

ANNUAL REPORT

GERMAN NATIONAL FISHERIES DATA COLLECTION

2015

27 May 2016

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I GENERAL FRAMEWORK

The German National Programme (NP) 2014-2016 for fisheries data collection refers to the Community and National Programme defined in Articles 3 and 4 of Council Regulation 199/2008, to Article 1 of Commission Regulation 665/2008 and the Annex of Commission Decision 2010/93/EU. The Annual Report (AR) 2015 on the German NP refers to Article 7 of Council Regulation 199/2008, to Article 5 of Commission Regulation 665/2008 and to the Annex of Commission Decision 2010/93/EU.

The report year is 2015. If the reference year differs from the report year, it is accordingly stated in the sections for Modules IV and V.

Standard tables: This AR is based on the "Guidance for the submission of Annual Reports on the National Data Collection Programmes under Council Regulation (EC) 199/2008, Commission Regulation (EC) 665/2008 and Commission Decision 2010/93/EU, Version for Annual Reports 2015 (January 2016)".

Table I.A.1 provides a comprehensive list of derogations including previously approved derogations that are still valid. Table I.A.2 provides a comprehensive list of bilateral and multilateral agreements regarding the data collection. Apart from regional agreements established at the RCMs, Germany currently holds bilateral agreements with Denmark, Sweden, The Netherlands and the UK on sampling foreign-flag vessels, as well as with Poland on eel sampling, see Annex 3. These agreements are of general nature and are being discussed in detail (sampling levels etc.) at the relevant RCMs. See sections on 'regional coordination' for the various sampling parameters in the individual sections below. In addition, Germany is part of a multilateral agreement on sampling in the CECAF area (see Annex 3).

II NATIONAL DATA COLLECTION ORGANISATION

II A NATIONAL CORRESPONDENT AND PARTICIPATING INSTITUTES

The National Correspondent representing Germany is:

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The following two institutions contribute to the National Programme:

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Fax: +49 228 6845-3444
E-mail: info@ble.de
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E-mail: info@thuenen.de
Website: <http://www.thuenen.de>

Within these institutions, the following four institutes and units are responsible for data collection and reporting:

Thuenen Institute of Sea Fisheries (TI-SF)

Palmaille 9
22767 Hamburg, Germany
Tel. +49 40 38905-177
Fax: +49 40 38905-263
E-mail: sf@thuenen.de
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Thuenen Institute of Baltic Sea Fisheries (TI-OF)

Alter Hafen Süd 2
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Tel. +49 381 8116-102
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BLE, Unit 522 (Catch Regulation)

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Tel. +49 40 306860-565
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E-mail: lutz.wessendorf@ble.de
Website: <http://www.ble.de>

BLE, Unit 414 (IT Applications)

Deichmanns Aue 29
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Website: <http://www.ble.de>

The **BLE** (Unit 522) holds the fishing vessel list including capacity data based on EU Regulations 2090/98, 2091/98 and 2092/98 as well as landings and effort data based on EU Regulations 2807/83 and 2897/93. The BLE Unit 414 is responsible for the central database of all national fisheries-related data and central IT services.

The **TI** collects biological data from surveys-at-sea and from sampling commercial fishing vessels under German flag, as well as economic data from the fishing fleet, processing industry and aquaculture. The TI-OF is responsible for the Baltic Sea and recreational fisheries sampling, while the TI-SF is responsible for the North Sea & Eastern Arctic, Northeast Atlantic and the other areas, as well as fisheries economics (fleet, aquaculture and processing industry). The TI-FI is responsible for eel sampling.

A part of the economic data of the fish processing industry is collected by the **German Federal Statistical Office**:

Statistisches Bundesamt (Federal Statistical Office Germany)
Gustav-Stresemann Ring 11
65189 Wiesbaden, Germany
Tel. +49 611 75-1
Fax: +49 611 72-4000
E-mail: poststelle@destatis.de
Website: <http://www.destatis.de>

BLE and TI are institutions under the auspices of the Bundesministerium für Ernährung und Landwirtschaft (**BMEL** = Federal Ministry of Food and Agriculture).

Within the institutions of BMEL, responsible persons are appointed in order to co-operate and implement the NP. The TI-SF is the national coordinator.

National co-ordination meetings with all persons involved in the German NP are held once a year (see Table II.B.1 and Annex 1). The main aim of these meetings is an exchange of experiences during the recent year of NP implementation and forward-planning of data collection in the upcoming year(s).

A **national portal website** for dissemination of information has been established in 2009 in accordance with Commission Regulation (EC) 665/2008 Article 8(2):

<http://www.dcf-germany.de>

II B REGIONAL AND INTERNATIONAL COORDINATION

II B1 ATTENDANCE OF INTERNATIONAL MEETINGS

In Table II.B.1, all meetings and workshops for international co-ordination with German participation are listed. If Germany was not able to participate in a planned meeting, it was due to conflicting dates with regard to other commitments for the staff involved. Germany provided chairpersons for seven groups/meetings/workshops (see comments column in the table). A bilateral meeting with The Netherlands was held in IJmuiden on 29 Oct 2015.

II B2 FOLLOW-UP OF REGIONAL AND INTERNATIONAL RECOMMENDATIONS

Germany participates in the Regional Co-ordination Meetings (RCMs) for the Baltic, North Sea & Eastern Arctic, North Atlantic and Long Distance Fisheries. From the Liaison Meeting 2014 and relevant STECF meetings held in 2014, eight recommendations were addressed to MS and followed up by Germany (see Table II.B.2).

III MODULE OF THE EVALUATION OF THE FISHING SECTOR

III A GENERAL DESCRIPTION OF THE FISHING SECTOR

Table III.A.1 shows a general overview on the German fisheries activities in 2015. In the Baltic and North Sea & Eastern Arctic regions, demersal, pelagic and a small fraction of industrial fisheries were conducted. In the North Atlantic, pelagic fisheries were dominating over demersal fisheries.

III B ECONOMIC VARIABLES

BALTIC SEA, NORTH SEA AND EASTERN ARCTIC, AND NORTH ATLANTIC

III B 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

The numbers of vessels per fleet segment have been updated throughout. If segments had no more vessels left, they were still kept in the table for consistency with the NP.

On the “Imputed value of unpaid labour”: The basis number for an average annual salary has been adjusted to 34.500 €, which in the meantime had been published by the Federal Statistical Office as update.

On “Energy costs”: A distinction between types of fuel has been applied. Based on experts’ interviews and evidence from collected data, three different average fuel prices per liter have been calculated: one for vessels < 30kW (often fuelled with petrol), one for vessels between 30 and 3000 kW (gasoil, tax reduced) and one for larger vessels > 3000 kW (crude oil).

On the Value of physical capital (**estimation of capital value and capital costs**): As **implemented in the previous AR** and thus approved, the basis for the calculation of physical capital has been the price per GT unit. The price per GT unit has been determined as gross value from net prices of new built vessels during the last ten years. In the NP, it was stated the price per GT will be distinguished by fleet segment. Due to the low number of actual building prices, this concept could not be applied. Instead, the same price per GT unit has been applied to all fleet segments. Based on the price index for 2010 (producer price for commercial products, investment goods), a gross price of € 9.608 per GT was applied. The transformation to 2014 is being done using the 2014 price index as part of the PIM procedure. The determination of price per capacity unit is clearly described in the NP proposal. For **2014, a gross price of € 9935 per GT** was determined.

Several experts have been interviewed to receive specific life time and share information, but it transpired that there is no uniform pattern. Therefore the figures as used in the Study on Capital Value (“FISH/2005/03”) have been applied: Shares per cent of total investment were 60-20-10-10, and life times were 25-10-5-7 years (hull-engine-electronics-other). Depreciation rates are directly linked to the life times.

According to **recent recommendations (PGECON 2012)**, the depreciation scheme has been changed **from linear to degressive**. Therefore the depreciation rates had to be **changed to 0.07 (hull), 0.25 (engine), 0.5 (electronics) and 0.35 (other equipment)**, again following the study “FISH/2005/03”. Moreover, the current value (formely known as replacement value) has been used as basis for depreciation, following the advice issued by the workshop on the PIM method in Naples (2011).

Clustering has been applied as described in the NP. Clustering of the pelagic vessels is irrelevant in practice, as the data cannot be published for confidentiality reasons anyway. Some segments which have been part of a cluster contained no vessel in 2014. For the sake of consistency, they are listed nonetheless.

In the Commission Decision 2010/93/EU, active vessels are defined as having “been engaged in any fishing operation (more than zero days) during a calendar year”. For vessels without logbook

obligation (i.e. vessels < 8m LOA), there is no exhaustive information on fishing days. However, information on landings is exhaustively available. Germany resolved that vessels < 8m are regarded as inactive if no landings have been reported.

This procedure has been applied for as derogation in the NP and has been approved by STECF.

In Table III.B.1, numbers and rates refer to unit response rates, as described in the guidelines.

III B 2 DATA QUALITY: RESULTS AND DEVIATION FROM NP PROPOSAL

Error and accuracy indicators for variables related to employment and capital values or imputed value of unpaid labour: these variables are calculated using different input parameters/variables, e.g. effort data, like days at sea (for FTE), or estimates for prices per capacity units (€/GT) or capacity data. These input data can be regarded as constants, which are implemented in the models as provided by the studies on FTE and capital value estimation. Accuracy and precision of the results are therefore determined by the quality of the stipulated procedures and not so much by the input variables, the quality of which is indicated in the table anyway. Therefore, it is more than doubtful whether the indication of accuracy and sampling strategy are really appropriate or conducive in any respect. The same applies to the debt/asset ratio, of which the capital value is a component. SGRN 10-02 had asked the European Commission for clarification on this issue, but this has not been provided in due time.

Often a non-reported variable is identical with zero. Rather than providing the value “zero” the respondents tend to leave the field blank, which is in a first automatic approach interpreted as non-reporting. In the case of obviousness (e.g. missing crew wages for small vessels with a crew number of 1, i.e. the owner alone), a zero has been assumed. In other cases, no straightforward assumption of that kind was made, following a conservative approach. Then a non-filled item was regarded as non-response. This might in several cases lead to virtually low response rates, e.g. for “other income”.

The data collection scheme “C” (non-probability sampling) as indicated in the NP has been changed to “B” (probability sampling) in 2011, as during the SGECA 10-03 meeting (harmonisation of sampling strategies) it has been decided that the data derived from FADN are to be regarded as random (=probability) sampling. This has already been endorsed for the NP2012 by STECF 11-19.

Inactive vessels have been introduced into Table III.B.1. A sample rate of 100% has been indicated as the requested economic variables have been derived from other variables which have been collected exhaustively.

For very few segments with few vessels and with minor general importance, it was only some of the economic data could be collected, even though all these segments were sampled exhaustively. Respective owners had been contacted repetitively to push the issue, though without success in some cases. National legislation has no sway to enforce responses and the segments are negligible compared with others. Therefore Germany has concluded to do reasonable estimates as a feasible approach.

As there is no common approach to “**evaluate the representativeness of the data** collected on the respondents”, Germany has applied the same approach as comprehensively described in the NP. This is based upon a comparison of fractions of different transversal variables, which are associated with the vessel with responses. E.g. if the relative number of vessels for which answers have been received is similar to the relative number of days at sea or income from landings, then there is good evidence that the sample is representative. It has to be stated repetitively that the concept of “representativeness” is not scientifically or statistically defined. In particular, there is no quantitative indicator of “representativeness”.

As a “**qualitative description regarding the assessment of quality of data collected**”, it can be stated that the quality of data could be kept at high level, in particular due to sufficient coverage and response numbers. Germany has managed to achieve very high sample rates for all segments which are of major importance with respect to total landings or employment. Low rates or non-responses almost exclusively occurred on segments with few vessels and also on segments with few and small vessels. Visually these small segments of minor importance cannot be distinguished from the

important ones in the report table. However, a closer look at the size of both the segments and the vessels associated with it highlights the comprehensiveness of the data collected for the German fleet.

Information about calculation procedures of derived indicators (e.g. FTE) is provided comprehensively in the German NP. In almost all cases they are **derived using transversal data** which are available exhaustively. Therefore they can be regarded as highly accurate.

III B 3 ACTIONS TO AVOID DEVIATIONS

No deviations.

OTHER REGIONS

For 2014, no German vessel was assigned to “Other Regions”.

III C METIER-RELATED VARIABLES

For information collected during the sampling year regarding the number of sampled trips and numbers of age and length sampling, refer to Tables III.C.4, III.C.3 and III.C.6. According to the NP 2014-2016, which is a rollover from the NP 2011-2013 (updated in October 2011), Germany has done no changes with regard to the structure of this section. The information used for ranking was derived from logbooks and landing declarations. A metier-based sampling strategy is used by Germany in the North Sea and North Atlantic and a statistically sound sampling strategy for the Baltic Sea.

III C BALTIC SEA

III C 1 Achievements: Results and Deviation from NP Proposal

Legend:

At sea: Number of trips sampled by an observer on board fishing vessel (concurrent) at sea

Other: Number of trips sampled in a harbour or by a fisherman at sea (self sampling)

Total: Sum of all trips

NTP: No trip planned

2224 PTM_SPF_32-104_0_0

Sampled metiers: PTM_SPF_32-104_0_0, PTB_SPF_32-104_0_0, PTB_SPF_32-89_0_0,

At sea: 0 / 2 = 0%, Other: 9/10=90%, Total: 9 / 12 = 75%.

Since the bycatch of this metier is negligible (virtually 100% herring), the at-sea sampling effort had been stopped since 2012. Instead, the two trips planned for at-sea sampling were sampled on shore.

2224 PTB_SPF_16-31_0_0

Sampled metiers: PTB_SPF_16-31_0_0

At sea: 0 / 0 = NTP, Other: 1 / 2 = 50%, Total: 1 / 2 = 50%

Despite continuous attempts to receive self-samples from the fishery, only one sample was achieved.

2224 GNS_SPF_32-109_0_0

Sampled metiers: GNS_SPF_32-109_0_0, FYK_SPF_>0_0_0, FPN_SPF_>0_0_0

At sea: 0 / 0 = NTP, Other: 21 / 16 = 131%, Total: 21 / 16 = 131%

2224 OTB_DEF_>=105_1_120

Sampled metiers: OTB_DEF_>=105_1_120, PTB_DEF_>=105_1_120, PTM_DEF_>=105_1_120, OTB_DEF_>=90_0_0, PTB_DEF_>=90_0_0

At sea: 8 / 10 = 80%, Other: 18 / 20 = 90%, Total: 26 / 30 = 87%

2224 GNS_DEF_110-156_0_0

Sampled metiers: GNS_DEF_110-156_0_0, GTR_DEF_110-156_0_0; LLS_DEF_0_0_0

At sea: 31 / 6 = 517%, Other: 12 / 2 = 600%, Total: 39 / 8 = 488%

This metier is sampled more intensively than proposed in the NP in the last years for several reasons. This metier contributes significant amounts to the total landings, especially of Western Baltic cod (>30%) but also for flatfish. Despite this importance, there is a lack in biological data from this metier, not only regarding length distributions but also the discards (e.g. discard assumed as zero by Denmark). Thus, our sampling fills an important gap in the stock assessment input data. Moreover, this fleet involves a great proportion of the German fishing vessels in the Baltic Sea with considerable variations in species composition, gear settings, temporal and spatial extent, which was not fully recognised when the NP was designed. Finally, potential bycatch issues exist (marine mammals and birds) and more intensive sampling was initiated to fulfill national and international requirements.

2224 GNS_FWS_>0_0_0

Derogation in place since 2012.

2532 PTM_SPF_32-104_0_0

Sampled metiers: PTB_SPF_32-104_0_0, PTM_SPF_32-104_0_0

At sea: 0 / 0 = NTP, Other: 0 / 1 = 0%, Total: 0 / 1 = 0%

This metier was not sampled during the randomized activities in 2015. However, our improved sampling covered the commercial fishing activities on the target species (sprat) – see ‘2532 PTM_SPF_16_31_0_0’ below.

2532 OTB_DEF_>=105_1_120

Sampled metiers: OTB_DEF_>=105_1_120, OTM_DEF_>=105_1_120, OTB_DEF_>=105_1_110

At sea: 1 / 4 = 25%, Other: 9 / 6 = 150%, Total: 10 / 10 = 100%

Lack of free bunks limited the number of vessels that could take a scientific observer. The introduction of the landing obligation in 2015 and still relatively high discard rates of eastern Baltic cod may have been another issue causing difficulties to get observers on board of fishing vessels.

2532 PTB_SPF_16-31_0_0

Sampled metiers: OTB_SPF_16-31_0_0, PTM_SPF_16-31_0_0, PTB_SPF_16-31_0_0

At sea: 0 / 0 = NTP, Other: 21 / 1 = 2100%, Total: 21 / 1 = 2100%

A self-sampling cooperation was initiated with the two main trawlers targeting sprat in 2012 and is successfully continued since 2013.

The overall number of commercial samples in the Baltic in 2015 was higher than in previous years for two reasons: 1) improved vessel selection and contact procedure, resulting in more at-sea sampling and self-sampling opportunities (however, without causing additional costs); 2) improved work organisation in the lab, where more samples were worked up.

III C 2 Data quality: Results and Deviation from NP Proposal

There were no deviations from NP proposal with regards to data quality. See introduction part of section III E for explanations of the sampling scheme applied by Germany.

III C 3 Actions to avoid deviations

In accordance with the recommendations from WKACCU 2008, WKPRECISE 2009, WKMERGE 2010, SGPIDS 2011 and WKPICS1-3, the TI-OF started in 2011 to improve the catch sampling program of the German commercial fishing fleet in the Baltic Sea. Hence, 2012 was the first year in which a randomized sampling scheme was implemented on a test stage. This involved a randomized vessel selection procedure. Since 2013, annual vessel drawlists are compiled by stock and gear type (active, passive) using the list of active vessels from the last but one year.

It is important to note that once a randomized sampling is working, the primary sampling unit is no longer a métier but a vessel or a trip that has been randomly selected (WKPICS2 2012). The randomization process will result in métier coverage proportional to their use by the fisheries so that the completion of a planned number of samples by métier can no longer be the aim of a sampling program.

Through various trust-building programs such as ecolabelling initiatives, scientific cooperation and round tables with the fisheries associations, the TI-OF continuously works on maintaining good relationships to the fishing industry and attempts to further improve the cooperation with fishers.

Planning the number of sampled trips must reflect the sampling capacity and the scientific need for sampling. Usually, there is a significant discrepancy between the scientifically required sampling intensity and the sampling capacity in terms of (sea-going) staff. Thus, the number of trips was planned conservatively for 2015. On the other hand, conservative planning leads to exceeding the sampling plan resulting in so-called ‘oversampling’. However, oversampling may not be the right term, as for statistical purposes, the sampling intensities are usually not too high when compared to the real number of fishing trips conducted by the commercial fisheries.

III C NORTH SEA AND EASTERN ARCTIC

III C 1 Achievements: Results and Deviation from NP Proposal

Sampling of fishing trips

According to the NP 2014-2016, which is a rollover from the NP 2011-2013 (updated in October 2011), 14 fisheries were selected either by landings, effort or value. As the majority of the German North Sea fleet is landing in foreign countries and thus landings in German harbours are only minor (see section III.E General remarks), the main sampling strategy for all trips is concurrent sampling-at-sea.

In the following, each metier is listed and shortfalls are explained:

Fishing ground: Eastern Arctic (ICES Sub-areas I and II)

OTB_DEF_>=120_0_0

Target species: Saithe and cod. Peak season: 1st and 3rd quarter. Area: Northeast Arctic waters. Duration of trips: 4 weeks to 3 months. Sampling effort: Two observer trips were planned. Due to staff shortage at the beginning of the year, it was only possible to sample one trip during summer.

