CATCH ON
HAMPIDJAN GROUP´S
FISHING TECHNOLOGY
NEWSLETTER
DECEMBER 2010

Fishing in the Furious Fifties

Skippers from Iceland find themselves all over the world. Argentine fishing company San Arawa S.A. (www.sanarawa.com) is based in Tierra del Fuego at South America's most southerly city of Ushuaia, and has two Icelandic officers on its staff, skipper Geiri Pétursson and chief mate Halldór Egill Gudnason of the trawler Tai An, a 105 metre factory vessel fishing on hoki and southern blue whiting to produce surimi. The company San Arawa AS is owned by Mr Eduardo Gonzalez Lemmi with its headquaters in Mar del Plata.

Tai-An in an unusually calm weather at fishing ground in the Furious Fifties

Catch On interwieved Geiri and Halldór during the fishing trip in September-October, 2010.

„What is the reason for your precence onboard Tai An?"

'Our involvement began when the owner wanted to introduce more modern fishing and processing techniques to their vessels,' Halldór Egill Gudnason said when we asked him how he managed to find himself fishing on the far side of the world.

'The owner made contact with Geiri through a company in New Zealand. Geiri had already been a skipper in New Zealand and Australia, and, had a reputation, and on his advice, the company invested in a new trawl and doors from Hampidjan, and also helped introduce some new methods and techniques. The results spoke for themselves as their catches increased significantly and the whole fishing pattern changed. This was because of the new and more effective fishing gear and also because fishing continued round the clock instead of only fishing during daylight. Pelagic fishing became a far more important part of the company's activities, as before they had fished only with bottom gear,' they both agreed.

„How do you manage your way of fishing?"

'Southern blue whiting is the same species as is caught in the North Atlantic, except that the fish is bigger at around a kilo each. There are spring and autumn blue whiting seasons and we can catch hoki all year round.'
'We catch blue whiting down to 800-900 metres where the depth off the

A good haul of hoki being unzipped from a full codend

Skipper Geiri Pétursson with Tai An's chief cook Arturo, seen here with top-class Argentinian beef on the grill

continental shelf goes down to as far as 2000 metres. Hoki can be found from 40 metres all the way down to 700-800 metres,' skipper Geiri Pétursson added.

„Is fishing in the Southern Ocean much different to what you're used to?"

´Just a bit! In reality, it's best to forget everything you know and start again, things are that different. On these grounds it's either feast or famine – nothing in between – no steady plod. The best fishing is often when the tide is at its strongest and under those conditions Hampidjan's Dynex Warps have performed outstandingly well. They weigh nothing compared to the old heavy steel wire rope and it makes a big difference handling the gear in a current or a turn,' chief mate Halldór Gudnason said.

„What type of bottom trawl are you using?"

'We are fishing with Lioness and Carmen trawls, both from Hampidjan. The Lioness trawl is more for rough ground where we need to get a good spread and where the hoki are hard on the bottom. There are very low-maintenance trawls. We also use a smaller trawl on really hard ground that are virtually untrawlable, but it normally does the job without getting damaged.' 'We prefer to use the Carmen gear on fish that is loose off the bottom and it has done well under those conditions. We use both double and single bridles with the Carmen and both work well,' skipper Geiri Pétursson said.

„And how about your pelagic gear?"

'We're using a 1408 Gloria trawl with a big opening and a Wide Body 928 Gloria when we can't get to the fish with a bottom trawl. The Wide Body trawl has a horizontal opening three times the size of the vertical opening. It's not a huge set of gear, but it suits us across a lot of different conditions.'

„Can you tell us what doors you're fishing with?"

'We started out with El Cazador doors to spread the bottom trawls and a pair of Apollo doors for the pelagic trawls. Now we are using only the Apollo doors on both bottom and pelagic gears. By flying the doors, they never touch the ground and there is practically no maintenance on them. The bridles last much longer and we can keep the trawls open better, even with 60 or 70 tonnes in the codends,' chief mate Halldór Gudnason said. ´No question that we're getting a much better and more even horizontal opening, especially with the bigger trawls, the Lioness 127 and the Carmen 166. It doesn't make much difference whether we're using pelagic or demersal gear, we just clip the gear in and shoot away. We are definitely fishing more effectively by using only pelagic trawl doors. The trawls open more efficiently and there's a saving in time as well.'

