

# ICES WGIDEEPS REPORT 2015–1

ACOM/SCICOM STEERING GROUP ON INTEGRATED ECOSYSTEM OBSERVATION AND MONITORING

ICES CM 2015/SSGIEOM:02

REF. SCICOM, ACOM, NWWG & AFWG

## Second Interim Report of the Working Group on International Deep Pelagic Ecosystem Surveys (WGIDEEPS)

3–5 February 2015

Tromsø, Norway



**ICES**  
**CIEM**

International Council for  
the Exploration of the Sea

Conseil International pour  
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## Executive Summary

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The Working Group on International Deep Pelagic Ecosystem Surveys (WGIDEEPS) met in Tromsø, Norway from 3–5 February 2015. The meeting, chaired by Kristján Kristinsson, was attended by six participants, from Germany, Iceland, Norway and Russia. During the meeting, the group planned the redfish survey in the Irminger Sea in June/July 2015. That included writing a manual of the survey to be published in Series of ICES Survey Protocols (SISP).

The detailed planning of the international trawl/acoustic survey on pelagic redfish in the Irminger Sea and adjacent waters in June/July 2015 has been agreed by all participating countries. Three vessels from Germany, Iceland and Russia will participate in the survey and operate within an area of around 360 000 square nautical miles (NM<sup>2</sup>) in the Irminger and Labrador Sea to estimate the abundance and biomass of pelagic redfish (*Sebastes mentella*). In the depth zone that can be surveyed by hydroacoustic measurements, i.e. shallower than the deep-scattering layer (DSL; down to about 350 m), hydroacoustic measurements and identification trawls will be carried out. Within and below the DSL (down to about 950 m), redfish abundance will be estimated by trawls. The trawl method applied is the same as in the 2009–2013 surveys and is line with the recommendation from ICES to study separately the stock shallower and deeper than 500 m. Russia's position regarding ICES recommendations is reflected in Section 2.2. As in past surveys, biological data will be collected from the redfish caught in the pelagic trawls, and hydrographical measurements will be taken on regular stations on the survey tracks.

The future of the survey in the Irminger Sea was discussed during the meeting. The Icelandic participant informed the group that Iceland will only participate in the survey every third year instead every second year as has been the practise since 1999. The Group is concerned with the decreased data quality and higher uncertainty in the derived dataserie and consequently the advice on the stock status. Regardless of these concerns, both Germany and Russia will continue their participation in the International Deep Pelagic Ecosystem Survey in the Irminger Sea.

# 1 Introduction

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## 1.1 Terms of Reference

According to 2013/2MA/SSGESST01 The **Working Group on International Deep Pelagic Ecosystem Surveys** (WGIDEEPS; formerly the Working Group on Redfish Surveys (WGRS)) chaired by Kristján Kristinsson, Iceland, will meet in Tromsø, Norway, 3–5 February 2015.

The Terms of Reference applicable for the January meeting are:

- a ) Plan the international deep pelagic ecosystem survey with special emphasis on redfish to be carried out in the Irminger Sea and adjacent waters in June/July 2015;
- b ) Plan the international deep pelagic ecosystem survey with special emphasis on redfish to be carried out in the Norwegian Sea and adjacent waters in August 2015;
- c ) Prepare the survey protocol for publication in the ICES series of survey protocols (SISP)

WGIDEEPS will report by 27 March 2015 (for the January meeting, via SSGIEOM) for the attention of SCICOM and ACOM.

## 1.2 Participants

Alexey Astakhov	Russia
Matthias Bernreuther	Germany
Eckhard Bethke	Germany
Kristján Kristinsson (Chair)	Iceland
Benjamin Planque	Norway
Alexey Rolskiy	Russia

Detailed contact information of the participants is given in Annex 1.

## 1.3 Structure of the report

Manual for the International Deep Pelagic Ecosystem Survey in the Irminger Sea and adjacent waters, written during the meeting and published under The Series of ICES Survey Protocols, describes the survey conducted in the area, paying particular attention to the current practises in place (gears, area coverage, sampling methods). Description of gears (acoustics and trawls), areas covered, sampling methods, and data collected are described in detail.

