

ANNUAL REPORT

GERMAN NATIONAL FISHERIES DATA COLLECTION

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) 2016 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 2016. 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 Regional Coordination Meetings (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 multilateral agreements on sampling in CECAF and SPRFMO areas (see Annex 3).

II NATIONAL DATA COLLECTION ORGANISATION

II A NATIONAL CORRESPONDENT AND PARTICIPATING INSTITUTES

The National Correspondent representing Germany is:

Dr. Christoph Stransky
Johann Heinrich von Thünen Institute [TI]
Federal Research Institute for Rural Areas, Forestry and Fisheries
Thünen Institute of Sea Fisheries (SF)
Palmaille 9
22767 Hamburg, Germany
Tel. +49 40 38905-228
Fax: +49 40 38905-263
E-mail: christoph.stransky@thuenen.de

The following two institutions contribute to the National Programme:

Bundesanstalt für Landwirtschaft und Ernährung (BLE) (Federal Agency for Agriculture and Food)
Deichmanns Aue 29
53179 Bonn, Germany
Tel. +49 228 6845-0
Fax: +49 228 6845-3444

E-mail: info@ble.de
Website: <http://www.ble.de>

Johann Heinrich von Thünen Institute (TI)

Federal Research Institute for Rural Areas, Forestry and Fisheries
38116 Braunschweig, Germany
Tel. +49 531 596-0
Fax: +49 531 596-1099
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
Website: <http://www.thuenen.de/en/sf/>

Thuenen Institute of Baltic Sea Fisheries (TI-OF)

Alter Hafen Süd 2
18069 Rostock, Germany
Tel. +49 381 8116-102
Fax: +49 381 8116-199
E-mail: of@thuenen.de
Website: <http://www.thuenen.de/en/of/>

Thuenen Institute of Fishery Ecology (TI-FI)

Palmaille 9
22767 Hamburg, Germany
Tel. +49 40 38905-290
Fax: +49 40 38905-261
E-mail: foe@thuenen.de
Website: <http://www.thuenen.de/en/fi/>

BLE, Unit 522 (Catch Regulation)

Haubachstr. 86
22765 Hamburg, Germany
Tel. +49 40 306860-565
Fax: +49 40 306860-60
E-mail: lutz.wessendorf@ble.de
Website: <http://www.ble.de>

BLE, Unit 414 (Product Development)

Deichmanns Aue 29
53179 Bonn, Germany
Tel. +49 228 6845-7408
Fax: +49 228 6845-3444
E-mail: vilma.plum@ble.de
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 and has hosted several meetings (see comments column in the table).

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 2015 and relevant STECF meetings held in 2015, five 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 2016. 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.

Table III.B.1 provides information by fleet segment. In the evaluation of last year's report, STECF EWG 16-08 **requested information by individual survey for the future**. However, the figures in Table III.B.1 display only surveys which are not census with 100% response rate. For all German segments, there are some variables collected through a census with 100% response rate. These are basically data as collected under the Control Regulation (Reg. 1224/2009). Adding one line for each segment indicating "census with 100% response" would not add any value to the document. Therefore, the report contains only figures for surveys from beyond the Control Regulation. Leaving aside the Control Regulation, there is only one type of survey per fleet segment.

On the "Imputed value of unpaid labour": The basis number for an average annual salary has been adjusted to 35.500 €, 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 2015 is being done using the 2015 price index as part of the PIM procedure. The determination of price per capacity unit is clearly described in the National Programme.

For 2015, a gross price of € 10.002 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 eq.)**, 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 2015. For the sake of consistency across years they are listed nonetheless. According to their activity pattern, two vessels 12-18m were assigned to the pelagic trawlers technique. Those two vessels were included in the pelagic trawlers cluster, as in previous years.

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 2015, 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 applied 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: 10/10=100%, Total: 10 / 12 = 83%.

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: 26 / 16 = 163%, Total: 26 / 16 = 163%

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: 9 / 10 = 90%, Other: 15 / 20 = 75%, Total: 24 / 30 = 80%

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: 55 / 6 = 916%, Other: 13 / 2 = 650%, Total: 68 / 8 = 850%

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 flatfishes. 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.

In 2016, we conducted a Master thesis which involved sampling of gill netters. The student provided additional length distributions of cod from 18 trips which we could use for our DCF sampling.

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 2016. 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: 11 / 6 = 183%, Total: 12 / 10 = 120%

Lack of free bunks limited the number of vessels that could take a scientific observer. Due to low prices and low quality of eastern Baltic cod, the fishing season of German trawlers was remarkably reduced in 2016, thus limiting the time window available for on-board observer sampling. 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: 16 / 1 = 1600%, Total: 16 / 1 = 1600%

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 2016 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 shortfalls

In accordance with the recommendations from WKACCU 2008, WKPRECISE 2009, WKMERGE 2010, SGPIDS 2011 and WKPICS1 2011, 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. For the years 2008, 2009 and 2010, all vessels were stratified by target species, subdivision, vessel length class, gear type and month. The vessels in each stratum were ranked by their relative share to the stratum landing and those within the 90% threshold of cumulative landing (for active gear) were listed (60% for passive gear). From these lists, vessel owners are contacted randomly and the phone calls are documented. In addition, a number of quality indicators are recorded in accordance with SGPIDS 2012 and WKPICS2 2012. Since 2013, vessel drawlists are only 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 programmes 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 2016. 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 in terms of trips are usually not too high.

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), 13 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 métier 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 during summer, it was only possible to sample one trip at the beginning of the year.

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 and carried out.

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, 5 trips were carried out. Due to heavy weather conditions, one trip in the first quarter could not be 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 the diminishing fishery 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. Five 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 herring in ICES Div. VIa. However, due to changes of the fishing behaviour, at the end of the trip, the vessel was also targeting herring in Div. IVb. Another additional sampling was self-sampling of the fishery without additional costs for the institute.

PTM_DEF_<16_0_0

Target species: Sandeel. Restricted fishing season. Area: Northern North Sea. Duration of trips: 6 to 10 days. Sampling effort: No fishery in 2016. The German share of the sandeel Union TAC was 0.14% (Council Regulation 2016/458) 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. Due to the changing behaviour of the fishery, it was only possible to sample one trip.

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. However, one trip was sampled by Germany due to the changed behaviour of the fishery which switched the target species.

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 somewhat 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, was participating in the MARE/2014/19 project “Strengthening regional cooperation in the area of fisheries data collection”, where regional statistically sound sampling schemes were 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 12 and 14 and Division 5a)

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: Pelagic 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 2016, 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 vessel 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 2016, 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, herring. 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. One additional sampling was self-sampling of the fishery without additional costs for the institute.

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 within the new RCGs 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 metiers.

Germany, however, was participating in the MARE/2014/19 project “Strengthening regional cooperation in the area of fisheries data collection”, where regional statistically sound sampling schemes were 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. In 2016, six fishing trips were conducted by German vessels in this area. 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 2016, four fishing trips were conducted by German vessels in this area. Sampling is carried out by The Netherlands.

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 fisheries data collection programme 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	77	-19	Sickness of survey agents, replacements of survey agents midway through season	165
Boat, charter boat angling, trolling				
216	252	+36	The oversampling is a result of on-board sampling of charter boats to obtain length distributions	1439

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	53	2521	398

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 estimates catch and effort for the entire German marine recreational fishery in the Baltic Sea. Survey results 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. Weighting procedures (for household size, federal state and avidity) proved to be highly complex and could not be completed in 2016. Accordingly, a survey statistician was hired in April 2017 to carry out the weighting and estimation procedures. The results will be available during 2017.