OTM_SPF_32-69_0_0

Target species: Atlanto-Scandian herring. Peak season: August to November. Area: Norwegian Sea. Duration of trips: 3 to 4 weeks. Sampling effort: One observer trip was planned. One additional trip could be sampled by self-sampling.

Fishing ground: North Sea and Skagerrak (ICES Sub-area IV and Divisions IIIa and VIId)

PTM_SPF_32-69_0_0

Target species: Herring. Peak season: September to November. Area: Skagerrak. Duration of trips: 1 week. Sampling effort: Sampled by Denmark and/or Sweden (Regional agreement).

GNS_DEF_100-119_0_0

Target species: Dab, sole and plaice. Peak season: April - June, September - October. Area: Skagerrak and Kattegat. Duration of trips: 1 to 3 days. Sampling effort: Sampled by Denmark and/or Sweden (Regional agreement).

OTB_CRU_90-119_0_0

Target species: Norway lobster. Peak season: June to December. Area: Skagerrak and Kattegat. Duration of trips: 1 to 3 days. Sampling effort: Sampled by Denmark and/or Sweden (Regional agreement).

GNS_DEF_90-99_0_0

Target species: Dab, sole and plaice. Peak season: July - October. Area: Skagerrak and Kattegat. Duration of trips: 1 to 3 days. Sampling effort: Sampled by Denmark and/or Sweden (Regional agreement).

OTB_DEF_>=120_0_0 (merged with PTB_DEF_>= 120_0_0, OTB_DEF_90-119_0_0, OTB_DEF_100-119_0_0 and SSC_DEF_>= 120_0_0)

Target species: Saithe, cod, haddock. Peak season: All year round. Area: Northern North Sea and Skagerrak. Duration of trips: 1 to 2 weeks. Sampling effort: 6 observer trips were planned, all trips were carried out.

TBB_CRU_16-31_0_0

Target species: Brown shrimp. Peak season: March to October with peaks in the 2nd and 3rd quarter. Area: German North Sea coastal waters. Duration of trips: 1 to 3 days. Sampling effort: 8 observer trips were planned, 7 trips were carried out. One trip is missing due to bad weather conditions at the end of the year.

OTM_SPF_32-69_0_0

Target species: Herring, mackerel. Peak season: Restricted fishing season for mackerel in the North Sea – January/February and 4th quarter; Herring – 3rd quarter/December. Area: North Sea and English Channel. Duration of trips: 3 to 4 weeks. Sampling effort: 2 observer trips were planned. Four observer trips were carried out. One of the additional trips was sampled because the observed vessel was targeting North Sea herring on the way back from the Atlanto-scandian herring fishery. The other one was planned as additional sampling for North Sea herring in ICES Div. IVb. However, due to changes of the fishing behaviour, the trip ended as another sampling in Div. IVa.

PTM_DEF_<16_0_0

Target species: Sandeel. Restricted fishing season. Area: Northern North Sea. Duration of trips: 6 to 10 days. Sampling effort: This métier changed and is recently carried out by single boats only (OTB_DEF_<16_0_0 and OTM_DEF_<16_0_0). However, the German share of the sandeel Union TAC was 0.14% (Council Regulation 2015/523) and thus negligible. At the RCM NS&EA, the sampling coverage by Denmark (94.3% of TAC) and Sweden (3.5% of TAC) was regarded as sufficient.

TBB_DEF_70-99_0_0

Target species: Sole and plaice. Peak season: All year round. Area: Southern North Sea. Duration of trips: 4 to 6 days. Sampling effort: 4 observer trips were planned, 4 trips were carried out.

OTB_DEF_70-99_0_0

Target species: Flatfish. Peak season: All year round. Area: Central and southern North Sea. Duration of trips: 5 to 8 days. Sampling effort: 2 observer trips were planned and carried out, but the fishery switched to the bigger mesh size range of 100-119mm.

OTB_MCD_70-99_0_0

Target species: Mixed crustaceans (*Nephrops*) and demersal fish. Peak season: June to October. Area: Southern North Sea. Duration of trips: 4 to 6 days. Sampling effort: sampling carried out by Denmark according to regional (RCM NS&EA) agreement.

III C 2 Data quality: Results and Deviation from NP Proposal

There were no deviations from NP proposal with regards to data quality. See introduction part of section III E for explanations of the sampling scheme applied by Germany.

III C 3 Actions to avoid deviations

Based on the list of fishing vessels supplied by the Federal Agency for Agriculture and Food (BLE), Germany is always aiming at reaching a wide participation of vessels in the observer programme and including vessels which have not been sampled by observers before. Although this is partially successful, there are always vessel owners, of smaller vessels in particular, who are not willing to allow observers onboard. Based on the present situation, random sampling of the fleet is not fully implemented. This leads also to an opportunistic sampling strategy, taking sampling opportunities when they occur, irrespective if they are planned or not. Other deviations occurred because of short-notice changes in the fishing behaviour. When more or other than the planned trips were carried out, opportunities for samplings were taken which arose due to contacts with the fishing industry. Although Council Regulation 199/2008 states that vessel owners “shall take observers on board” and the Federal fisheries research institutes hold a co-operation agreement with the German Fisheries Association, this situation remains to be difficult for some metiers. Germany, however, participates in the MARE/2014/19 project “Strengthening regional cooperation in the area of fisheries data collection”, where regional statistically sound sampling schemes will be tested.

III C NORTH ATLANTIC AND NAFO

III C 1 Achievements: Results and Deviation from NP Proposal

Sampling of fishing trips:

After metier merging, six fisheries were selected either by landings, effort or value. Four of these metiers are dealt with by the RCM North Sea and Eastern Arctic since autumn 2009, but belong to the North Atlantic region according to Commission Regulation 665/2008 and Commission Decision 2010/93/EU. As the majority of the German North Atlantic fleet is landing in foreign countries and thus landings in German harbours are only minor (see section III.E General Remarks), the main sampling strategy for all trips is concurrent sampling-at-sea.

In the following, each metier is listed and shortfalls are explained:

Fishing ground: Iceland, Greenland and Irminger Sea (ICES Sub-areas XII and XIV and Division Va)

OTB_DEF_>=130_0_0

Target species: Greenland halibut and cod. Peak season: 2nd/3rd quarter. Area: East Greenland (ICES Div. XIVb). Duration of trips: 4 weeks to 3 months. Sampling effort: 2 observer trips were planned and carried out.

OTM_DEF_100-129_0_0

Target species: Redfish. Peak season: 2nd/3rd quarter. Area: Irminger/Labrador Sea (ICES Sub-areas XII and XIV, NAFO Sub-areas 1-2). Duration of trips: 4 weeks to 3 months. In 2015, this fishery has been carried out by only one German-flagged vessel within one trip. It was not possible to place an observer on this specific trip due to logistic problems indicated by the ship owner.

Fishing ground: NAFO areas

OTB_DEF_>=120_0_0

Target species: Greenland halibut and cod. Peak season: 3rd/4th quarter. Area: West Greenland (NAFO Div. 1D). Duration of trips: 6 weeks to 3 months. In 2015, only four trips were carried out all together.

The planned sampling effort of 1 observer trip was not fulfilled as it was not possible to place an observer on one of these trips (lack of space onboard due to NAFO observers).

Fishing grounds: Western waters (ICES Sub-areas VI-VIII, mainly West of Scotland and West of Ireland)

OTM_SPF_32-69_0_0

Target species: Mackerel, horse mackerel, blue whiting. Peak season: March to June/October/November. Area: West British waters and Bay of Biscay. Duration of trips: 3 to 4 weeks. Sampling effort: Three observer trips were planned and conducted. Two additional trips could be sampled by self-sampling of the industry without additional costs or effort.

FPO_CRU_all_0_0

Target species: Deep-sea red crab. Peak season: All year round. Area: West of Ireland, West of Scotland. Duration of trips: 4 weeks. Long soaking times of the pots simulate high effort. Fishing by landings and value is negligible. Germany applied for derogation for this métier because this fishery consists of four Spanish-owned but German-flagged vessels which are exclusively operating from Spanish and Irish ports. The RCM NA 2012 regarded the “onboard monitoring unnecessary owing to 1) the small by-catch of finfish, and 2) the return of undersized crustaceans alive.”. The target species *Chaecon affinis* is not listed in Appendix VII of COM Decision 2010/93/EU.

GNS_DEF_>=220_0_0

Target species: Anglerfish. Peak season: All year round. Area: North East Atlantic. Duration of trips: 4 weeks. Target species: Deep water crustaceans. Peak season: All year round. Area: West of Ireland, West of Scotland. Long soaking times of the set nets simulate high effort. Annual landings are below 500t (2015). Germany applied for derogation for this métier because this fishery consists of four Spanish-owned but German-flagged vessels which are exclusively operating from Spanish and Irish ports. Germany will re-evaluate the current international fishing situation in the RCM NA in order to arrange task-sharing with relevant MS.

III C 2 Data quality: Results and Deviation from NP Proposal

There were only minor deviations from NP proposal with regards to sampling coverage. See introduction part of section III E for explanations of the sampling scheme applied by Germany.

III C 3 Actions to avoid deviations

Based on the list of fishing vessels supplied by the Federal Agency for Agriculture and Food (BLE), Germany is always trying to reach a wide participation of vessels in the observer programme and to include vessels which have not been sampled by observers before. Although this is partially successful, there are always vessel owners, of smaller vessels in particular, which are not willing to allow observers onboard. Based on the present situation, random sampling of the fleet is not fully implemented. This leads also to an opportunistic sampling strategy, taking sampling opportunities when they occur, irrespective if they are planned or not. Other deviations occurred because of short-notice changes in the fishing behaviour. When more or other than the planned trips were carried out, opportunities for samplings were taken which arose due to contacts with the fishing industry. Although Council Regulation 199/2008 states that vessel owners “shall take observers on board” and the Federal fisheries research institutes hold a co-operation agreement with the German Fisheries Association, this situation remains to be difficult for some métiers. Germany, however, participates in the MARE/2014/19 project “Strengthening regional cooperation in the area of fisheries data collection”, where regional statistical sound sampling schemes will be tested.

III C LONG DISTANCE FISHERIES

III C 1 Achievements: Results and Deviation from NP Proposal

Two fisheries were selected either by landings, effort or value. These parts of the fleet are entirely landing in foreign countries and were not sampled by Germany, but are covered as part of multilateral agreements. In the following, both metiers are listed and the shortfalls are explained:

OTM_SPF_32-69_0_0

Target species: *Sardinella*. Peak season: -. Area: Mauritanian/Moroccan waters (CECAF area). Duration of trips: 3 to 4 weeks. A multilateral sampling agreement was reached in 2011 (see Annex 3 and Table I.A.2) and renewed in 2013 and 2015. Sampling is carried out by The Netherlands.

OTM_SPF_32-69_0_0

Target species: Jack Mackerel. Peak season: -. Area: South Pacific. Duration of trips: 4 weeks to three months. A multilateral sampling agreement was reached in 2015 (see Annex 3 and Table I.A.2) and a sampling plan was implemented. In 2015, however, this fishery was not carried out by German vessels.

III C 2 Data quality: Results and Deviation from NP Proposal

not relevant

III C 3 Actions to avoid deviations

No actions necessary.

III D RECREATIONAL FISHERIES

III D BALTIC SEA

III D 1 Achievements: Results and Deviation from NP Proposal

Cod

The German marine recreational data collection program follows a multiannual multi-stage survey design (for further information, see Strehlow *et al.*, 2012). An off-site survey (mail-diary) is used to estimate effort. On-site, a stratified random sample of access points and days is used to estimate catch rates (CPUE). The sampling protocol covers the entire year. Length distributions of recreational catches are collected by onboard measurements of charter vessel trips. Commercial/survey length-weight relationships and age-length keys were used for conversion of recreational catch numbers to biomass and length at age.

The planned and achieved sampling is summarised in the following tables.

The table below compares the number of samples planned with the number of samples realised and explains the reasons for the shortfalls. In addition, the numbers of interviewed anglers are given.

Shore angling and wading				
No. of samples planned	No. of samples achieved	Deviation to planned sampling	Reason(s) for shortfalls	No. of anglers interviewed
96	87	-7	Sickness of survey agents	186
Boat, charter boat angling, trolling				
192	236	+44	The oversampling is a result of on-board sampling of charter boats to obtain length distributions	1366

The table below provides the numbers of samples and length measurements of cod from charter vessel sampling.

Sample Type	Samples	Harvest n	Release n
Boat, charter boat angling, trolling	42	2888	914

A nationwide telephone screening survey was initiated in May 2014. The nationwide screener of 50.000 households was followed by a 1-year telephone-diary recall survey and quarterly contacts. This survey will estimate catch and effort for the entire German marine recreational fishery in the Baltic Sea. Survey results will allow cross-checking the results of the multiannual intercept survey concerning data quality and precision. It will further deliver new effort estimates for a number of target species and fishing modes as well as capture the socio-economic importance of the marine recreational sector. Preliminary data revealed similar effort estimates for numbers of sea anglers and total effort. The results will be available in 2016.

Marine recreational fisheries surveys conducted by MS revealed that the recreational fishery removes considerable amounts of biomass from the western Baltic cod stock (ICES 2010, ICES 2011, Sparrevojn & Storr-Paulsen 2012, Strehlow *et al.* 2012). Recreational harvest of western Baltic cod in 2010 accounted for 25% of the total landings (commercial landings + recreational harvest). Due to the large impact of the marine recreational fishery, recreational fisheries data were included into the western Baltic cod stock assessment in 2013. MS covered by this decision are Germany, Denmark and

Sweden. The longest available time series of recreational fisheries including biological data is from Germany. Accordingly, German data were included in the assessment. In a next step, Danish and Swedish data will follow; ICES WGRFS is coordinating the regional sampling efforts.

A pilot study to estimate the survival of caught and released cod in the western Baltic recreational fisheries was carried out in 2012 (Weltersbach and Strehlow, 2013). The goals of this pilot study were (i) to estimate the immediate and delayed post-release mortality rate of undersized cod, (ii) to examine factors affecting survival and (iii) to investigate the effects of catch-and-release (physical condition and behaviour in the cages) on cod.

The adjusted survival rates for angled cod ranged from 100.0 to 72.7% (overall mean 88.8% $\pm$ 22.0%). Our findings suggest that a substantial amount of recreationally released cod survive and thus cannot be classified as removals from the western Baltic cod stock. Overall, this study is an important step to increase the precision of the recreational cod biomass removals, to improve the future stock management of western Baltic cod, and ensure that the recreational fishery is in accordance with the objectives of the CFP.

Finally, the list of access points was revised and updated. Fishing modes were consolidated into three categories (boat/beach/charter boat) to reduce variance and improve accuracy. Avidity, expenditure and demographic data were included.

Salmon

The development of the trolling fishery for salmon around the Island of Rügen was observed. In recent years, this trolling fishery has rapidly expanded attracting mainly non-resident anglers. Although the main season covers only two months, estimates range from 6000-8000 individuals removed by the recreational fishery.

In 2013, the first contacts were made with the stakeholders representing the recreational salmon fishery and mailings were provided to the German boat angling association to gain support.

A pilot study was initiated in 2015 that will monitor boat fishing effort. This survey will be complemented by on-site interviews to estimate cpue and collect biological catch data and socio-economic information.

In 2013, a pelagic longliner was sampled to obtain biological data (length, weight, scales (age), tissue samples (genetics)) for future use and developments of weight-length and age-length keys. A nationwide telephone survey is set up as a multispecies survey and catch estimates for salmon will be available in 2016.

Sea trout

In 2013, a pilot study was initiated. During the spring fishing season, a bus route survey was conducted from a stratified random sample of fishing sites, days, fishing time and sampling direction to recruit panelists and collect biological data (length, weight, scales and tissue samples). Altogether, 300 panelists were recruited for a 1-year diary and recalled quarterly to remind them to fill in the provided diary and provide quarterly expenditure data. Next to catch data, the survey will provide detailed economic data. Avid anglers were supplied with a toolkit to collect scale (age) and tissue samples (genetics) since there is no commercial data available for this species. A nationwide telephone survey is set up as a multispecies survey and catch estimates for sea trout will be available in 2016.

Eels

A pilot study was carried out to estimate eel harvests of the recreational passive gear fishery. The 1-year telephone-diary-recall survey was implemented in August 2011 and ended in July 2012. The panel consisted of 180 recreational passive gear fishermen of which 120 were recruited from the Baltic Sea across seven strata. Participants were recalled every 4 months to remind them to fill in the

provided diary. The results showed that eel catches from the recreational passive gear fishery are negligible. In 2013, funding was secured for a nationwide telephone screening survey followed by a 1-year telephone diary survey. This survey will provide eel data of the recreational rod and line fishery. In 2015, a pilot study was carried out to estimate post-release survival of caught and releases eel. The goals of this pilot study were (i) to estimate the immediate and delayed post-release mortality rate of released eel, (ii) to examine factors affecting survival and (iii) to investigate the effects of catch-and-release on eel. A nationwide telephone survey is set up as a multispecies survey and catch estimates for eel will be available in 2016.

Sharks

Derogation requested, as there is no recreational fishery for sharks in German Baltic Sea waters or from German vessels.

III D 2 Data quality: Results and Deviation from NP Proposal

An analysis of the estimated annual recreational cod harvest data by means of bootstrapping analysis (95% confidence interval, $\alpha = 0.025$) revealed a relative deviation between 14.9% as minimum and 17.3% as maximum for the harvest in numbers from 2005-2010.

Year	Minimum estimates ($\alpha = 0.025$)	Maximum estimates ($\alpha = 0.025$)
2005	-13.3	12.6
2006	-11.8	12.1
2007	-10.7	12.5
2008	-14.9	17.3
2009	-12.2	13.2
2010	-11.7	12.9

No bootstrap was calculated for the 2014/2015 estimates, but it would be expected to fall into the same boundaries as in the previous years (see table above). For an overview of statistical estimators from effort and CPUE data, see Strehlow *et al.* (2012).

During ICES WGRFS 2013, the scorecard system to evaluate the quality of recreational catch estimates was further developed – building on experiences from WKACCU, WKPICS, etc. This included the development of guidelines for best practice in recreational sampling schemes together with a set of guiding questions. The German multiannual on-site survey was evaluated using the set of questions and no major concerns for bias were detected. The off-site survey was evaluated accordingly and several bias issues identified. Accordingly, a new nationwide telephone screening survey and associated 1-year telephone diary survey with quarterly recalls was designed and funding secured in 2013. The survey was launched in May 2014.

At the end of 2015, all regional survey agents were visited and an on-site quality control of their work was performed.

III D 3 Actions to avoid deviations

see section III.D.1 Baltic Sea

III D NORTH SEA AND EASTERN ARCTIC

III D 1 Achievements: Results and Deviation from NP Proposal

Cod

According to a pilot study from 2004-2006 (Schultz *et al.* 2007), German recreational fishery cod catches in the North Sea have no impact on the stock. Annual cod catches from charter vessels amount to approximately 30 t. Other fishing techniques (e.g. boat angling, shore angling) as well as the recreational passive gear fishery have no further relevance concerning cod catches. A second pilot study was carried out in August 2011 to verify these findings. The results show that there has been no change and that catches have even declined due to a decline in the charter boat fishery.

A nationwide telephone screening survey was initiated in May 2014. The nationwide screener of 50.000 households was followed by a 1-year telephone-diary recall survey and quarterly recalls. This survey will estimate catch and effort for the entire German marine recreational fishery in the North Sea. It will further deliver new effort estimates for a number of target species and fishing modes as well as capture the socio-economic importance of the marine recreational sector. Results will be available in 2016.

Eels

A pilot study was carried out to estimate eel harvests of the recreational passive gear fishery. The 1-year telephone-diary-recall survey was implemented in August 2011 and ended in July 2012. The panel consisted of 180 recreational passive gear fishermen of which 60 were recruited from the North Sea across two strata. Participants were recalled every 4 months to remind them to fill in the provided diary. A nationwide telephone survey is set up as a multispecies survey and catch estimates for eel will be available in 2016.

