FISKERIDIREKTORATET

# Report

## The norwegian retrieval survey for lost gillnets 2005

March 2006

# THE NORWEGIAN RETRIEVAL SURVEY FOR LOST GILLNETS 2005.

**By**

**Robert Misund**
**Jarle Kolle**
**Sverre Haugen**
**Nils-Roar Hareide**

**Report from the Norwegian Directorate for Fisheries 2005**

# REPORT

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|---|---|
| **TITLE** | **THE NORWEGIAN RETRIEVAL SURVEY FOR LOST GILLNETS 2005.** |
| **AUTHORS** | Robert Misund, Jarle Kolle Sverre Haugen Nils-Roar Hareide (Hareide Fishery Consultants) |
| **INSTITUTION** | The Directorate of Fisheries |
| **GEOGRAPHICAL AREA** | The continental slopes off Finnmark, Troms, Nordland, Trøndelag and Møre and Romsdal. |
| **VESSEL** | «M/S Vannafisk 1» / T-7-K |
| **LOA / HP** | 46,54m / 1600hp. |
| **TIME PERIOD** | 22.08. - 12.09.05. |
| **FUNDED BY** | National Funding system for Fisheries Research and Developement |
| **REMARKS** | Copy of this report can be ordered from The Directorate of Fisheries.<br>Development Section<br>P.O. box 185 Nordnes<br>5817 Bergen<br>Norway |
| **KEY WORDS** | Lost gear, retrieval survey |

## INTRODUCTION

The effect of lost gillnets on the ecosystem is not well understood, although limited investigations have shown that gillnets lost in deep water (>400m) can fish for years after they are lost because there is very little bio fouling in depths below 400m, and there is insufficient water turbulence to wrap the gear and prevent it from fishing.

Every year nets are lost in the Norwegian gillnet fisheries and to alleviate the impact of this lost gear, the Directorate of Fisheries has organised retrieval surveys annually since 1980. In all 10,784 gillnets of 30 metres standard length (approximately 320 km) have been removed from Norwegian fishing grounds in the period 1983 –2003 (Figure 1). These surveys have shown that it is possible to pick up lost nets with reasonably good efficiency. The experience from the surveys does show that it is important to have good information on the amount of gear lost and the positions where they are lost. It is also important to do the survey at a time of the year when good weather can be expected as the efficiency of the retrieval equipment is reduced in bad weather.

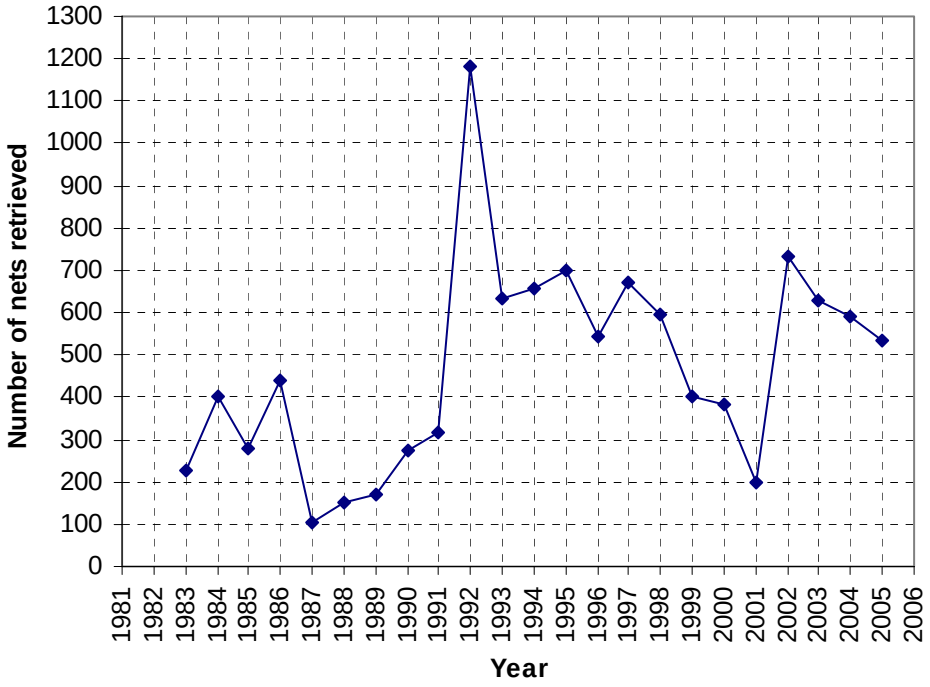


Figure 1. Number of nets retrieved from Norwegian fishing grounds by year, by the annual retrieval survey, 1983-2005.

Investigations made by the Marine Institute of Bergen (IMR) in 1999 and 2000 have shown that the amount of gillnets lost increases with depth and out of all the Norwegian gillnet fisheries, the Greenland Halibut Fishery is the metier where most nets are lost. In this fishery the nets tend to fish much longer after they are lost given the depths fished. The effort in the retrieval survey has therefore become more directed towards this fishery in recent years, particularly as effort has increased over the last years and thereby the number of lost nets is expected to have grown also.

