

School for haddock means they learn to slip through net

By Gillian Harris
Scotland correspondent

THEY used to say that fish had a memory of only a few seconds. Then scientists told us it was months, and that they felt pain. Now researchers would have us believe that North Sea varieties are using a lifetime's experience to avoid capture in trawlers' nets.

A study of haddock in the North Sea has shown that some have developed an uncanny ability to avoid nets, using survival skills they learnt as youngsters.

According to the researchers, close encounters with nets in early life can educate the fish to swim away from an approaching trawler, the smaller fish learning to evade capture by squeezing through the mesh.

"We have known for many, many years that fish are capable of learning fairly complex tasks and that they have long-term memories as well," said Chris Glass, director of marine conservation at the Manomet Centre of Conservation Sciences in Massachusetts, who led the research. "But maybe this study might change other people's perceptions."

The discovery that haddock and other white fish, including cod and whiting, are learning to outsmart fishermen is the latest blow to an industry struggling with declining stocks and with European Union quotas.

One fisherman in Peterhead said: "It's bad enough fishing in the North Sea these days without hearing that the fish are too clever to catch."

The experiments Dr Glass carried out with his research partner, Huseyn Ozbilgin, at the Marine Laboratory in Aberdeen, were conducted in a 5ft pool with ten haddock that

FISH FACTS

- Haddock is a bottom-living fish found at 130ft to 980ft
- Average size 2ft 6in (80cm) to 3ft 6in (110cm)
- Most important spawning grounds are off Norway, Iceland and the Faeroe Islands
- Young haddock do not venture far from home; larger fish undertake long migrations
- Haddock is fished all year round
- Fishing methods include use of Danish seine nets, trawler, longlines and nets
- Haddock is sold fresh, frozen, dried and smoked
- It is an excellent source of protein and contains vitamin B12 and selenium

they managed to catch in the North Sea.

The fish were trained to race across an empty pool towards food on the other side. Later, a net with large mesh was placed across the pool. That initially deterred the fish until a few broke ranks and swam straight through the net to the food.

Each time the experiment was repeated, with the mesh getting smaller but still big enough to let the fish through, the experienced fish would lead the way and the rest would follow. "We discovered that fish can learn from watching more experienced fish and they are capable of learning quickly," Dr Glass said.

CHRIS FURLONG/GETTY IMAGES



One that didn't get away: a trawlerman clutches a haddock that failed to learn the lessons of youth and was destined for a breakfast plate

At sea, the young fish are thought to slip through the mesh to escape trawler nets. When they are adults the "clever" fish are more likely to avoid the nets altogether. Evidence of an approaching trawler — engine noise and sand clouds caused by nets

being dragged on the sea bed, can trigger a memory of earlier near capture that makes the fish swim away.

The findings add to growing evidence which suggests that fish are more intelligent than was generally thought. Last year it emerged that goldfish

can tell the time. It was also suggested that fish feel pain when they are caught on a hook, are socially aware and can recognise other fish in their shoal.

Emma Jones, a fish behaviouralist at the Marine Laboratory, said: "The theory is now

that fish can learn. They can process information and pass information on to other fish.

"They can also modify their behaviour after an experience, for example learning to avoid a net. And if you have one fish that is a particularly fast learner, the others will follow."

But she dismissed the idea that haddock had proved themselves brainier than other seafish.

"The tests were carried out on haddock but we know that cod and whiting are more likely to try to escape if they are caught," she said.