Sharks

A pilot study was carried out in August 2011 to estimate recreational shark catches in the German North Sea. Findings showed that recreational shark catches are marginal and have no impact on the stocks. A nationwide telephone survey is set up as a multispecies survey and catch estimates for sharks will be available in 2016.

Sea bass

In 2015, a pilot study was carried out to estimate post-release survival of caught and released sea bass. The goals of this pilot study were (i) to estimate the immediate and delayed post-release mortality rate of released sea bass, (ii) to examine factors affecting survival and (iii) to investigate the effects of catch-and-release on sea bass.

III D 2 Data quality: Results and Deviation from NP Proposal

not relevant

III D 3 Follow-up of regional and international recommendations

see above III D 3 Baltic Sea

III D 4 Actions to avoid deviations

not relevant

III D NORTH ATLANTIC

No recreational fisheries in this region.

III D LONG DISTANCE FISHERIES

No recreational fisheries in this region.

III E BIOLOGICAL STOCK-RELATED VARIABLES

GENERAL REMARKS

Several reasons imply that the collection of métier-related variables (section III.C) as well as the collection of stock-related variables (section III.E) should be handled at the same time in the German NP. Sampling-at-sea is an optimal strategy to reach this goal, due to

- the necessity to sample on board of freezer trawlers and trawlers with processing units. This is the case in the fishery for pelagic species, as these are landed in frozen packages. The same is true for landings of demersal species from waters off Norway and Greenland which are landed as partly processed products.
- monitoring discarding. It would be highly ineffective not to sample the landings and other biological data at the same time.
- providing the possibility to sample at the same time landings, discards and to take otoliths and samples for sex and maturity.
- discards of species listed in Appendix VII of Commission Decision 2010/93/EU as by-catch in fisheries directed towards other species can only be recorded on board.
- 68%, 64% and 70% of the landings in 2013, 2014 and 2015, respectively, occurred in foreign countries.

Due to the reasons mentioned above, Germany prefers to sample catches **at sea** in the North Sea and North Atlantic. This is still the case with the landing obligation in force in parts of the fleet. In the Baltic Sea, there is at-sea, self- and harbour sampling.

The status of a scientific observer on board of a German fishing vessel still is a guest status. Article 11(3) of Council Regulation 199/2008 stipulates that samplers “*shall be accepted onboard*”, which did however not improve this situation. The possibility for biological sampling depends on the hospitality of ship owners and companies. Based on the present situation, random sampling of the fleet is difficult and might be not optimal in future (even if a new legal basis for onboard sampling is in place), since some reluctance regarding observers will still remain for several fisheries.

Data are gathered in connection with sampling of commercial sources (observer trips, harbour and self sampling) and on scientific surveys. Data are sampled on a yearly basis. Table III.E.3 provides an overview over the species by region/fishing ground/area/stock that were sampled during 2015. Note that for some species (e.g. redfish and Greenland halibut), otoliths were only taken but not read due to lacking consensus on age reading methodology and validity.

The indications of the planned minimum numbers of individuals to be measured for the different variables are based on experiences with the German sampling scheme and survey catches. Even with the possibilities to adjust the numbers within the updates for the programme, it is not always possible to predict accurately if these planned numbers are reachable and realistic. In the following, the most common reasons for over- and undersampling are listed:

Reasons for oversampling:

For most of the fish stocks and brown shrimp, the number of length and age measurements well exceeded the planned and requested minimum number of measurements. As most of the measurements are taken on observer trips, the reason for "oversampling" is often that all fish of a once randomly chosen subsample have to be measured in order to calculate the retained and discarded fraction of the whole catch. Another reason is that once an observer is onboard, the entire trip is being sampled (i.e. sampling does not stop after a few hauls or fishing days, but lasts until the end of that trip). This additional sampling onboard is done without any additional costs. However, minor additional costs occur in the institutes' laboratories in terms of additional staff time for sample processing. The sometimes very high numbers for weight@length (=individual weights) are taken on observer trips without additional costs in order to obtain reliable weight-length relationships.

Reasons for undersampling:

In several cases, the planned sample sizes have not been achieved. In some cases, this is due to the general rule for observers to collect stock-based variables of 10-12 fish per length class and area. If only very few length classes occur during a fishing trip, this rule can lead to undersampling in terms of the planned numbers.

III E BALTIC SEA

III E 1 Achievements: Results and Deviation from NP Proposal

The required, planned and achieved sampling is summarised in Table III.E.3. General reasons for oversampling are explained above under “General remarks”. Oversampling did not cause significant additional eligible costs.

Germany is obliged to sample seven stocks in the Baltic Sea.

See Annex 2 for a description of the European eel (*Anguilla anguilla*) data collection in German freshwaters.

Clupea harengus SD22-24 IIIa: This species was sampled according to the plan.

Gadus morhua SD22-24, SD25-32: Baltic cod was sampled according to the plan. However, the total number of cod age readings has decreased because age data from the ICES subdivisions 24-32 is no longer used in the assessment (WKBALTCOD 2015). Otoliths are still collected and archived but age reading will not be re-initiated before an ultimate international decision has been taken on the procedure. While age reading of cod otoliths from SD24-32 has been stopped, we now record the outlines of each otolith for otolith shape analysis. This information is used for stock separation in the mixing area SD24.

Limanda limanda SD22-32: Achieved dab sampling exceeded the plan. The planned number of 200 individuals was set precautionarily low due to limitations in age reading capacity. However, the age reading capacity in the institute increased recently, allowing an increase in sampling intensity. Increased stock size lead to increased sample sizes in BITS surveys (cf. ICES WGBFAS 2012). In quarter 4 of 2015, fishermen used mainly OTB_DEF_>105_1_120 instead of OTB_DEF_90-105_0_0 to fish for flatfishes in order to ensure that cod – if present – was also caught.

Platichthys flesus SD22-32: Flounder was sampled in excess due to conservative planning. The increased age reading capacity of staff allowed for increased sampling intensity. The by-catch sampling in the cod fishery contributed largely to the high number of fish sampled. In quarter 4 of 2015, fishermen used mainly OTB_DEF_>105_1_120 instead of OTB_DEF_90-105_0_0 to fish for flatfishes in order to ensure that cod – if present – was also caught.

Pleuronectes platessa SD22-32: Germany samples plaice, given its status as a G1 species with landings not reflecting the catch because quota restrictions force the German fishers to discard significant amounts.

Sprattus sprattus SD22-32: Baltic sprat was sampled slightly in excess due to conservative planning.

Sander lucioperca IIId: No pikeperch were sampled during 2015, as no FWS metiers were sampled. A derogation for Germany to sample freshwater species metiers is in force since 2012.

Additional sampling:

Flatfish species such as brill and turbot were sampled without obligation within the German NP. Specimens of these species are obtained as by-catch from the commercial cod fishery and from survey samples. Biological parameters from these species are length, weight, age, sex and maturity. The

sampling of all flatfish species in the Baltic Sea is justified with respect to the HELCOM and ICES initiatives on stock assessment strategies for Baltic flatfishes (WKFLABA 2010 and 2012, WGBFAS 2013, WKBALFLAT 2013, WKPLE 2015).

III E 2 Data quality: Results and Deviation from NP Proposal

Sampling procedures and analysis are described and documented (see e.g. http://www.dcf-germany.de/fileadmin/sites/default/downloads/Beprobungsanleitung_2011-12.pdf). Data quality is checked by national routines. Germany is participating in relevant age reading and maturity workshops in order to ensure international agreement.

Deviations are explained in the section above. A general explanation of the sampling scheme is given in the introductory part of this section.

III E 3 Actions to avoid deviations

Achieved sampling intensities higher than the planned values are explained above.

For statistical reasons, the achieved sampling intensities cannot be considered too high. The occurrence of oversampling rather reflects conservative planning.

III E NORTH SEA AND EASTERN ARCTIC

III E 1 Achievements: Results and Deviation from NP Proposal

Table III.E.3 provides an overview on planned and achieved numbers of fish for age, weight, sex and maturity. **General reasons for oversampling and undersampling are explained in the beginning of this chapter under “General remarks”.** Germany was obliged to sample 14 stocks in this region, after applying the exemption rules for stock-related variables (Commission Decision 2010/93/EU, chapter III.B.B2.5). In the following, reasons for significant undersampling are given in detail.

See Annex 2 for a description of the European eel (*Anguilla anguilla*) data collection in German freshwaters.

Skagerrak and Kattegat (ICES Division IIIa):

Pollachius virens: According to Commission Decision 2010/93/EU, saithe in the Skagerrak has to be sampled. Catches in the Skagerrak, however, are belonging to the same saithe stock as in the northern North Sea, targeted by the same fishing métier. As fishing activities in the Skagerrak occur only irregularly, the stock was sampled mainly in the North Sea. Therefore, sampling numbers are merged for ICES areas IIIa, IVabc and VIId.

North Sea and Eastern Channel (ICES Sub-area IV and Division VIId):

The planned numbers for *Pollachius virens* and *Gadus morhua* for weight@age, maturity@length, maturity@age, sex-ratio@length and sex-ratio@age could not be fulfilled. Also, maturity@length and maturity@age numbers for *Limanda limanda* could not be fulfilled. This is mainly due to low abundance of these species during the International Bottom Trawl Survey (IBTS) in quarter 1. Usually, these parameters are collected on surveys and not by commercial sampling.

Eastern Arctic (ICES Sub-areas I and II):

Pollachius virens could not be sampled at all in this area. Germany was only able to sample one trip targeting demersal species in areas I and II. During this trip, only a few individual saithe were caught. The planned numbers for *Gadus morhua* and for *Melanogrammus aeglefinus* for length@age and weight@age could not be fulfilled. In both cases, the age-length distribution was very similar throughout the hauls, so it was not necessary to take the planned number of age samples. Other variables for the listed species are not collected by Germany, as the ICES AFWG receives sufficient

data from Norway and Russia, which are the main fishing nations in this area. This was already stated in the AR 2011 and accepted by STECF.

Also the number of sampled *Clupea harengus* in ICES I/II (Atlanto-scandian herring) did not reach the anticipated number of samples for all variables, but as the age-length distribution was very similar throughout the hauls, the assessment requirement was met. Germany has no DCF obligation to sample this stock, but does this usually for assessment purposes (see next paragraph).

Additional sampling:

For the North Sea and Eastern Arctic region, several stocks were sampled by Germany despite there is no obligation by the DCF rules for stock-related variables to do so. However, sampling data are used regularly for assessment purposes in the ICES WGNSSK and WGWIDE. Furthermore, all stocks are targeted by fishing metiers which have to be sampled by Germany. These stocks are highlighted in green colour in Table III.E.3: *Clupea harengus* in ICES Sub-areas I and II; *Melanogrammus aeglefinus*, *Pleuronectes platessa* and *Solea solea* in the North Sea and Eastern Channel.

III E 2 Data quality: Results and Deviation from NP Proposal

Sampling procedures and analysis are described and documented (see e.g. http://www.dcf-germany.de/fileadmin/sites/default/downloads/Beprobungsanleitung_2011-12.pdf). Data quality is checked by national routines. Germany is participating in relevant age reading and maturity workshops in order to ensure international agreement.

Deviations are explained in the section above. A general explanation of the sampling scheme is given in the introductory part of this section.

III E 3 Actions to avoid deviations

See at the beginning of this chapter under “General remarks” and paragraph III C4 for the North Sea area.

III E NORTH ATLANTIC AND NAFO SA1-2

III E 1 Achievements: Results and Deviation from NP Proposal

Table III.E.3 provides an overview on planned and achieved numbers of fish for age, weight, sex and maturity. **General reasons for oversampling and undersampling are explained in the beginning of this chapter under “General remarks”.** In the following, reasons for significant undersampling are given in detail.

Stocks in the NAFO area:

Reinhardtius hippoglossoides. As stated in section III C, in 2015 only four fishing trips were carried out by the fishing industry altogether. The planned sampling effort of one observer trip was not fulfilled as it was not possible to place an observer on one of these trips. Therefore, no sampling was carried out.

Gadus morhua. As it was not possible to place an observer on a fishing trip in the NAFO area (see section III C), sampling was carried out on the German Greenland Survey only. However, 47% of the planned number for maturity and sex sampling was reached.

Other stocks:

Reinhardtius hippoglossoides in V, XIV/VI. The under-sampling for age of Greenland halibut was due to the fact that the observer was not allowed to take otoliths of all animals necessary because of the reduction of product value by cutting the fish. Every part of the body of Greenland halibut is commercially utilised. Even the heads are sold separately to Asian markets. As there is still no agreement on the methods of age reading for the use of age data in the assessment, Germany did not insist to take all otoliths.

Additional sampling:

Three stocks were sampled by Germany despite there is no obligation by the DCF rules for stock related variables to do so. However, sampling data are used regularly for assessment purposes at ICES WGWIDE. Furthermore, all stocks are targeted by fishing metiers which must be sampled by Germany. These stocks are highlighted in green colour in Table III.E.1: *Micromesistius poutassou*, *Scomber scombrus*, *Trachurus trachurus*.

III E 2 Data quality: Results and Deviation from NP Proposal

Sampling procedures and analysis are described and documented (see e.g. http://www.dcf-germany.de/fileadmin/sites/default/downloads/Beprobungsanleitung_2011-12.pdf). Data quality is checked by national routines. Germany is participating in relevant age reading and maturity workshops in order to ensure international agreement.

Deviations are explained in the section above. A general explanation of the sampling scheme is given in the introductory part of this section.

III E 3 Actions to avoid deviations

See at the beginning of this chapter under “General remarks” and paragraph III C4 for the North Atlantic area.

*III E LONG DISTANCE FISHERIES***III E 1 Achievements: Results and Deviation from NP Proposal**

Table III.E.3 provides an overview on required, planned and achieved numbers of fish for age, weight, sex and maturity. Germany was obliged to sample two stocks after applying the exemption rules for stock-related variables (Commission Decision 2010/93/EU, chapter III.B.B2.5) for other regions, namely: *Sardinella aurita* and *Trachurus* spp.

Germany had received a derogation to sample these stocks (ref. Ares(2010)512785 of 16/08/2010). Furthermore, a multilateral sampling agreement for the CECAF area was reached in 2011 (see Annex 3 and Table I.A.2) and a sampling plan implemented from 2012 onwards. For the SPRFMO area, a similar agreement was reached in 2015 (see Annex 3 and Table I.A.2).

III E 2 Data quality: Results and Deviation from NP Proposal

not relevant

III E 3 Actions to avoid deviations

not relevant

III F TRANSVERSAL VARIABLES

III F 1 CAPACITY

III F 1 1 Achievements: Results and Deviation from NP Proposal

All results achieved as planned, no deviation.

III F 1 2 Data quality: Results and Deviation from NP Proposal

As all capacity data are derived from the fleet register, which by definition represents the population, it is not meaningful to apply any data quality issues in the context of the DCF.

III F 1 3 Actions to avoid deviations

No deviations.

III F 2 EFFORT

III F 2 1 Achievements: Results and Deviation from NP Proposal

All results achieved as planned, no deviation.

III F 2 2 Data quality: Results and Deviation from NP Proposal

As all effort data for vessels > 8m are derived from the logbooks, which are to be submitted exhaustively by European legislation, it is neither required (see footnote “c” in corresponding table) nor meaningful to apply any data quality issues in the context of the DCF.

Effort data for vessels < 8m have been collected via random sampling survey. For these data statistical characteristics have been calculated and provided in Table III.F.1.

These effort data are sampled together with fleet economic data. Therefore the **data collected in 2015 refer to 2014** as opposed to effort data from logbooks.

III F 2 3 Actions to avoid deviations

No deviations.

III F 3 LANDINGS

III F 3 1 Achievements: Results and Deviation from NP Proposal

All results achieved as planned, no deviation.

III F 3 2 Data quality: Results and Deviation from NP Proposal

As all landings data are derived from the sales notes, which are to be submitted exhaustively by European legislation, it is not meaningful to apply any data quality issues in the context of the DCF.

III F 3 3 Actions to avoid deviations

No deviations.

III G RESEARCH SURVEYS AT SEA

III G 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

In 2015, Germany conducted 12 surveys supported within the DCF and participated in the Atlanto-Scandian Herring Acoustic Survey conducted by Denmark, as well as the Blue Whiting Survey conducted by The Netherlands and Ireland. There were no changes in strategy or design, except when it was co-ordinated with the relevant ICES planning/working group. Of course, the number of hauls and length of hydroacoustic tracks depended on weather conditions as well as on the performance of the equipment and/or of the vessel, but these were for almost all surveys within the range of records for the former survey years. For the number of hauls and sampling activities, refer to Table III.G.1. The following text provides a short description of all surveys carried out in 2015, with a map of the achieved sampling activities.

Note that possible small deviations from days-at-sea planned to days-at-sea achieved are – if not otherwise stated – due to minor adaptations of the 2015 vessel schedule during late 2014 and early 2015.

BALTIC SEA

1 Baltic International Trawl Survey (BITS) in the 1st and 4th Quarter

The BITS in the 1st quarter 2015 was carried out from 24/02 to 14/03 with FRV “Solea”. The BITS survey in the 4th quarter 2015 was conducted from 11/11 to 27/11 also with FRV “Solea”.

Refer to Fig. III.G.1a and III.G.1b for the fishery hauls and hydrography stations conducted on the German parts of the BITS in spring and autumn. Bad weather conditions during the Q1 BITS caused an interruption of three days, leading to the 82% achievement rate.

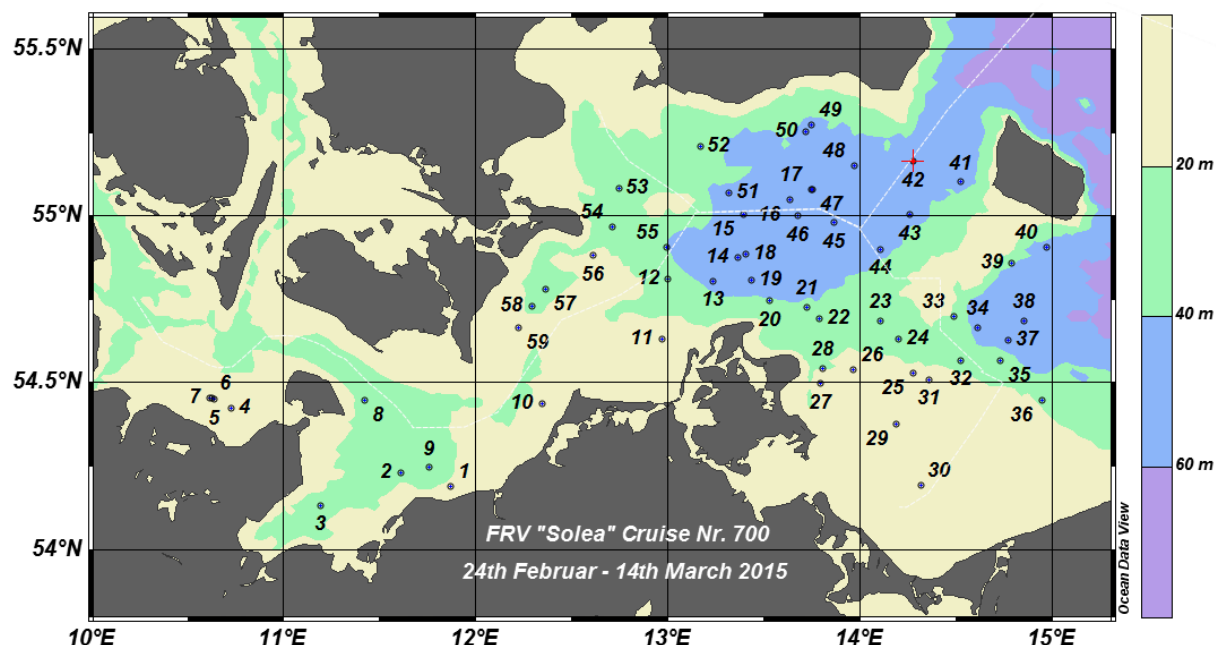


Fig. III.G.1a: Baltic International Trawl Survey – Station grid (BITS, 1st quarter 2015).