Table 1. Number of nets retrieved from Norwegian fishing grounds by year, by the annual retrieval survey, 1983-2005.

| Year | Northern Norway (N of 65° N) | Southern Norway (S of 65° N) | Total |
|---|---|---|---|
| 1983 | 225 | 0 | 225 |
| 1984 | 401 | 0 | 401 |
| 1985 | 280 | 0 | 280 |
| 1986 | 438 | 0 | 438 |
| 1987 | 106 | 0 | 106 |
| 1988 | 153 | 0 | 153 |
| 1989 | 168 | 0 | 168 |
| 1990 | 0 | 273 | 273 |
| 1991 | 198 | 119 | 317 |
| 1992 | 731 | 449 | 1180 |
| 1993 | 503 | 130 | 633 |
| 1994 | 149 | 510 | 659 |
| 1995 | 305 | 396 | 701 |
| 1996 | 543 | 0 | 543 |
| 1997 | 487 | 185 | 672 |
| 1998 | 358 | 240 | 598 |
| 1999 | 308 | 93 | 401 |
| 2000 | 383 | 0 | 383 |
| 2001 | 141 | 56 | 197 |
| 2002 | 731 | 0 | 731 |
| 2003 | 312 | 318 | 630 |
| 2004 | 332 | 257 | 589 |
| 2005 | 264 | 272 | 536 |
| Sum | 7516 | 3298 | 10814 |

0= Not surveyed.

For 2005 “The Foundation for Exploratory Fisheries and Fishery Advice” granted NOK 1.500.000 (including VAT) to the annual retrieval survey for lost fishing gear. The goal for the survey was to remove as much lost fishing gear from fishing grounds as possible.

## MATERIAL AND METHODS

### Fishermen survey

As a part of the preparation for the survey The Directorate of Fisheries send out a questionnaire to the local Fishermen’s organisations, in order to collect information on the position of lost nets and also the number of lost nets during the last year. This exercise, however, has yielded little valid information and therefore in addition to the questionnaire, since 2000 the Directorate has hired Hareide Fishery Consultants to carry out a survey of fishermen in the different fishing ports in order to collect information directly from the fishermen on the position and amount of lost gear. This survey combined with telephone

interviews has proved very useful in collecting information on lost nets with up to 80% of lost nets reported being retrieved during the survey.

Because of the involvement in Irish and British retrieval surveys only telephone interviews were carried out this year. In previous years the Greenland halibut Fishery was aloud operate for only one month and was closed around July 10 th. This year the fishery was open for two periods and the last period was finished on August 20 th. Fishermen are reluctant to report loss of gear until after the fishery is closed because they will try to creep for the lost nets before the fishery is closed. Since the survey started on August 22 th it was not possible to complete all interviews before the survey started.

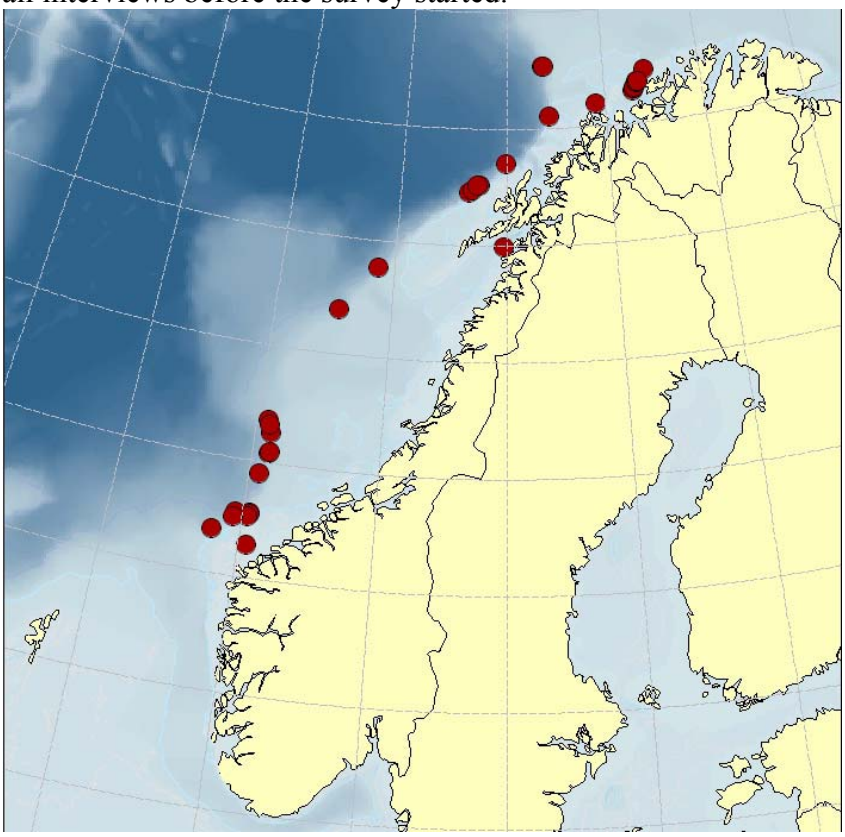

Figure 2. Positions of lost nets reported in 2005.

Skippers of 235 gillnet vessels were contacted by telephone and information on position and depth for 474 lost nets were collected (Figure 2). Of these nets 414 were Greenland halibut nets, 30 were saithe, and 30 were targeting cod.

**Vessel**

The stern trawler "M/S Vannafisk 1" was chosen for the retrieval survey (Figure 3). The vessel was built in 1971, but can still be regarded as a relatively modern fresh fish trawler, well maintained with good working space on trawl deck and relatively modern electronic equipment. For the survey the vessel was equipped with the retrieval equipment ("creeper") which is used as standard on these surveys (Figure 4), with lost nets being hauled onto the net drum of the survey vessel.

