14-06-2024

Faroe Marine Research Institute
Nóatún 1
FO-100 Tórshavn
Faroe Islands

Ms. Brynhildur Benediktsdóttir
Exectutive Secretary
North Atlantic Fisheries Organisation (NAFO)
Summit Place
1601 Lower Water Street
Suite 401
Halifax, Nova Scotia
Canada B3J 3P6

Dear Ms. Benediktsdóttir,

This is an official notification regarding the continuation of Faroese longline survey in 3M that will be conducted by vessel Klakkur from the 21st of June 2024.

Although the survey has been thoroughly revised and standardized according to recommendations from the Scientific Council and STACREC, changes to the survey procedures are aimed to reduce catches and ensure survey coverage and consistency through standardized procedures. The new proposed protocol was presented for the STACREC meeting in May and further discussed in Scientific Council's June meeting.

Being an industry conducted survey, the survey catches (roughly estimated to approx. 62 tons, hence exceeding the survey catch limit of 15 tons for Atlantic cod) will be subtracted of the fishing quota allocated to this vessel and will be marketed with the vessels commercial catches. The proposed protocol stipulates survey design and sampling to be covered by up to three vessels. This year will be covered by Klakkur only which will have external observer onboard conducting the survey.

The aim of the survey remains to present a fisheries independent index of abundance at age conducted with an alternative gear type to be used as supportive information in the stock assessment of cod in 3M.

Attached is the new and improved Survey Protocol for Faroese longline survey of Flemish Cap (Div. 3M).

Sincerly,

Hannipoula Olsen,
Principal Investigator – Faroese Longline Survey on Flemish Cap (Div.3M)

North-west Atlantic Fisheries Organization

# Proposed protocol of the Faroese longline survey of Flemish Cap (Div. 3M)

by

Faroe Marine Research Institute
Nóatún 1, FO-100 Tórshavn
Faroe Islands

## Introduction

This protocol was developed by Faroe Marine Research Institute. It serves as a guide to the methodologies adhered to during the planning and execution phases of the Faroese longline survey on Flemish Cap NAFO Regulatory Area (NRA, 3M).

Flemish Cap is an isolated bank on the American continental shelf covering approximated 17 000 squared nautical miles within the 1460 m depth isobath and 10 555 within the 730 m. Flemish Cap is separated from the Newfoundland Grand Bank by the Flemish Pass, an area deeper than 1000 m.

The general circulation in the vicinity of the Flemish Cap consists of the offshore branch of the Labrador Current which flows through the Flemish Pass on the Grand Bank side and a jet that flows eastward north of the Cap and then southward east of the Cap. To the South, the Gulf Stream flows to the northeast to form the North Atlantic Current and influences waters around the southern areas of the Cap. In the absence of strong wind forcing, the circulation over the central Flemish Cap is dominated by a topographically induced anti-cyclonic (clockwise) gyre (Akenhead 1986, Stein 1996).

The survey was initiated in 2021 and it has been subjected to several planned and ad-hoc adjustments which are described below:

- The survey conducted in 2021 from 14/6 to 10/7 by the longline vessel “Klakkur” (KG 9, LOA 51.3 m) covered the 3M area shallower than 600 m isobaths. The number of sets was established at 100 with approximately 6000 hooks on each longline set.
- The 2022 survey was led by the smaller vessel “Eivind” (VA 132, LOA 41.3 m). A total number of 54 (of 100 planned) sets of 4400 hooks each were employed covering mostly the western region of 3M. Fishing operations were carried out in the month of June (1/6 – 13/6)
- In May 2023 (2/5 – 15/5) the vessel “Stapin” (FD 32, LOA 42 m) conducted the survey employing 3600 hooks on each of the total 28 (of 52 planned) sets.

The following protocol is based on the experience from the Faroese longline survey 2021 to present and on experience, guidelines and manuals from already accepted protocols for other NAFO research surveys.

**Objective**
The main objective of the survey is the study of abundance, biomass and composition structure of the target species, i.e., Atlantic cod in area 3M. In addition, also biological samples of other fish species should be conducted in every longline set as well as oceanographic compilation of data consisting of water temperatures and depth measurements recorded from haphazardly selected sets.

**Significance of the longline survey**
The aim of the survey is to investigate the Flemish Cap Atlantic cod stock employing an alternative gear to that used in the EU survey, which may potentially be incorporated into and supplement the analytical stock assessment as a fishery independent index. Importantly, the longline survey catches fish larger than 60 cm, i.e. the part of the stock that is not well covered in the EU trawl survey.

A further motivation for the inclusion of a longline survey in the assessment framework is the distinct perception of the stock dynamics among Faroese fishermen. Since 2017 the Faroese fishery in 3M is conducted exclusively by longliners.