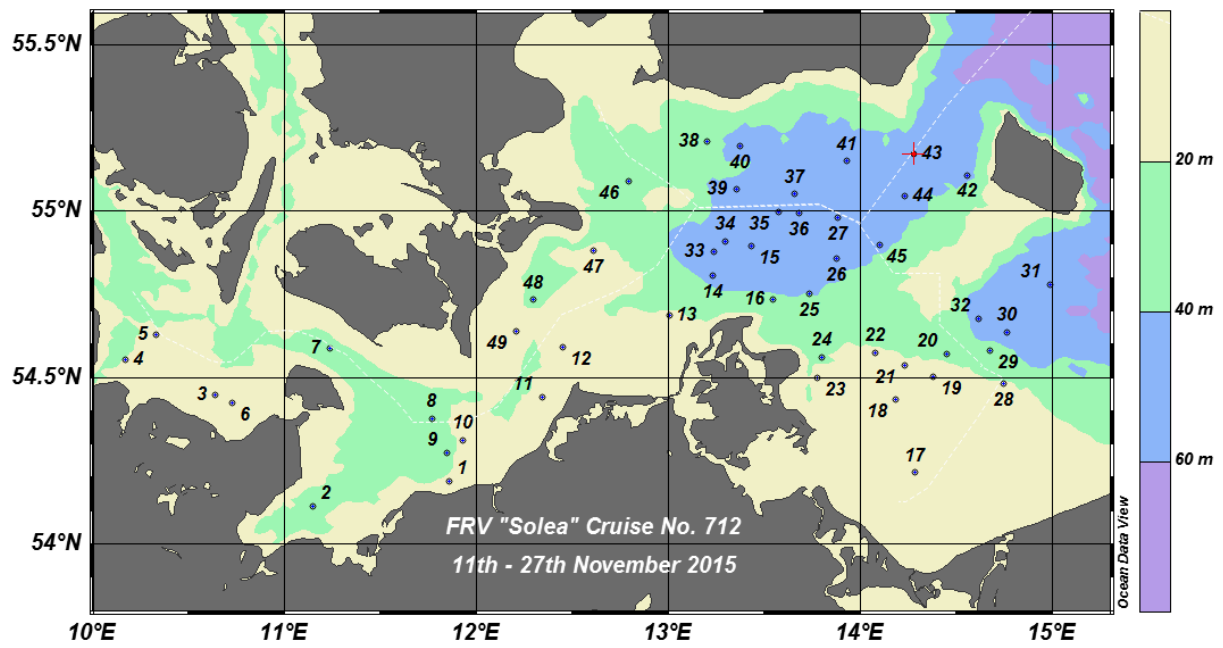


Fig. III.G.1b: Baltic International Trawl Survey – Station grid (BITS, 4th quarter 2015).

2 Baltic International Acoustic Survey (BIAS)

The survey took place from 01/10/15 to 19/10/15 with FRV “Solea”. Refer to Fig. III.G.2 for the cruise track and fishery stations conducted on the German part of the Baltic International Acoustic Survey (BIAS).

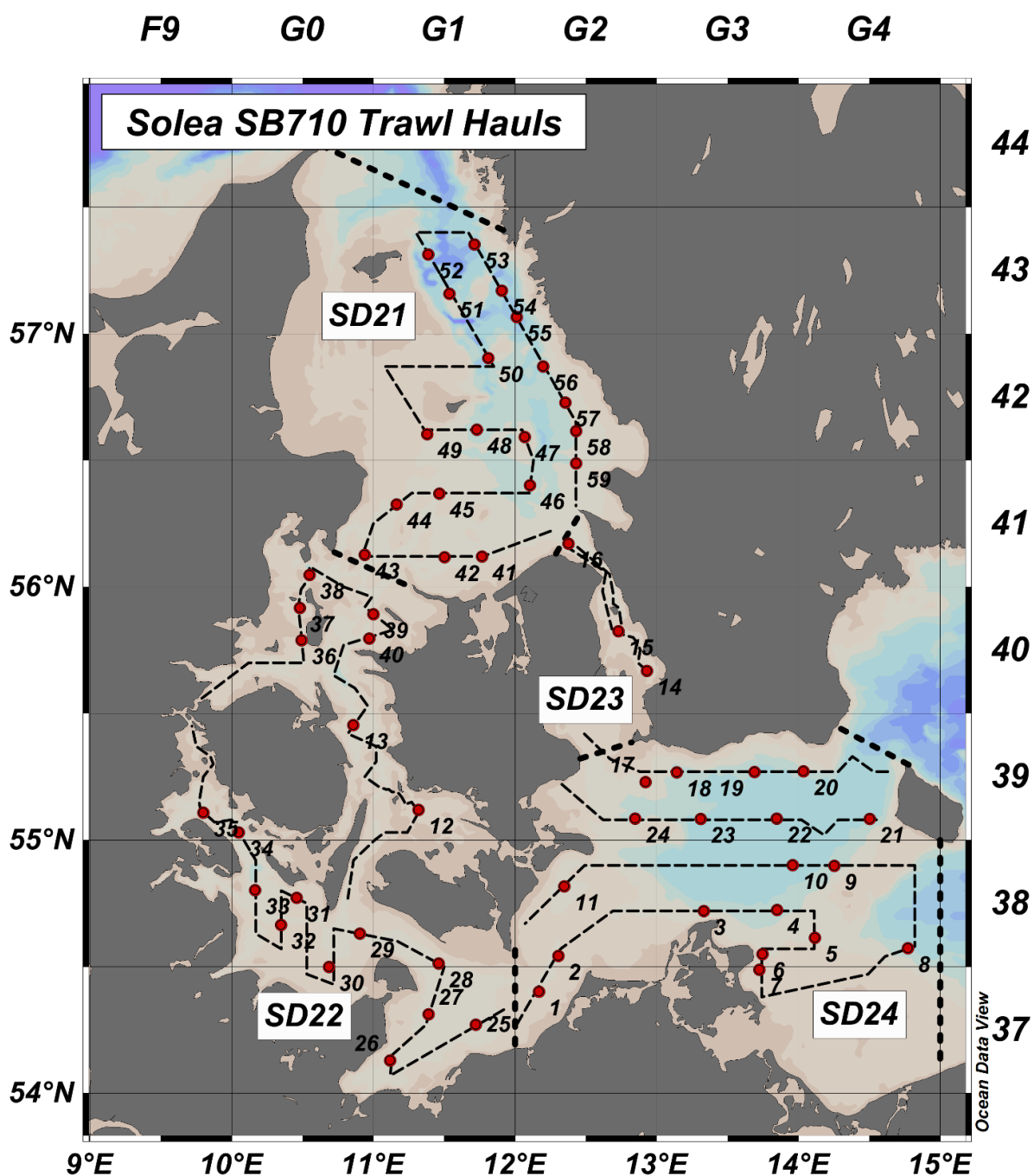


Fig. III.G.2: FRV “Solea” cruise no. 710 in 2015. Cruise track (lines) and fishery hauls (red dots). ICES statistical rectangles are indicated in the top and right axis. Thick dashed lines separate ICES subdivisions (SD).

3 Baltic Sprat Acoustic Survey

The survey took place from 30/04/15 to 21/05/15 with FRV “Walther Herwig III”. Refer to Fig. III.G.3 for the cruise track and trawl stations conducted on the German part of the Baltic Sprat Acoustic Survey (SPRAS).

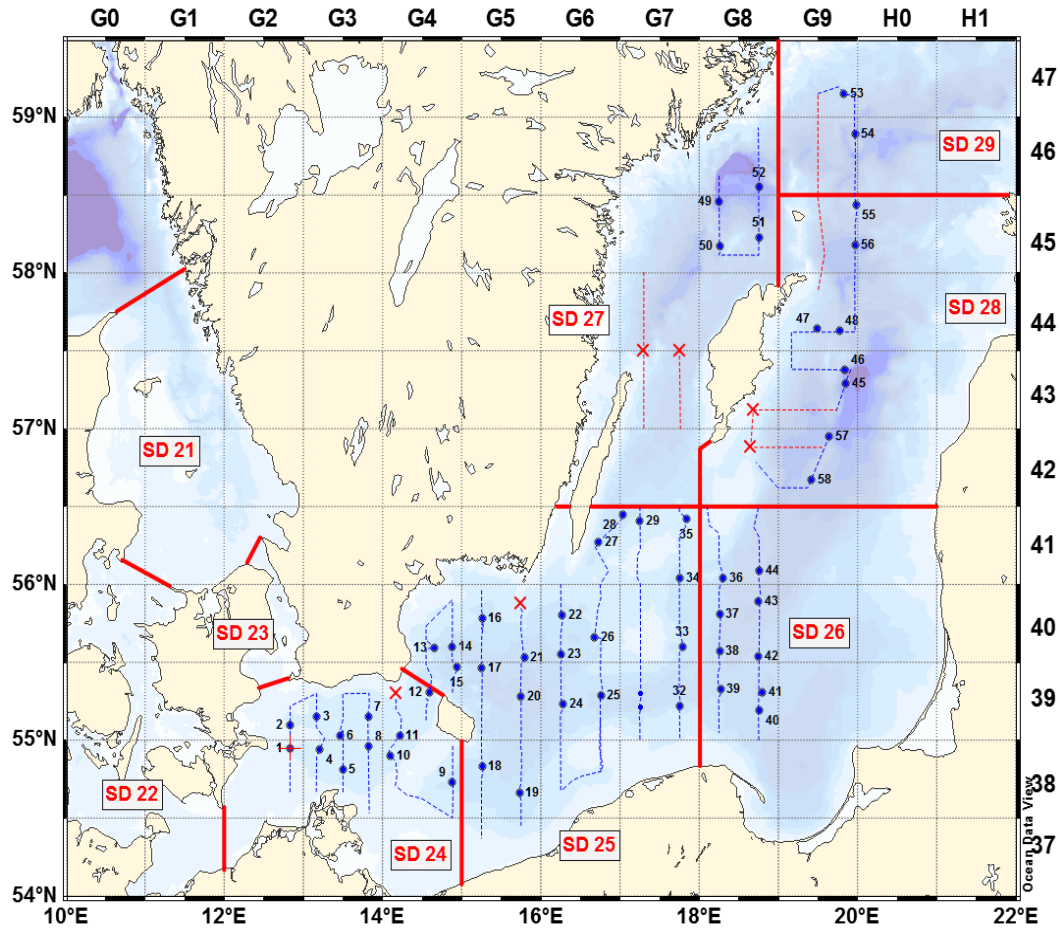


Fig. III G.3: FRV “Walther Herwig III” cruise no. 384 in 2015. Hydroacoustic tracks and trawl stations (red marked: tracks and stations not approved by Swedish authorities).

4 Rügen Herring Larvae Survey

The Rügen Herring Larvae Survey (RHLS) in the western Baltic (ICES area IIIId/ 24) took place during 15 weeks from March-June on FRV “Clupea”. During the entire sampling period, 3 days had to be deleted due to bad weather conditions. In addition to the regular survey period, the last week of February was included since the retreating ice cover allowed for it. In November, an additional survey part (3 days) was conducted to control for abundance of herring larvae from autumn spawning stocks. Figure III.G.4 shows the survey area and station grid. 100% of the planned sampling programme could be realised.

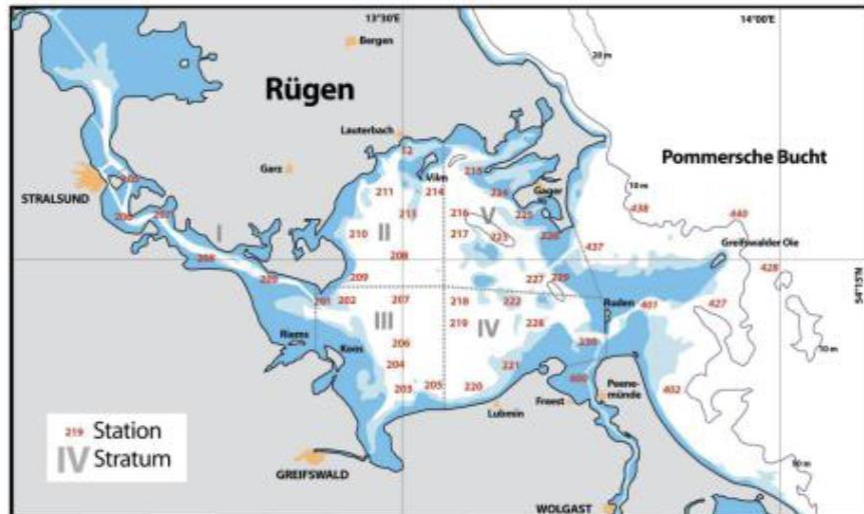


Fig. III G.4: Rügen Herring Larvae Survey in 2015. Stations for ichthyoplankton hauls and corresponding strata.

5 International Bottom Trawl Survey (IBTS) in Quarter 1

In 2015, the survey in quarter 1 was conducted from 22/01/15 to 20/02/15 on FRV “Walther Herwig III”. Occurring shortfalls were under the margin of 10%. Please refer to Fig III.G.5 for the allocation of the fishing positions.

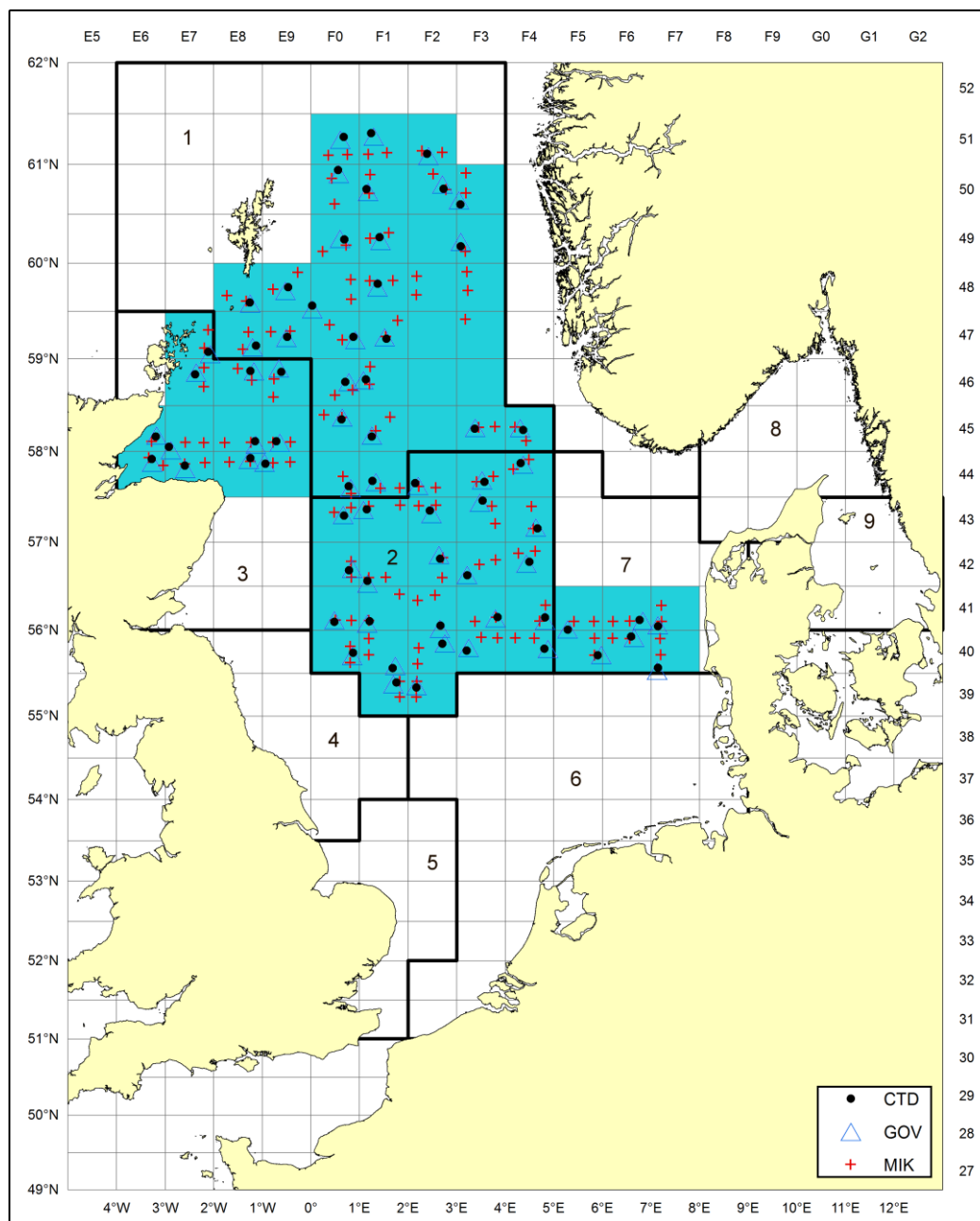


Fig. III G.5: International Bottom Trawl Survey (IBTS) 1st quarter 2015. GOV-hauls, CTDs and MIK-stations within the “Walther Herwig III” cruise are marked with symbols (see legend).

6 International Bottom Trawl Survey (IBTS) in Quarter 3

The IBTS in quarter 3 was conducted in conjunction with a national survey from 27/07/15 to 21/08/15 on FRV “Walther Herwig III”. 10 days within this period were devoted to the IBTS, the other days to a programme on national expenses (German Small-scale Bottom Trawl Survey, GSBTS). In accordance with the ICES IBTSWG, a haul duration experiment was conducted during the survey, leading to a slight overshooting of the achievement rates. Please refer to Fig. III.G.6 for the cruise track of the German part of the IBTS in quarter 3.

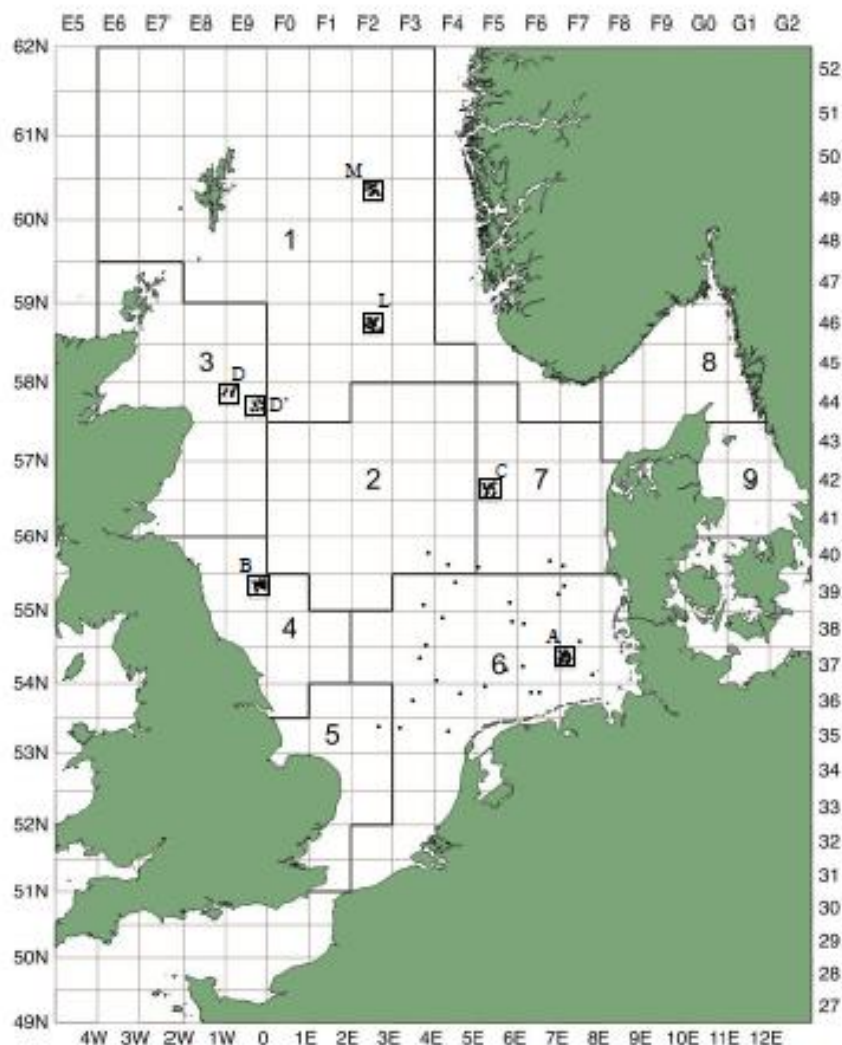


Fig. III.G.6: International Bottom Trawl Survey (IBTS) 3rd quarter: GOV hauls and CTD stations of FRV Walther Herwig III cruise no. 386, IBTS stations and stations in Boxes A – D, L and M.