„What sort of hauls are we talking about?"

'We try not to take more than the factory deck can cope with. A decent haul is around 80 to 100 tonnes, although

Chief mate Halldór Egill Guðnason

the pound can take up to 130 tonnes,' chief mate Halldór Gudnason said. 'The codends have zippers to open and close them, so with a big haul we bring half of the bag in first and open the zipper to lighten it before we bring in the rest of the codend – otherwise we'd never get the biggest hauls onto the deck.'

„What's your production capacity?"

'We can produce between 70 and 80 tonnes of surimi over 24 hours, using 300 tonnes of raw material. Anything that doesn't go into the surimi production is used for fishmeal. We can carry 1250 tonnes of frozen product, plus 250 tonnes of fishmeal. We have a crew of 85, with the crew split 90% Argentineans and 10% Chinese. Each trip is 50 to 60 days and we always land at Ushuaia,' skipper Geiri Pétursson concluded.

Production and sales of shrimp trawls

A model of Fjardarnet's 3000-mesh twin-rig shrimp trawl in the flume tank in Hirtshals, towed on three warps with a middle clump.

Deep sea shrimp fishing on Flemish Cap came practically to a halt a few years ago when market conditions became increasingly difficult at the same time as fuel prices climbed steadily.
The Reyktal fishing company has done its best to not let these problems stop them from fishing and has operated freezer trawlers Eldborg, Ontika and Taurus for many years, although these ships are currently fishing off Greenland and in the Barents Sea due to the landing ban imposed by Canada on foreign shrimp trawlers fishing in Newfoundland waters.

Fishing with twin-rig gear

All three of the Reyktal trawlers are fishing with twin-rig gear from Fjardanet in Akureyri that have performed extremely well on these exceptionally difficult North Atlantic fishing grounds that are often far from land and where the weather can often be less than kind.
We spoke to Fjardanet's designer Hermann Gudmundsson about the state of the market for fishing gear that he said has been difficult for some years.
'The market for shrimp has seen some serious fluctuations due to the tough competition with low-cost tropical farmed shrimp that wild-caught shrimp can not easily compete with,' he said.

Things look more positive

'Things look more positive in Iceland now, especially since shrimp fishing was taken out of quota earlier this year.'

Top marks for fishing capacity

Fjardanet has recently supplied a complete twin-rig gear package to FISK Seafood in Saudárkrókur for its trawler Örvar HU-2, which was previously Blængur NK. FISK Seafood went to Fjardanet for its shrimp gear on the recommendations of the skippers of Eldborg, Ontika and Taurus, who all gave Fjardanet's gear top marks for fishing capacity, high endurance and low maintenance.
Fjardanet's 3000 mesh trawl is a four-panel design with a 128 metre stretched mesh fishing circle. The Dynex headline measures 56 metres and the 68 metre rockhopper footrope is rigged with 21" discs. The main body of the trawl is made in Hampidjan's Magnet PE netting, with a fine twine size in Dyneema used to make the Ultra Cross netting used in top- and side panels. The overall length of the trawl is 124 metres, including codends. A pair of 12.50m^2, 4500kg Rock Super-Shark doors are used to spread the gear and 40 metre sweepline are used between trawl gear and doors. As two trawls are towed side-by-side on three warps, the middle wire runs to a clump towed between the trawls. The middle warp is kept shorter than the outside warps but in balance with the doors, which minimises the tension on the outer warps to ensure maximum gear spread.

A very welcome order

Hermann Gudmundsson commented that this order was a very welcome one, and that due to the small meshes, setting up shrimp trawls is time-consuming work. More than a thousand hours went into constructing the pair of trawls for Örvar, providing several weeks of work for six of the netmakers at Fjardanet.