Given the nature of longline fishing it's not possible to collect samples of invertebrates, sponges and corals. However, an advantage of longlining over more traditional methods of groundfish trawl surveys is that impact on ecological structures and negative effects on the sea floor are kept to a minimum.

**Survey design and area coverage**
The stratified random survey design in the Flemish Cap follows the methodological specifications of NAFO which were presented and adopted in 1981 (Doubleday 1981). Flemish Cap is divided into 39 strata of which 32 are surveyed by the EU research vessel *Vizconde de Eza*. Each stratum is divided in rectangles of equal area and thus the number of rectangles is proportional to the stratum area. A total of 478 rectangles are considered in the current survey design. Each rectangle is in turn divided in 10 fishing units of equal area, leading to 4780 possible bottom trawl fishing hauls or longline sets. The number of selected hauls in the EU survey is 181.

The scope of the Faroese survey is limited to 62 longline stations; this adjustment is based on the relatively high catches observed the first three years. In order to accomplish the objective, the 50 random stations are to be selected from the sampling strata in NAFO 3M division. The Faroese survey will cover strata 1-20, 24 and 28 of Flemish Cap.

**Temporal coverage**
The recommended time-frame to conduct the survey is during the four-week period from mid-May to end of June. In any one given year, the survey should be completed within three weeks.

**Longline station selection methodology**
The number of sets in each stratum is fixed and distributed proportionately to the number of trawl stations conducted by EU survey with in each stratum. A minimum of two sets are surveyed in each stratum to ensure statistically valid estimates and deviations.

Only one fishing station will be selected randomly in each stratum in a given rectangle. Additionally, two stations are not be selected in adjacent fishing units.

**Criteria for rejecting sets:**

- Deviations from the standard soaking time and the number of hooks employed in all sets.
- Damages caused in the longline gear.
- Unjustified change in the geographical position of selected units.
- Rejected sets are not to be used in the compilation of survey indices although sampled individuals can be retained for further investigations.

## Vessels

Due to operational and financial limitations, it is not possible to employ the same vessel every year to conduct the survey. The survey may either be conducted by one single vessel or up to three vessels. If more than one vessel conducts the survey all vessels must carry an observer (see below) and the stations (see below) are distributed among the vessels prior to survey start. Potential vessels to conduct the survey are listed in Table 1. Felagið Línuskip appoints which vessel/vessels conduct the research trip each year.

*Table 1 – Potential vessels to conduct the survey*

| Vessel name | Call name | Official number | Length (m) | Power System | BRT |
|---|---|---|---|---|---|
| **Klakkur** | **OW2046** | KG9 | 51.3 | 18 000KW | 1 737 |
| **Eivind** | **XPQE** | VA132 | 41.3 | 749KW | 656 |
| **Stapin** | **OW2065** | FD32 | 42.0 | 745KW | 703 |
| **Jákup B** | **XPPR** | KG7 | 44.95 | 698KW | 726 |
| **Jógvan I** | **OW2049** | FD710 | 44.85 | 749KW | 1 001 |
| **Sandshavið** | **XPRK** | SA499 | 47.7 | 735KW | 765 |
| **Vesturhavið** | **OW2009** | VN700 | 37.6 | 687LW | 522 |
| **Pison** | **OW2132** | KG476 | 40.6 | 736KW | 593 |

## Personnel

An observer will be present during the duration of the survey. The task of the observer is to carry out the sampling procedure and ensure that crew members follow the scientific standards established in the protocol. Crew members are obliged to help and facilitate the operational requirements of the survey.

## Data collection

Data collected will be delivered to the Faroe Marine Research Institute (FAMRI) for quality check and error filtering. Validation of all the input data will be completed by scientists at FAMRI. The observer is responsible to ensure all data and samples collected during the survey is delivered to FAMRI upon port return.

**Fishing gears**
The fishing gear is longline from various gear providers. In order to standardize equipment in the survey among the vessels and years, obligated specifications of equipment used is listed in Table 2. These specifications are based on experience from the investigations in 2021-2023 and from the protocols for a halibut longline survey in Canada [ref].

Main adjustments to the protocol with regards to gear specification compared to the surveys in 2021-2023 consist of lowered number of hooks per longline set and decreased and standardized soak time. Based on the halibut survey, the number of hooks per longline-set is fixed at 1000. Fishing activity is standardized by limiting the soak time, aiming at a range from 5 to 10 hours. For optimalisation of vessels operational time, setting and retrieving can be conducted any time of day.