Specific issues that are revised before each survey are presented in Section 2 in this report. That includes details about the participating vessels, surveys time, geographic distribution of surveys effort (Section 2.1). In Section 2.3.1, further issues concerning the exchange of experts and in Section 2.3.2 the involvement of further nations are dealt with. The time schedule for reporting on the survey is presented in Section 2.3.3.

All recommendations are summarized in Section 4.

Annex 1 provides details on meeting participants, and Annex 3 provides the agenda of the meeting.

## 1.4 Working documents and presentations

There were no working documents presented at the meeting.

## 2 Planning of the international trawl/acoustic survey on redfish in the Irminger Sea and adjacent waters in June/July 2015

The survey manual for the survey conducted in the Irminger Sea and adjacent waters and is published under the Series of ICES Survey Protocols (SISP) describes in detail the planning of the survey. Specific issues that are revised before the survey is described in this section.

### 2.1 Vessels, timing and survey area

The main objective of this survey is the trawl-acoustic assessment of the pelagic redfish in the Irminger Sea and adjacent waters in June/July 2015. The group agreed to continue to cover area from 52°30'N to 65°30'N and from the 24°W on the east till western boundary to 53°W. It is also considered important to continue the expansion of the vertical coverage to assess the redfish below the acoustic layer (within and deeper than the DSL).

Below is the list of research vessels who will participate in the IDEEPS survey in the Irminger Sea and adjacent waters in June/July 2015, time period engaged to the survey and approximate time and number of days in the field:

Name of the vessel	Country	Period	Approx. working period in the field	Days in field
Árni Friðriksson	Iceland	10 – 30 June	11 – 28 June	18
Vilnyus	Russia	1 June – 25 July	12 June – 3 July	22
Walther Herwig III	Germany	18 June – 20 July	~25 June – 13 July	18

The vessels will communicate daily via e-mail, telex, or telephone. Information on the communication between vessels is given in Annex 2.

In Figure 1 and Table 1, the planned survey tracks are displayed for each participating vessel.

“Árni Friðriksson” will cover the northwestern and central part of the survey area, “Vilnyus” will cover the northeastern, and “Walther Herwig III” the southwestern and western parts of the area. The total length of the planned survey tracks is about 6,800 nautical miles (NM), divided between the vessels as follows:

“Árni Friðriksson” 2 004 NM, “Vilnyus” 2 340 NM and “Walther Herwig III” 2 420 NM.

The cruise leaders of these vessels will apply for entry into the relevant EEZs by notifications to Canada, Greenland and Iceland. Each cruise leader will notify the operations in the NAFO Convention Area to NAFO.

### 2.2 Trawling

Russia's position regarding the structure of redfish stock in the Irminger Sea remains unchanged, i.e. that there is a single-stock of *S. mentella* in that area. With that in view, Russia does not agree with the ICES advice splitting the stock into two nor with the recommendation to conduct stratified surveys dividing the water column arbitrarily

into 0–500 and 500–1000 m depth intervals, which generally does not contribute to better quality of stock assessment.

However, recognizing the need to obtain abundance that is more accurate and biomass estimates, in the light of possible underestimation of the stock by the 2009 international TAS results, the Russian Federation agrees to conduct sampling in the international trawl and acoustic survey of *S. mentella* as described above. However, Russia will not be able to agree with separate estimates for the stock distributing above 500 m and below 500 m.

If possible, the inflow of redfish into the trawl at the depth intervals described above should be estimated by a probe device mounted to the net.

## **2.3 Further issues**

### **2.3.1 Exchange of experts**

Germany, Iceland and Russia invited other participants to join their part of the survey. Russia accepted the invitation from Germany and hopes to send a specialist with “Walther Herwig III”. Furthermore, Russia offers to send a biologist with “Árni Friðriks-son”, which was accepted by Iceland. Due to staff limitation, the Icelandic and German cruise partners will not be able to send guest scientists from their labs onto other vessels.

### **2.3.2 Participation of further countries**

The Group was again facing the problem of covering the entire survey area with only three vessels, resulting in a large spacing of survey tracks and trawl hauls. In order to improve the precision of the survey by increasing the density of the tracks and trawl stations, additional vessels should take part in the survey. The Group recommended as in 2005 (ICES, 2005a) that “at least four vessels should participate to allow a sufficiently dense coverage of the survey area and to permit an improvement in the quality of the derived abundance and biomass estimates. Thus, the efforts directed at involving other nations in the survey should be continued.”