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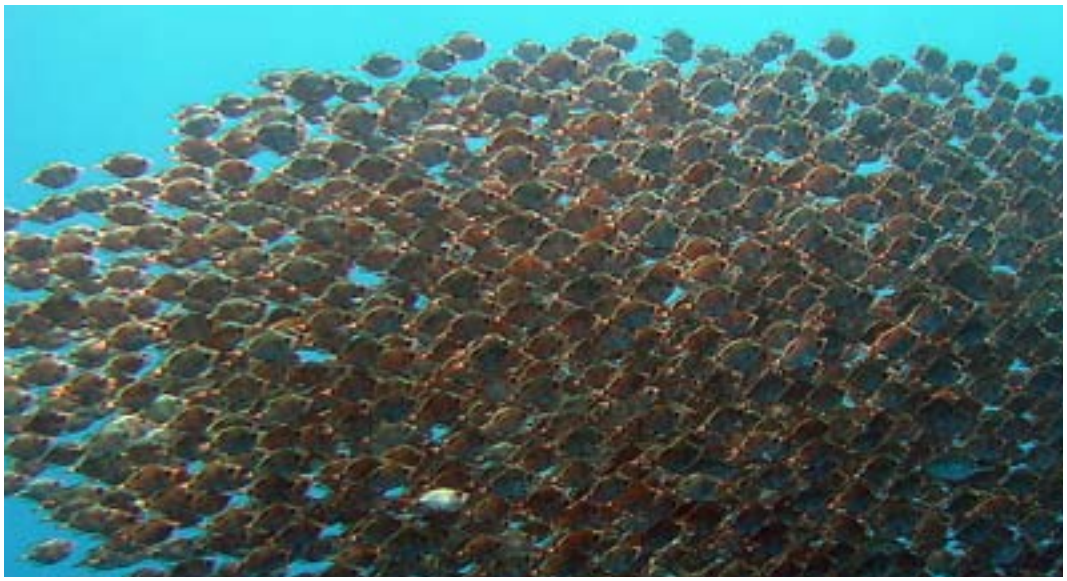
Gloria Helix Self-Spreading trawls… second to none!

Gloria Helix trawls from Cosmos Trawl A/S have for a long time been the preferred fishing gear for Swedish and Danish trawlers and pair teams when targeting herring and mackerel in Skagerrak, the North Sea and the Baltic. But recently fishing for boarfish and sandeel has also been tried out using the Self-Spreading technology.



A fantastic view of a boartfish school underwater. Courtesy of Fishing News International

"Trumpet fish"

Boarfish, otherwise known as trumpet fish, was almost unknown in Denmark few years back. But due to change of fisheries, boarfish is now being caught as an industrial species between the Danish pelagic fleet's other main fisheries.

One of the vessels using this gear is the new *Isafold*, which has successfully used its 1024m Gloria Helix trawl, normally only used for herring fishing, to fish on boarfish as well.

Skipper Karsten Mølgaard reports: *'We are satisfied with our Gloria Helix trawl. It is easy to work with, fast to shoot and haul, and regains its fishing configuration quickly after a turn. The colour coded ropes also make repair work much simpler.'*

Boarfish (Capros aper) Maximum length is 30.0 cm common length 13.0 cm Its Environment is in Demersal waters at depth range of 40 - 700 m Distribution area in the region of 62°N - 10°N, 18°W - 36°E

Courtesy of Fishing New International

Gloria Helix Multi-Mill design

Sandeel fishing has historically been one of the most important catches for Danish fishermen in terms of volume as well as value. In recent years poor seasons have minimised the focus for ongoing R&D, but for the 2010 season the Cosmos design team headed by Arne Olesen and Leif Lykke prepared a new design to be tried out, making the most of modern Self-Spreading technology.

Trials took place onboard the Danish purser/trawler *Stromboli* using a 9600 mesh trawl, and on board Swedish vessel *Stella Nova*, which towed a 8000 mesh Helix Multi-Mill sandeel trawl.

Adjustments required

With the new design we found areas that required immediate adjustment. This is critical in a short season, but on the other hand, this is just what happens when new ideas are being developed.

'best-seller'

However, once these were fine-tuned, it was clear that a new 'best-seller' had been developed – and the 2010 season ended with high hopes for the coming season.