*Table 2 - Fishing gear specifications of the longline Faroe survey in NAFO 3M.*

| Gear Type | | Longline |
|---|---|---|
| Total Length | | Ca 0.85 Nm |
| Hooks: | Number | 1000 |
| | Average spacing (m) | 1.5 |
| | Hook type | EZ |
| | Hook size | 12 |
| Buoys | Marked yes/no | YES |
| Anchors | Number | 2 |
| Main line material | | 50/50 pol/ter |
| Bait line material | | ter |
| Bait type | | Squid |
| Soak time | | 5-10 hours |

**Station data**
The station data form (see Annex 1) is to be filled in each longline set. The information gathered at beginning and completion of the set-procedure includes: geographical position, date, time, temperature, depth, and TD-recorder ID. At set retrieving, date and time and catch information by species is to be recorded on same station data form. The observer is responsible for logging the catches in the data form. Non-targeted species are also to be recorded.

**Fish species**
Since the survey design utilizes a passive gear aimed at free-swimming fish, benthic fauna is not caught to any significant degree, and such species are not included in the non-target species list.

Target species:

Atlantic cod (*Gadus morhua*)

By-catch/non-target species e.g.:

Redfish (*Sebastes marinus, S. mentella and S. fasciatus*)
Tusk (*Brosme brosme*)
Greenland halibut (*Reinhardtius hippoglossoides*)
Atlantic halibut (*Hippoglossus hippoglossus*)
Wolf fish (*Anarhichas lupus)*
Spotted wolfish (*Anarichas minor*)
Grenadier (*Coryphaenoides rupestris*)

(This list is not exhaustive, merely a list of previously encountered species – all caught species in the subsample are to be sampled)

**Hook occupancy**
Sampling power for a set or line of hooks is diminished if hooks are broken, bait is lost or the hook is already occupied by another fish. Standardising catch by the condition of the hooks yields a better index of local density of cod.

To describe the hook occupancy, registration of 50 hook condition will be recorded for each set at retrival (Annex 4). Bycatch species are to be noted under "viðmerking". Due to the increased possibility of entanglement at the beginning of the line, registation of hook condition is to begin after first 100 hooks are retrived. Possible hook conditions are:

- Bait only
- Cod
- Bycatch/other species
- Hook empty
- Hook missing
- Damaged/broken hook

**Biological sampling**
For each station full biological sampling of cod is done. The biological sampling includes:

- length in cm
- round weight in kg
- sex
- maturity
- otolith collection

Biological data for cod are to be recorded in the target species registration form (Annex 2). The total number of otoliths sampled per set is 10 and for sex identification and maturation 20.

For non-target species only length and weight are to be measured and recorded in bycatch registration form (Annex 3). Specimens whose classification is dubious should be labelled and frozen for further scrutiny at FAMRI.

**Length and weight sampling**

Length measurements of fish are made on the total length (cm). Weight measurements are recorded in kg (see Annex 2). As a rule, 100 individuals of the target species are to be sampled in each station. Of these, 20 are to be measured in both length and weight. The objective is to sample 20 individuals of non-target species conditioned on fish availability.

Sample and subsample weight of the catch must be also recorded. Individual lengths and weights along with sample weights shall be recorded in the appropriate data forms.

**Data analyses**

The calculation of the survey indices will follow the standard stratified average method:

$$\bar{x} = \frac{1}{N} \sum_{h=1}^{L} N_h \bar{x}_h$$

$$s_{\bar{x}}^2 = \sum_{h=1}^{L} \left( \frac{N_h}{N} \right)^2 \left( \frac{N_h - n_h}{N_h - 1} \right) \frac{s_h^2}{n_h}$$

where

L = number of strata

N = sum of all stratum sizes

$N_h$ = size of stratum h

$x_h$ = sample mean of stratum h

$n_h$ = number of observations in stratum h

$S_h$ = sample standard deviation of stratum h

**Future recommendations**

The longline survey is over time intended to develop a fishery independent Catch-at-aged index based upon a age length key to support the 3M cod stockassessment framework. In order for the incorporations of such index, a comparative age reading workshop (e.g. via SmartsDots platform) including Faroese, EU and Canadian otholith samples would be highly beneficial to ensure transparency between age-readings of the Atlantic cod stock on Flemish Cap. This has been requested for at the Scientific Council's June meeting.

