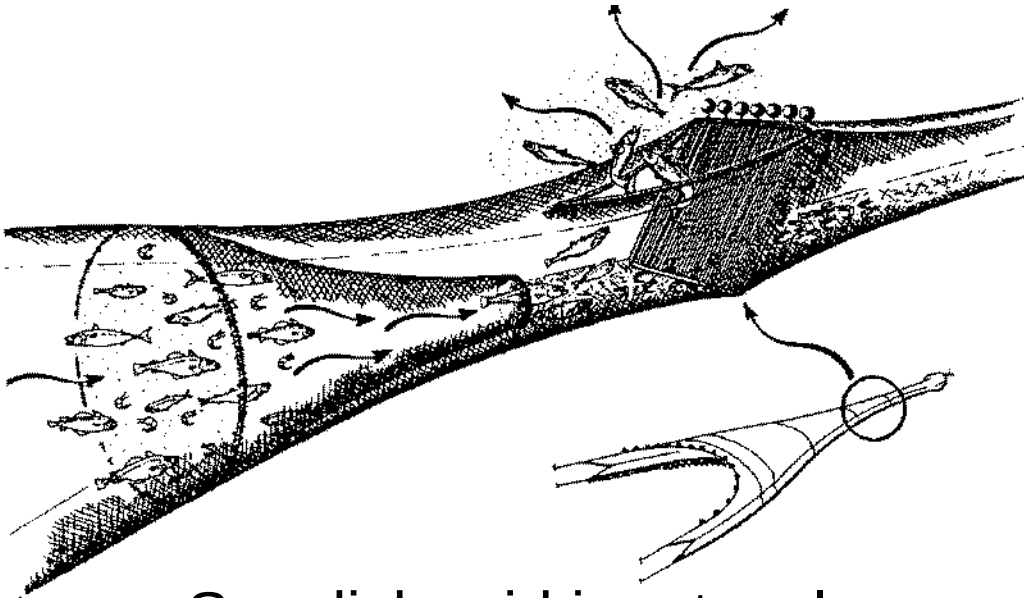
Selectivity of trawls

Turtle Excluder Grid



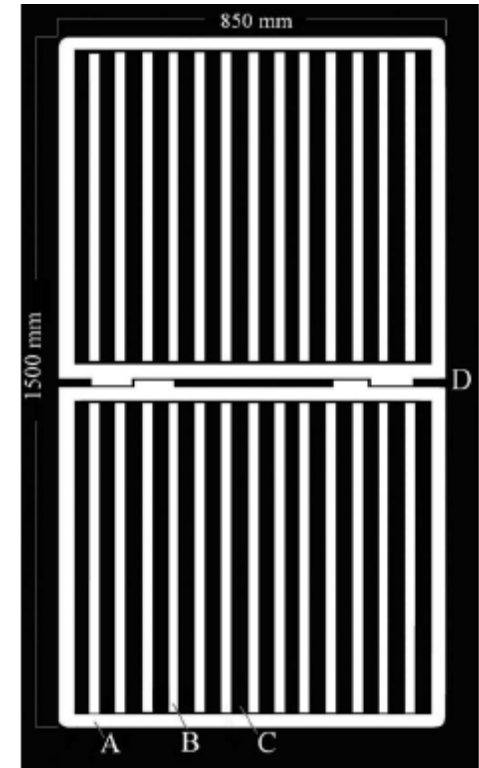
Selectivity of trawls

Rigid Grids



Swedish grid in a trawl

Showing cone or deflector panel and position in trawl



Construction of grid

Selectivity of trawls

Swedish Grid



Swedish grid in a trawl as the gear is being hauled

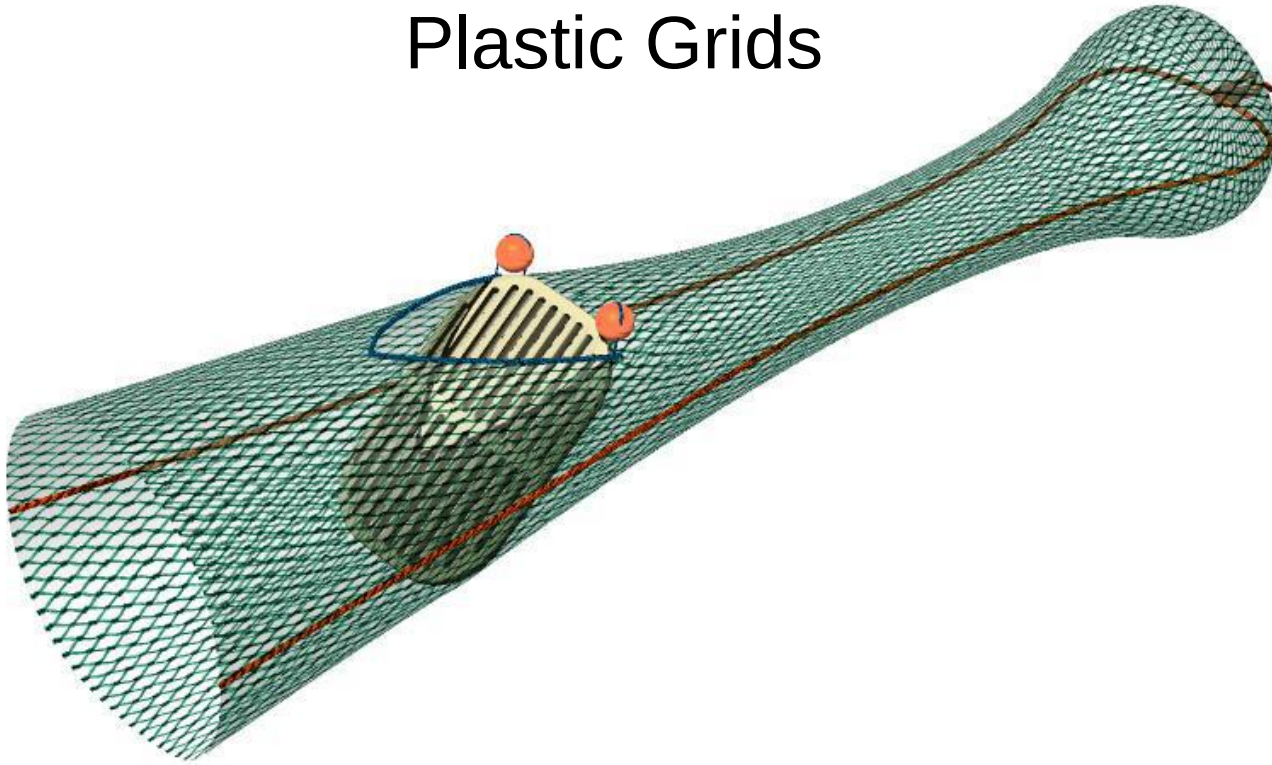