7 North Sea Beam Trawl Survey (BTS)

In 2015, the survey took place from 17/08/15 to 31/08/15 on FRV “Solea”. Fig. III.G.7 shows the trawl positions of the German part of the BTS in 2015. 19 additional hauls (= 6 additional statistical rectangles) were carried out due to changed requirements of ICES WGBEAM leading to an oversampling of 143%.

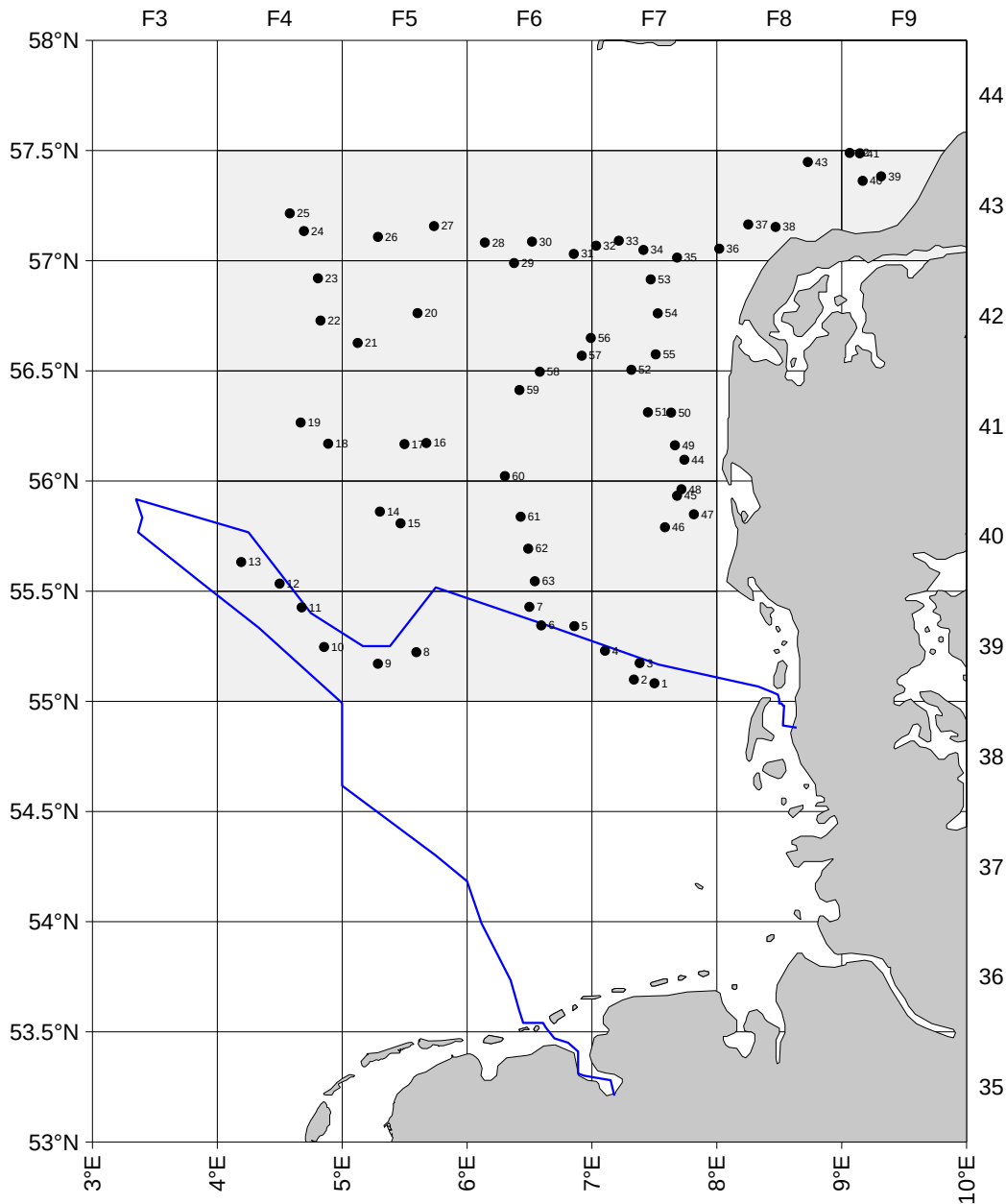


Fig. III.G.7: North Sea Beam Trawl Survey (BTS). Trawl positions 2015.

8 Demersal Young Fish Survey (DYFS)

The German part of the survey, which is conducted Germany and The Netherlands, consisted of six components (short trips on chartered small fishing cutters and FRV “Clupea”) which took place in five different areas (Fig. III.G.8) in Sep/Oct 2015. Since the new German research vessel FRV “Clupea” came in operation in 2012, it was possible to improve the regional coverage and sampling intensity along the German coastline. In accordance with ICES WGBEAM and WGCran, “Clupea” fished for 12 days in that area to improve data for the combined surveys, which resulted in a considerable increase of achieved days at sea as well as hauls achieved.

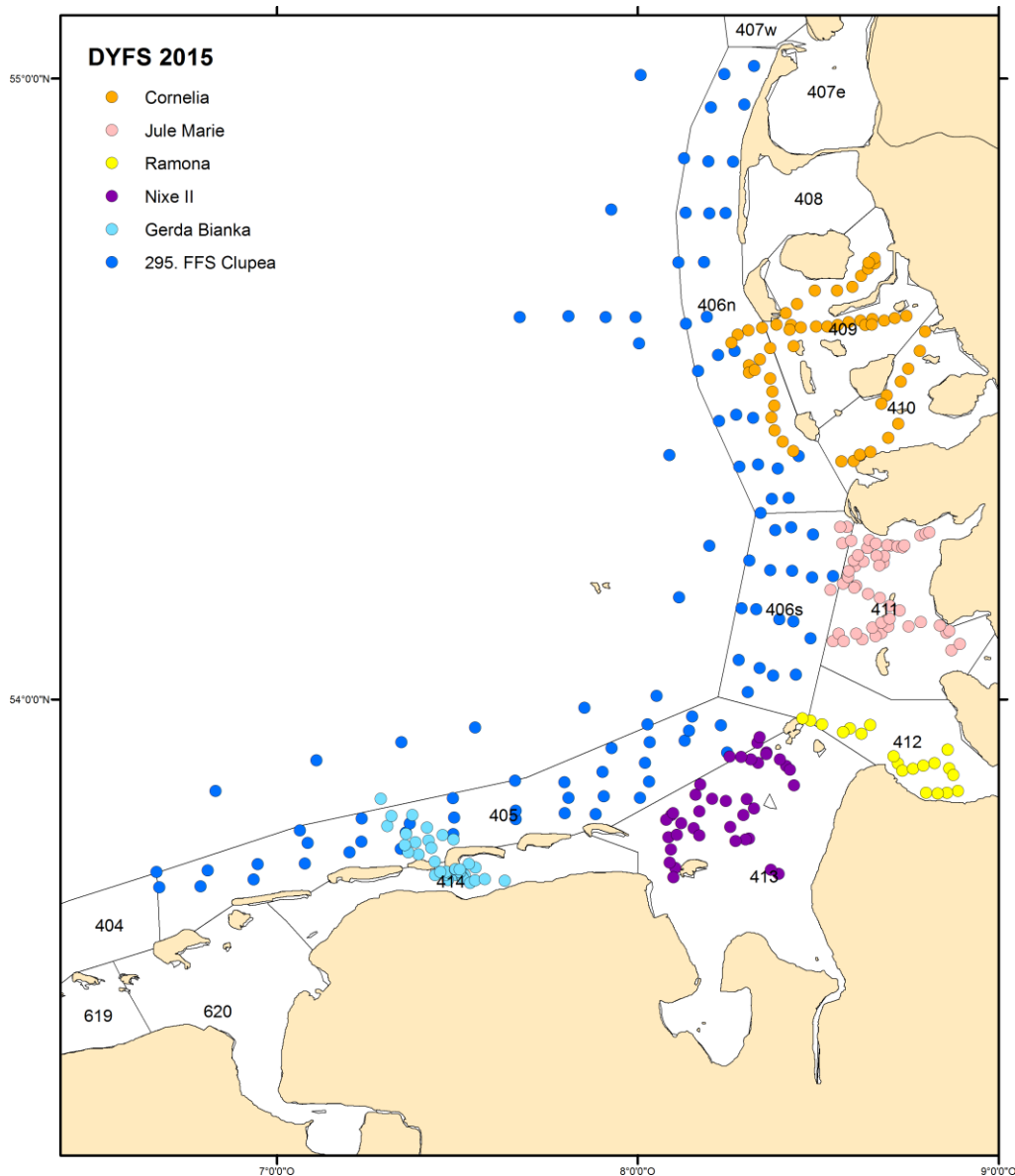


Fig. III.G.8: Stations sampled in the German DYFS 2015.

9 International Ecosystem Survey in the Nordic Seas

Germany participated in this survey with one scientist and contributed to the financial share in order to support Denmark to conduct the survey. The survey took place from 11/05/15 to 23/05/15.

10 International Redfish Survey (Norwegian Sea)

Based on the decision of ICES WGIDEEPS, no survey was planned in 2015.

11 Herring Larvae Survey (North Sea)

The herring larvae surveys took place in the Channel area of the North Sea from 04/01/15-15/01/15. A series of storms and depressions prevented any sampling activity in January 2015. Therefore, no sampling track is available. In the Orkney/Shetland area the herring larvae survey was carried out from 22/09/15-02/10/15 on FRV “Walther Herwig III”. Fig. III.G.11 b) shows the positions of the plankton hauls. In the September survey, all stations around the Orkneys were covered as planned with some additional sampling in the Buchan area. However, the Buchan area is shared by The Netherlands and Germany. The remaining stations were sampled by The Netherlands. This ensured a full sampling coverage.

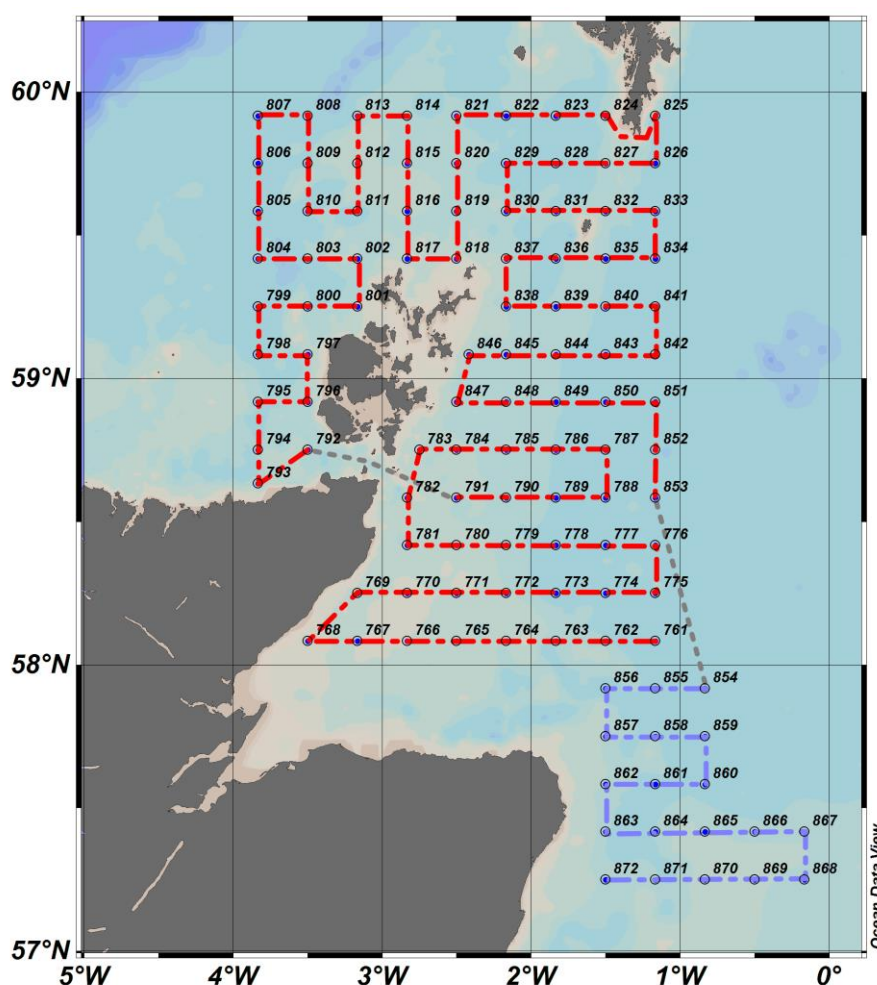


Figure III. G 11b: Cruise track WH 388 (September 2015, dotted red line: Orkney/Shetlands area, dotted blue line: Buchan area).

12 North Sea Herring Acoustic Survey

The survey took place from 26/06/15 to 15/07/15 on FRV “Solea”. Fig III.G.12 shows the cruise track and trawl positions of the German part of the North Sea Herring Acoustic Survey. Due to very favorable weather conditions, the whole survey area could be covered as planned and it was possible to undertake more validation hauls as planned.

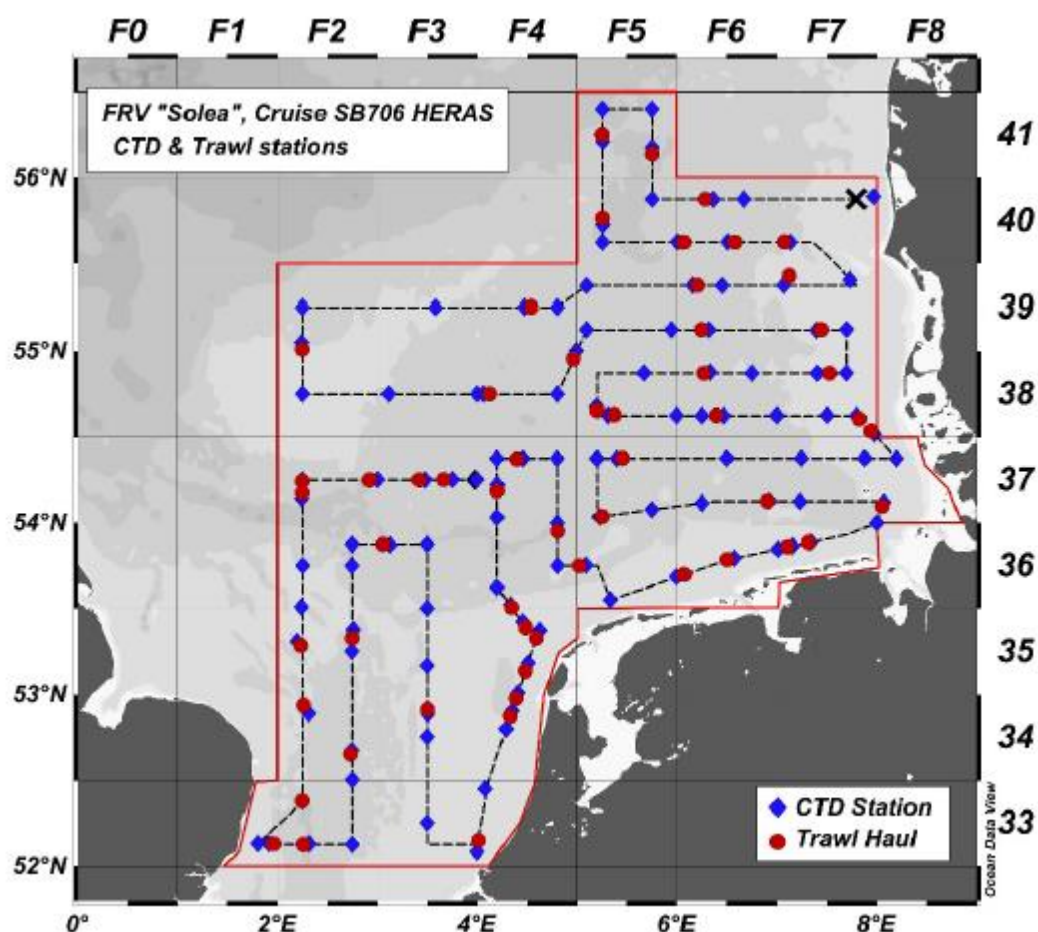


Fig. III.G.12: North Sea Herring Acoustic Survey 2015. FRV „Solea“, cruise 706. Cruise track (dotted line), trawl stations (red dots) and CTD casts (blue diamonds). ICES statistical rectangles are indicated in the top and right axis. The red line delineates the assigned survey area.

13 International Redfish Trawl and Acoustic Survey

The German part of the survey was carried out from 18/06/15-19/07/15 on FRV "Walther Herwig III". Fig. III.G.13 shows the hydro-acoustic cruise tracks.

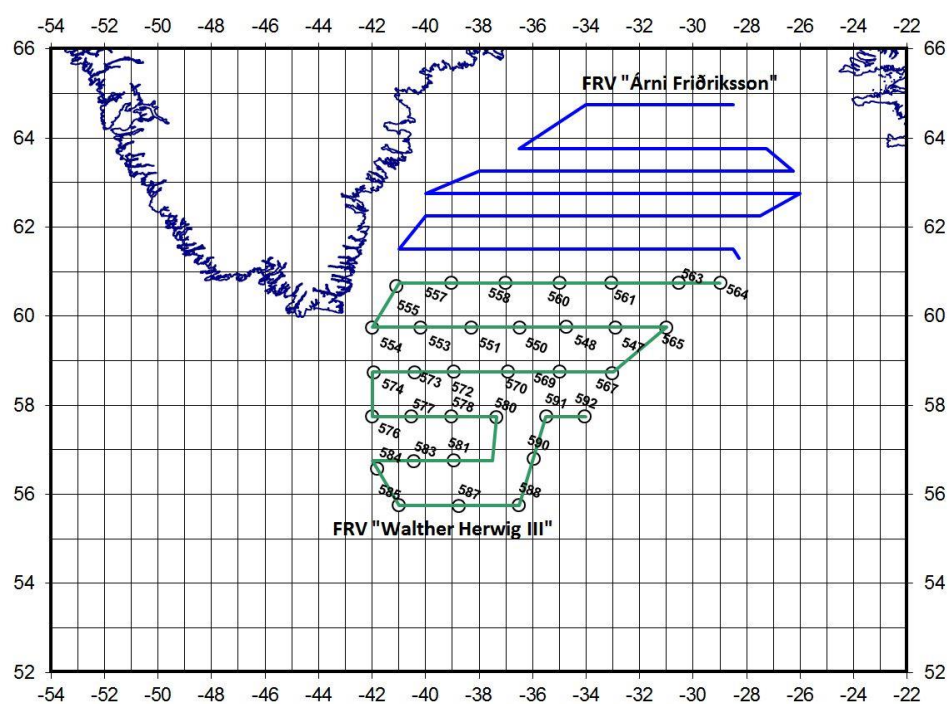


Fig. III.G.13: International Redfish Trawl and Acoustic Survey 2015. Hydroacoustic survey tracks (green line) and hydrographic stations of FRV 'Walther Herwig III'. The tracks of the Icelandic vessel (blue line) are indicated as well.