Table 3 – Stratification of the 3M Flemish Cap survey and Faroe longline survey

| NAFO 3M survey | | | | | Faroe 3M survey |
|---|---|---|---|---|---|
| Stratum | Depth interval (fathoms) | Area (sq miles) | Possible hauls | Selected hauls | Selected sets |
| 1 | 70-80 | 342 | 100 | 4 | 3 |
| 2 | 81-100 | 838 | 250 | 10 | 4 |
| 3 | 101-140 | 628 | 180 | 7 | 3 |
| 4 | " | 348 | 100 | 4 | 3 |
| 5 | " | 703 | 200 | 8 | 3 |
| 6 | " | 496 | 150 | 6 | 3 |
| 7 | 141-200 | 822 | 240 | 9 | 4 |
| 8 | " | 646 | 190 | 7 | 3 |
| 9 | " | 314 | 90 | 3 | 2 |
| 10 | " | 951 | 280 | 11 | 4 |
| 11 | " | 806 | 240 | 9 | 4 |
| 12 | 201-300 | 670 | 200 | 8 | 3 |
| 13 | " | 249 | 70 | 3 | 2 |
| 14 | " | 602 | 170 | 7 | 2 |
| 15 | " | 666 | 200 | 8 | 3 |
| 16 | 301-400 | 634 | 190 | 7 | 3 |
| 17 | " | 216 | 60 | 2 | 2 |
| 18 | " | 210 | 60 | 2 | 2 |
| 19 | " | 414 | 120 | 5 | 2 |
| 20 | 401-500 | 525 | 160 | 6 | 2 |
| 24 | " | 253 | 80 | 3 | 2 |
| 28 | " | 530 | 160 | 6 | 3 |
| 33 | " | 98 | 30 | 2 | - |
| 21 | 501-600 | 517 | 160 | 6 | - |
| 25 | " | 226 | 70 | 3 | - |
| 29 | " | 488 | 150 | 6 | - |
| 32 | " | 238 | 70 | 2 | - |
| 34 | " | 486 | 150 | 5 | - |
| 22 | 601-700 | 533 | 160 | 6 | - |
| 30 | " | 1134 | 350 | 11 | - |
| 23 | 701-800 | 284 | 90 | 3 | - |
| 31 | " | 203 | 60 | 2 | - |
| Total (strata1-34) | | 16070 | 4780 | 181 | 62 |