Notwithstanding the disappointing outcome of earlier attempts, the group will continue its efforts in involving further countries in the survey. The group also notes that other non-EU countries involved in the fishery should consider their participation in the survey.

The group considered it appropriate to approach NEAFC in order to get nations involved in the commercial fishery to participate in the surveys. This should be done through the ICES Secretariat with an official letter to NEAFC.

### **2.3.3 Time schedule for the survey report**

The final reporting will take place during the next WGIDEEPS meeting in Reykjavik, Iceland from 4–6 August 2015. To finalize the work during three days, the following plan will be followed:

As soon as the vessel has finished scrutinising the acoustic data, after the survey tracks are finished, the data must be sent to other participants. Not later than 22 July, all data shall be sent via e-mail to all cruise leaders and Co-Chairs. The data shall be sent in the format described in Annexes 3 and 4 in the SISP manual and all participants shall have a copy in an electronic format.



Iceland will calculate the abundance estimation of the redfish within and deeper than the DSL, including writing of the material and methods, results and discussion.

Russia will work up the environmental data, including the drawing of pictures, writing of the material and methods, results and discussion.

Iceland will calculate and finalize the acoustic data, including writing of the material and methods, results and discussion. Iceland will also draw the cruise tracks and information on stations.

Germany will be responsible for writing about biological results, including writing of the material and methods, results and discussion. In addition, Germany will be responsible for the echo counting work.

Germany will be responsible for writing about target-strength measurements and echosounder comparisons, if applicable.

All drafts must be sent to the WGIDEEPS Co-Chairs before 1 August 2015.

### **3 International trawl/acoustic survey on redfish in the Norwegian Sea**

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The survey in the Norwegian Sea will not be conducted in 2015 so no planning was made. The survey will be conducted in 2016.

## 4 Other Issues

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### 4.1 Harmonization of age reading

The group discussed how age readings could be improved. Scale readings can only be used up to maturation but after maturation it is not possible to use scale readings. The most preferable method is to use otoliths for age reading and use agreed protocol (ICES, 2009). The working group identified the need to start a systematic age reading of *S. mentella* in the Irminger Sea. Since otoliths have systematically been sampled in the past surveys (and partly from the commercial catch), age readings will help in developing appropriate analytical assessments, which in turn are a prerequisite for a sustainable management of the *S. mentella* fisheries in the Irminger Sea and adjacent waters. The group agreed that at this point no revision of data collection should be done unless there is a strong reason for doing so. With the inclusion of all survey data in DATRAS provides opportunity to be used for further data analysis.

### 4.2 Database

The group discussed the status of the submission of the data from the 2009 surveys into ICES DATRAS database. The data from the 2009 surveys has not been transferred to a common database as planned, but process has been made and prototype of the Icelandic data has been sent for testing the format of the surveys.

### 4.3 Co-chair

Since 2008, the group has been co-chaired by two individuals, one which is working in the Irminger Sea and the other in the Norwegian Sea. Since 2013, when the name of the group was changed, only one expert has been chairing the group. The group acknowledged that a co-chair coming from the Norwegian Sea area, most preferable from Norway or Russia, is needed.

The group recommends that Benjamin Planque (Norway) to be formally appointed as the new Co-Chair of WGIDEEPS by ICES, starting in July 2015. The other Co-Chair (Kristján Kristinsson) remains unchanged.

### 4.4 Future of the surveys

During the meeting, the participant from Iceland informed the group the decision that Marine Research Institute in Iceland will from now participate in the survey conducted in the Irminger Sea every third year, but not biennially that has been the practise since 1999.

The objective of the group is to provide sound, credible, timely, peer-reviewed, and integrated scientific advice on fishery management. The surveys are primary basis for the advice on the stock status of pelagic redfish in the areas. The Group is particularly concerned with the decreased data quality and higher uncertainty in the derived data series and consequently the advice on the stock status. Regardless of these concerns, both Germany and Russia will continue their participation in the International Deep Pelagic Ecosystem Survey in the Irminger Sea.