Deck arrangements:

- Single trawl lane
- 2 main trawl winches (12 tons)
- 2 sweeper winches
- 2 Gilson winches
- 1 net drum
- 1 crane

Figure 3. Greenland halibutnets recovered

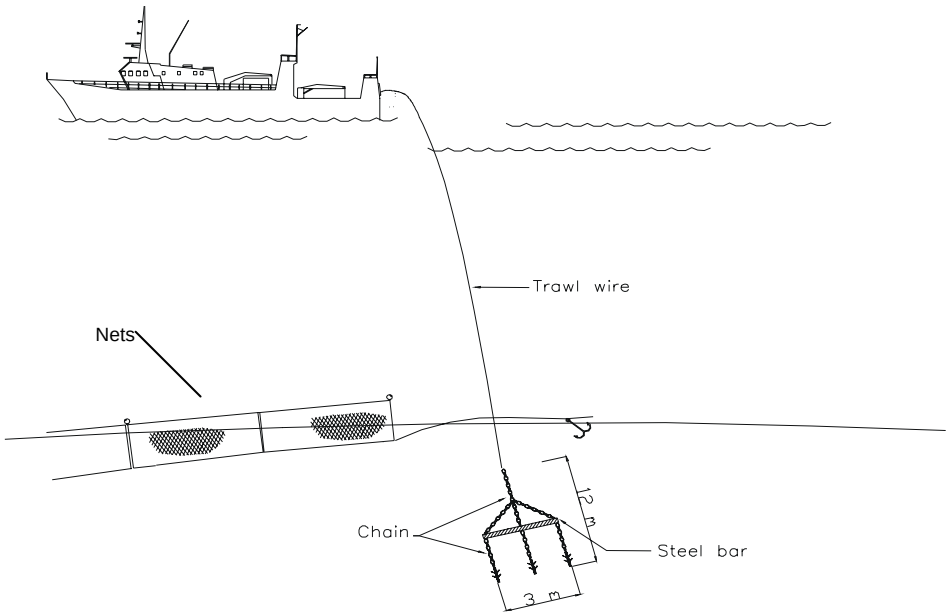


Figure 4. Retrieval gear used by The Norwegian Directorate of Fisheries (Furevik 2000).

The retrieval gear as shown in Figure 4 consists of a 3 metre long steel bar and three dredges, hinged from the bar connected with steel chains. Including the chains attaching the bar to the trawl wire, the gear is 12 meters long. Normally the length of the wire is between 1.5 and 2 times the actual depth, and for the "Vannafisk 1" survey a warp:depth ratio of 1.8 was used at a towing speed of 1-2 knots. The time of each haul varied between 0.5 and 4 hours, depending on indications of whether lost gear had been caught. After 4 hours the gear was routinely hauled to check for signs of lost gear or damage.

When creeping on the continental slopes at 200 – 800 metres, lost nets were normally found 0.5 to 1 nm NE of where they had been deployed, according to the fishermen's records. The current, however, is not constant in direction and speed and therefore an area of approximately 2 $nm^2$ had to be covered before the entire area where the nets could be, was covered. On the continental shelf the currents are much slower and therefore creeping was directed in the reported positions were the nets were originally deployed.

In total 62 hauls were conducted. All of these were in positions where we had reliable information on positions of lost nets, or where there was good reason to believe that netshad been lost. On grounds in Northern Norway (North of 65° N), 31 hauls were carried out and in Southern Norway also 31 hauls were carried out.

In the first two weeks of the survey the weather was very unstable. During the first 14 days of the survey only 6 days were suitable for creeping and on three of these, wind speeds were

more than Beaufort force 5 which is the highest limit of wind speed for effective creeping. The swell was more than 3 metres most of the time during this period.

During this period the deeper slope from Storegga (62°N) to 65°N was surveyed. The area between 65°N and Vesterålen was not surveyed this year because of the weather conditions. In this area two fleets of Greenland halibut nets were reported lost.

During the last 7 days of the survey the weather conditions were good with only one day when wind speed was force 5 or more.

Because of the lost time due to weather conditions the survey was completed at 69° 30 N, West of Andøya. The areas West of Troms were not surveyed. Two Greenland halibut fleets and 4 fleets of cod nets were reported lost in this area.

## RESULTS

In total 536 nets were retrieved. Of these 434 were Greenland halibut nets which were retrieved from depths between 500 and 800 metres (Table 2), along with quantities of longlines, dahn lines, anchors etc. In total 2.5 – 3.5 tons of fish was caught in the retrieved nets, of this the major part was Greenland halibut, with 42 % of the Greenland halibut still alive.

Tabell 2. Total of gillnets during the Norwegian annual retrieval survey for lost gear in 2005.

| | **South Norway** | **North Norway** | **Total** |
|---|---|---|---|
| Number of hauls | 31 | 31 | 62 |
| Greenland halibut nets (500-800 m) | 220 | 214 | 434 |
| Ling nets (150-400m) | 52 | 0 | 52 |
| Cod nets (100 -200 m) | 0 | 50 | 50 |
| Total | 272 | 264 | 536 |

Table3. Total estimated catch of fish and crabs during the Norwegian annual retrieval survey for lost gear in 2005.

| | **South Norway** | **North Norway** | **Total** |
|---|---|---|---|
| Greenland halibut (*Reinhardtius hippoglossus*) | 1750 | 750 | 2500 |
| Cod (*Gadus morhua)* | 0 | 2 | 2 |
| Catfish (*Anarhichas spp*) | 0 | 15 | 15 |
| Tusk *(Brosme brosme)* | 75 | 0 | 75 |
| Redfish ( *Sebastes marinus*) | 25 | 5 | 30 |
| Rough head grenadier (*Macrourus berglax*) | 80 | 40 | 120 |
| Skates (*Raja hyperborea & Raja radiate*) | 100 | 5 | 105 |
| Deep water crab (*Lithodes maja*) | 5 | 5 | 10 |
| Fish and crabs total | 2035 | 822 | 2857 |

Table 4 Total retrieval of fishing gear (exept gillnets) during the Norwegian annual retrieval survey for lost gear in 2005.

| | **South Norway** | **North Norway** | **Total** |
|---|---|---|---|
| Longlines and ropes (m) | 450 meter | 1500 meter | 1950 meter |
| Dan lines (n) | 5 stk. | 2 stk. | 7 stk. |
| Dredges/ anchors (no) | 4 stk. | 2 stk. | 6 stk. |
| Wire (m) | | 250 meter | 250 meter |
| Trawl | | 1 stk. | 1 stk. |

The fleets which varied between 30 and 50 nets, were each of 30 metres length. The normal length of fleets was 35 nets. The fish caught per fleet varied between 0 and 1500 kg. The Greenland halibut nets contained most of the fish (99.8%)

Based on the estimated catch the average catch per net (30 m) was 5.33 kg. The Greenland halibut nets contained 5.76 kg per net and the ling nets contained 0.1 kg per net. The weight of the skeletons and highly degraded fish is not included in the catch estimate.