14 Greenland Groundfish Survey

The Greenland Groundfish Survey was carried out from 08/10/15-17/11/15 on FRV “Walther Herwig III”. Fig III.G.14 shows the investigation area. There were no shortfalls due to very favorable weather conditions, so that survey goals were again fully achieved in a shorter time than anticipated.

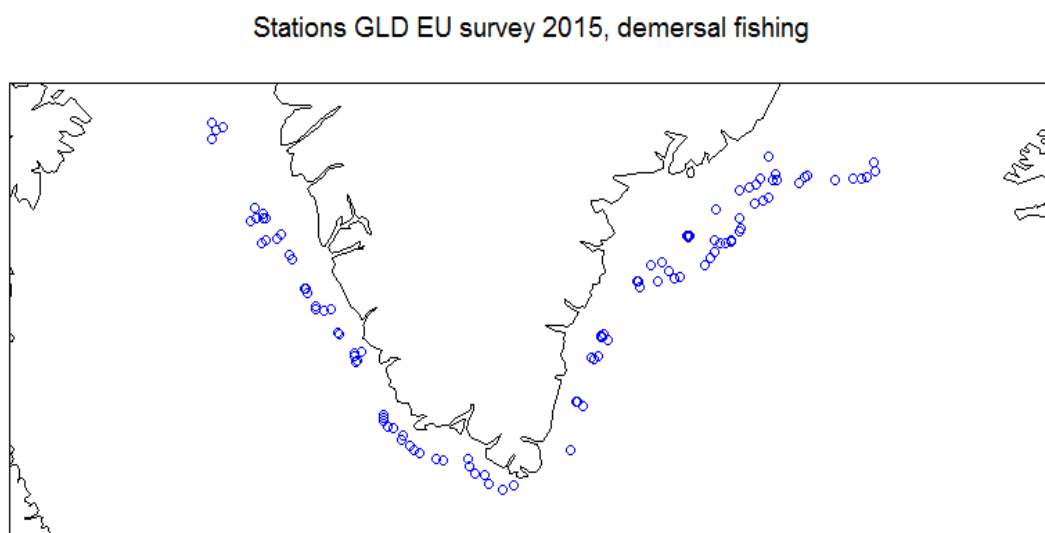


Fig. III.G.14: Greenland Groundfish Survey 2015. Blue circles mark the positions of fishing hauls within the investigation area.

15 Blue whiting survey

Germany participated in this survey and provided staff (one scientist) for the Dutch part of the survey and contributed to the financial share in order to support The Netherlands and Ireland to conduct the survey. The Dutch part of the survey took place from 22/03/15 to 10/04/15.

16 Mackerel and Horse Mackerel Egg Survey

The survey was not carried out in 2015, as the survey is conducted triennially. The next survey year is 2016.

III G 2 DATA QUALITY: RESULTS AND DEVIATION FROM NP PROPOSAL

The reasons for occurring shortfalls are explained in the section above. Changes in survey design were only made within the requirements of the responsible planning/working groups.

III G 3 ACTIONS TO AVOID DEVIATIONS

Bad weather conditions: No action is possible.

Technical problems: Vessels and equipment are always kept in good conditions; however, sudden technical problems cannot be prevented.

IV MODULE OF THE EVALUATION OF THE ECONOMIC SITUATION OF THE AQUACULTURE AND THE PROCESSING INDUSTRY

IV A COLLECTION OF ECONOMIC DATA FOR THE AQUACULTURE

IV A 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

According to Decision 2010/93/EU, it is mandatory to collect data on marine aquaculture and for eel and salmon companies. As there are no salmon aquaculture companies in Germany, only data for companies producing marine species and eels are in the focus of the German programme. In the respective NP for 2015, Germany planned to sample the eel aquaculture plants. Unfortunately, as the owners of the plants were not willing to answer very specific questionnaires especially due to confidentiality reasons, Germany has no data for those eel plants in 2015. Due to confidentiality reasons, a publication would not have been possible anyway. 925 of the 926 tonnes annual production are produced in only three companies. The confidentiality issue is relevant for the only oyster farm in Germany as well. Hence, Germany can only provide production value numbers for the oyster and eel farms.

For the blue mussel business, data are more easily available as they are part of the fleet. In addition to the data coming from logbooks and landing statistics, a questionnaire has been used and telephone calls with the producer organisations were made in order to verify the figures. The results are given in Tables IV.A.2 and IV.A.3. Additionally, a thorough investigation of the cost structure in the sector has been undertaken (see e.g. Buck et al. 2010). The results have been used for cross-checking of the sample data in order to ensure the data to represent the sector appropriately. The data from this study have been updated in a project in 2015.

The stable number of questionnaires answered seems to be a success of Germany's strategy to visit trade fairs, to take part in activities of the farmers during the mussel season and to conduct research projects in the mussel sector in order to support the blue mussel business.

IV A 2 DATA QUALITY: RESULTS AND DEVIATION FROM NP PROPOSAL

The results are presented in Table IV.A.3 with the values of the indicators. Unfortunately, a column for the values of the coverage rate is absent since the last AR period. So Germany assumed that the provision of further indicators is not mandatory in this table anymore.

As the answer to the questionnaire is not mandatory and given the thorough analysis of the sector by Buck et al. (2010), the achieved sampling rate seems to be sufficient even if the planned rate of 100% was not reached. Employment data have been taken from the Federal Employment Agency and from the questionnaire. Indicators on employment presented here are related to the questionnaire.

IV A 3 ACTIONS TO AVOID DEVIATIONS

Eel and oyster farms have been contacted directly by phone call. As the results could not be published due to confidentiality reasons, Germany stated in its AR 2011pp. that it assumes these actions to be sufficient also in the following years. This means that questionnaires have been sent to the oyster company and phone calls to the eel producers have been made, but no further actions are undertaken if no response is the result in this segment. This has been accepted in former years. For the blue mussel segment, data seem to be sufficient and no further actions will be undertaken as long as the quality of the results remain the same. Even if not mandatory, Germany tries to collect data on profitability of recirculation systems in the following years as well, since there is a trend to build and operate more of these closed systems.

IV B COLLECTION OF DATA CONCERNING THE PROCESSING INDUSTRY

IV B 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

Data have been collected by the Thünen Institute of Sea Fisheries and the Federal Statistical Office (Details are mentioned in the NP) and since 2012 for employment also from the Federal Employment Agency. Results are presented in Tables IV.B.1 and IV.B.2 with the information collected during the sampling year 2015. As it is less useful to fill in standard tables with information from the past that is not accurate anymore, in particular that has not been accurate for the reporting/collection year, Germany ignored the colouring in the standard table for this module and adapted the table to the figures that were the basis for the year in which data were collected, and not the figures from more than four years in the past. This has been accepted already for all recent AR periods.

Since enterprises with 20 and more employees are responsible for more than 90% of sector's sales and employment, low response rates in the segments with fewer employees do not affect the results in terms of representation of the sector eminently. The data collected represent between 80% and 100% of the sector's total sales. The exceptions are data for debt and net value of assets. Here, the willingness to provide data voluntarily differs distinctly. Nonetheless, the coverage rate is still above 30%.

As in all former years, data for debt are calculated from the interest payment of the enterprises, taking market interest rates for enterprises. Then it is compared to the data from those enterprises, that have provided data, to check if the amount is in an appropriate range and otherwise adapted to the values from the sample, as in the years before. Different company sizes are taken into account by a weighting factor, based on the sales volume. In Table IV.B.2, the response to the questionnaire is reported.

Even if not mandatory, Germany asked for the volume of fish raw material, the species, the region where it came from (Germany/EU/Rest of the world) and if it was fish from wild catch or from aquaculture.

IV B 2 DATA QUALITY: RESULTS AND DEVIATION FROM NP PROPOSAL

Results of the data quality evaluation may be found in Table IV.B.2 with the values of the indicated "accuracy indicators". As there are no further columns for other accuracy indicators, Germany did not provide values e.g. for the coverage rate, as it is obviously not mandatory anymore.

This procedure is equivalent to the accepted procedure for the former reporting years.

IV B 3 ACTIONS TO AVOID DEVIATIONS

Not relevant. Only a remark: If other "accuracy indicators" are mandatory to report, which is not clear, than standard tables shall provide a respective column. If not, it should be stated in the text summarizing the changes to former years.

V MODULE OF THE EVALUATION OF EFFECTS OF THE FISHING SECTOR ON THE MARINE ECOSYSTEM

V 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

No deviations occurred in 2015.

V 2 ACTIONS TO AVOID DEVIATIONS

not relevant

VI MODULE FOR MANAGEMENT AND USE OF THE DATA

VI 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

Central database services were provided at the BLE in Bonn as in previous years, without deviations from the aims set out in the NP.

Several data calls (Annual Economic Report, Fisheries Dependent Data, fishPi project, RCMs, ICES assessment WGs) had to be answered in 2015. Table VI.1 lists all relevant data calls and specifies the achievement rates (“fully addressed and in time for deadline” in all cases).

VI 2 ACTIONS TO AVOID DEVIATIONS

not relevant

VII LIST OF ACRONYMS AND ABBREVIATIONS

Acronym/ Abbreviation	Explanation
AFWG	ICES Arctic Fisheries Working Group
AR	Annual Report
BITS	Baltic International Trawl Survey
BLE	Bundesanstalt für Landwirtschaft und Ernährung (Federal Agency for Agriculture and Food)
BMI	Bundesministerium für Inneres (Ministry for Internal Affairs)
BMEL	Bundesministerium für Ernährung und Landwirtschaft (Ministry for Food and Agriculture) [formerly BMELV]
CPUE	Catch per unit effort
CTD	Conductivity-Temperature-Depth probe
DATRAS	Database for trawl surveys
DCF	Data Collection Framework
DYFS	Demersal Young Fish Survey
EU	European Union
EWG	Expert Working Group (of STECF)
FADN	Farm Accountancy Data Network system
FI	TI Institut für Fischereiökologie (Institute of Fisheries Ecology)
FTE	Full time employment
FWS	Freshwater species (target species assemblage)
FYK	Fish traps
GNS	Set nets/Gill nets
GT	Gross Tonnage
HAWG	ICES Herring Assessment Working Group
JRC	Joint Research Centre
IBTS	International Bottom Trawl Survey
IBTSWG	ICES International Bottom Trawl Survey Working Group
ICES	International Council for the Exploration of the Sea
kW	kilowatt
LDF	Long-distance Fisheries
LOA	Length overall
MIX	Mixed fisheries
MV	(Federal Country of) Mecklenburg-Vorpommern
NACE	Statistical classification of economic activities in the European Community (Nomenclature statistique des Activités économiques dans la Communauté Européenne)
NAFO	Northwest Atlantic Fishery Organisation
NASC	Nautical Area Scattering Coefficient
No	Number
NP	National Programme
NR	Not relevant
NWWG	ICES North-Western Working Group
OF	TI Institut für Ostseefischerei, Rostock (Institute of Baltic Sea Fisheries)
OTB	Otter trawl bottom
OTM	Otter trawl midwater
PGCCDBS	ICES Planning Group on Commercial Catch, Discards and Biological Sampling
PTB	Two ship trawl bottom
PTM	Two ship trawl midwater

RCM	Regional Co-ordinating meeting
Reg.	Regulation
SC	Scientific Council
SF	Institut für Seefischerei, Hamburg (Institute of Sea Fisheries)
SGECA	STECF Subgroup on Economic Affairs
SGRN	STECF Subgroup on research need and data collection
SH	(Federal Country of) Schleswig-Holstein
STECF	Scientific, Technical and Economic Committee for Fisheries
TAC	Total allowable catch
TBB	Beam trawl
TI	Johann Heinrich von Thünen-Institute, Federal Research Institute for Rural Areas, Forestry and Fisheries
TTB	Twin trawl (Special gear which is used by the demersal fishery)
UK	United Kingdom
WG	Working Group
WGBAST	ICES Baltic Salmon and Trout Assessment Working Group
WGBEAM	ICES Working Group on Beam Trawl Surveys
WGBIFS	ICES Baltic International Fish Survey Working Group
WGBFAS	ICES Baltic Fisheries Assessment Working Group
WGFAST	ICES Working Group on Fisheries Acoustic Science & Technology
WGIDEEPS	ICES Working Group on International Deep Pelagic Ecosystem Surveys
WGIPS	ICES Working Group for International Pelagic Surveys
WGMEGS	ICES Working Group on Mackerel and Horse Mackerel Egg Surveys
WGNSSK	ICES Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerak
WGRFS	ICES Working Group on Recreational Fisheries Surveys
WGWIDE	ICES Working Group on the Assessment of Wide Distributed Species
WKBALTCOD	ICES Benchmark Workshop on Baltic Cod Stocks
WKBALFLAT	ICES Benchmark Workshop on Baltic Flatfish Stocks
WKFLABA	ICES/HELCOM Workshop on Flatfish in the Baltic Sea

VIII COMMENTS, SUGGESTIONS AND REFLECTIONS

Layout of standard tables: Drop-down menus in all cells are not helpful for filling the cells in the standard tables. Overall, the set of standard tables needs to be cleaned from formats and linkages to old data files. In the current format, various error messages pop up when opening the file and filling the cells.

IX REFERENCES

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X ANNEXES

ANNEX 1: MINUTES OF NATIONAL CO-ORDINATION MEETING 2015 [IN GERMAN]

Nationales DCF-Jahrestreffen 2015

Thünen-Institut, Hamburg, 01.12.2015, ca. 10:00 – 16:30

Protokoll

Teilnehmer:

BLE: Steffen Holz, Wolfgang Wern (Vormittag)

TI-FI: Marko Freese, Jan-Dag Pohlmann

TI-OF: Steffen Hagemann, Thomas Hogh, Dr. Uwe Krumme, Dr. Patrick Polte, Sven Stötera, Simon Weltersbach

TI-SF: Sakis Kroupis, Eckhard Leu, Timo Meißner, Kay Panten, Philipp Schweizer, Dr. Christoph Stransky, Thilo Weddehage, Finn Werner

1. Nutzung von erhobenen biologischen Daten

In den letzten Jahren hat die Erhebung und Archivierung von Daten bei der Beprobung zugenommen. So werden zusätzlich zu den Grunddaten (wie etwa Länge, Gewicht und Alter) häufig auch Daten zum Geschlecht, Reife sowie Parasiten erhoben. Die Beprober aus SF und OF fragten daher nach der tatsächlichen Nutzung dieser Daten, wie etwa dem eingelagerten zweiten Otolithen oder der Erfassung von Reifegraden bei Plattfischen.

Diese Daten werden auch derzeit schon bei verschiedenen, teils sehr aktuellen Fragestellungen genutzt – allerdings ohne das „an die große Glocke“ zu hängen. Eine vollständige Datenerfassung ist Teil der Strategie, aus dem mit hohem Aufwand gewonnenen Probenmaterial das Maximum an Information herauszuholen – auch wenn die gewonnene Information nicht immer sofort z.B. für das Assessment genutzt wird.

Eine Archivierung solcher Daten macht auch für zukünftige Fragestellungen durchaus Sinn, etwa bei sog. Benchmarks (Assessment-Workshops mit grundsätzlicher Prüfung der Eingangsdaten und Modelle; kürzlich geschehen z.B. bei der Ostseescholle), da dort häufig Zeitreihen benötigt werden, um differenzierte Einschätzungen geben zu können (i.d.R. sind mindestens 5 Jahre erforderlich).

Die Verfügbarkeit solcher Daten wird teilweise auch bekannt gemacht, etwa im Rahmen von ICES Arbeitsgruppenberichten (wie etwa WKGIC für Otolithenzeitreihen oder WKMSGAD für Reifeschlüssel von Gadiden).

Eine Rückmeldung zwischen Datenerhebern und Datennutzern (z.B. Assessment-Verantwortliche) sollte regelmäßig erfolgen, um zu klären, wieviel tatsächlich benötigt wird. Wichtig ist hier, klar zu priorisieren, welche Daten in der Verarbeitung Vorrang haben.

Der Zugriff auf diese Daten wird derzeit über internationale Datenbanken geregelt, welche aggregierte Daten zur Verfügung stellen. Dort muss die Vergleichbarkeit, etwa durch Umwandlung nationaler Reifeschlüssel, gewährleistet sein, was bisher nicht in allen Fällen erfolgt. Im Falle von OF und SF werden die Daten allerdings, soweit bekannt, bereits im

internationalen Format bereitgestellt. Sämtliche Berichte von Alterslese- und Reifeworkshops sind beim ICES zentral einsehbar (Data Quality Assurance Repository: <http://www.ices.dk/community/Pages/PGCCDBS-doc-repository.aspx>).

Das OF erhebt Parasitendaten von Ostseedorschen für eigene Fragestellungen, aber auch um die Zusammenarbeit zwischen OF und FI in diesem Bereich zu stärken.

2. Datenerhebung

Wie wird beprobt? Wie gehen wir mit den Kuttern um, die uns nicht mitnehmen und die Zusammenarbeit ablehnen?

TI-OF: Seit 2012 wird ein zufallsbasiertes Beprobungsschema implementiert, aufgeteilt nach aktiver/passiver Flotte für die wichtigsten Bestände. Alle Telefonate werden notiert und „rejection rates“ (d.h. keine Kooperation von Seiten des Kapitäns) und „refusal rates“ (d.h. Anteil an Kontaktversuchen, die nicht zu einer Probe/Mitfahrt führten) werden bestimmt. Weitere Ausführungen dazu siehe Punkt 6.

Für Schiffe, die seit Jahren nicht mit uns zusammenarbeiten wollen, aber signifikante Anlandungen tätigen, werden wir für 2016 keine Sonderfangerlaubnis mehr beantragen. Das ist derzeit die einzige Möglichkeit für uns, die „Abweichler“ nach außen hin kenntlich zu machen. Wichtig in der Kommunikation mit der Fischerei ist das Argument, dass sie durch ihre Entscheidung, keine Beprober mitzunehmen, die Unschärfe unserer Abschätzungen vergrößern. Je weniger Fischer mit uns zusammenarbeiten, umso größer wird die Ungenauigkeit der Quotenempfehlungen und die Tendenz des Fischereimanagements, mit vorsichtigen Bewirtschaftungsempfehlungen an „datenarme“ Bestände heranzugehen.

TI-SF: Nur für die Krabbenkutter wäre eine Zufallsauswahl wegen der hohen Anzahl sinnvoll, allerdings ist die Ablehnung („rejection“) sehr hoch, so dass nur wenige Kutter tatsächlich beprobt werden. Es ist zu klären, inwieweit dies einem „statistically sound sampling scheme“ entspricht und wie gut bereits 5 von ca. 250 Schiffen das Fischereiverhalten widerspiegeln können. Um die Ablehnung zu verringern, würden die Beprober sich offizielle Mitnahmeanweisungen wünschen. Offizielle Dokumente würden möglicherweise den Kontakt zwischen den Fischern verbessern, da diese sich dann gegenüber ihrer Kollegen auf den „Zwang“ berufen könnten, einen Beprober mitgenommen zu haben. Die Mitnahme indes ist zwar gesetzlich geregelt (DCF, VO 199/2008 Art. 11.3), allerdings ist ein Nachweis der erlaubten Ablehnungsgründe (VO 199/2008 Art. 11.4: „zu wenig Platz“, „kann Sicherheit nicht gewährleisten“) schwer zu erbringen. Es wurden außerdem Bedenken geäußert, dass Änderungen im Fangverhalten auftreten, sobald ein Beprober an Bord mitfährt. So wurden z.T. andere Fangplätze angefahren oder Fänge zurückgehalten. Dies ist in der Literatur als „observer bias“ gut untersucht.