## 5 Recommendations

Recommendation	Action
The working group will meet in Reykjavik, Iceland, 4–6 August 2015 to report the outcome of the 2015 Irminger Sea survey.	WGIDEEPS members/SCICOM
Nominate Benjamin Planque (Norway) as a new Co-Chair of WGIDEEPS.	SCICOM
<b>Age reading</b> The working group identified the need to start a systematic age reading of <i>S. mentella</i> in the Irminger Sea. Since otoliths have systematically been sampled in the past surveys (and partly from the commercial catch), age readings will help in developing appropriate analytical assessments, which in turn are a prerequisite for a sustainable management of the <i>S. mentella</i> fisheries in the Irminger Sea and adjacent waters.	WGIDEEPS
Involve more countries in the Irminger and Norwegian Seas surveys.	ICES Secretariat, ICES Delegates
To transfer survey data from 1999 to 2013 to ICES DATRAS.	WGIDEEPS members/ICES DATRAS
Secure appropriate funding to support the WGIDEEPS in the Norwegian and Irminger Seas.	NEAFC Coastal States

## 6 Tables

Table 1. Agreed preliminary cruise tracks for the international survey on redfish in June/July 2015.

Vilnyus			Walther Herwig III			Árni Friðriksson		
Lat	Long	Distance	Lat	Long	Distance	Lat	Long	Distance
-26.00	63.15	Start	-37.30	57.15	Start	-28.30	64.45	Start
-33.00	63.15	189	-43.30	53.45	293	-34.00	64.45	141
-33.00	62.15	60	-45.52	53.45	84	-36.30	63.45	89
-26.45	62.15	175	-48.15	53.45	84	-27.15	63.45	245
-26.00	61.45	37	-49.15	54.45	69	-27.15	62.45	60
-35.00	61.45	255	-46.00	54.45	113	-40.00	62.45	350
-35.00	62.15	30	-43.30	54.45	87	-40.00	62.15	30
-33.30	62.15	42	-42.00	55.45	79	-36.00	62.15	112
-26.15	59.40	262	-50.00	55.45	270	-36.00	61.45	30
-28.35	61.00	106	-50.45	56.30	52	-40.30	61.45	128
-29.05	61.15	21	-41.00	56.30	323	-41.00	61.15	33
-35.05	61.15	173	-39.30	57.30	77	-36.00	61.15	144
-35.30	60.30	47	-50.30	57.30	354	-36.00	60.30	45
-31.00	60.30	133	-51.00	58.15	48	-41.15	60.30	155
-31.00	59.15	75	-33.30	58.15	488	-42.00	59.45	50
-49.00	59.15	551				-29.00	59.45	392
-49.00	58.45	30						
-44.00	58.45	156						
Total sailing (NM)		2,340			2,420			2,004
Days in the field		22			18			18
Average sailing/day		106			133			111