Stromboli's skipper Frode Larsen commented: *'After the different adjustments had been made, our new Gloria Helix Multi-Mill was great. It was easy to work with, extremely strong, keeps its shape very well*

and has very good catch efficiency. This is the right way forward. No doubt that this new model will become a success!'

Brothers Stig and Christer Bryngelsson who skipper Stella Nova told us: *'Our new Helix Multi-Mill has been great since day one! The lightness of the Self-spreading trawls is very suitable for sandeel. It's easy to shoot and haul, top quality material quality and the catch efficiency is excellent.'*

Gloria Helix trawl - No. 2

Only few of the larger Danish trawlers have yet to experience the advantages of Gloria Helix Self-Spreading trawls, but after less than a year from ordering his first Helix trawl, the skippers and owners of *Ruth* have already ordered their second set of gear.

The crew of Isafold haul the new 1024 m Gloria Helix trawl onto the netdrum.

Reports:

'Buying our second Gloria Helix within one year demonstrates what we think of the trawl and the service we get from Cosmos,' said *Ruth's* skipper Ole Nattestad.

'Overall we are very satisfied. The Gloria Helix is easy to work with, we get a great overview with the colour codes, the trawl is very stable, and fishes well even when turning.'

Herring seine taken on board at Skarfabakki

Ingunn prepares for Icelandic summer-spawning herring

Herring purse seines aren't small fishing gears, as can be seen here as Ingunn takes its fishing gear on board. This purse seine measures 250 fathoms by 65 fathoms deep, and weighs around 15 tonnes.

Facilities for handling this type of fishing gear at Hampidjan's Skarfabakki net loft are excellent, and Ingunn was able to take its gear directly on board from the net loft. Ingunn was the first of the season to start on Icelandic summer-spawning herring after the Ministry issued a 14,000 tonne research quota to look into the state of the stock after a parasite appeared on the herring two years ago.

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New gear for new fishery

Therney, a Sterkoder type stern trawler, was built in 1992 at Kristiansand in Norway. Its 2009 catch totalled 7288 tonnes, with a value of €9 million. Therney kicked off the mackerel fishery for the Icelandic freezer trawler fleet when each was allowed a 230 tonne quota, designed to utilise the mackerel allocation for human consumption as effectively as possible.

Interview with skipper Ægir Franzson by HB Grandi's media reporter Eiríkur St Eiríksson

'We did well on mackerel. There were fish everywhere but we took ours in the Jökull Deeps. We had a specially rigged trawl from Hampidjan and the gear worked just fine,' said Ægir Franzson, skipper of HB Grandi's factory trawler Therney, who has been at the helm while they have been on mackerel during July.

According to the Minister's decision to allow a 230 tonne mackerel quota for each factory trawler, HB Grandi kicked off with Therney RE and Venus HF taking their shares.
Ægir Franzson said that fishing mackerel has made a pleasant change from the groundfish species they are used to targeting.
'You have to keep the trawl right on the surface, using lightweight doors and trawl warps made of rope instead of wire. This all worked perfectly right from the start. As the mackerel are fat at this time of year, they need to be frozen for longer than we are used to and the 25 tonne per day freezing capacity that we have had been the bottleneck that has set how much we can catch.'

Ægir Franzson, skipper of factory trawler Therney RE

When we spoke to Ægir Franzson, Therney was in the Reykjafjördur Gully where there has been excellent fishing on haddock for the last few days. As the fishing was starting to slow down, they were preparing to shift to new grounds to try for more haddock. Ægir Franzson said that there is mackerel still to be seen over a wide area, including significant amounts of mackerel on shallow grounds off the western fjords.
'Hopefully there'll be more mackerel to be seen in the future and we'll be able to make the most value out of what's available,' Ægir Franzson said.
(HB Grandi hf website, 27. July)

Catch On contacted Ægir Franzson to ask a few more questions about the new Hampidjan fishing gear he uses.

„The Mackerel gear was quite new to you and your crew, How did you cope with the trawl when you started fishing?"

We liked the look of the trawl straightaway, as all the information that came with it was well presented and it made it easy for us to work out how to best handle the gear for this kind of fishing. This was a Gloria Helix 1280 trawl with a T90 codend, Dynex Warps, and Apollo doors,' said skipper Ægir Franzson.