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 conducted between March and May 2016 to give an overview on the development of the recreational salmon trolling fishery in German Baltic waters (Kaiser 2016). Recreational salmon boat fishing effort was evaluated by trolling boat trip counting via remote cameras in two relevant harbours on the island of Rügen. In addition, catch-per-unit-effort, biological as well as socio-economic data was collected by random on-site interviews of trolling anglers in four relevant harbours (including the harbours where the trolling boat trip counting was conducted). A total of 37 on-site samplings were conducted and 237 trolling boats targeting salmon were interviewed. The total number of landed salmon was estimated to be 3,958 (SE ± 369) salmon in the two harbours during the study period. Total German recreational salmon harvest in 2016 was most likely higher as the pilot study covered only the peak season (March-May) and only two relevant harbours. The recreational salmon trolling survey will be continued and temporally and spatially expanded to cover the whole salmon trolling fishery. There is no data available on freshwater catches. However, commercial and recreational salmon freshwater catches are most likely insignificant as there are no rivers with significant salmon spawning migration and fishery along the German Baltic coast.

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 2017. See comments above on the final weighting and estimation procedure.

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 2017. See comments above on the final weighting and estimation procedure.

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 provides 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 released 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 2017. See comments above on the final weighting and estimation procedure.

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, $\alpha = 0.025$) estimated 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 most recent 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 were 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 2016, all regional survey agents were visited and an on-site quality control of their work was performed.

III D 3 Actions to avoid shortfalls

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 planned and funding secured in June 2013. The nationwide screener of 50.000 households was followed by a 1-year telephone-diary recall survey and quarterly recalls. This survey estimates catch and effort for the entire German marine recreational fishery in the North Sea and started in May 2014. It also delivers 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. Weighting procedures (for household size, federal state and avidity) proved to be highly complex and could not be completed in 2016. Accordingly, a survey statistician was hired in April 2017 to carry out the weighting and estimation procedures. The results will be available in 2017.

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.

See above for cod

Sharks

A pilot study was carried out in August 2011 to estimate recreational shark catches in the German North Sea. Preliminary findings show that recreational shark catches are marginal and have no impact on the stocks.

See above for cod

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

not relevant

III D 3 Actions to avoid shortfalls

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.
- 64%, 70% and again 64% of the landings in 2014, 2015 and 2016, 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 2016. 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: While the commercial sampling was conducted successfully like in previous years, the SPRAS survey suffered from breakdown of FRV WALTHER HERWIG III. The biological parameters of western Baltic herring were slightly below the planned number of samples and the number of weight-at-length was undersampled due the breakdown of FRV WALTHER HERWIG III.

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, WKBALTCOD (2015) highlighted the mixing of western and eastern Baltic cod in subdivision 24. Therefore, we now record the shape of each otolith (survey and commercial otoliths) for otolith shape analysis. This information is used for stock separation in the mixing area SD24 and relevant for both the western and eastern Baltic cod stock.

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 in the past, allowing an increase in sampling intensity. In quarter 4 of 2016, fishers 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 2016, fishers 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. Plaice was sampled in excess due to conservative planning.

Sprattus sprattus SD22-32: While the commercial sampling was conducted successfully like in previous years, the SPRAS survey suffered from breakdown of FRV WALTHER HERWIG III. The biological parameters of Baltic sprat were still sampled slightly in excess due to conservative planning. However, the number of weight-at-length was undersampled due the breakdown of FRV WALTHER HERWIG III.

Sander lucioperca IIIId: No pikeperch were sampled during 2016, 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 DCF. Specimens of these species are obtained as by-catch from the commercial cod fishery and from survey samples. However, there is a targeted gillnet fishery for turbot during the spawning season which we try to sample each year. 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 flatfish (WKFLABA 2010 and 2012, WGBFAS 2013, WKBALFLAT 2013, WKPLE 2015, WKLIFE 2016, WKPROXY 2016). Germany received a derogation to sample freshwater species from 2012 onwards.

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

Since the Annual Report 2015, the issue of CVs is no considered longer relevant.

III E 3 Actions to avoid shortfalls

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 metier. 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*, *Melanogrammus aeglefinus* 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):

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

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 2016 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, approx. 20% of the planned number for the biological variables 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 specimens 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 métiers 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 CECFAF 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 2016 refer to 2015** 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 2016, 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. Unfortunately, severe technical problems occurred on FRV “Walther Herwig III” in 2016 and the vessel had to stay in the shipyard for repairs during April/May/June and September. This led to the cancellation of two surveys.

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 also on weather conditions as well as on the performance of the equipment and/or of the vessel. 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 2016, with a map of the achieved sampling activities.

Note that other smaller deviations from days-at-sea planned to days-at-sea achieved are – if not otherwise stated – due to minor adaptations of the 2016 vessel schedule during late 2015 and early 2016.

BALTIC SEA

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

The BITS in the 1st quarter 2016 was carried out from 18/02 to 10/03 with FRV “Solea”. The 19 planned days were extended to 22 to carry out additional fishery hauls and hydrography stations for the purpose of investigation of cod reproduction. The information about these additional hauls were also uploaded to DATRAS. The BITS survey in the 4th quarter 2016 was conducted from 09/11 to 24/11 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.

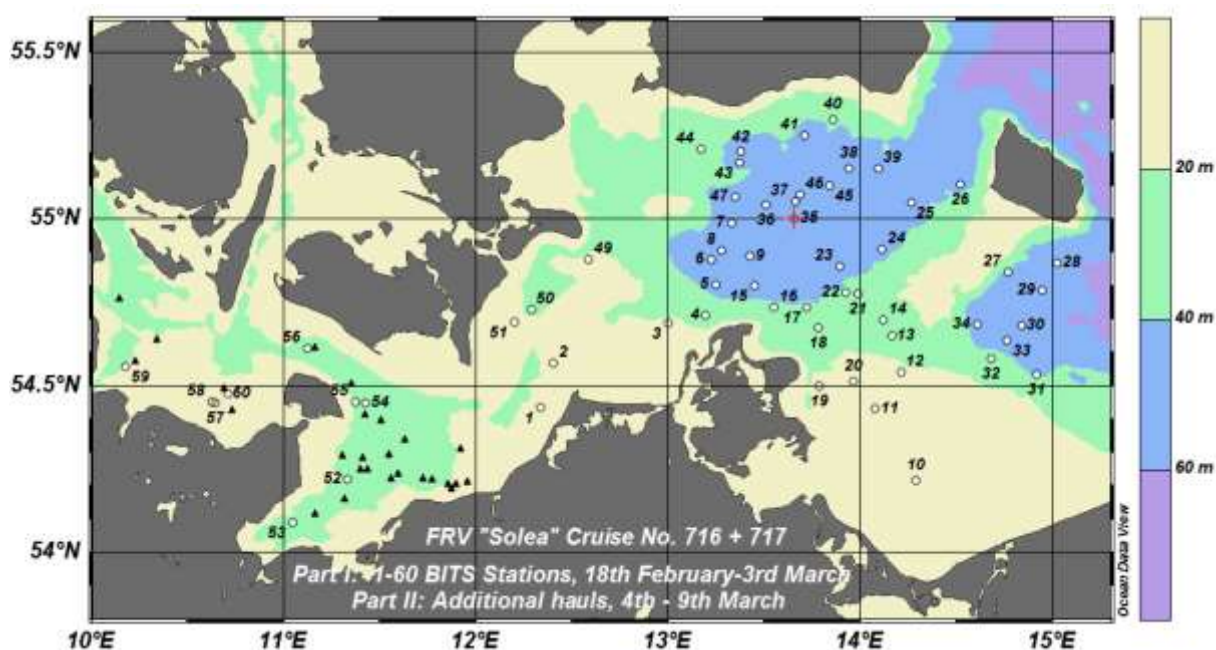


Fig. III.G.1a: Baltic International Trawl Survey – Station grid (BITS, 1st quarter 2016).