## 7 Figures

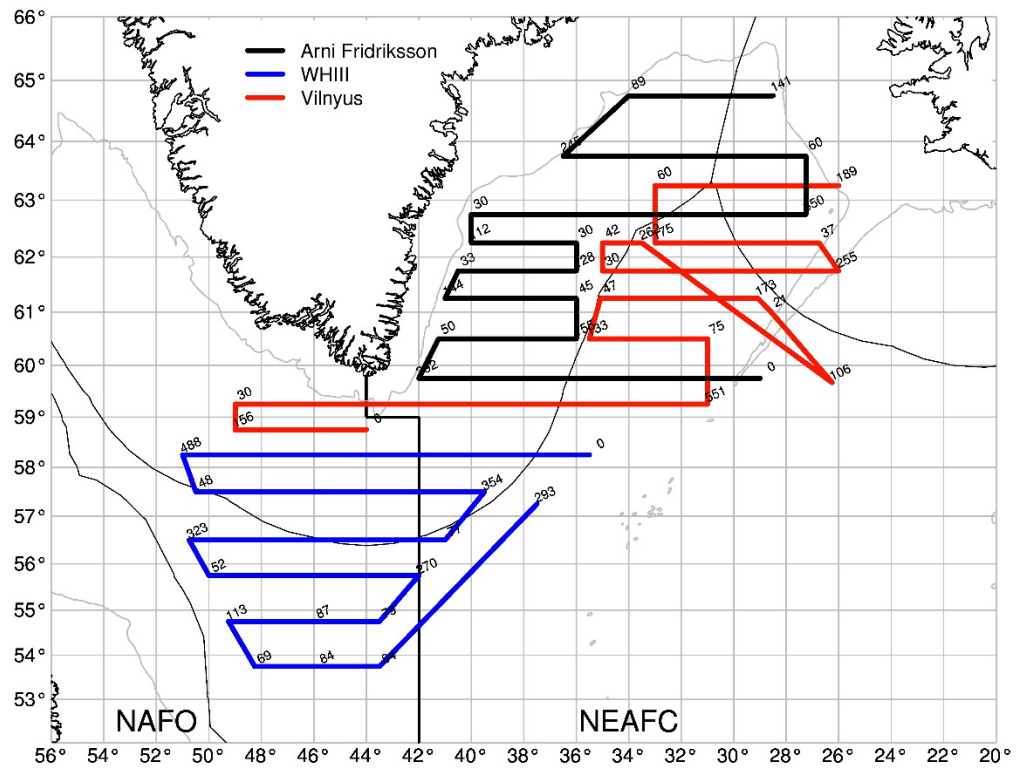


Figure 1. Preliminary cruise tracks of the international survey on redfish in June/July 2015. Black: RV "A. Fridriksson", Red: RV "Vilnyus". Blue: RV "Walther Herwig III".

## Annex 1: List of participants

Name	Address	Telephone/Fax	E-mail
Alexey Astakhov	Knipovich Polar Research Institute of Marine Fisheries and Oceanography (PINRO) 6 Knipovich Street 183038 Murmansk Russian Federation	+7 8152 47 25 32 +7 8152 47 33 31	aleks_a@pinro.ru
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## Annex 2: Information on communication between vessels for the Irminger Sea survey

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**RV "Vilnyus" (Russia)**

Call sign: UFJN

Telephone: +7 9212895300

Inmarsat C: 427311390@inmc.eik.com

E-mail: vilnyus\_kmn@pinro.ru

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**RV "Walther Herwig III" (Germany)**

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## Annex 3: Agenda of the meeting

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### ICES Working Group on International Deep Pelagic Ecosystem Surveys (WGIDEEPS) meeting

**Tromsø, Norway, 3–5 February 2015**

(Chair: Kristján Kristinsson, Iceland)

#### **ToR (2013/MA2/SSGESST01):**

- e. Plan the international deep pelagic ecosystem survey with special emphasis on redfish to be carried out in the Irminger Sea and adjacent waters in June/July 2015.*
- f. Plan the international deep pelagic ecosystem survey with special emphasis on redfish to be carried out in the Norwegian Sea and adjacent waters in August 2015.*
- i. Prepare the survey protocol for publication in the ICES series of survey protocols (SISP).*
- b. Transfer survey data from other years, when ICES data centre is ready (2015).*

#### **Tuesday, 3 February 2015**

09:00 Start of the meeting

- Housekeeping, network access
- Suggestions for venues of lunch breaks and dinner
- Adoption of the agenda

09:30-12:00

- Review of recommendations from the last WGIDEEPS report (ICES CM 2014/SSGESST:05)
- National participation to the Irminger Sea and Norwegian Sea surveys in 2015
- The survey protocol for publication in the ICES series of survey protocols (SISP)

12:00-13:00 Lunch break

13:00-17:00 Planning of the survey in the Irminger Sea in 2015

- *Vessels, timing and survey areas*
- *Data Exchange during the survey*
- *Hydroacoustics*
- *Trawling*
- *Biological sampling*
- *Hydrography*

#### **Wednesday, 4 February 2015**

09:00-12:00 Planning of the survey in Norwegian Sea and Irminger Sea in 2015

12:00-13:00 Lunch break



13:00-17:00 Discussion: Survey index calculation

### Thursday, 5 February 2015

09:00-12:00 Other issues

- WGIDEEPS data to DATRAS
  - Status of data submission of the 2009 data.
  - Transfer data from other years (ToR b).
- Age reading – status of systematic age reading (ref. Recommendation from 2014 report)
- Finalization of working group recommendations
- Future of the surveys
- Chairmanship – Recommendation to SCICOM of new co-chair
- Any other business

12:00-13:00 Lunch break

13:00 Discuss draft report, clarify outstanding issues

☞ Deadline for interim report SSGIEOM, SCICOM, and ACOM: **27 March 2015**

16:00 End of the meeting