Some of the nets were old. However it was estimatyed that 80% of the retrieved Greenland halibut nets originate from the fishery in 2005.

Figure 5. Part of trawl and gillnets recovered from haul 51

## Discussion

The bad weather resulted in both ineffective creeping for long periods as well as long periods when creeping was not possible. This resulted in two areas where losses were reported, but no surveying was conducted. Most probably creeping in these areas would have resulted in at least 100 more nets being retrieved. The weather conditions in 2005 was far worse than the previous years. The area between 65°N and Vesterålen was not surveyed this year because of the weather conditions. In this area two fleets of Greenland halibut nets were reported lost.

The number of nets retrieved would probably be higher if the weather was good during the whole survey. Generally in swell conditions of more than 3 meters, the forces on nets from the movement of the vessel are high and the headline and lead line tend to break before the gear can be successfully hauled aboard.

A relatively large proportion of the nets lost in the Greenland Halibut Fishery belonged to vessels less than 10 meters. Some of these vessels were operating more than 100 nm offshore. These vessels are not capable of hauling their nets every second day as decided in the Norwegian Regulations. In addition to this the vessels do not have the necessary certificates to work so far offshore. These vessels are not fit for fishing in these offshore areas and it can also be a problem for them to retrieve their nets if they loose them at depths greater than 500m.

According to the Norwegian legislation every lost net should be reported. Very seldom this is done. Also very little information about lost nest is provided by the regional fishermen unions.

The amount of fishing gear used by some of the vessels in the Greenland halibut fishery, make it very likely that many vessels are not capable of hauling their nets every 48 hours.

In previous years the Greenland halibut Fishery was aloud operate for only one month and was closed around July 10 $^{th}$. This year the fishery was open for two periods and the last period was finished on August 20 $^{th}$. Fishermen are reluctant to report loss of gear until after the fishery is closed because they will try to creep for the lost nets before the fishery is closed. Since the survey started on August 22 $^{th}$ it was not possible to complete all interviews before the survey started. In order to solve this problem it is necessary that the Industry report their lost nets immediately to the Directorate of Fisheries.

A successful gear retrieval survey is also dependent on other factors. The gathering of information on lost nets was not as successful as in previous years. The reason for this is that the Greenland halibut fishery was open up to two days before the survey started. This made it impossible to get an overview of nets lost in the last fishing period. Fishermen are reluctant to report lost gear until the fishery is closed. Also the fact that interviews were only done by telephone may have influenced the results of the interviews. The interview surveys combined with telephone interviews has proved very useful in collecting information on lost nets with up to 80% of lost nets reported being retrieved during the survey. In 2005 the interviews were only done by telephone and the results were not as good as previous years. It is recommended to go back to the method of personal interviews.

The efficiency of the creeping operations is difficult to estimate because it is not always known if the retrieved fleet is the actual fleet that is targeted. To make this easier it is necessary to enforce the existing legislation on marking of gear. It can however be mentioned that from the one vessel that had lost 5 fleets of Greenland halibut nets four were retrieved. In average it took 5 hours effective creeping time per fleet to retrieve the four fleets even when their accurate positions were known.

There are many reasons for loss of nets and not all them can be blamed the fishermen themselves. Conflicts between towed and static gear sectors can be one reason and others can be conflicts with seismic vessels and the merchant fleet.

The annual gear retrieval surveys are not the only mitigating measure for reducing the effect of ghost nets. It is however a significant contribution to the effort of reducing the problems with the lost nets.

## REFERENCES

Anon 1983-2003. Retrieval of lost fishing gears. Report series 1983-2003. Available from the Library of the Directorate of Fisheries (in Norwegian).

**Appendix 1**

## Survey Narrative

Robert Misund and Sverre Haugen, 22.08 – 05.09.2005
Jarle Kolle, 05.09 – 12.09.2005