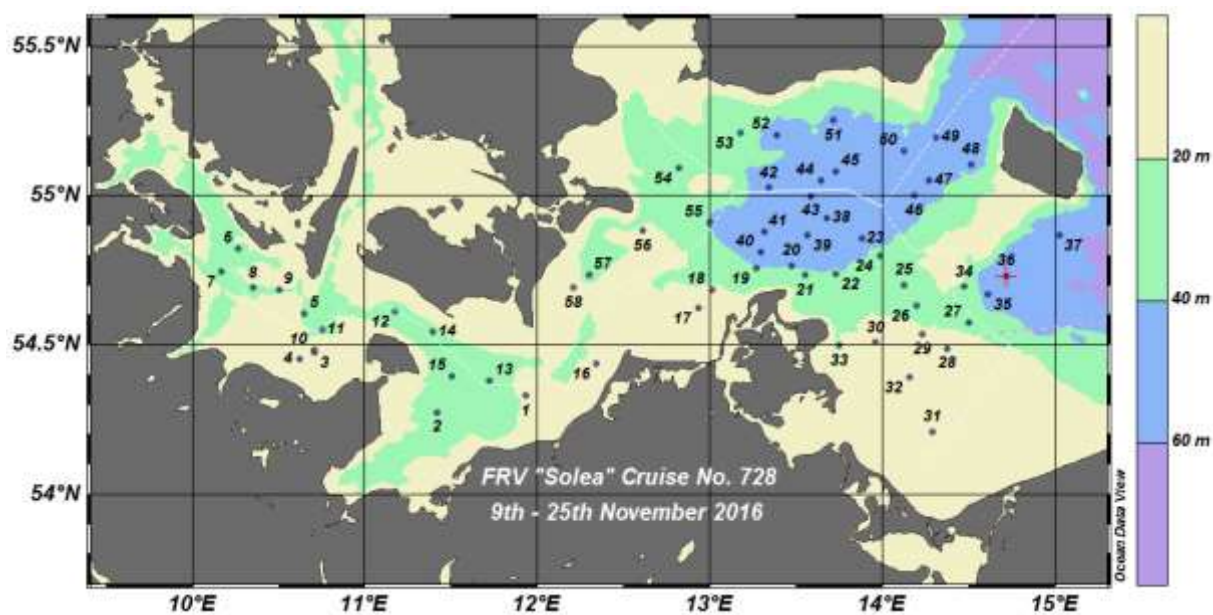


Fig. III.G.1b: Baltic International Trawl Survey – Station grid (BITS, 4th quarter 2016).

2 Baltic International Acoustic Survey (BIAS)

The survey took place from 30/09/16 to 20/10/16 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).

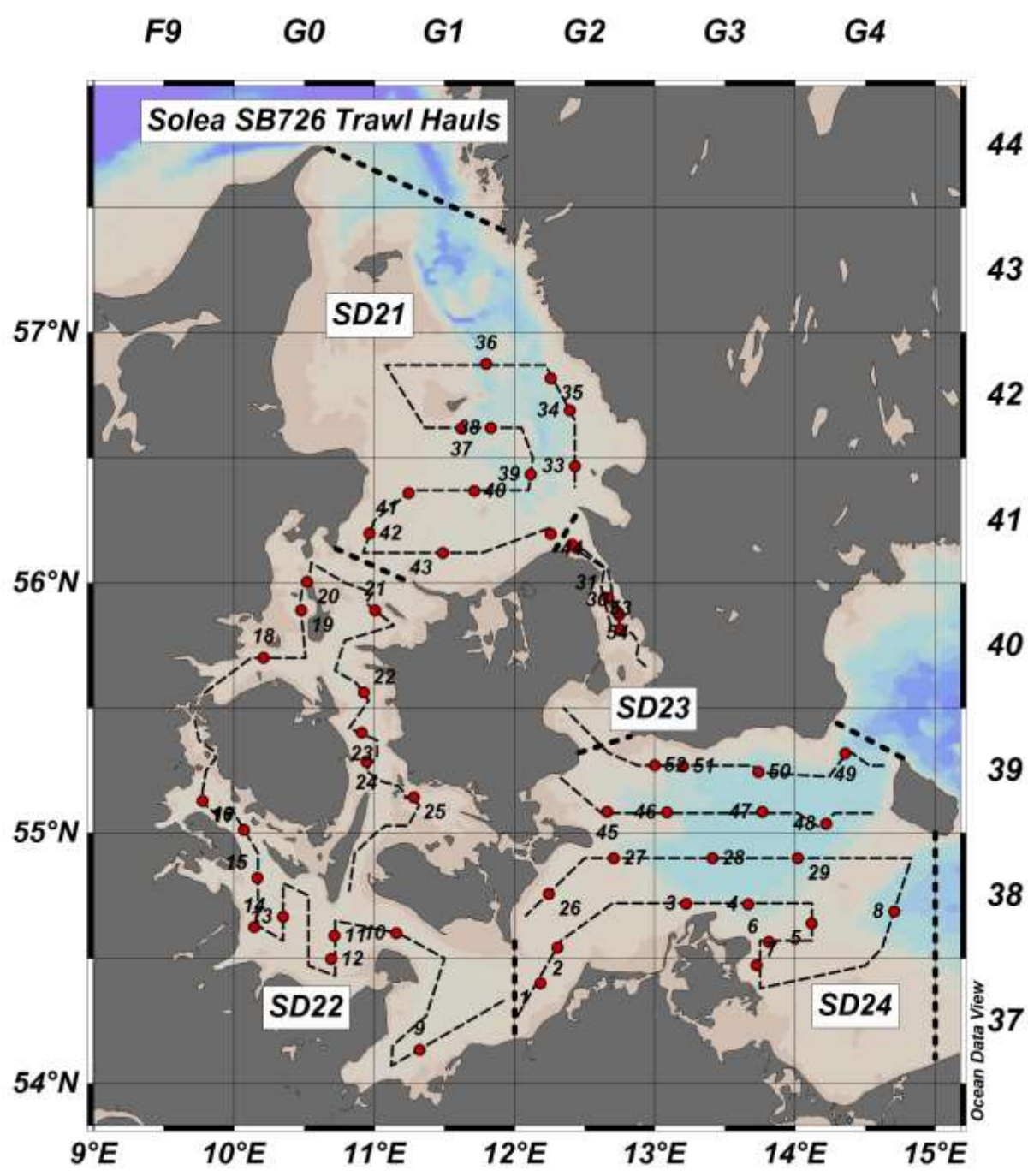


Fig. III.G.2: FRV “Solea” cruise no. 726 in 2016. Cruise track (lines) and fishery hauls (red dots). ICES statistical rectangles are indicated in the top and right axis. Thick dashed lines separate ICES subdivisions (SD).