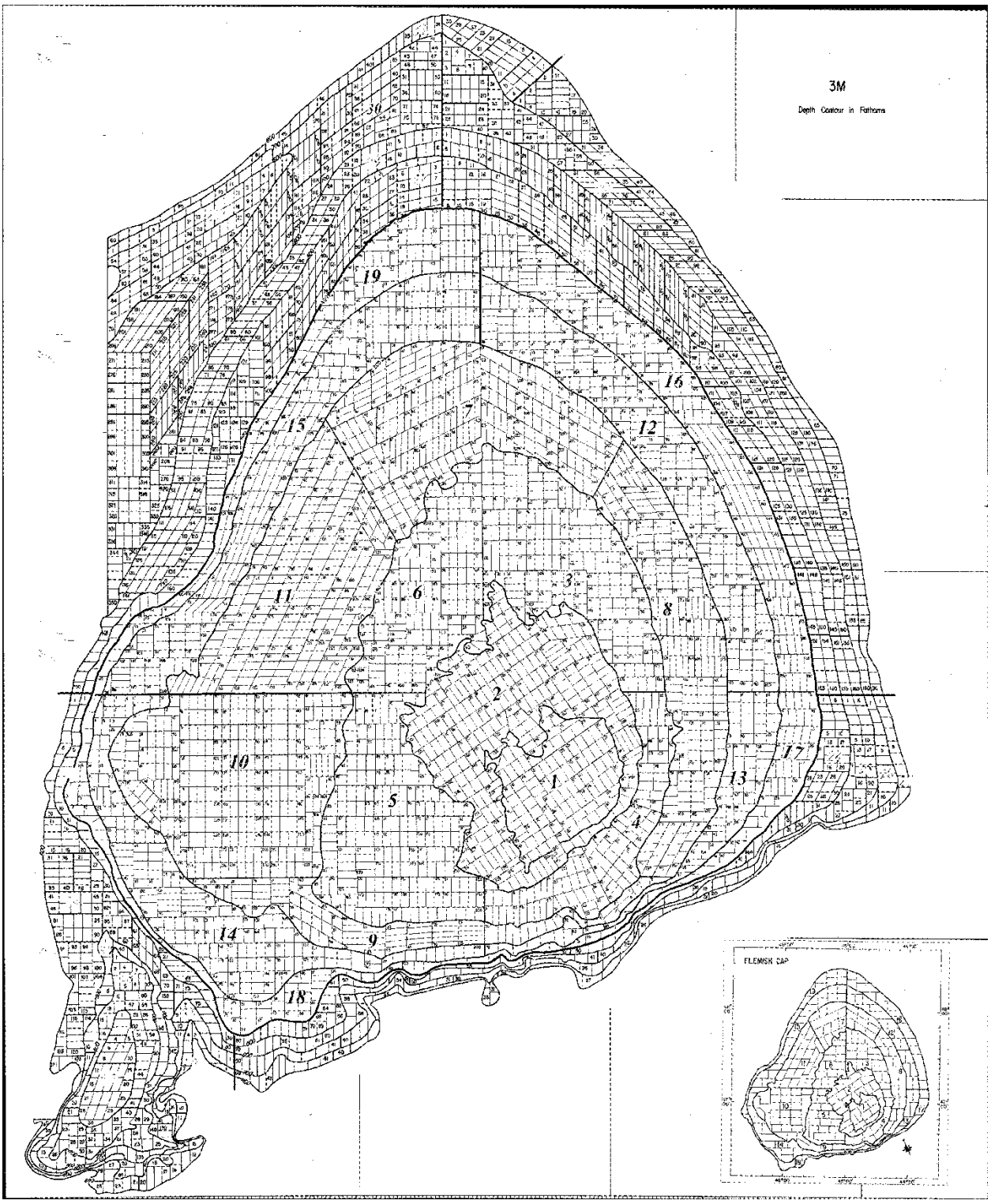
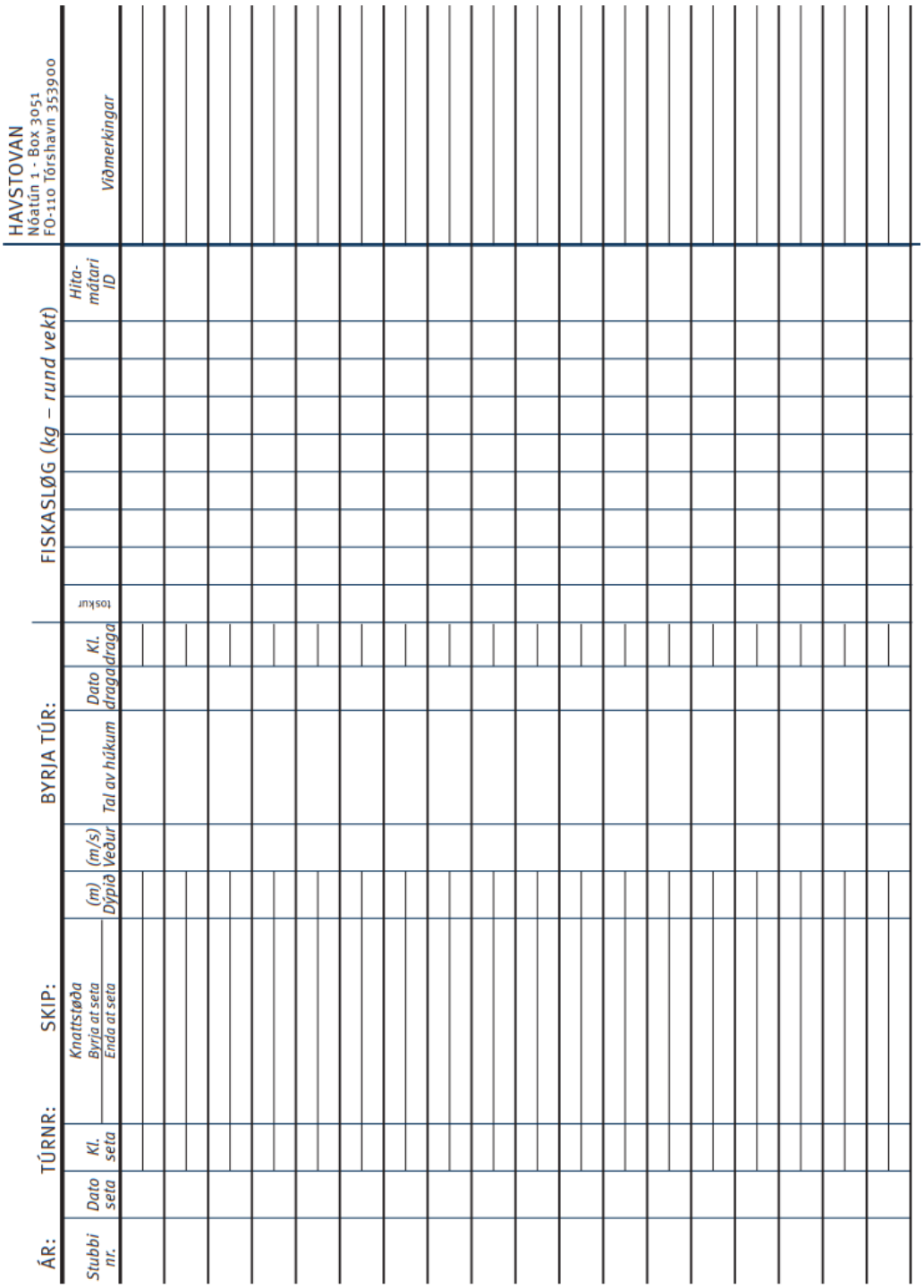



Figure 1. Stratification of the 3M Flemish Cap survey and Faroe longline survey.