Selectivity of trawls

Plastic Grids



Selectivity of trawls

Plastic Grids



Selectivity of trawls

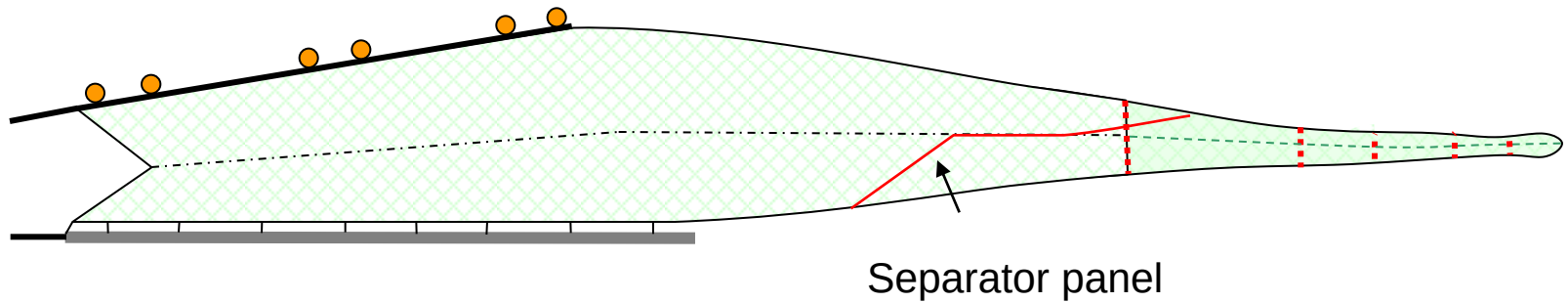
Rigid Grids



Plastic grid tested in Scottish nephrops fishery

Selectivity of trawls

Inclined separator panel

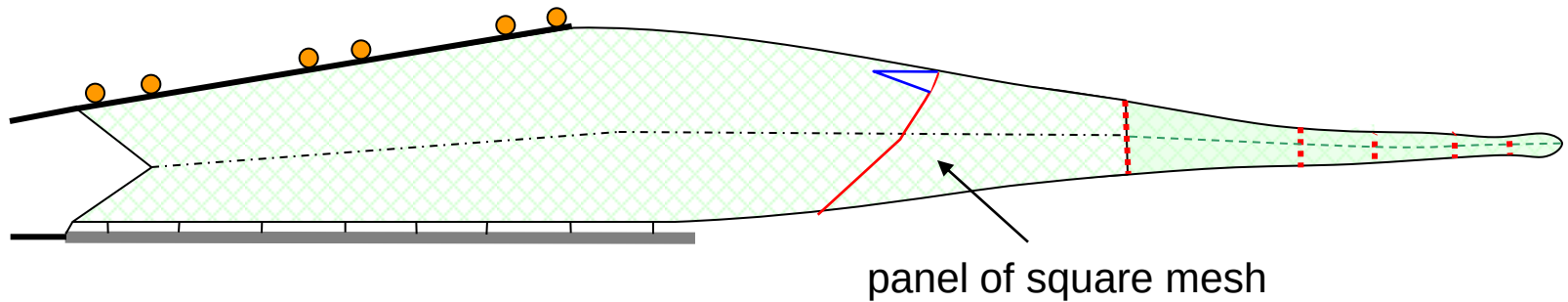


Inclined separator directed to escape hole in top panel