3 Baltic Sprat Acoustic Survey

Germany could not participate with its research vessel in this survey in 2016, since serious technical problems at the FRV “Walther Herwig III” led to the failure of the ship immediately before the planned cruise. However, the Polish RV “Baltica” was chartered for two days to cover parts of the German survey.

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”. All planned survey days could be accomplished, only in the period of April 18/19 due to bad weather conditions only 14 stations instead of the 36 regular weekly stations could be sampled. In addition to the regular survey period, a 3 days survey was performed in mid-February since the retreating ice cover allowed for a control of winter spawning activities. 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. Including the additional winter and autumn surveys 120% of the planned sampling programme could be realized.

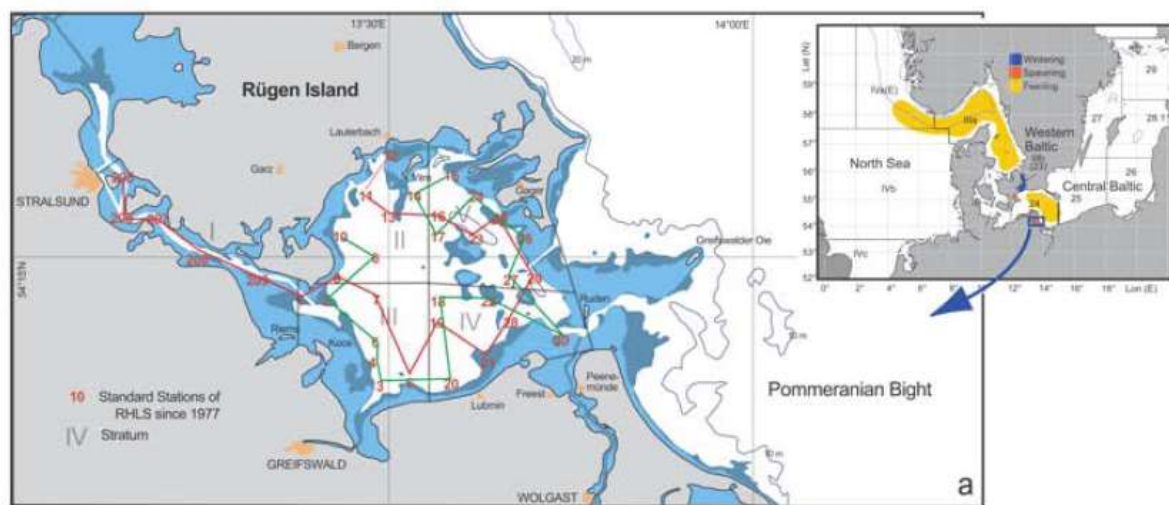


Fig. III G.4: Rügen Herring Larvae Survey in 2016. Stations for ichthyoplankton hauls and corresponding strata.

5 International Bottom Trawl Survey (IBTS) in Quarter 1

In 2016, the survey in quarter 1 was conducted from 25/01/16 to 25/02/16 on FRV “Walther Herwig III”. Weather conditions were unfavourable during the entire duration of the cruise. Therefore, 22 out of the planned 70 fishing and 54 out of the planned 154 plankton stations had to be skipped. Please refer to Fig III.G.5 for the allocation of the fishing positions.

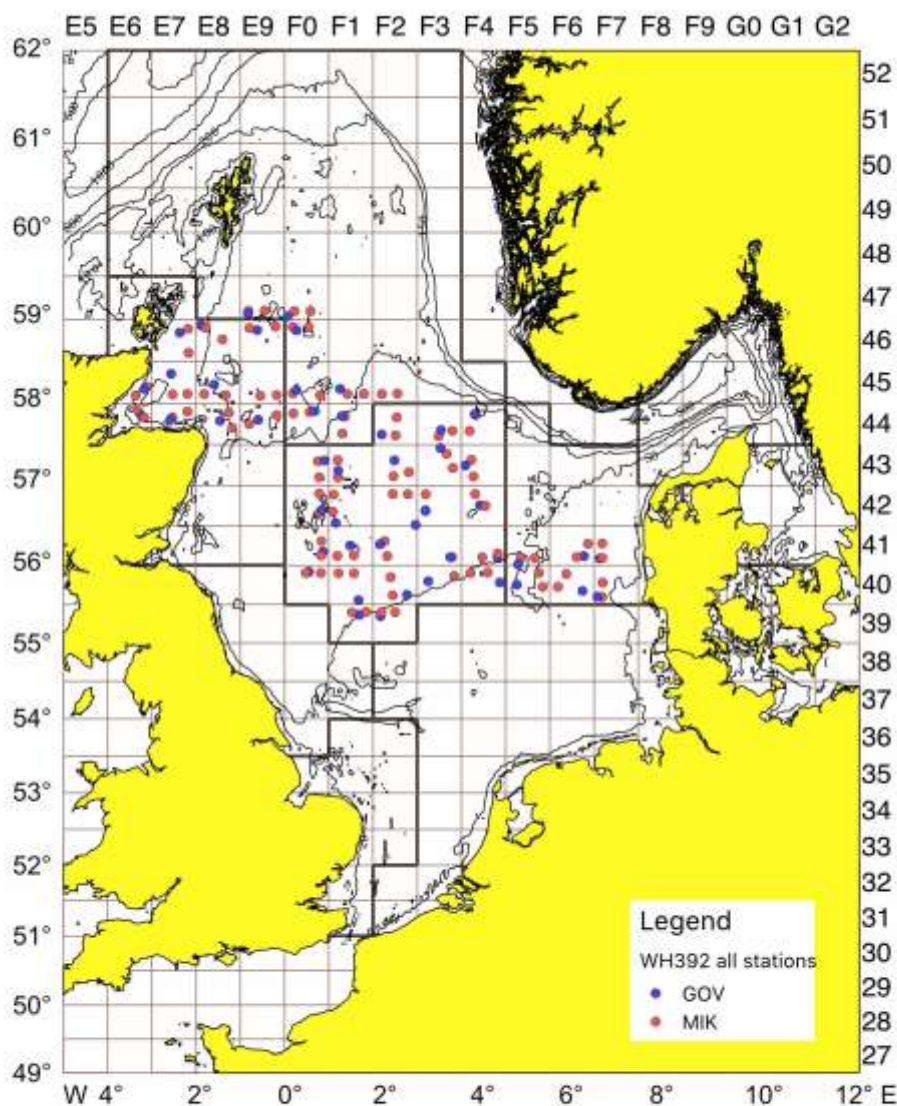


Fig. III G.5: International Bottom Trawl Survey (IBTS) 1st quarter 2016. GOV-hauls, fishing hauls (GOV) and MIK-stations within the “Walther Herwig III” cruise are marked with symbols (see legend).

6 International Bottom Trawl Survey (IBTS) in Quarter 3

The IBTS in quarter 3 was conducted in conjunction with a national survey from 21/07/16 to 18/08/16 on FRV “Walther Herwig III”. 13 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, and as in 2015, a haul duration experiment was conducted during the survey, leading to a slight overshooting of the achievement rates. Multiple repairs of the vessel during the cruise further contributed to the reported shiptime needed. Please refer to Fig. III.G.6 for the cruise track of the German part of the IBTS in quarter 3.