"Was this much different compared with the redfish fishery that you have been at for many years?"

'Everything worked from the word go, from the very first haul and we had no problems with adapting to this new fishery, although it's very different from the pelagic fishing on deep sea redfish that we're used to, with a 2048 metre trawl and all the way down to 400 fathoms. On mackerel we're fishing right on the surface and the spread of the gear is very important as the fish keep to a depth of 10 to 20 fathoms from the surface

"How did the Dynex Warps perform?"

We added 2 x 732 metres of 32mm Dynex Warp onto the steel wire rope on the main trawl drums that we normally use for bottom trawling. The Dynex Warp gave us a 15 by 45 fathom opening and we could manage a speed of 4 to 4.50 knots at roughly the same loading as our normal bottom trawls. The Dynex Warp certainly made a difference. These are much lighter than conventional wire and gave us the flexibility to keep the trawl high in the water and it was no problem to take a turn without losing height on the inside trawl door. This means that the trawl opening stayed open during any manoeuvre and was still catching mackerel while we were coming about. We could probably have got more of a letter box shape on the trawl opening by shooting some more warp, but we didn't need to, on this first mackerel trip.'

Therney's T90 codend with 10-15 tonnes of mackerel, enough for processing and freezing in six hours.

"How did the doors match the Gloria Helix trawl?"

'We used a pair of Apollo 9m^2 doors weighing 2800kg each to spread the trawl. They matched the trawl perfectly. Occasionally they would break the surface while we were towing but otherwise they were fine throughout the trip. The X-rig backstrops worked out fine and made it easier for the crew to handle the backstrop system.

"This was also the first time you used a T90 codend?"

'Yes, Hampidjan set up a special T90 codend for us that worked perfectly. This codend can hold around 40 tonnes of mackerel, but as production on board cannot cope with more that 10 to 15 tonnes at a time.
The solution was to put in a escape window, that opened when there was enough pressure from the fish already in the codend. This meant that we were able to keep production going at full speed with the limited amount we can manage, without having to discard a single fish.'

"So you are happy with the outcome of this trip?"

'Yes, very much so, if I were to go back on to mackerel, this is exactly the gear I'd want to be fishing with,' he said, adding that the ship's senior skipper Kristinn Gestsson had also completed a mackerel trip off the east of Iceland and had come to just the same conclusions about the fishing gear developed for targeting mackerel.

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Fishing for krill in the Southern Ocean

At the beginning of last year Norwegian krill factory ship Thorshøvdi made its maiden trip on krill in the Southern Ocean. Thorshøvdi is the largest and most sophisticated vessel of its kind and used fishing gear designed and supplied by Hampidjan. The ship was built in Holland in 1992 as a container ship and operated as such until it was bought by its new Norwegian owners.

Co-operation

Thorshøvdi is owned by Krillproducts inc, a company established in 2006 with the intention of exploiting krill resources in Antarctic waters where Norway holds a quota. The owners of Krillproducts approached Hampidjan soon after the company was formed, looking for co-operation in developing fishing gear, based partly on Hampidjan's experience in experimental fishing for lantern fish in Icelandic waters.

Mixing old and modern ideas

Krillproducts had some very progressive ideas, as they wanted to work with twin sets of beam trawl pelagic gear rather than with a normal pelagic trawl with doors and bridles. The beam trawl concept has already been in widespread use for several hundred years and is still used in the North Sea. The pelagic beam gear is constructed with a belly with four equal-sized panels, held open by a steel beam, fitted with a multi-leg crow's foot leading to the warps running from the derricks on each side of the ship. The lower belly corners are weighted with clumps to keep the gear in balance. At the far end of the belly, each trawl is fitted with a pump and a hose that leads up and back to the ship. These are used to pump the catch straight to the ship's factory deck as it is caught. Krill are tiny animals and very delicate, making it critical that they reach the production area quickly and get the gentlest possible handling during catching and processing.