Auch das TI-SF ist verpflichtet, Abschätzungen zu den Ablehnungsraten durch die Fischerei beim ICES anzugeben. Darum wird nochmals auf die Wichtigkeit des Eintrags in die Excel-Tabelle „Kontakte Kutter“ hingewiesen. Hier muss klar sein, ob der Fischer der Mitnahme ablehnt - und aus welchen Gründen - oder ob eine Fahrt zustande kommt.

3. Anlandepflicht

Am 01.01.2015 ist die Anlandepflicht für den Ostseedorsch und –lachs sowie die pelagischen Fischereien in Nord- und Ostsee in Kraft getreten. 2015 wird allerdings als Übergangsjahr angesehen, so dass Verstöße gegen das Anlandegebot noch nicht geahndet wurden und auch die Informationen in den Logbüchern noch nicht harmonisiert erfasst werden. Die BLE hat bereits festgestellt, dass weit weniger Fische der Kategorie „BMS“ (below minimum size) angelandet wird, als die Fischereien es erwarten lassen würden. Hochrechnungen ergeben beispielsweise einen Wert von 1-2% Beifang beim Ostseedorsch. Diese starke Abweichung zwischen BMS-Anlandung und dem Anteil untermäßigiger Dorsche auf See deckt sich mit den Beobachtungen des OF, das zusätzlich zu der Beprobung auf See seit Jahresanfang auch BMS-Anlandungen in Häfen direkt beprobt.

Eine standardisierte Eintragung dieser BMS-Ware erfolgte bisher noch nicht. Zum 01.01.2016 wird nun der BMS-Teil der Quote zugerechnet, es soll nun jeder Hol mitsamt des BMS-Anteils aufgeführt werden - dies gilt für die Schleppnetzfisherei auf Ostseedorsch. Allerdings wird für die passive Fischerei weiterhin nicht holweise erfasst, wenn die Kutter <8m sind (Monatsmeldung bleibt bestehen).

Nordseescholle und Seehecht fallen ab 2016 ebenfalls unter die Anlandepflicht. Ab 2016 wird Fisch der Kategorie „BMS“ auch auf die Quote angerechnet. BMS-Einträge im Logbuch in 2015 sind inkonsistent, d.h. die Daten sind für uns nicht uneingeschränkt nutzbar. BMS kann z.B. in Verkaufsrechnung und Logbuch eingetragen sein, kann also für eine Reise zweimal auftauchen. Da die eingetragenen Mengen i.d.R. sowieso unrealistisch gering sind, spielen derartige Unschärfen derzeit wahrscheinlich keine große Rolle. Ab 2016 wird außerdem zur Kennzeichnung der BMS-Anteile einer Anlandung die Kategorie „BMS“ im Feld „Verarbeitung“ eingeführt. Dies ist allerdings eine nationale Entscheidung, andere Mitgliedstaaten lösen dies z.B. durch eine neue, zusätzliche Längensortierung.

Eintragung wissenschaftlicher Fänge: Im neuen BLE-IT-System „FIT“ ist eine Trennung von kommerziellen und wissenschaftlichen Fängen noch nicht abgeschlossen. Wissenschaftliche Fänge werden als „LSC“ eingetragen, „DIM“ sind Fänge unter „*de minimis*“-Ausnahmen (Bagatellregelung für beschädigte Fische), „DIS“ sind Discards. Zusätzlich gilt weiterhin, dass Fänge <50 kg nicht ins Logbuch eingetragen werden müssen (VO 2015/1962 = Änderung der Kontroll-VO).

Die Lachsquote der Ostsee wird nur noch als Beifangquote vergeben, eine gerichtete Fischerei auf Lachs entfällt damit. Damit entsteht für das OF das Problem, kommerzielle Lachsfänge in der Ostsee (bisher getätigt von einem Kutter mit Langleine in der Bornholmsee, der sehr gut mit uns kooperierte) überhaupt beproben zu können, da die diffusen Beifanganlandungen keine sinnvolle Beprobung zulassen.

Jahresendzahlen (vollständige Lochbuch- und Anlandedaten) für 2015 werden von der BLE in der 1. bzw. 2. Februarwoche verfügbar sein.

4. Logbuchdaten, Aktualisierungen

Ein elektronisches Logbuch ist inzwischen für Schiffe über 12m Länge verpflichtend. Allerdings ist es möglich, eine Ausnahme zu erhalten, wenn das Schiff ausschließlich in der Deutschen AWZ

operiert ODER das Schiff nur Reisen mit <24 Stunden Dauer nachweisen kann. Viele der älteren Fischer in der Ostsee machen von dieser Regel Gebrauch. Trotz E-Logbuch wird weiterhin eingescannt und es läuft immer noch nicht alles vollautomatisch.

Inzwischen werden die Logbuch- und Anlangedaten quartalsweise aktualisiert auf dem sFTP-Server bereitgestellt. Die BLE wurde gebeten, auf wichtige Änderungen (z.B. Nachlieferungen von Datensätzen) gesondert aufmerksam zu machen.

5. Freizeitfischerei (TI-OF)

Ein kurzer Überblick über die diesjährigen Projekte wurde in einer Präsentation gegeben:

- Eine internationale Telefonstudie erfasste und schätzt europäische Meeresangler. Die Hochrechnung geht von ca. 8 Mio. Meeresanglern in der EU aus, welche zusammen ca. 48 Mio Tage in 2014 geangelt haben.
- Ein Vergleich der nationalen Ostsee-Angelsurveys von 2013 (Briefumfrage) und 2015 (Telefonumfrage) ergab sehr ähnliche Ergebnisse in Bezug auf Anzahl, Kosten und Aktivität der Deutschen Ostseeangler. Die Umfrage ergab außerdem, dass viele Angler eine Einbindung der Freizeitfischerei in den Bestandsschutz befürworten. Eine Mehrheit sprach sich für Limitationen in der Fangmenge, sowie Mindestmaßen und Schonzeiten aus.
- Aalstudie Nord- und Ostsee: Die Auswertung von Fangtagebüchern durch einen Studenten ergaben eine konservative Schätzung der Aal-Entnahme durch Angler in Höhe von 1,5 t (Ostsee) und 4,0 t (Nordsee), was angesichts der kommerziellen Entnahme sehr gering ist. Der Überlebensversuch von 2014 ist in 2015 wiederholt worden.
- Außerdem ist eine Wolfsbarsch-Überlebensstudie durchgeführt worden, die Auswertung erfolgt in 2016.
- Als Schutzmaßnahme für Bestände wurde zudem eine Ködertypenstudie durchgeführt, welche durch die Selektion von Ködern z.B. verschiedene Längensklassen einer Art anspricht.
- Meerforelle: Die Alterslesung von Meerforellen (über die Schuppen) wird zunehmend im TI-OF selbst durchgeführt. Die Abschätzung zur Entnahme von Meeresforellen durch Angler liegt bei ca. 32 t, dem stehen ca. 14 t kommerzielle Entnahme gegenüber. Eine Meerforellen-Stellnetzstudie ist in Kooperation mit „Fisch und Umwelt MV e.V.“ angelaufen

6. DCF Ostsee (TI-OF)

Das statistisch abgesicherte Beprobungsschema, das seit 2012 kontinuierlich verbessert wird, wurde vorgestellt. Nach einer ersten Phase der Über-Stratifizierung basiert die Beprobung demersaler Fischereien derzeit auf drei Schiffslisten: cod2224passive, cod2224active, cod2532active – damit ist auch die Beprobung der Plattfische abgedeckt, da es sich um gemischte Fischereien handelt. Diese Listen umfassen derzeit ca. 120 Schiffe (ca. 60 Schlepper und ca. 60 Stellnetzer). Für Sprotte gibt es nur eine Schiffsliste. Für die Beprobung des Herings in der westlichen Ostsee wird während der Fischereisaison wöchentlich zwischen aktiver und passiver Fischerei gewechselt. Jedes Telefonat wird dokumentiert (ca. 60 Std. reine

Gesprächszeit am Telefon pro Jahr). Es werden Listen geführt, mit denen „rejection“ und „refusal rates“ für jede Schiffsliste bestimmt werden. Die Realität der Beprobung der kommerziellen Fischereien erfordert einige pragmatische Anpassungen in der Durchführung, z.B. Beprobung nach „Expertenurteil“ während der Sommerphase, wenn die Anlandungen gering sind, aber dennoch quartalsweise Schätzungen für den ICES gesammelt werden müssen; Warteschleifen bei der Schiffsauswahl; Entscheidung von Selbstbeprobung durch Fischer oder Beprober an Bord. Bei all diesen Unsicherheiten gilt die Regel: So viele verschiedene Schiffe wie möglich sollen beprobt werden (d.h. es ist besser, 10 Hols auf 10 verschiedenen Schiffen und Reisen zu beproben als 10 Hols auf einer Reise auf einem Schiff). Derzeit werden pro Jahr ca. 40 der 120 Schiffe auf unseren Schiffslisten mindestens einmal beprobt.

Die Verbesserungen, die durch den Wechsel von ad hoc-Beprobung auf ein statistisch abgesichertes Beprobungsschema, erfolgt sind, müssen noch ausgewertet werden (z.B. räumliche Ausweitung, Zugang zu mehr Schiffen, verbesserter Zugriff auf Stellnetzkipper, besseres Verständnis der Dynamik der Fischereien). Derzeit kann die zufallsbasierte Beprobung noch nicht bei den Hochrechnungen der Daten berücksichtigt werden. Auch ist eine Kosten-Nutzenanalyse der Beprobung noch nicht möglich.

7. DCF Nordsee/Nordatlantik (TI-SF)

Die Beprobung erfolgte ähnlich wie 2014, keine größeren Änderungen traten auf. Insgesamt sind 30 Reisen beprobt worden, davon waren drei Reisen Selbstbeprobungen in der pelagischen Fischerei auf Makrele und atlanto-skandischen Hering. Die übrigen 27 Reisen verteilen sich auf 7 Reisen in der Krabbenfischerei, 4 Reisen in der Seezungenfischerei, 1 Reise auf Scholle, 3 Reisen auf Seelachs, 3 Reisen auf Kabeljau und 1 Reise in der gemischten Fischerei auf Seelachs und Kabeljau. Weiterhin wurden in der Hochseefischerei 5 Reisen in der pelagischen Fischerei auf Makrele, Goldlachs/Blauer Wittling, Nordseehering und atlanto-skandischer Hering/Stöcker sowie 2 Hochseereisen auf Kabeljau und eine Reise auf Schwarzem Heilbutt beprobt.

8. Reformprozess DCF, Jahresberichte

Ein Entwurf zur Überarbeitung der Rahmenverordnung („DCF recast“) wurde im Juni von der EU-Kommission vorgestellt, von den Mitgliedstaaten kommentiert und wird z.Zt. im Europäischen Rat verhandelt.

Es gibt kaum Fortschritte durch die EU-Kommission für den neuen Mehrjahresplan (EU MAP) zur Datenerhebung. Die Revision des EU MAP soll am Ende ein Referenzdokument hervorbringen, deren Abschnitte zur biologischen Datenerhebung zusammen mit den Datennutzern (z.B. ICES) in den Regionalgruppen (RCG) besprochen und beschlossen werden sollen. Die Gruppen sollen bei der Gestaltung dieser regionalen Programme weitreichende Entscheidungsbefugnisse erhalten. Die Wirtschaftsdatenerhebung wird durch eine Nachfolgegruppe von PGECON behandelt.

Jahresberichte sollen aber auch weiterhin das Meldeformat bleiben. Die Anforderungen aus dem Jahresbericht 2014 sind für DEU weitestgehend sehr gut erfüllt worden (s. [STECF-Bericht EWG 15-10](#)). Der **Jahresbericht 2015** steht - wie bisher - **zum 31. Mai 2016** an.

9. DCF-Verwaltung: Neuerungen unter dem EMFF (Europäischer Meeres- und Fischereifonds)

Die verwaltungsseitige Dokumentation der DCF-Kosten zur Abrechnung gegenüber der BLE (= EMFF-Verwaltungsbehörde) hat seit einigen Monaten Fr. Hall in Bergedorf übernommen.

Die Stundenzettel für Angestellte im DCF (Vollzeit) fallen nun weg. Die Dokumentation der Arbeitsstunden erfolgt über die elektronische Zeiterfassung (Monatsjournale).

Abrechnungen für Beschaffungen müssen komplett dokumentiert sein (z.B. auch durch Lieferscheine und Vergleichsangebote), da nicht erstattungsfähige über den DCF-Titel gebuchte Kosten in Zukunft direkt dem TI-Haushalt angelastet werden.

Bei Fahrten mit den Dienst-Kfz ist nun der Kilometerstand beim Betanken zu notieren und Kopien des Fahrtenbuchs sind mit einzureichen.

ANNEX 2: EEL SAMPLING

Introduction

The European Eel population (all stages glass eel, yellow eel and silver eel) has decreased drastically during the last century. Albeit an increase in annual glass eel recruitment during the past four years, recruitment is still low (3.7% of the 1960-1979 average in the 'North Sea' and 12.2% in the 'Elsewhere' series). Thus, the stock situation remains critical (ICES 2015).

The European Union Commission adopted a multiannual community program pursuant to Council Regulation (EC) No 199/2008 to establish a community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the common fisheries policy (2008/949/EC). Due to its facultatively catadromous life cycle sampling of European Eel data also in freshwater has become mandatory in this Data Collection Framework (DCF) since 2009.

European eel (*Anguilla anguilla*) data collection in German freshwater habitats

Sampling in Germany started in June 2015. Data collection was coordinated and performed by the Institute of Fisheries Ecology of the Johann Heinrich von Thünen-Institute, the Federal Research Institute for Rural Areas, Forestry and Fisheries, where special, temporal positions for two scientists have been established for the project until the end of 2016. Due to conceivable changes in the DCF (presumably in 2016) the national proposal for the sampling of eel in German River Basin Districts (RBDs) remained unchanged. Consequently, sampling remained similar to the approach described in the "pilot phase" (see below and Technical Reports 2009-2014).

In this "pilot" phase, sampling focused on gathering biological parameters of eel in commercial catches of inland fisheries. During the sampling period from 2011 to 2013 the proposal for the German national program intended the gathering of 600 eels from the Baltic sea and 300 eels from the North Sea, including the respective discharging river basin districts (RBD; according to Water Framework Directive (WFD), see Figure 1). However, recent sampling aimed at 300 eels from Baltic Sea and 600 eels from the North Sea, which has proven to be a more practical and representative approach. Sampling was coordinated with German Regional Authorities in order to meet the requirements of the German Eel Management Plan. Depending on the availability of commercially caught eel in the respective area, sample sizes may vary between RBDs. Exceptions from this approach were made for the RBD Meuse, where (in Germany) no commercial fishery exists and also an exception was made for the RBD Danube, which is not considered a natural habitat of the European eel according to Council Regulation (EC) 1100/2007. Consequently, sampling was not required based on DCF standards. Due to low numbers of commercial fishermen in the RBD Oder no or very few samples were available for German DCF sampling. Therefore, starting already in 2014, eel sampling of river Oder was organized within an official bilateral agreement between Poland and Germany, stating Poland for being responsible for the report of DCF data for the Oder RBD to the EU, granting Germany access to the respective data. A similar approach will be used for future sampling. In total, 674 eels (excluding around 200 eels from the Oder) were sampled in 2015 (see Table 1).

Yellow eels were mostly collected in spring/summer and silver eels in autumn (for detailed information see Table 1 & Fig. 2). Analyses include length, weight, age, sex and maturity (detailed information in the list of biological variables). Although not mandatory under DCF regulations, additional parameters such as infestation with the invasive swim-bladder nematode *Anguillicoloides crassus*, fat content of eel muscle tissue have been analyzed for some eels, partly in cooperation with other institutions (e.g. University Duisburg-Essen, RWTH Aachen, Institute for Environmental Research).

Due to the limited number of commercial fishermen and better comparability, sampling was restricted to only few locations. To optimise sampling, eels were preferably collected downstream in the system (Fig. 2), close to the estuaries. If necessary, exceptions from this general approach were made. At present, no data on the fishery itself were gathered in the frame of DCF. Data collection on eel

fisheries (including fishing efforts) has to be performed as part of the Eel Management Plans under the administrative constraints of Council Regulation (EC) 1100/2007 by German regional authorities.



Figure 1: River Basin Districts (RBD) in the Federal Republic of Germany

Eider, Schlei/Trave, Elbe, Warnow/Peene, Oder, Weser, Ems, Rhine, Meuse and Danube.

According to the submitted Eel Management Plans of Germany in December 2008 (EU Council Regulation 1100/2007) we adopted the 9 RBD's (Report on the eel stock and fishery in Germany 2008) for the EU-DCF (Figure 1).

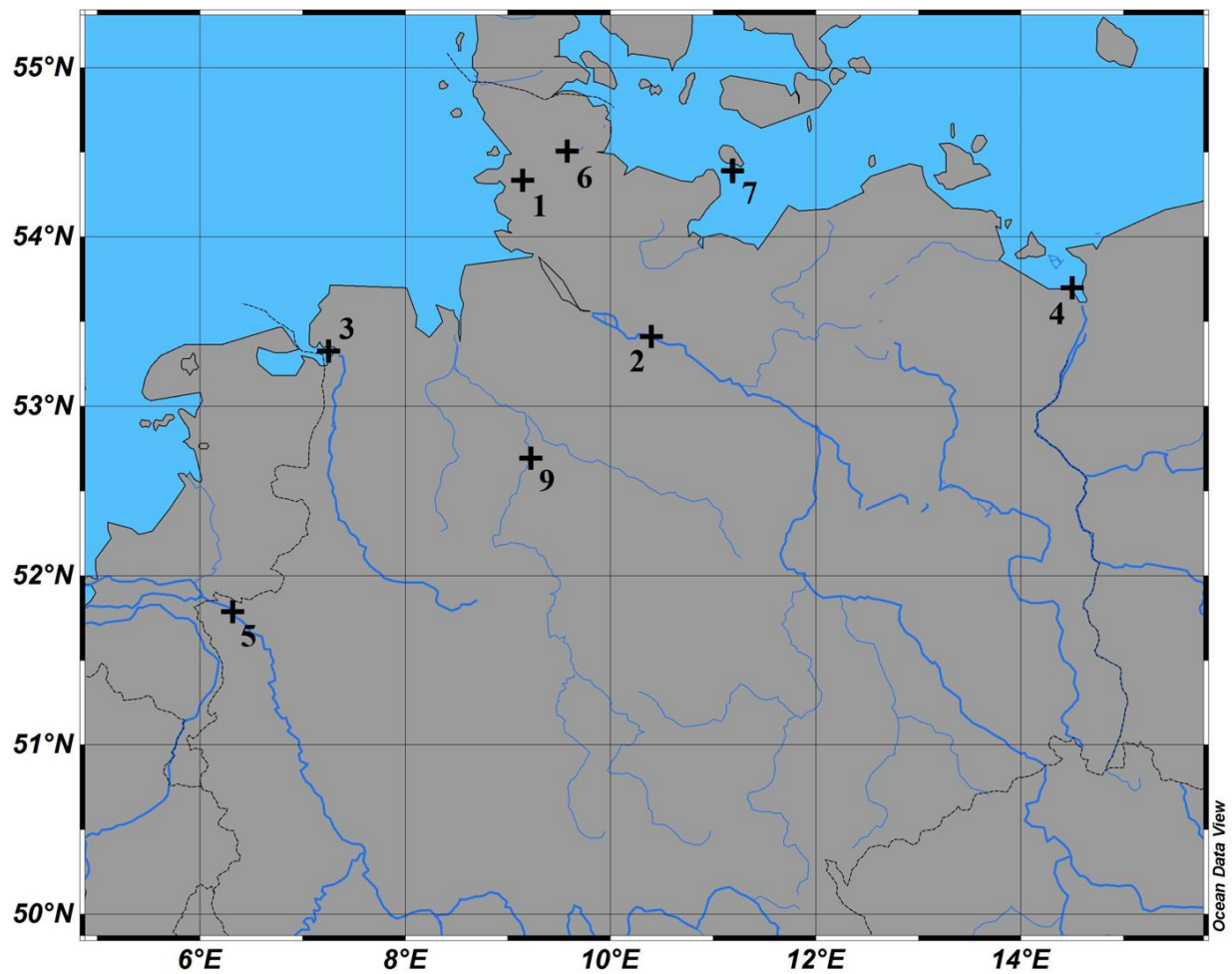


Figure 2: Overview of the spatial resolution for concurrent sampling of eels in German River Basin Districts (RBD)

Black crosses: Places of commercial eel catches, where samples were collected. For the Warnow/Peene RBD eel were collected from several small fisheries, which are not shown in this map.