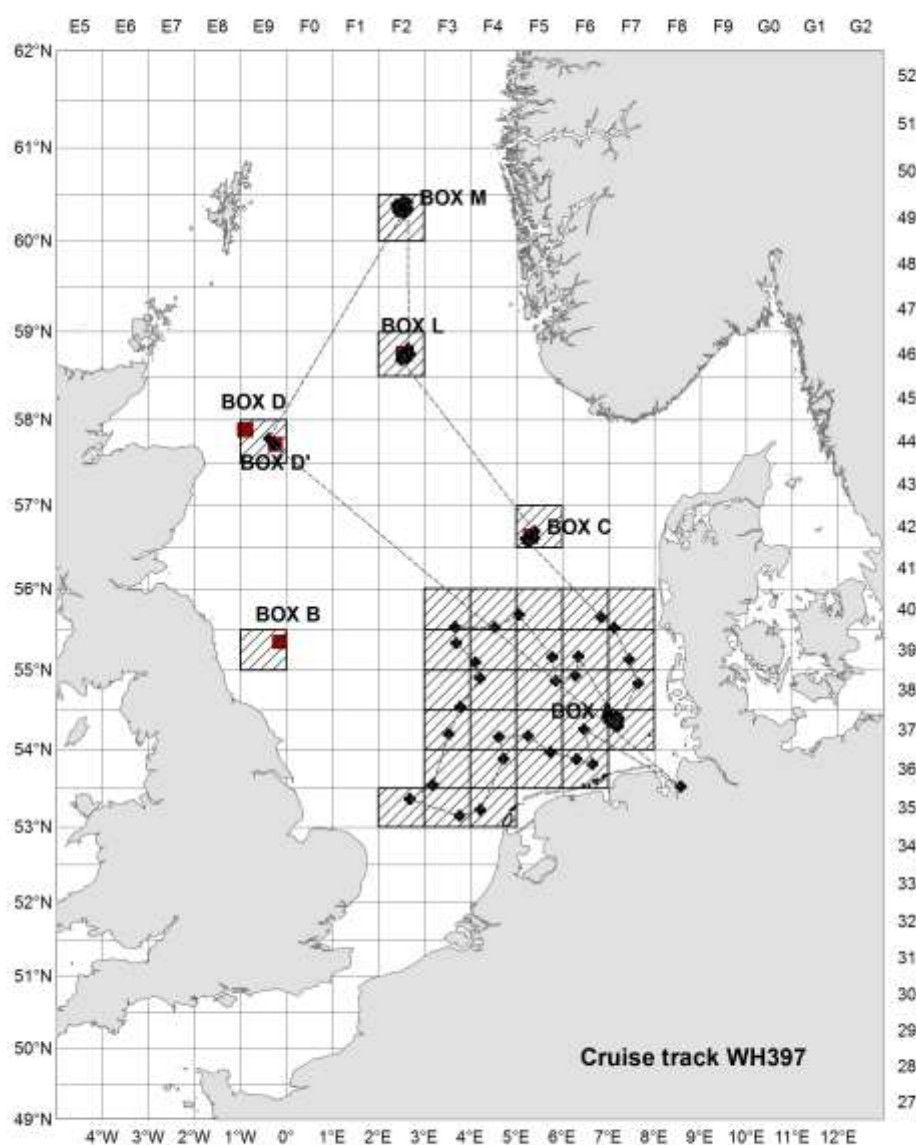


Fig. III.G.6: International Bottom Trawl Survey (IBTS) 3rd quarter: GOV hauls and CTD stations of FRV Walther Herwig III cruise no. 397, IBTS stations and stations in Boxes A – D, L and M.

7 North Sea Beam Trawl Survey (BTS)

In 2016, the survey took place from 18/08/16 to 30/08/16 on FRV “Solea”. Fig. III.G.7 shows the trawl positions of the German part of the BTS in 2016. Like 2015, 19 additional hauls (= 6 additional statistical rectangles) were carried out due to changed requirements of ICES WGBEAM leading to an oversampling of 143%. Due to very favourable weather conditions, the survey goals were fully achieved in a shorter time than anticipated.

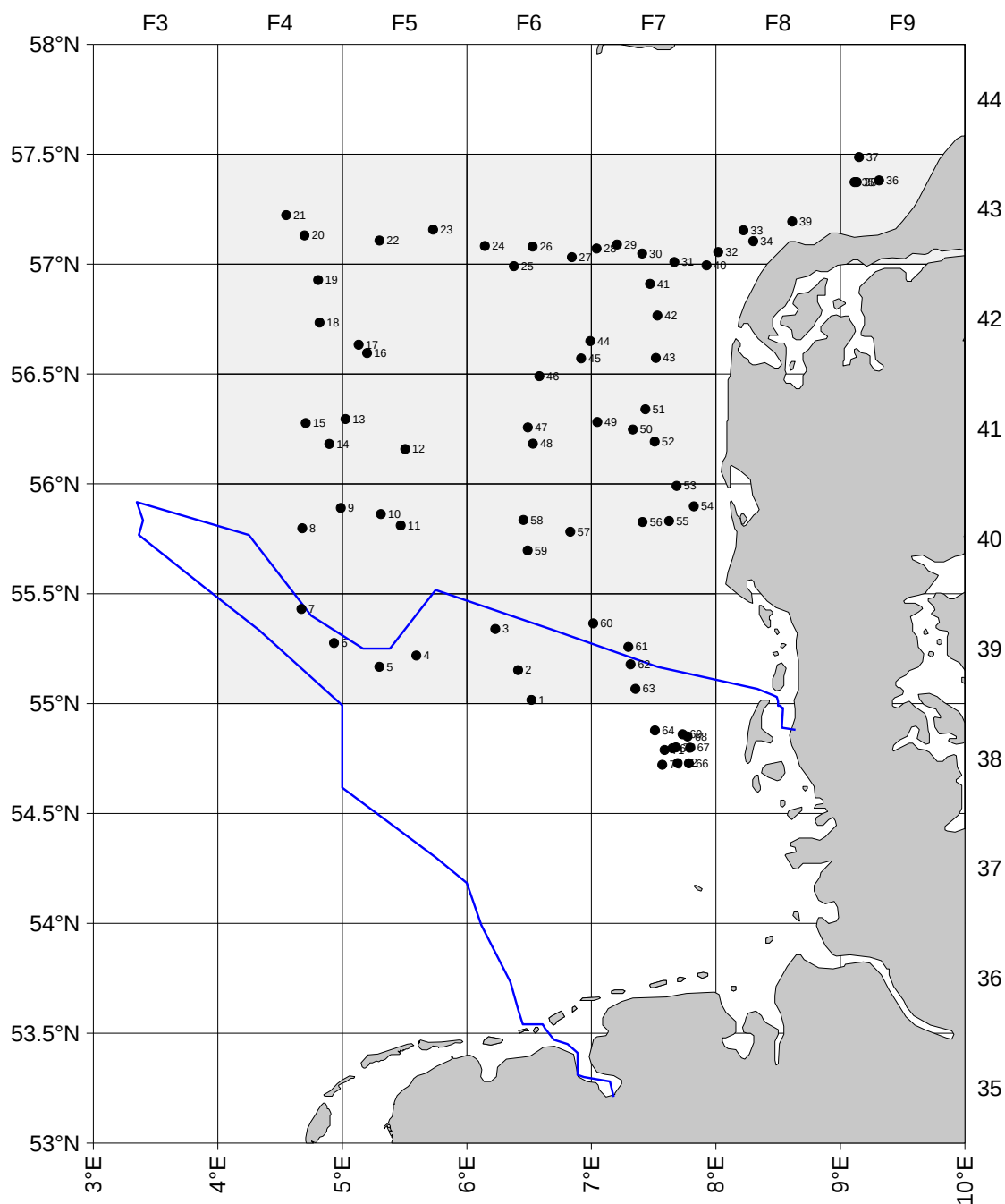


Fig. III.G.7: North Sea Beam Trawl Survey (BTS). Trawl positions 2016.