## Annex 1 – Station data registration form



ÁR: TÚRNR: SKIP: BYRJA TÚR:

HAVSTOVAN
Nóatún 1 - Box 3051
FO-110 Tórshavn 353900

| Stubbi nr. | Dato seta | Kl. seta | Knattstøða Byrja at seta / Enda at seta | (m) Dýpið | (m/s) Veður | Tal av húkum | Dato dragað | Kl. dragað | tosk/kur | FISKASLØG (kg – rund vekt) | | | | | | | Hita-mátari ID | Viðmerkingar |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | |

## Annex 2 – Target specie registration form

FISKASLAG: DATO: STUBBI NR: PRØVATAKARI:

**TOSKUR**

| | Longd (cm) | Rund vekt (kg) | Kyn (rogn/sil) | Búningarstig | Nytrur (x) |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
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| 29 | | | | | |
| 30 | | | | | |

Vend (31-100) ➔

**Annex 2 - continued**

| | Longd (cm) | Rund vekt (kg) |
|---|---|---|
| 31 | | |
| 32 | | |
| 33 | | |
| 34 | | |
| 35 | | |
| 36 | | |
| 37 | | |
| 38 | | |
| 39 | | |
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| 62 | | |
| 63 | | |
| 64 | | |
| 65 | | |

| | Longd (cm) | Rund vekt (kg) |
|---|---|---|
| 66 | | |
| 67 | | |
| 68 | | |
| 69 | | |
| 70 | | |
| 71 | | |
| 72 | | |
| 73 | | |
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| 75 | | |
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| 95 | | |
| 96 | | |
| 97 | | |
| 98 | | |
| 99 | | |
| 100 | | |

## Annex 3 – Bycatch registration form

FISKASLAG: DATO: STUBBI NR.: PRØVATAKARI:

| | Longd (cm) | Rund vekt (kg) | | Longd (cm) | Rund vekt (kg) |
|---|---|---|---|---|---|
| 1 | | | 31 | | |
| 2 | | | 32 | | |
| 3 | | | 33 | | |
| 4 | | | 34 | | |
| 5 | | | 35 | | |
| 6 | | | 36 | | |
| 7 | | | 37 | | |
| 8 | | | 38 | | |
| 9 | | | 39 | | |
| 10 | | | 40 | | |
| 11 | | | 41 | | |
| 12 | | | 42 | | |
| 13 | | | 43 | | |
| 14 | | | 44 | | |
| 15 | | | 45 | | |
| 16 | | | 46 | | |
| 17 | | | 47 | | |
| 18 | | | 48 | | |
| 19 | | | 49 | | |
| 20 | | | 50 | | |
| 21 | | | 51 | | |
| 22 | | | 52 | | |
| 23 | | | 53 | | |
| 24 | | | 54 | | |
| 25 | | | 55 | | |
| 26 | | | 56 | | |
| 27 | | | 57 | | |
| 28 | | | 58 | | |
| 29 | | | 59 | | |
| 30 | | | 60 | | |

**Annex 4 – Hook occupancy registration form**

## Skráseting av húkum - (hook occupancy)

| | |
|---|---|
| Prøvatakari: | Reiðskapur: |
| Setu nummar: | Stokkur nr: |
| Dagfesting: Kl.: | Tal húkar tils.: |

| | Húkur nr | Bert agn | Toskur | Hjáveiða/annað fiskaslag | Onki agn | Ongin húkur | Útgerð oyðilagd/ófiskifør | Viðmerking |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
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| 10 | | | | | | | | |
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| 22 | | | | | | | | |
| 23 | | | | | | | | |
| 24 | | | | | | | | |
| 25 | | | | | | | | |

| | Húkur nr | Agn á húki | Toskur | Hjáveiða | Onki agn | Ongin húkur | Útgerð oyðilagd/ófiskifør | Viðmerking |
|---|---|---|---|---|---|---|---|---|
| 26 | | | | | | | | |
| 27 | | | | | | | | |
| 28 | | | | | | | | |
| 29 | | | | | | | | |
| 30 | | | | | | | | |
| 31 | | | | | | | | |
| 32 | | | | | | | | |
| 33 | | | | | | | | |
| 34 | | | | | | | | |
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| 40 | | | | | | | | |
| 41 | | | | | | | | |
| 42 | | | | | | | | |
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| 44 | | | | | | | | |
| 45 | | | | | | | | |
| 46 | | | | | | | | |
| 47 | | | | | | | | |
| 48 | | | | | | | | |
| 49 | | | | | | | | |
| 50 | | | | | | | | |

*Viðmerking:*

**References**

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Protocols of the EU bottom trawl survey of Flemish Cap. Scientific Council Studies Number 46