The krill (Eupheausia suberba) is a tiny creature but forms the largest mass of living organism anywhere on this planet. Courtesy of FiskeribladetFiskaren

The design process

There was plenty to think about in designing this gear so a great deal of careful development work was needed. This included extensive modelling and tests on the shape of the net cone, as well as choosing the right materials, mesh sizes and twine sizes so as to minimise the drag of the gear. The drag was repeatedly modelled in software and in flume tank tests to establish the gear's water resistance until it was felt that the formula would work.

Landmark project

The unique and innovative method of pumping a catch direct from the trawl to the processing deck of a ship was installed on the trawl deck. There are undoubted advantages to pumping the catch direct from the gear and this is expected to be a key factor in producing high quality krill products on board Thorshøvdi.

Revolution

It is fair to say that the Thorshøvdi fishing systems is revolutionary in many ways compared to traditional trawling systems. Thorshøvdi can tow its beam gear for days or weeks, instead of shooting and hauling the gear four to five times every day as is normal practice. No doors or bridles are used because they are not needed with the steel beam and the clumps. This represents a considerable saving in time for the crew to focus on producing high quality krill products on board the revolutionary Thorshøvdi.

Off to a good start

From the outset it was clear that the krill were not being pumped as well as they should be from the trawls, as if the hoses had been blocked. When the gear was brought to the surface, it was clear that there were considerable amounts of meshed krill in the tunnel that appeared to be obstructing the pump. This had to be dealt with immediately so that the krill production on board could be test run.

Emergency net loft

Gear designer Jón Grétarsson immediately set

up a makeshift net loft on board to try to solve the problem. Several different versions were tried without success until Jón finally had an idea for a new approach.
This improved catching capacity significantly and the blockage disappeared from the hoses, so it was possible to fish krill for 30 hours for the factory to be given a proper test run before the catching season came to an end.
These was no little pressure to get everything to work, with a US$156 million investment being tried out, but which now promises to be paying dividends when the next season starts at the end of January 2011.

Supply and demand
There has been a steadily growing demand for fish meal and nutritional products such as fish oil and Omega 3. These are the main reasons for the interest that Norwegian operators have shown in krill processing, as Norway has territorial rights to Antarctic areas following the activities of Norwegian explorers there in the 19th century.

Eupheausia superba
Krill in the Southern Ocean consists mainly of *Eupheausia superba*, known as giant krill, as it grows to a greater size and age than other krill varieties. It can reach 6cm in length and an age of five years. Krill is the main building block of life in the Southern Ocean, forming the basis of food sources for fish, squid, penguins, seals and whales.

Environmentally friendly
Krill is entirely uncontaminated in the Southern Ocean and there is no need to cleanse it during production, resulting in no loss of nutrients in the oil. Krill meal is among the finest feeds available for aquaculture.

Stock size
The size of the krill stock in the Southern Ocean is believed to be as much as 500 to 700 million tonnes and therefore one of the largest masses of living organisms anywhere on the planet. The size of the stock is not certain and relatively little is known about the distribution of krill, as it is difficult to determine on an echo sounder, especially close to the surface.

Fishing
There are on average eleven vessels on krill in the Southern Ocean, from Japan, Norway and South Korea, Last year's catches came to 150,000 to 160,000 tonnes and fishing is generally carried out from January to September, depending on the ice and weather conditions in these distant waters.

Thorshøvdi Technical details
Length 134 metres:
Beam 20 metres:
Engine power:
5380 Hp, 3956 Kw
Cargo capacity:
8000m cu. metres
Daily krill production:
250 tonnes.

Thorshøvdi is the largest and most sophisticated krill catching- and processing vessel of its kind today.

Photo: www.valderhaug.no

Crows' feet leading to the trawls are shackled to the warps leading through the blocks at the heads of the twin derricks that are dropped to a horizontal position while fishing.

Hoses from each trawl are fixed to the drum, while a pump between each trawl and its hose pumps the catch straight to a cylindrical pump housing that turns independently. Under this ingenious system, the catch is pumped along the hose at the core of the drum and from there past the superstructure down to the processing deck.