8 Demersal Young Fish Survey (DYFS)

The German part of the survey, which is conducted by Germany, The Netherlands and Belgium, 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 2016. Since the 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 WGCAN, “Clupea” fished for 10 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. 15 days were covered by chartered cutters.

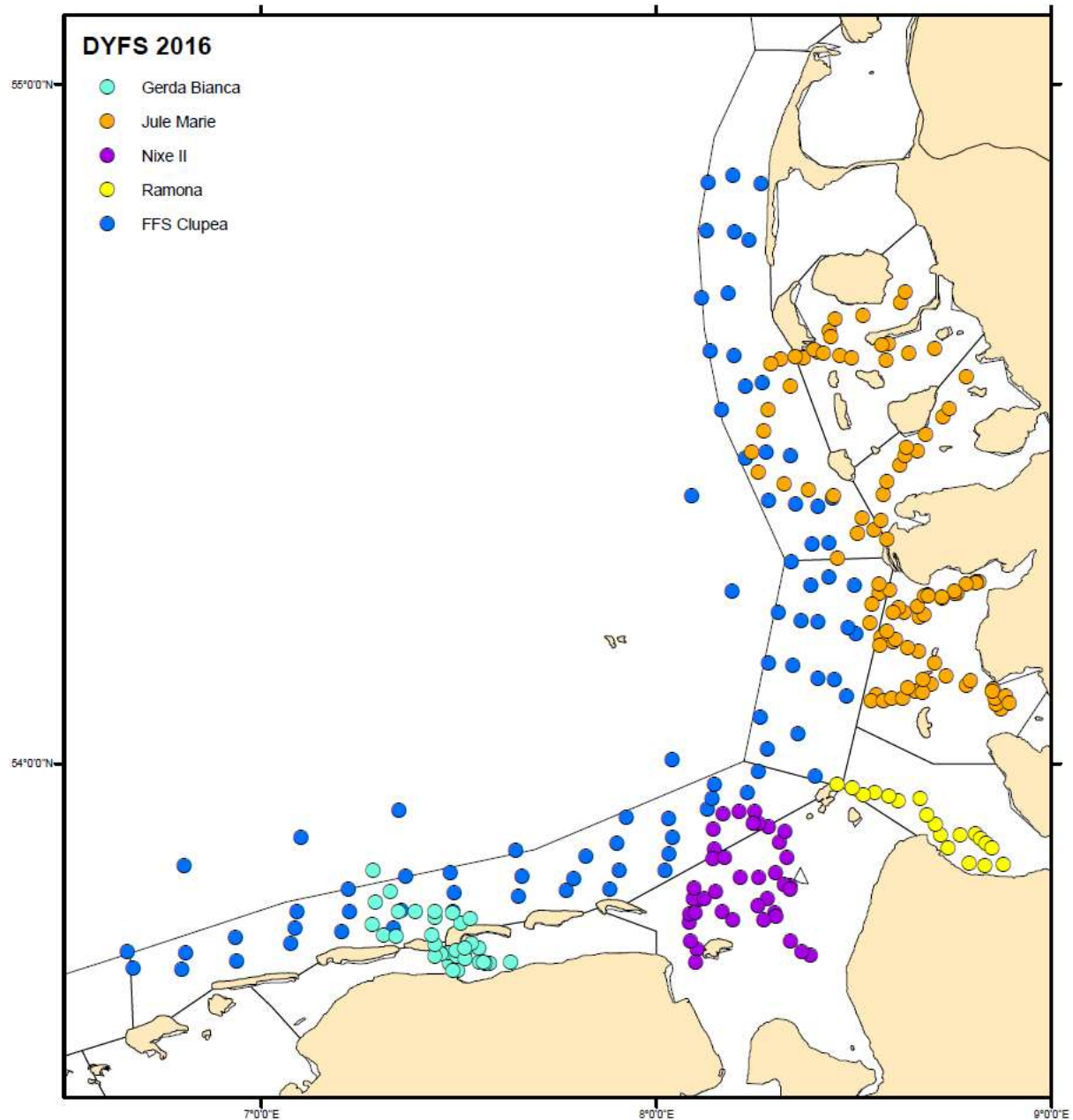


Fig. III.G.8: Stations sampled in the German DYFS 2016.

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 12/05/16 to 26/05/16.

10 International Redfish Survey (Norwegian Sea)

Based on the decision of ICES WGIDEEPS, no survey was planned in 2016.

11 Herring Larvae Survey (North Sea)

The herring larvae survey in the 1st quarter took place in the Channel area of the North Sea from 10/01/16-18/01/16. Due to unfavourable weather condition, some stations had to remain uncovered (Fig. III G.11). The survey in the Orkney/Shetland area in September had to be cancelled due to unforeseen technical problems concerning FRV “Walther Herwig III”. The vessel had to stay in the shipyard for repairs. With regards to time constraints, chartering a replacement vessel failed.