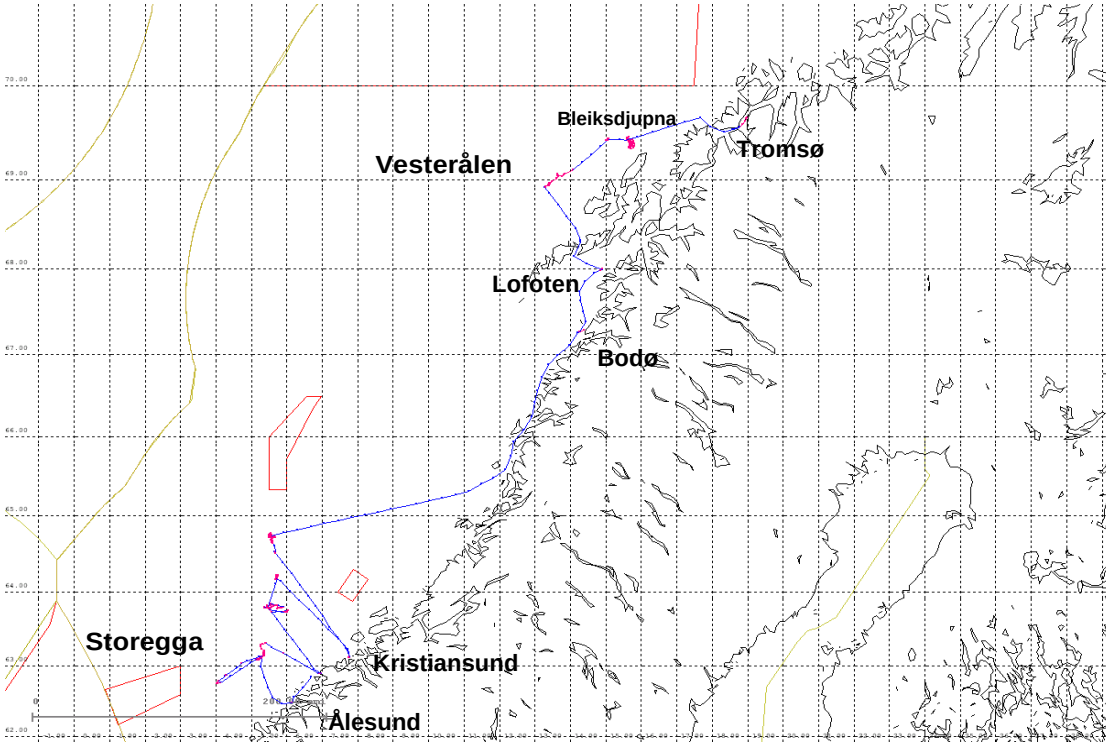


Figure 6. The track (Blue line) for the retrieval survey 2005. (Data from VMS tracking)

**Monday August 22d**

"M.F.V. Vannafisk 1" left Ålesund at 1515LT, with an estimated voyage time of 5 hours to the Storegga survey area. Weather conditions in general were good (SW 3) with a slight swell. The creeping gear had been mounted and adjusted by the crew the previous day. Shot creeper at 250 m worked in depths between 150 and 250 with no results.

| Date | Haul no. | Local Time | Positions | | Depth (m) | Details |
|---|---|---|---|---|---|---|
| 22.8 | 1 | 21.00<br>21.40 | 63° 05.00<br>63° 06.30 | 05° 16.80<br>05° 17.70 | 253<br>161 | No catch |
| 22.8 | 2 | 22.00<br>04.15 | 63° 06.45<br>63° 04.93 | 05° 17.45<br>05° 08.61 | 162<br>358 | No catch |

**Tuesday 22d**

Continued creeping in positions where loss of nets had been reported. At 0915 a fleet of 50 nets were successfully caught at 310 meter. The nets were ling nets and the catch was only 3 kg of redfish. These nets were most probably not lost this year. Weather conditions were good (force 3) increasing to force 5 during the day.

| Date | Haul no. | Local Time | Positions | | Depth (m) | Details |
|---|---|---|---|---|---|---|
| 23.8 | 3 | 05.40<br>09.15 | 63° 04.61<br>63° 05.80 | 05° 09.79<br>05 ° 08.08 | 330<br>309 | 50 gillnets<br>3 kg redfish |
| 23.8 | 4 | 13.45<br>16.55 | 62° 45.00<br>62° 44.73 | 04° 04.00<br>04° 00.39 | 448<br>456 | Ca. 3-4 longlines |
| 23.8 | 5 | 18.05<br>20.15 | 62° 50.41<br>62° 54.31 | 04° 13.32<br>04° 17.04 | 600<br>609 | No catch |
| 23.8 | 6 | 21.55<br>23.50 | 63° 00.55<br>63° 02.00 | 04° 41.92<br>04° 42.90 | 611<br>625 | No catch |

**Wednesday 23d**

Continued creeping in the Storegga area for reported lost nets. No catch. With a very poor weather forecast a decision was made to steam for Harøysund. Started steaming at 17.10. Closer to shore we received better telephone signal and more fishermen could be contacted in order to collect more information.

| Date | Haul no. | Local Time | Positions | | Depth (m) | Details |
|---|---|---|---|---|---|---|
| 24.8 | 7 | 02.00<br>05.00 | 63° 07.40<br>63° 08.00 | 05° 20.40<br>05° 21.25 | 369<br>385 | 2 ling nets (60m) |
| 24.8 | 8 | 05.40<br>07.10 | 63° 10.24<br>63° 11.79 | 05° 21.00<br>05° 22.00 | 490<br>489 | No catch |
| 24.8 | 9 | 07.35<br>09.50 | 63° 11.00<br>63° 08.35 | 05° 21.42<br>05° 21.27 | 486<br>408 | No catch |
| 24.8 | 10 | 10.40<br>16.00 | 63° 11.96<br>63° 19.00 | 05° 22.30<br>05° 24.74 | 460<br>453 | No catch |
| 24.8 | 11 | 16.25<br>17.00 | 63° 18.94<br>63° 18.10 | 05° 25.27<br>63° 18.10 | 452<br>388 | No catch |

**Thursday 25th**

Departed from Harøysund at 1400 LT and steamed to the nearest known positions of lost nets at 63° 48 N, 05° 26 E. Weather conditions were not suitable for creeping. Dodged for the rest of the day while waiting for improved weather.

**Friday 26th**

Bad weather prevented further surveying..