Steingrund and Ridao Cruz. Survey results of the longline survey on NAFO Division 3M. SCR Doc. 22/012

| stratun | punt | NAFO_.DI | Longitude | Latitude | Depth | Depth | lat g | N | lat mn | lon g | V | lon mn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 501 | 23 | 3M | -44.59167 | 47.04167 | 70 | 80 | 47 | N | 3 | 44 | V | 36 |
| 501 | 45 | 3M | -44.76667 | 46.81667 | 70 | 80 | 46 | N | 49 | 44 | V | 46 |
| 501 | 73 | 3M | -44.54167 | 46.96667 | 70 | 80 | 46 | N | 58 | 44 | V | 33 |
| 502 | 100 | 3M | -45.00833 | 47.10833 | 81 | 100 | 47 | N | 6 | 45 | V | 0 |
| 502 | 166 | 3M | -44.55 | 47.25833 | 81 | 100 | 47 | N | 15 | 44 | V | 33 |
| 502 | 174 | 3M | -44.49167 | 47.09167 | 81 | 100 | 47 | N | 6 | 44 | V | 30 |
| 502 | 45 | 3M | -44.80833 | 47.33333 | 81 | 100 | 47 | N | 20 | 44 | V | 48 |
| 503 | 13 | 3M | -44.9 | 47.725 | 101 | 140 | 47 | N | 44 | 44 | V | 54 |
| 503 | 25 | 3M | -44.79167 | 47.66667 | 101 | 140 | 47 | N | 40 | 44 | V | 48 |
| 503 | 49 | 3M | -44.71667 | 47.59167 | 101 | 140 | 47 | N | 36 | 44 | V | 43 |
| 504 | 29 | 3M | -44.60833 | 46.65833 | 101 | 140 | 46 | N | 39 | 44 | V | 36 |
| 504 | 75 | 3M | -44.36667 | 46.86667 | 101 | 140 | 46 | N | 52 | 44 | V | 22 |
| 504 | 82 | 3M | -44.325 | 47.05833 | 101 | 140 | 47 | N | 3 | 44 | V | 20 |
| 505 | 101 | 3M | -45.575 | 46.80833 | 101 | 140 | 46 | N | 48 | 45 | V | 35 |
| 505 | 162 | 3M | -45.29167 | 46.64167 | 101 | 140 | 46 | N | 39 | 45 | V | 18 |
| 505 | 85 | 3M | -45.08333 | 46.81667 | 101 | 140 | 46 | N | 49 | 45 | V | 5 |
| 506 | 141 | 3M | -45.36667 | 47.28333 | 101 | 140 | 47 | N | 17 | 45 | V | 22 |
| 506 | 25 | 3M | -45.025 | 47.60833 | 101 | 140 | 47 | N | 36 | 45 | V | 1 |
| 506 | 47 | 3M | -45.125 | 47.39167 | 101 | 140 | 47 | N | 24 | 45 | V | 8 |
| 507 | 149 | 3M | -45.14167 | 47.725 | 141 | 200 | 47 | N | 44 | 45 | V | 9 |
| 507 | 176 | 3M | -44.64167 | 47.9 | 141 | 200 | 47 | N | 54 | 44 | V | 39 |
| 507 | 222 | 3M | -44.81667 | 47.85833 | 141 | 200 | 47 | N | 51 | 44 | V | 49 |
| 507 | 62 | 3M | -45.25 | 47.95833 | 141 | 200 | 47 | N | 57 | 45 | V | 15 |
| 508 | 112 | 3M | -44.24167 | 47.175 | 141 | 200 | 47 | N | 10 | 44 | V | 15 |
| 508 | 25 | 3M | -44.34167 | 47.64167 | 141 | 200 | 47 | N | 39 | 44 | V | 21 |
| 508 | 97 | 3M | -44.25 | 47.23333 | 141 | 200 | 47 | N | 14 | 44 | V | 15 |
| 509 | 34 | 3M | -45.26667 | 46.49167 | 141 | 200 | 46 | N | 30 | 45 | V | 16 |
| 509 | 36 | 3M | -45.35833 | 46.53333 | 141 | 200 | 46 | N | 32 | 45 | V | 21 |
| 510 | 124 | 3M | -46.1 | 46.975 | 141 | 200 | 46 | N | 59 | 46 | V | 6 |
| 510 | 147 | 3M | -45.83333 | 46.93333 | 141 | 200 | 46 | N | 56 | 45 | V | 50 |
| 510 | 235 | 3M | -45.9 | 46.80833 | 141 | 200 | 46 | N | 48 | 45 | V | 54 |
| 510 | 35 | 3M | -45.74167 | 47.14167 | 141 | 200 | 47 | N | 9 | 45 | V | 45 |
| 511 | 127 | 3M | -45.8 | 47.23333 | 141 | 200 | 47 | N | 14 | 45 | V | 48 |
| 511 | 147 | 3M | -45.64167 | 47.45 | 141 | 200 | 47 | N | 27 | 45 | V | 39 |