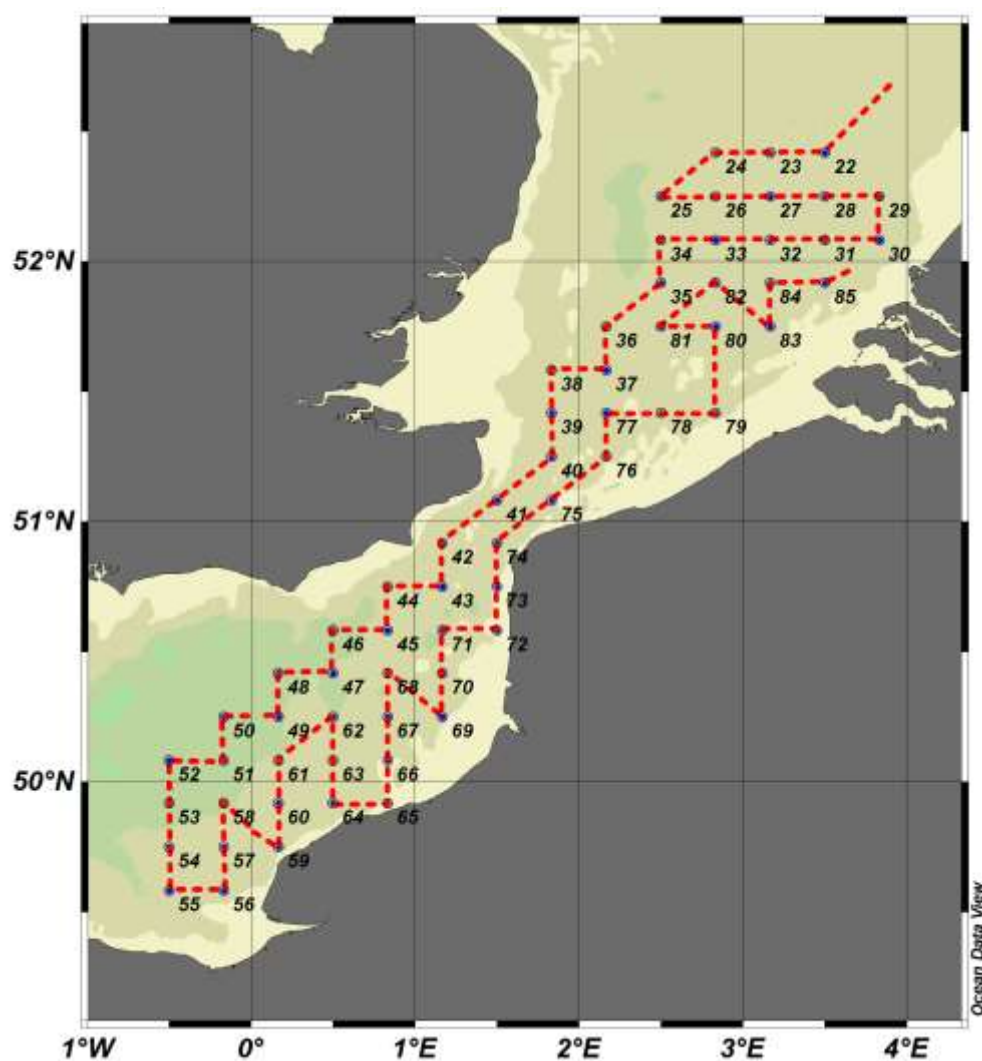


Figure III. G 11b: Cruise track WH 391 (January 2016).

12 North Sea Herring Acoustic Survey

The survey took place from 29/06/16 to 18/07/16 on FRV „Solea“. Fig III.G.12 shows the cruise track and CTD positions of the German part of the North Sea Herring Acoustic Survey. Originally, an increased coverage of the area as well as longer hydroacoustic transect mileage (2289 NM) was planned. However, due to very unfavourable weather conditions and a technical problem, the cruise track had to be shortened step by step (1873 NM) leading to a 100% achievement according to the original NP.

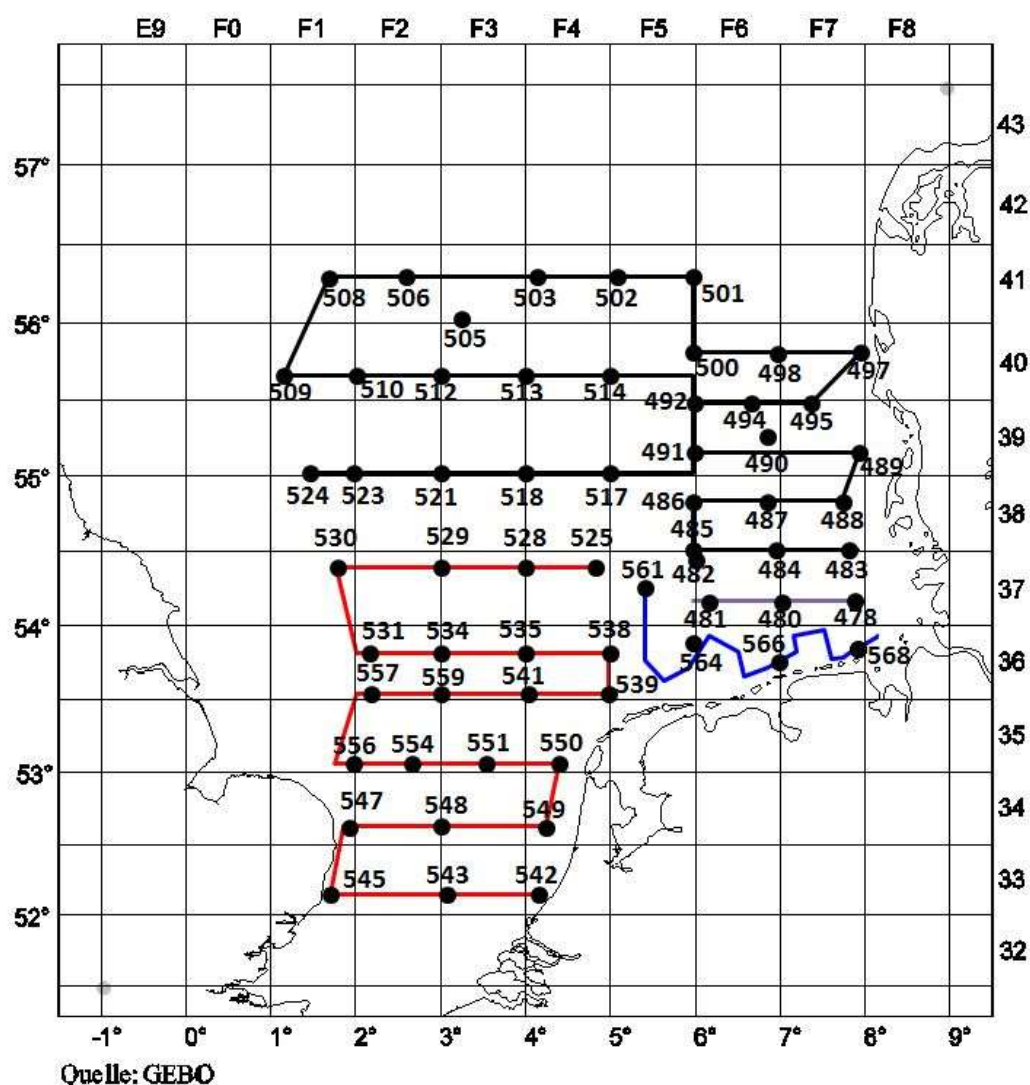


Fig. III.G.12: North Sea Herring Acoustic Survey 2016. FRV „Solea“, cruise 706. Cruise track (coloured lines) and CTD casts (black dots). ICES statistical rectangles are indicated in the top and right axis.

NORTH ATLANTIC

13 International Redfish Trawl and Acoustic Survey

The survey was not carried out in 2016, as the survey was conducted biennially. According to the responsible ICES survey planning group (WGIDEEPS), in future this survey will be conducted triennially. The next survey year is 2018.

14 Greenland Groundfish Survey

The Greenland Groundfish Survey was carried out from 08/10/16-21/11/16 on FRV “Walther Herwig III”. Fig III.G.14 shows the investigation area. There were considerable shortfalls due to technical problems including a 9-days stay in Reykjavik, so that survey goals could not be fully achieved.



Fig. III.G.14: Greenland Groundfish Survey 2016. Blue circles mark the fishing positions and biomass distribution of Atlantic cod 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 21/03/16 to 05/04/16.

16 Mackerel and Horse Mackerel Egg Survey

The German part of the mackerel and horse mackerel egg survey was carried out from 21/03/16-16/04/16 on FRV “Walther Herwig III”. Fig III.G.16 shows the cruise track and station grid. Due to the breakdown of the plankton winch, no more plankton hauls could be conducted during the 2nd leg of the survey, leading to a 53% coverage. However, a part of the remaining survey time was used to

search for adult mackerel and to conduct fishing hauls for fecundity sampling only, but the total survey time was shortened in order to repair the vessel.