**Saturday 27th**

Weather conditions were much improved by Saturday morning and the survey resumed with haul 12 at 0540 LT. Hauls 12-16 were conducted in the same area with no results.

| Date | Haul no. | Local Time | Positions | | Depth (m) | Details |
|---|---|---|---|---|---|---|
| 27.8 | 12 | 05.40<br>07.25 | 63° 48.00<br>63° 48.00 | 05° 25.77<br>05° 26.85 | 670<br>660 | No catch |
| 27.8 | 13 | 08.05<br>12.00 | 63° 48.41<br>63° 48.28 | 05° 26.66<br>05° 27.98 | 662<br>645 | No catch |
| 27.8 | 14 | 14.45<br>17.45 | 64° 10.20<br>64° 11.18 | 05° 43.10<br>05° 43.67 | 610<br>595 | No catch |
| 27.8 | 15 | 18.20<br>21.30 | 64° 12.14<br>64° 12.82 | 05° 44.05<br>05° 44.48 | 590<br>578 | No catch |
| 27.8 | 16 | 21.55<br>01.20 | 64° 12.97<br>64° 12.47 | 05° 44.21<br>05° 43.42 | 583<br>604 | Some 100 meters of longlines and dahn rope |

**Sunday 28th**

With a very poor weather forecast (force 8-10 a decision was made to steam for Kristiansund. The Vannafisk 1 started steaming for port at 1400LT, and arrived Kristiansund at 2240LT..

| Date | Haul no. | Local Time | Positions | | Depth (m) | Details |
|---|---|---|---|---|---|---|
| 28.8 | 17 | 02.25<br>04.20 | 64° 12.69<br>64° 12.54 | 05° 43.88<br>05° 43.65 | 590<br>600 | No catch |
| 28.8 | 18 | 05.00<br>06.15 | 64° 12.38<br>64° 12.24 | 05° 43.33<br>05° 44.20 | 607<br>582 | No catch |
| 28.8 | 19 | 07.20<br>10.40 | 64° 12.20<br>64° 11.78 | 05° 44.13<br>05° 44.49 | 590<br>574 | No catch |
| 28.8 | 20 | 11.45<br>13.45 | 64° 11.62<br>64° 11.26 | 05° 43.73<br>05° 42.26 | 591<br>622 | No catch |

**Monday 29th**
Due to poor weather forecast it was decided to remain in port until the following day.

**Tuesday 30th**
Still in port.

**Wednesday 31st**
The Vannafisk 1 departed from Kristiansund at 10.50 LT and steamed for positions for lost gear at 64° 30N , 05° 40 E. The creeper was shot at 2100..

| Date | Haul no. | Local Time | Positions | | Depth (m) | Details |
|---|---|---|---|---|---|---|
| 31.8 | 21 | 21.00<br>01.10 | 64° 31.48<br>64° 30.65 | 05° 40.60<br>05° 40.40 | 618<br>698 | No catch |

**Thursday September 1st**
Caught a fleet of Greenland halibut gillnets after 5 hours creeping. The fleet was caught 0.6 nm NNE of the position where it was lost. Continued creeping for another fleet lost in same area but from another position. After 9 hours we caught one fleet 0.4 nm NNW of the position were it was lost. This fleet was stuck in an old fleet. Both fleets were successfully retrieved..

Continued creeping for 5 fleets Greenland halibut nets which were lost in the same area. Retrieved one of them after 30 minutes creeping.

| Date | Haul no. | Local Time | Positions | | Depth (m) | Details |
|---|---|---|---|---|---|---|
| 01.9 | 22 | 01.40<br>02.40 | 64° 30.35<br>64° 32.00 | 05° 40.55<br>05° 21.48 | 697<br>596 | Ca 50 Greenland halibut nets.<br>9 Gr. Halibut of which 4 were not fit for human consumption and many skeletons. 2 rough head grenadiers (fresh), 1 skate (fresh), 2 crabs, many sponges and some stones. |
| 01.9 | 23 | 04.30<br>13.40 | 64° 39.34<br>64° 40.51 | 05° 35.23<br>05° 34.18 | 600<br>570 | Two fleets of Greenland halibut nets (ca 75 nets; 2100m)<br>Ca 1500 kg Greenland halibut<br>One of the fleets was new and the other was old.. The new was most probably lost because it was fast in the old. |
| 01.9 | 24 | 18.10<br>18.45 | 64° 44.66<br>64° 44.87 | 05° 33.54<br>05° 31.39 | 552<br>570 | 25 nets + 1dahn line+ 2 anchors and dahn. (Dahn was duly marked))<br>Catch of Greenland halibut, redfish, tusk, rough head grenadier and skates.<br>Approximately 80% of the catch was rotten and not fit for human consumption. |
| 01.9 | 25 | 20.25<br>03.00 | 64° 45.73<br>64° 44.77 | 05° 31.19<br>05° 31.19 | 572<br>556 | 25 nets + 1dahn line+ 2 anchors and dahn. (Dahn was duly marked))<br>250 kg fish, mainly Greenland halibut, Rough head Grenadier and skates. 80% of the catch was rotten and not fit for human consumption |

**Friday 2nd**

Continued creeping for the four remaining fleets and retrieved one of them in haul 28 after retrieving the dahn line and dahn of the fleet in haul 27. The fleet was caught 0.25 nm NE of the position where it was reported lost.

| Date | Haul no. | Local Time | Positions | | Depth (m) | Details |
|---|---|---|---|---|---|---|
| 02.9 | 26 | 05.00<br>15.00 | 64° 43.62<br>64° 42.32 | 05° 32.07<br>05° 35.17 | 570<br>552 | No catch |
| 02.9 | 27 | 15.30<br>17.35 | 64° 42.82<br>64° 44.48 | 05° 34.88<br>05° 33.79 | 553<br>555 | 1 dahn line and dahn ( duly marked) |
| 02.9 | 28 | 18.50<br>22.25 | 64° 44.56<br>64° 42.64 | 05° 34.55<br>05° 36.90 | 548<br>532 | 25 Greenland halibut nets 1 dahn line and dahn ( duly marked) 1 redfish (alive) and a few skeletons |

**Saturday 3rd**

Continued creeping for the remaining three lost fleets. Retrieved one 0.5 nm NE of the position where it was lost after 3 hours. Continued creeping for the last fleet in 12 hours with no result. The wind deteriorated during the afternoon and it was decided to steam for Bodø for changing crew.