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Trawler catches kept alive

Trawl-caught fish can be top quality

Cod ranching

Recent research carried out by Nofima in Norway indicates that trawl-caught cod can be kept alive in tanks on board to maximise quality. This method of 'cod ranching,' or 'catch-based aquaculture' has already been tried with good results with seine net-caught fish. As the method had not been tried with trawl-caught fish, there was interest to see if the results would be comparable.

95% survival rate

During the trials fish were transferred straight from the codend to specially designed tanks on board the catching vessel. According to Kjell Midling at Nofima, the results were a surprise.

Around 95 % of the cod survived, and the quality was extremely good

'As many as 95% of the cod put into the tanks survived. It's an unbelievable result and offers a great many possibilities to maximise the quality of fish on board fishing vessels. The results were very similar to those achieved with a seine net.'

Physiological factors

Physiological condition of the fish was assessed regularly, the same as with athletes, with pH- and lactic acid levels measured, along with oxygen absorption. The fish were examined as soon as they were caught and after different periods in the tanks to assess how they had coped with the catching process. These examina-

Photo: NOFIMA

The cod was transferred from the trawl net to the experimental tanks.

Senior Scientist Kjell Midling and Research Technician Ronny Jakobsen conducted a series of physiological analyses on the cod.

Photo: NOFIMA

tions showed that cod can easily be caught and kept alive on board.

Tough fish

When cod in a bottom trawl are brought to the surface rapidly, the swim bladder can rupture due to the difference in water pressure. Cod are resilient animals and the rupture in the swim bladder can heal in a matter of minutes. After 24 hours of storage in the tanks, the physiological condition of the fish had returned to normal. This makes it possible to slaughter the cod after storage in the tank to obtain top-quality fish.

Storage tanks

These positive results are the basis for the possibility of storing live fish on board when conditions are suitable, although it is clear that extensive alterations would have to be made to catching vessels that are not built to cope with storage of live fish.

The research work carried out by Nofima was funded mainly by the Norwegian government.

Lundey's blog 1.7.2010

Plenty going on and a big trip

Good morning, good people. Today we're steaming at full tilt to land the biggest mackerel trip of the summer, 600 tonnes that we took in three short hauls. Our new 1600 metre Gloria trawl works like a dream on the surface and with between 76 and 95% of the catch mackerel, we're pretty pleased with the results.

Last night we had the painful experience of finding the deckie rope wasn't where it should have been. It must have worked itself loose and was dangling back there behind the codends. Now some quick thinking was needed, as trawlers have lost whole codends complete with all the sensors under conditions like these.

The solution was to launch the dinghy *"Skelfing"* with two of the crew in command of it in an attempt to hook up the missing deckie rope. The dinghy has certainly never had such an inspired skipper at the helm, but every attempt by Spjóti and Vidir to hook up the deckie rope came to nothing.

The chief mate Stefán Geir had the brilliant idea of putting a loop right around the bag, shackling a weight to it to make sure it sinks and pulling it slowly but surely back over the whole codend. Then the loop was tentatively hauled in. And would you believe it? They managed to loop it round the pumping section and haul the lot up square on the drum. I have to say that I haven't seen smart work like that in close to a quarter of a century of seagoing – didn't think that sort of thing could be done! The value of the codend and the sensors is something like €50,000 and with the fish inside it, it's probably more like €80,000, so Stefán Geir certainly deserves a hot dog and a coke next time he's in town.

Chief mate Stefán Geir in action while purse seining for capelin.