Eider: 1
 Elbe: 2
 Ems: 3
 Oder: 4
 Rhine: 5
 Schlei/Trave: 6-7
 Warnow/Peene: 8 (not displayed)
 Weser: 9

Table 1: Detailed sampling scheme per RBD in the year 2015. Yellow eels were classified as stage 1-3, silver eels as stage 4-6 after Durif *et al.* (2005). Total numbers include eels that were not staged. Numbers therefore possibly exceed the sum of yellow and silver eels.

No.	RBD	Sampling Time	Sample Size (n)*			Gear
			Yellow	Silver	Total	
1	Eider	Sep 2015	33	29	62	Fyke Net
1	Eider	Nov 2015	3	32	35	Fyke Net
2	Elbe	July 2015	36	3	39	Fyke Net
3	Ems	June 2015	42	12	54	Fyke Net
3	Ems	Oct 2015	5	67	72	Fyke Net
4	Oder	--- COVERED IN POLISH REPORT ---				
5	Rhine	June 2015	18	-	18	Fyke Net
5	Rhine	Aug 2015	6	-	13	Stow Net
5	Rhine	Nov/Dec 2015	1	46	47	
6	Schlei/Trave	May 2015	-	8	8	
6	Schlei/Trave	July 2015	5	21	27	Fyke Net
6	Schlei/Trave	Oct 2015	57	94	151	Fyke Net
7	Schlei/Trave	-	-	-	-	-
8	Warnow/Peene	Oct 2015	6	21	27	-
9	Weser	July 2015	31	-	39	
9	Weser	Nov 15	9	43	52	Fyke Net
9	Weser	Dec 2015	-	30	30	Stow Net

*:S=Silver Eel; Y=Yellow Eel

List of biological variables within European eel (*A. anguilla*) DCF sampling specifications

length ^a, weight ^b, sex ^c, maturity ^d, age ^e

^a: total length was determined either immediately after catch (to the nearest 0.5 cm) or after thawing. In the second case the values were corrected by assuming a reduction of 2.5% according to Wickström *et al.* 1986

^b: total weight was determined either immediately after catch or after thawing. In the second case the values were corrected by assuming a reduction of 2.8% according to Wickström *et al.* 1986

^c: sex determination via macroscopic assessment of gonadal development

^d: determination of silvering index according to Durif *et al.* 2005

^e: according to EU Council Regulation (1100/2007), 200 eels (100 yellow and 100 silver eels separately) should be analyzed for each RBD. However, not for all RBDs, 200 eels were available. Age reading of otoliths was performed using a “cutting and burning” protocol (WKAREA 2009).

Table 2: Summary of collected mandatory biological variables according to Regulation 1100/2007. All parameters were collected, if technically applicable.

Parameter	North Sea	Baltic Sea	Sum
Length	461	213	674
Mass	461	212	673
Age	430	148	578
Maturity	442	212	654
Total	461	213	674

Proposal for the future data collection of European Eel (*Anguilla anguilla*) in the EU Data Collection Framework

The European Commission has adopted a multiannual Community program for the collection, management and use of data in the fisheries sector for the period 2011-2013 (2010/93/EU).

To further gather biological information on European eel, Germany proposes to continue data collection of its commercial catches. However, to better address the urgent questions for an eel fisheries management, sampling scheme and especially the collected parameters should be adapted as compared to the first sampling phase (2008/949/EU). Besides length, weight, age, sex and maturity of the sampled eels, parasite infestation and especially contamination with harmful substances are important parameters.

Several reviews on parasites and contaminants in eels have emphasized their negative influences on migration and reproduction. Therefore, estimation of an effective spawner biomass requires the quantification of the adverse effects of contaminants, parasites, diseases, and low fat levels on the capacity of eels to migrate and successfully spawn (EIFAC/ICES Working Group on Eels 2014).

In line with the report of the 2016 session of the Working Group on Biological Effects of Contaminants (WKBCECEL) we strongly recommend that eel quality issues like *Anguillicola crassus* infestation as well as pollution with harmful contaminants such as persistent organic pollutants (POPs) especially for silver eels should be taken into account for the new EU MAP (2010/93/EU).

Considering the limited availability of glass eel for restocking purposes, a comprehensive data collection of these parameters (contaminants, parasites etc.) under the EU MAP (2010/93/EU) would significantly contribute to the identification of suitable habitats for the production of high quality eel spawners.

Furthermore, no data on fishing effort is collected within the frame of DCF. Logbook data are collected as part of the Eel Management Plans under the administrative constraints of Council Regulation (EC) 1100/2007 by German regional authorities. We recommend the implementation of fishing effort data to the DCF, establishing a link between qualitative data (age, length etc.) and quantitative data (e.g. catch per unit effort), which would allow for a better estimation of the stock status.

ANNEX 3: BI- AND MULTILATERAL AGREEMENTS

Bilateral Agreement between Denmark (DTU-Aqua) and Germany (Johann Heinrich von Thünen Institute, vTI) for the collection of length and age samples in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision 2010/93/EU

Agreement:

Vessels fishing under the German register, which land for first sale into Denmark, will be sampled as part of the German National Programme under the requirements of the EC Data Collection Framework (199/2008). The eventual additional sampling costs will be covered within the German National Sampling Programme 2011-2013.

Vessels fishing under the Danish register, which land for first sale into Germany, will be sampled as part of the Danish National Programme under the requirements of the EC Data Collection Framework (199/2008). The eventual additional sampling costs will be covered within the Danish National Sampling Programme 2011-2013.

Description of sampling:

The sampling will be for length and age of discards and landings, sampling will be carried out in accordance with the respective National Sampling Programme.

Sampling intensity:

Levels and coverage of sampling will be as agreed at the annual meetings of the RCM Baltic and RCM North Sea & Eastern Arctic.

Data responsibility:

Germany is responsible for submitting the data from German vessels, and Denmark in the case of sampling Danish vessels, to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. Both Member States will provide the required data for the species that are requested by the relevant ICES Expert Groups, and the data for the additional species to the respective other Member State as and when requested.

Contact persons:

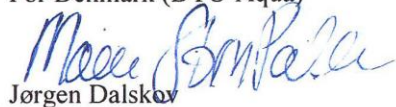
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Signatures:

For Denmark (DTU-Aqua)



Jørgen Dalskov

Danish National Correspondent

on behalf of Jørgen Dalskov

For Germany (vTI)



Dr. Christoph Stransky

German National Correspondent

Date: 18 March 2010

**Bilateral Agreement between Sweden (Institute of Marine Research) and
Germany (Johann Heinrich von Thünen Institute, vTI) for the collection of length
and age samples in accordance with EC Regulation 665/2008, laying down
detailed rules for the application of Council Regulation (EC) 199/2008, and its
Commission Decision 2010/93/EU**

Agreement:

Vessels fishing under the German register, which land for first sale into Sweden, will be sampled as part of the German National Programme under the requirements of the EC Data Collection Framework (199/2008). The eventual additional sampling costs will be covered within the German National Sampling Programme 2011-2013.

Vessels fishing under the Swedish register, which land for first sale into Germany, will be sampled as part of the Swedish National Programme under the requirements of the EC Data Collection Framework (199/2008). The eventual additional sampling costs will be covered within the Swedish National Sampling Programme 2011-2013.

Description of sampling:

The sampling will be for length and age of discards and landings, sampling will be carried out in accordance with the respective National Sampling Programme.

Sampling intensity:

Levels and coverage of sampling will be as agreed at the annual meetings of the RCM Baltic and RCM North Sea & Eastern Arctic.

Data responsibility:

Germany is responsible for submitting the data from German vessels, and Sweden in the case of sampling Swedish vessels, to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. Both Member States will provide the required data for the species that are requested by the relevant ICES Expert Groups, and the data for the additional species to the respective other Member State as and when requested.

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Palmaille 9 • 22767 Hamburg

Date: 18 March 2010

Bilateral Agreement between The Netherlands (Centre for Fisheries Research, CVO) and Germany (Johann Heinrich von Thünen Institute, vTI) for the collection of length and age samples in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision 2010/93/EU

Agreement:

Pelagic freezer trawlers fishing on herring, blue whiting, mackerel and horse mackerel, and beam trawlers fishing on plaice and sole under the German register, which land for first sale into The Netherlands, will be sampled as part of the German National Programme under the requirements of the EC Data Collection Framework (199/2008). The eventual additional sampling costs will be covered within the German National Sampling Programme 2011-2013.

Description of sampling:

The sampling will be for length and age of discards and landings, sampling will be carried out in accordance with the German National Sampling Programme.

Sampling intensity:

Levels and coverage of sampling will be as agreed at the annual meeting of RCM North Sea & Eastern Arctic.

Data responsibility:

Germany is responsible for submitting the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. Germany will provide the required data for the species that are requested by the relevant ICES Expert Groups, and the data for the additional species to The Netherlands as and when requested.

Contact persons:

In The Netherlands (CVO): Sieto Verver: sieto.verver@wur.nl
In Germany (vTI-SF): Jens Ulleweit: jens.ulleweit@vti.bund.de

Signatures:

For The Netherlands (CVO)

For Germany (vTI)



Sieto Verver
Dpt. Head Centre for Fisheries Research



Dr. Christoph Stransky
German National Correspondent

Date: 24 March 2010

**Bilateral Agreement between the UK (Cefas) and Germany (vTI-SF)
for the collection of length and age samples in accordance with EC
Regulation 665/2008, laying down detailed rules for the application
of Council Regulation (EC) 199/2008, and its Commission Decision
2010/93/EU**

Agreement:

Fishing activities of UK vessels in ICES Sub-Area I & II, which land for first sale into Germany, will be covered within the German National Programme under the requirements of the EC Data Collection Framework (199/2008). Sampling costs will be included within the German National Sampling Programme from 2011- 2013.

Description of sampling:

These UK vessels are operating in the same metier as the German fleet and follow the same practices. Sampling for length and age of landings will be covered in accordance with the German National Sampling Programme. The metier is sampled by onboard observers.

Sampling Intensity:

Levels and coverage at the metier level will be as agreed at the annual co-ordination meeting of RCM NS&EA.

Data responsibility:

Germany will be responsible for submitting the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. Germany will provide the required data for the species that are requested by the relevant ICES Expert Groups, and the data for the additional species to the UK as and when requested.

Contact persons:

In the UK (Cefas): S. Warnes: steve.warnes@cefas.co.uk

In Germany (vTI-SF): K. Panten: kay.panten@vti.bund.de

Signatures:

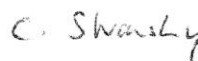
For UK (Cefas)



Carl O'Brien

Fisheries Division Director

For Germany (vTI-SF)



Dr. Christoph Stransky

German National Correspondent

Date: 19th March 2010

19 March 2010

Johann Heinrich von Thünen-Institut
Bundesforschungsinstitut für
Ländliche Räume, Wald und Fischerei
Institut für Seefischerei
Palmallee 9 • 22767 Hamburg

Bilateral Agreement between Poland (NMFRI) and Germany (TI) for the collection of biological data in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its commission decision 2010/93/EU.

Agreement:

Biological sampling of yellow and silver eels from commercial fisheries in the Oder River Basin District will be covered within the Polish National Programme under the requirements of the EC Data Collection Framework (Reg. 199/2008). Sampling costs will be included within the Polish National Programme.

Description of sampling:

Both Polish and German fisheries target eel in the Oder River Basin District and are using the same practices. Sampling for primary biological data will be covered in accordance with the Polish National Programme.

Sampling intensity:

The target sample sizes are 100 yellow and 100 silver eel from commercial fisheries in the Oder River Basin District. However, sample size might be adjusted to a lower level depending on the availability of eel from Polish commercial fisheries.

Data responsibility:

Poland will be responsible for submitting the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. Poland will provide the data for European eel, relevant for the Data Collection Framework, to Germany as and when requested.

Contact Persons

Poland: Tomasz Nermer; nermer@mir.gdynia.pl

Germany: Jan-Dag Pohlmann; jan.pohlmann@ti.bund.de

Signatures:

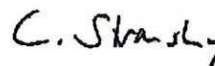
Poland



Dr. Zbigniew Karnicki

Polish National Correspondent

Germany



Dr. Christoph Stransky

German National Correspondent

Date: 07 May 2013

AMENDMENT TO:

Multi-lateral agreement between Germany, Latvia, Lithuania, The Netherlands and Poland for biological data collection of pelagic fisheries in CECAF waters

This Amendment replaces the initial amendment dated December 2013, to reflect the impact of the introduction of the EMFF in the co-financing options. The amendment is retrospectively accepted as per 1st January 2014.

The Multi-lateral agreement between Germany, Latvia, Lithuania, The Netherlands and Poland for biological data collection of pelagic fisheries in CECAF waters, as signed by all countries named in June 2011 (See annex) is amended as follows from 1st January 2014 onwards:

Term:

The multi-lateral agreement is extended beyond its initial end date of 31 December 2013. The new end date is 31 December 2015.

Costs:

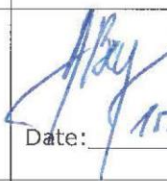
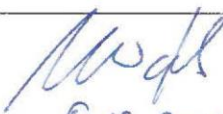
The cost share for each country of the total costs follows a key based on the share in average landings in 2008-2012. Due to the move from direct to in-direct co-funding through national EMFF budgets, co-funding of the National expenses shall be covered through the National EMFF budget of each respective member. As of 2014, co-funding is no longer executed through the Dutch National Budget as it was in previous years.

Cost shares are maximum amounts, in case of lower costs, deductions might apply in line with the relative shares.

Total Landings 2008-2012 (RCM LDF Data) and cost shares by partners

Partner	2008	2009	2010	2011	2012	average 2008- 2012	Landings share	Cost share per year
Netherlands	83,630	68,019	92,980	55,044	34,926	66,920	22.95%	€ 14,864
Germany	0	0	20,650	37,088	14,582	14,464	4.96%	€ 3,212
Poland	17,709	46,287	14,605	60,177	29,178	33,591	11.52%	€ 7,462
Lithuania	120,100	124,480	116,040	121,000	44,133	105,151	36.06%	€ 23,356
Latvia	68,410	81,283	87,237	89,667	30,723	71,464	24.51%	€ 15,874
TOTAL	289,849	320,069	331,512	362,976	153,542	291,590	100.00%	€ 64,768

Signatures for agreement

Member State	Name	Function	Signature
Germany	Christoph Stransky	National Correspondent	 Date: <u>2.12.2014</u>
The Netherlands	Sieto Verver	Head Centre for Fisheries Research	 Date: <u>11/12/2014</u>
Latvia	Aivars Berzins	Director, Institute of Food Safety, Animal Health and Environment BIOR	 Date: <u>15.12.14</u>
Lithuania	Aidas Adomaitis	Deputy Director, Acting Director	 Date: <u>8/12/2014</u>
Poland	Ireneusz Wójcik	Head of Department of Logistics & Monitoring	 Date: <u>8.12.2014</u>

Multi-lateral agreement between the responsible institutions of Germany, Lithuania, The Netherlands and Poland for biological data collection of pelagic fisheries in SPRFMO waters

Germany, Lithuania, The Netherlands and Poland agree to co-operate in the biological data collection of pelagic fisheries in SPRFMO waters in 2015 and 2016. This agreement is in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation 199/2008.

Having regard the above mentioned Regulation, the project proposal including budget forecast "Biological Data Collection of pelagic fisheries in SPRFMO waters in compliance with the DCF" (Annex 1) as well as the "Observer Manual for biological data collection in SPRFMO waters" (Annex 2), discussed at the Ad Hoc Regional Coordination Meeting for Long Distance Fisheries in Hamburg, April 21st, 2015, the following details apply to this agreement:

Partners

The following Member States are considered as partner within this agreement:

Member State	Institute	Contact person
Germany	Thünen Institute (TI)	Christoph Stransky (National Correspondent)
Lithuania	Fisheries Service under the Ministry of Agriculture of the Republic of Lithuania	Indre Sidlauskienė (Director)
The Netherlands	Centre for Fisheries Research (CVO)	Sieto Verver (Head CVO)
Poland	National Marine Fisheries Research Institute (NMFRI)	Ireneusz Wójcik (Head of Department, DCF Coordinator)

Coordination

The Netherlands coordinates the execution of this multi-lateral agreement. The Netherlands will contract independent contractor 'Corten Marine Research' (CMR) to carry out the actual work.

Sampling protocol

Biological sampling is carried out on board EU fishing vessels in SPRFMO area by CMR observers. These observers are instructed by CMR and follow the sampling protocol as described in "Observer Manual for biological data collection in SPRFMO waters", based on data collection requirements set out in "**CMM 3.02, Conservation and Management Measure on Standards for the Collection, Reporting, Verification and Exchange of Data (SPRFMO-COMM-03 (2015) ANNEX K)**".

Data responsibility

CMR is responsible for data collection, quality control and delivery to the SPRFMO scientific working group of all data collected under this agreement. CMR also reports all data to CVO and CVO will distribute the data to Partners upon request.

Costs

The total costs for the sampling programme is estimated at the amount of € 81,705,= ex VAT per year. This sampling programme is eligible for co-funding under the national EMFF budget of the respective partners.

The total costs are shared by the partners following the relative shares in fishing opportunities in the SPRMFO area as set in the *Council Regulation (EU) 2015/523 of 25 March 2015 amending Regulations (EU) No 43/2014 and (EU) 2015/104 as regards certain fishing opportunities*. Cost shares are maximum amounts, in case of lower costs, deductions might apply in line with the relative shares. The yearly costs by partner are shown in the following table:

Partner	Share (%)	Contribution
Germany	25.15	€ 20.548
Lithuania	17.50	€ 14.300
The Netherlands	27.26	€ 22.273
Poland	30.09	€ 24.584
Total contribution		€ 81.705

The Netherlands sends each Partner an invoice per year, to which standard financial conditions apply.

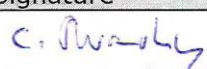
Access to vessels

On top of *Council Regulation 199/2008* (Section 2, Article 11), each Partner ensures access to its fleet for the observers under this agreement. Denied access to vessels does not exempt a Partner from legal or financial obligations.

Term

This agreement commences retrospectively on January 1, 2015. With exception of financial obligations, this agreement ends on December 31, 2016. This agreement, with exception of financial obligations, is subject to dissolve prior to this date in case the pelagic fishery in the SPRMFO area by EU vessels closes.

Signatures

Member State	Name	Function	Signature
Thünen Institute (TI) Germany	Christoph Stransky	National Correspondent	 Date: 21 April 2015
Fisheries Service under the Ministry of Agriculture of the Republic of Lithuania (FS) Lithuania	Indre Sidlauskiene	Director	 Date: 22 June 2015
Centre for Fisheries Research The Netherlands	Sieto Verver	Head Centre for Fisheries Research	 Date: 21 April 2015
National Marine Fisheries Research Institute (NMFRI) Poland	Ireneusz Wójcik	Head of Department (NMFRI), DCF Coordinator	 Date: 21 April 2015

Annex 1: "Biological Data Collection of pelagic fisheries in SPRFMO waters in compliance with the DCF".

Annex 2: "Observer Manual for biological data collection in SPRFMO waters".