| Date | Haul no. | Local Time | Positions | | Depth (m) | Details |
|---|---|---|---|---|---|---|
| 03.9 | 29 | 00.50<br>03.20 | 64° 43.86<br>64° 43.27 | 05° 35.8<br>05° 32.62 | 543<br>575 | 25 Greenland halibut nets 1 dahn line and dahn ( duly marked) 1 redfish (alive) and a few skeletons.<br>Skates , rough head grenadiers and a few skeletons . Very much sponges. |
| 03.9 | 30 | 05.15<br>13.15 | 64° 44.20<br>64° 44.21 | 05° 32.79<br>05° 31.52 | 560<br>573 | No catch |
| 03.9 | 31 | 14.20<br>16.10 | 64° 44.22<br>05° 31.52 | 05° 31.00<br>05° 31.52 | 570<br>570 | No catch |

**Sunday 4th**
"Vannafisk 1" arrived in Bodø at 22.40 LT
SW force 9, rain.

**Monday 5th**
Chief Scientist Robert Misund and Sverre Haugen were replaced by Jarle Kolle. Weather conditions improved during the day and the "Vannafisk 1" departed from Bodø at 2000 LT and steamed for positions where gear was reported lost west of Steigen in Vestfjorden area.

**Tuesday 6th**
Weather conditions were reasonable and the creeper was shot at 0630 LT. A total of 3 tows were completed with the creeper going fast several times . Caught 150 meters of wire and some pieces of gillnet.

Operations were ceased at 1245 LT and the "Vannafisk1" steamed for the slope off Vesterålen and creeping was resumed at 2100. Caught one fleet of Greenland halibut nets after one hour. This fleet was reported lost.

Contacted vessels that had been fishing for Greenland halibut in this area in August, but no vessel had lost nets or knew about any other vessels that had lost gear.

| Date | Haul no. | Local Time | Positions | | Depth (m) | Details |
|---|---|---|---|---|---|---|
| 06.9 | 32 | 06.35<br>08.05 | 68° 00.16<br>67°.59.14 | 14° 55.52<br>14° 51.07 | 283<br>184 | No catch<br>Got stuck. Difficult bottom. |
| 06.9 | 33 | 08.25<br>11.35 | 67° 59.04<br>67° 59.55 | 14° 52.19<br>14° 53.14 | 213<br>228 | Ca 150 m wire Φ20mm, some pieces of gillnets |
| 06.9 | 34 | 12.20<br>12.45 | 67° 59.47<br>67° 59.46 | 14° 54.43<br>14° 53.01 | 186<br>192 | No catch<br>Got stuck. |
| 06.9 | 35 | 20.55<br>22.05 | 68° 55.15<br>68° 54.78 | 13° 17.97<br>13° 17.90 | 573<br>676 | 30 Greenland halibut nets.250 kg fish mainly Greenland halibut of which 60% was not fit for human consumption Some rough head grenadier and skates.. |

**Wednesday 7th**

Continued creeping in positions where gillnets were reported lost. Retrieved 94 nets in three different positions during the day. Some longlines, dahn lines and wire were also caught.

| Date | Haul no. | Local Time | Positions | | Depth (m) | Details |
|---|---|---|---|---|---|---|
| 07.9 | 36 | 01.10<br>01.20 | 68° 56.38<br>68° 56.51 | 13° 24.91<br>13° 25.23 | 661<br>658 | No catch |
| 07.9 | 37 | 02.55<br>02.55 | 68° 56.28<br>68° 56.59 | 13° 23.96<br>13° 24.29 | 727<br>714 | No catch |
| 07.9 | 38 | 03.45<br>05.25 | 68° 56.60<br>68° 56.02 | 13° 25.10<br>13° 23.28 | 662<br>712 | 28 Greenland halibut nets*<br>* Very little sheeting left on the headline and ground lines. . 6 specimens of live Greenland halibut and 20 not fit for human consumption. 6 Rough head grenadiers of whom all was rotten and not fit for human consumption. |
| 07.9 | 39 | 07.00<br>09.40 | 68° 56.49<br>68° 55.65 | 13° 25.13<br>13° 21.27 | 665<br>549 | 200 m longline and some dahn line |
| 07.9 | 40 | 10.45<br>11.45 | 68° 55.95<br>68° 57.05 | 13° 22.01<br>13° 24.43 | 706<br>761 | 36 Greenland halibut nets<br>6 old nets + some old dahn line. Nets in poor condition, 35 specimens of Greenland halibut, and 60% not fit for human consumption. |
| 07.9 | 41 | 14.20<br>15.50 | 68° 57.51<br>68° 57.43 | 13° 25.48<br>13° 25.16 | 670 | No catch |
| 07.9 | 42 | 16.50<br>18.10 | 68° 57.6 3<br>68° 57.62 | 13° 16.13<br>13° 24.21 | 612<br>738 | No catch<br>Clay, Creeping gear digging in. |
| 07.9 | 43 | 19.40<br>21.45 | 68° 57.16<br>68° 57.42 | 13° 25.12<br>***68° 57.42*** | 685<br>667 | No catch |
| 07.9 | 44 | 22.50<br>00.50 | 69° 00.36<br>69° 00.36 | 13° 36.41<br>13° 37.16 | 630<br>680 | No catch |

**Thursday 8th**

Continued creeping in positions where two fleets were reported lost. No catch. Weather detoriated to NE force 7. Worked in shallower waters at Jenegga where the Fishermen's union of Nordland County had reported lost gear. No catch. At 1310 LT Vannafisk 1 steamed for Langnesegga. Started creeping at 1800 LT for gear reported lost.

