

Technology

World Fishing



BEN-YAMI COLUMN

December 2002

In the old jolly years of the 1950s and 1960s, Haifa trawler skippers together with our wives were frequently meeting in each other's homes. For some reasons the husbands' conversations would always drift towards the subject of fishing, in general, and trawl gear, in particular. "Trawl boards again?" – would the ladies complain, sending us away to wherever we wouldn't bore them with our trawl-board chat.

Most of my pals are now dead, mainly victims to the cancer epidemics among the fishermen based on the heavily polluted Kishon fishing harbour. A very few of the old salts are still around, and my wife only rarely can now say: "Trawl boards again?"...

Small wonder that trawl boards or doors have been a hot subject in fishermen's chats. They are strange and capricious animals. We used to have them made to our own designs of wood and iron, tune them ourselves, and then wrestle with them to make them working the way we wanted them to. Their job is to keep the mouth of the trawlnet wide open; therefore, they must maintain symmetry with respect to the trawler ahead, and the net behind. A door can move with a tilt (or heel) inwards or outwards, and it may trim with head down or up. The angle-of-attack it assumes in action depends on its tuning, the pull in the warp, and the drag in the bridle. Its bottom contact depends on its trim, tilt, and weight in water. Then, there is the always-debatable choice of the doors' size, shape, and position of brackets and chain-attachment rings.

To make things still more complicated, the door's attitude in action, results from the combination of its size, design, weight, and tuning. All this determines its spreading power, but is changing during a tow, depending on its speed, the drag of the net, and

the trawler's course alterations. So there's plenty to argue about, isn't it? But indisputably the most important thing to keep the gear working is its symmetry. Which is why whenever a skipper feels that he's starting to catch less than others, and there are no holes, tears or major deformations in the net itself, the first thing he'd do is to re-measure the warps.

Like many others, therefore, I was quite astonished when the U.S. National Marine Fisheries Service (NMFS) officially announced that flawed fishing gear on a federal research boat is forcing it to reconsider two years' worth of data used to calculate often painful restrictions for the New England's commercial fishery. This eyebrows-raising flaw consisted in the NMFS survey vessel *Albatross IV* fishing for over two years with incorrectly measured and marked warps, so that one was longer than the other when the boat was fishing. The difference between the lengths of the two warps was anything between about 3 and 12 ft when, depending on the warps scope in water. It was 6 ft at a scope of 330 yards. American fishermen quickly nicknamed the blunder: "**Trawlgate**".

So, for over 2 years the *Albatross IV* has been dragging her trawl net at an angle, and unquestionably, the net couldn't have been fishing properly. Now, what it has to do with trawl boards? Quite a lot.

In my younger years, when still a trawler skipper, we did full-scale underwater trawlgear studies both, by direct observation, using SCUBA divers riding an underwater steerable sled and using underwater pull, tilt, and trim recorders, and underwater and surface dynamometers. Reports were published by FAO and World, and the following is based on my own and others' actual experimental data.

During turning with trawl, when a trawler is towing on straight course in strong side wind, and on a straight course but when one warp is longer than the other is, the tension in warps is unequal. This, transmitted to the boards and bridles causes each board to act at different angle-of-attack. Thus, the boards' spreading power, and in some cases the character of their bottom contact are affected. Therefore, to make the pull in both warps equal, we used to release the outer warp during turning with trawl, and also when towing in strong side wind that forces the trawler to be steered at an angle to its true course. (Unnecessary on the old side-trawlers that were towing both warps from a single point).

Unequal warps distort the shape of the trawl net in action, and reduce catch. Catch loss may reach tens of percent, and skippers would preventively re-measure their warps after every serious fastener. Six feet is enough to affect the catch, nine feet is bad, and twelve feet is a disaster. New England's trawlermen knew all about it, even before their representatives went on an experimental cruise on board *Albatross IV* to observe the distorted net in action on a closed-circuit underwater video, and also witness some

other gear malfunctions on board the survey vessel. The NMFS declared that they're going to assess how the "flaw" has affected *Albatross IV*'s catches and, consequently, their stock and allowable quota (TAC) assessments. But, on October 25, the NFMS Northeast Fisheries Center, responsible for the "Trawlgate" and its remedy, announced that "groundfish data collected during 2000 and 2001 using improperly marked trawl survey gear are not detectably different from similar data collected during other years, when subjected to exhaustive statistical analyses".

This is not less amazing than the "Trawlgate" itself. All the more that as soon as the "flaw" has been corrected, *Albatross IV* reported a haul of some 3MT of haddock, pollock, and cod, a catch comparable to the average total catch of each of the 5 series of 330 survey tows (!) carried out with the faulty gear. "Trawlgate" shouldn't be papered over with statistical analysis, however "exhaustive". It needs a trustworthy assessment through a double series of comparative trawling tows by *Albatross IV* interchanging the flawed with good gear, in parallel to another trawler. This would be a lengthy, but essential exercise, if NFSM want American fishermen to take seriously its management propositions.