Accepted in some areas as a cod avoidance measure

Selectivity of trawls

Cod avoidance panels

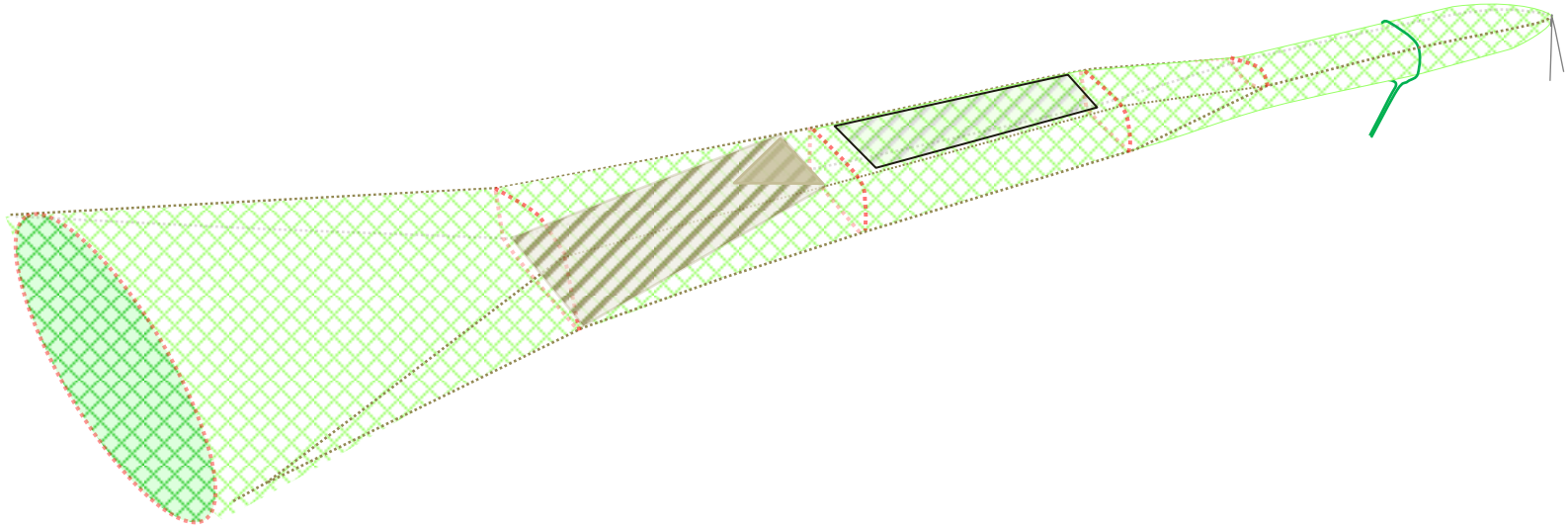


Inclined panel of large square mesh to direct cod to escape hole in top panel

design and development led by industry

Selectivity of trawls

Net Grid



Recently tested by Cefas with good results

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