| 511 | 17 | 3M | -46 | 47.325 | 141 | 200 | 47 | N | 20 | 46 | V | 0 |
| 511 | 81 | 3M | -45.75 | 47.575 | 141 | 200 | 47 | N | 35 | 45 | V | 45 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 512 | 61 | 3M | -44.675 | 48 | 201 | 300 | 48 | N | 0 | 44 | V | 40 |
| 512 | 82 | 3M | -44.46667 | 47.90833 | 201 | 300 | 47 | N | 54 | 44 | V | 28 |
| 512 | 99 | 3M | -44.24167 | 47.84167 | 201 | 300 | 47 | N | 51 | 44 | V | 15 |
| 513 | 18 | 3M | -43.84167 | 47.09167 | 201 | 300 | 47 | N | 6 | 43 | V | 51 |
| 513 | 57 | 3M | -44.24167 | 46.65833 | 201 | 300 | 46 | N | 39 | 44 | V | 15 |
| 514 | 124 | 3M | -45.9 | 46.46667 | 201 | 300 | 46 | N | 28 | 45 | V | 54 |
| 514 | 40 | 3M | -46.30833 | 46.775 | 201 | 300 | 46 | N | 46 | 46 | V | 18 |
| 515 | 109 | 3M | -45.78333 | 47.80833 | 201 | 300 | 47 | N | 48 | 45 | V | 47 |
| 515 | 151 | 3M | -46.19167 | 47.4 | 201 | 300 | 47 | N | 24 | 46 | V | 12 |
| 515 | 40 | 3M | -45.18333 | 48.125 | 201 | 300 | 48 | N | 8 | 45 | V | 11 |
| 516 | 103 | 3M | -44.18333 | 47.93333 | 301 | 400 | 47 | N | 56 | 44 | V | 11 |
| 516 | 161 | 3M | -43.875 | 47.44167 | 301 | 400 | 47 | N | 27 | 43 | V | 52 |
| 516 | 54 | 3M | -44.575 | 48.2 | 301 | 400 | 48 | N | 12 | 44 | V | 35 |
| 517 | 20 | 3M | -43.69167 | 47 | 301 | 400 | 47 | N | 0 | 43 | V | 42 |
| 517 | 40 | 3M | -43.98333 | 46.74167 | 301 | 400 | 46 | N | 45 | 43 | V | 59 |
| 518 | 36 | 3M | -45.89167 | 46.29167 | 301 | 400 | 46 | N | 18 | 45 | V | 54 |
| 518 | 50 | 3M | -45.725 | 46.28333 | 301 | 400 | 46 | N | 17 | 45 | V | 44 |
| 519 | 30 | 3M | -45.19167 | 48.38333 | 301 | 400 | 48 | N | 23 | 45 | V | 12 |
| 519 | 71 | 3M | -45.66667 | 48.15 | 301 | 400 | 48 | N | 9 | 45 | V | 40 |
| 520 | 13 | 3M | -45.04167 | 48.53333 | 401 | 500 | 48 | N | 32 | 45 | V | 3 |
| 520 | 38 | 3M | -44.78333 | 48.45833 | 401 | 500 | 48 | N | 27 | 44 | V | 47 |
| 524 | 20 | 3M | -43.575 | 46.96667 | 401 | 500 | 46 | N | 58 | 43 | V | 35 |
| 524 | 4 | 3M | -43.64167 | 47.08333 | 401 | 500 | 47 | N | 5 | 43 | V | 39 |
| 528 | 105 | 3M | -45.90833 | 48.025 | 401 | 500 | 48 | N | 1 | 45 | V | 54 |
| 528 | 29 | 3M | -45.43333 | 48.49167 | 401 | 500 | 48 | N | 30 | 45 | V | 26 |
| 528 | 69 | 3M | -45.71667 | 48.25833 | 401 | 500 | 48 | N | 15 | 45 | V | 43 |

**Randomized replacement stations for stations within VME**
**Faroe Longline survey 2024**

| New station strata | ffu | DIV | Re-placing station stata | ffu | Longitude | Latitude | Depth min | Depth max | lat gg | N | lat mm | lon gg | V | lon mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 517 | 3 | 3M | ~~517~~ | ~~40~~ | -43.75 | 47.1417 | 301 | 400 | 47 | N | 9 | 43 | V | 45 |
| 518 | 46 | 3M | ~~518~~ | ~~36~~ | -45.7167 | 46.3917 | 301 | 400 | 46 | N | 24 | 45 | V | 43 |
| 518 | 58 | 3M | ~~518~~ | ~~50~~ | -45.475 | 46.3917 | 301 | 400 | 46 | N | 24 | 45 | V | 29 |
| 519 | 40 | 3M | ~~519~~ | ~~30~~ | -45.2 | 48.3 | 301 | 400 | 48 | N | 18 | 45 | V | 12 |
| 524 | 6 | 3M | ~~524~~ | ~~20~~ | -43.6083 | 47.15 | 401 | 500 | 47 | N | 9 | 43 | V | 36 |