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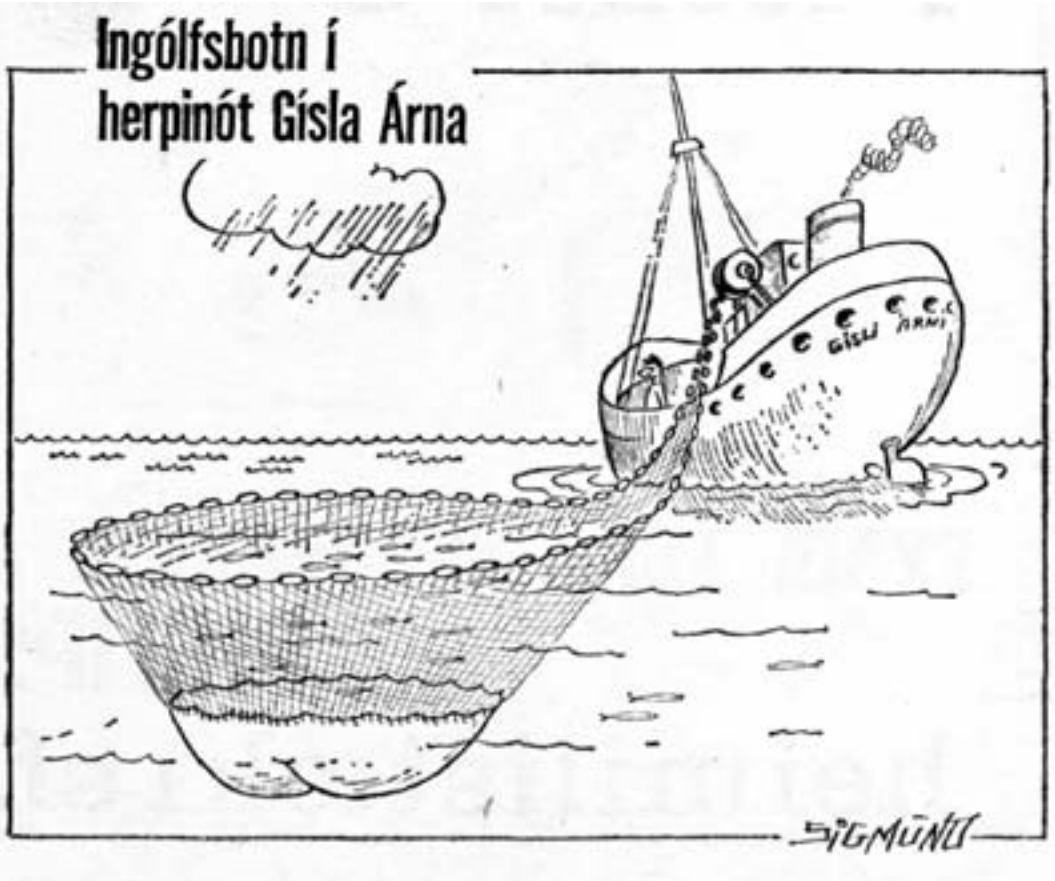
Gísli Árni's Ingólfur Arse

It's not often that a set of fishing gear becomes a subject for a cartoonist. But in 1969 the remarkable Westmann Islands artist and inventor Sigmund Jóhannsson saw fit to come up with the interesting idea shown here. The reason was the under sheet for a capelin purse seine that maker netmaker Ingólfur Theódórsson introduce that became known the Ingólfur Arse.



The purpose
of what was immediately dubbed the Ingólfur Arse was to close the capelin's escape route from the purse seine more quickly just before the gear is pursed. This piece of equipment worked with great success and there are examples of boats fishing four times more with this rig than those without it. The Ingólfur Arse was also tried on cod purse seines for fishing in shallow water, but didn't work out so well on hard grounds where there can be damage to the gear.

Good functioning
According to late Ingólfur Theódórsson's son, Sigurdur Ingi Ingólfsson, himself also a master netmaker, the Arse was a rectangular section of netting 10 to 18 fathoms deep and rigged to the lead line all the way to the bunt. The lower edge of the section was rigged with a light lead line to the crows' feet and the purse rings that the purse wire runs through.
This meant that as soon as pursing started, this formed a barrier at the bottom of the purse seine, as there was no tension on the lead line itself or the purse seine before the Ingólfur Arse had already been pursed shut to close off the capelin's escape route.

Future modifications
Sadly there was no opportunity to develop the Ingólfur Arse any further, as at that time there was a huge fishery on capelin and a great deal of competition to land as much fish as possible. But this was still a remarkable experiment that took place during the first few years of large-scale capelin fishing, and it is unfortunate that this went no further. Sigurdur Ingi Ingólfsson is convinced that the idea is as valid as ever for various fisheries, such as herring, and that by using the modern facilities available today, it would be possible to refine the idea of the Ingólfur Arse considerably, more than forty years after it was first tried out.

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