| Date | Haul no. | Local Time | Positions | | Depth (m) | Details |
|---|---|---|---|---|---|---|
| 08.9 | 45 | | | | | |
| 08.9 | 46 | | | | | |
| 08.9 | 47 | 10.25<br>13.05 | 69° 01.85<br>69° 03.08 | 13° 45.30<br>13° 53.76 | 229<br>226 | 20 meters old trawl wire (sweeps) |
| 08.9 | 48 | 18.20<br>19.35 | 69° 25.40<br>69° 25.27 | 15° 01.70<br>15° 02.42 | 810<br>789 | No catch |
| 08.9 | 49 | 21.00<br>06.30 | 69° 25.41<br>69° 25.05 | 15° 03.07<br>15° 04.82 | 784<br>783 | 20 meters old trawl wire (sweeps) |

**Friday 9th**

Continued creeping in same positions as the day before without any results. Moved to the ”Bleiksdjupna. This area is very important area for gillnet fishery both for cod (upper slope;300-100m) and for Greenland Halibut (500-800m). Contacts were made with the Coastguard headquarter and the fishing vessels in the area in order to agree on removing nets from the survey area. It was agreed that the whole Western part of ”Bleiksdjupna” was cleared for nets already. Creeping was resumed at 0810 LT. In second attempt(haul 51) remnants of a trawl and 60 Greenland halibut and cod nets were retrieved. The nets came up in big bundles together with dahn lines and longlines . The nest seemed to be old and there were only a few crabs and rough head grenadiers in them. Continued creeping in this area the rest of the day.

| Date | Haul no. | Local Time | Positions | | Depth (m) | Details |
|---|---|---|---|---|---|---|
| 09.9 | 50 | 08.10<br>12.00 | 69° 26.15<br>69° 21.87 | 15° 36.07<br>15° 41.67 | 648<br>631 | No catch |
| 09.9 | 51 | 13.05<br>15.30 | 69° 22.14<br>69° 23.41 | 15° 42.96<br>15° 42.46 | 681<br>890 | Remnants of a trawl.<br>60 Greenland halibut and cod nets. 300m longlines, 1 anchor, dahn line and dahns (marked)<br>All retrieved gear was old and there was no fish. |
| 09.9 | 52 | 18.30<br>18.50 | 69° 23.39<br>69° 24.34 | 15° 42.15<br>15° 41.26 | 916<br>839 | No catch |
| 09.9 | 53 | 19.50<br>20.15 | 69° 24.82<br>69° 24.41 | 15° 41.26<br>15° 41.49 | 720<br>764 | No catch |
| 09.9 | 54 | 21.45<br>03.10 | 69° 24.69<br>69° 21.56 | 15° 41.80<br>15° 43.12 | 796<br>690 | 20 nets (marked) )<br>500 m longline, 1 dahn line, 1 dahn and 1 anchor. |

**Saturday 10th**

During the night 2/3 of a Greenland halibut fleet was retrieved. Continued in same area and caught another 50 Greenland halibut nets. These nets belonged to two different fleets, one old and one new (2004 or 2005). In the new nets there was 300 kg of Greenland halibut (haul 57).

| Date | Haul no. | Local Time | Positions | | Depth (m) | Details |
|---|---|---|---|---|---|---|
| 10.9 | 55 | 05.00<br>05.50 | 69° 29,13<br>69° 23.52 | 15° 43.23<br>15° 43.10 | 697<br>930 | No catch |
| 10.9 | 56 | 07 20<br>13.15 | 69° 23.44<br>69° 22.23 | 15° 44.53<br>15° 49.09 | 770<br>287 | Some pieces of gillnets, some meters of headline rope. |
| 10.9 | 57 | 13.40<br>17.00 | 69° 22.80<br>69° 25.70 | 15° 49.39<br>15° 39.52 | 557<br>833 | 50 Greenland halibut nets<br>Old dahn line and dahn (marked ) and 1000 m longlines. Ca 300 kg Greenland halibut, not fit for human consumption, skeletons and 50 fresh, 20 specimens of rough head grenadier , 3 specimens of catfish. |
| 10.9 | 58 | 19.55<br>20.30 | 69° 25.63<br>69° 25.80 | 15° 41.92<br>15° 39.81 | 990<br>875 | No catch |
| 10.9 | 59 | 22.10<br>03.15 | 69° 25.82<br>15° 39.81 | 15° 39.49<br>15° 44.97 | 811<br>848 | Wire<br>Some pieces of sheet netting.. |

**Sunday 11th**

A fleet of 40 Greenland halibut nets were caught at 850 meters (haul 60). The nets seemed to be from 2005. The nets came up with anchor and dahn line. Only the dahns were missing. Approximately 200 kg of Greenland halibut were caught in the gear. Ceased creeping at 2130 LT and steamed for Tromsø.

| Date | Haul no. | Local Time | Positions | | Depth (m) | Details |
|---|---|---|---|---|---|---|
| 11.9 | 60 | 05.00<br>09.20 | 69° 23.40<br>69° 25.95 | 15° 46.04<br>15° 36.08 | 787<br>848 | 40 Greenland halibut nets, dahn line and 1 anchor.<br>50 specimens of Greenland halibut<br>5 skates 4 catfish, 1 monkfish, 1 cod 3 redfish.<br>Some stones and sponges |
| 11.9 | 61 | 12.20<br>15.25 | 69° 26.03<br>69° 22.43 | 15° 35.58<br>15° 43.08 | 566<br>741 | Sweep wire |
| 11.9 | 62 | 16.15<br>21.10 | 69° 22.50<br>69° 25.59 | 15° 43.90<br>15° 36.51 | 830 | 300 meters warp from Danish seine. |

**Monday 12th**

M.F.V. Vannafisk 1 arrived in Tromsø early in the morning, where retrieved gear, scientific equipment was taken of the vessel. The retrieved gear was discharged to a truck.