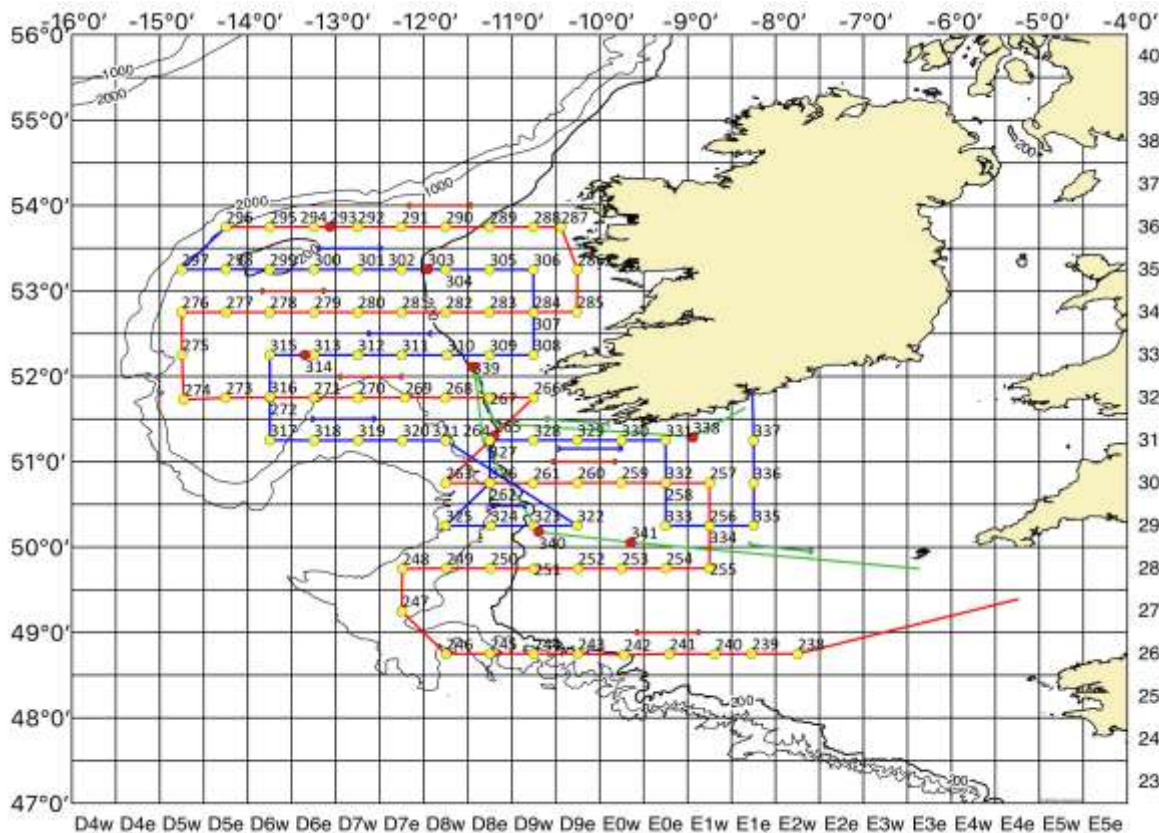


Fig. III.G.16: Mackerel and Horse Mackerel Egg Survey 2016. Cruise WH394: cruise track and station grid (yellow circles = positions of plankton hauls; red = positions of fishing hauls)

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 well maintained. However, technical problems cannot not always 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 2016, 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 2016. Due to confidentiality reasons, a publication would not have been possible anyway. More than 90% in weight 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.

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 2016. 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.

Data from the German Federal Statistical Office (Destatis) on cost are available through the annual "Report on the cost structure of Processing Trade" which is released each June (year n) and which refers to year (n-2). Thus in 2016 data on 2014 have been collected. This is in accordance with the STECF 14-24 (Preparations for future data collection under the revised DCF) report (Table 4.3.1) suggesting the rules for procedures under the EU MAP. Therefore, figures in AR Table IV.B.1 and IV.B.2 refer to 2014.

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 2016.

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, EU aquaculture sector, RCMs, ICES assessment WGs) had to be answered in 2016. 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)
CFP	(EU) Common Fisheries Policy
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
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
RCG	Regional Co-ordination Group
RCM	Regional Co-ordination 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 Skagerrak
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

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X ANNEXES

ANNEX 1: MINUTES OF NATIONAL CO-ORDINATION MEETING 2016 [IN GERMAN]

Nationales DCF-Jahrestreffen 2016

Thünen-Institut, Hamburg, 30.11.2016, 10:00 – 15:45

Protokoll

Teilnehmer/innen:

TI-OF: Steffen Hagemann, Thomas Hogh, Dr. Uwe Krumme (via Skype), Sven Stötera (Protokoll), Simon Weltersbach

TI-SF: Dr. Jörg Berkenhagen, Dr. Matthias Bernreuther, Solveig Hentsch (TI-MA, Braunschweig), Sakis Kroupis, Eckhard Leu, Timo Meißner, Kay Panten, Christian Schulte, Philipp Schweizer, Dr. Christoph Stransky (Sitzungsleitung), Jens Ulleweit (Protokoll), Thilo Weddehage, Finn Werner

TI-FI: Marko Freese, Jan-Dag Pohlmann

BLE Ref. 522, Hamburg: Wolfgang Wern, Imanuel Jeske (am Vormittag)

BLE Ref. 414, Bonn: Anna Diamant, Vilma Plum

Verhindert: TI-OF: Cornelia Albrecht, Andreas Gebel, Dr. Christopher Zimmermann; TI-SF: Michael Ebeling, Dr. Julia Wischnewski; BLE Ref. 522: Steffen Holz

1. Datenerhebung 2016: Erfolge & Probleme

a. Beprobungen auf See, Kommunikation mit der Fischerei

TI-OF: Die Beprobung ist 2016 insgesamt positiv verlaufen, die zufallsbasierte Beprobung hat sich bewährt. Seit der Bekanntgabe der (Westdorsch-)Quote für 2017 verläuft die Kommunikation mit den Fischern allerdings schlechter, Mitfahrten und Proben waren schlechter zu bekommen und auch insgesamt ist die Stimmung bei der Kommunikation dadurch gereizter geworden.

Die Quoten für Hering und Sprotte in der Ostsee sind fast ausgefischt, für die beiden Dorschbestände ist noch sehr viel Quote ungenutzt geblieben und wird dieses Jahr auch nicht mehr gefangen werden. Im BITS sind im Herbst sehr viele Jungdorsche gefangen worden - dies sind allerdings erstmal nur nationale Ergebnisse, die 2017 mit den anderen Nationen verglichen werden müssen.

TI-SF: Beprobungen sind insgesamt ebenfalls gut verlaufen. Der Umfang an Mitfahrten und biologischen Proben entspricht weitestgehend den Vorgaben des Nationalen Programms. Probleme gibt es v.a. bei der Krabbenfischerei (niedrige Fänge, hohe Preise).

Die Seebeprober merken hier an, dass das TI bei vielen Fischern weiterhin als „Kontrollinstanz“ gilt. Der Beifang von "PETS"-Arten und anderen Ereignissen (hohe BMS-Rückwürfe etc.) ist zwar logbuchpflichtig, wird aber häufig nicht gemeldet. Die Beprober nehmen diese Fänge für die wissenschaftliche Verwendung auf, die Fischer befürchten hierbei aber oft eine Kontrolle.

Die Seebeprober wünschen sich einen FAQ-Katalog mit Antworten zu den häufigsten Fragen vonseiten der Fischer.

b. Beprobung der Freizeitfischerei

Anglersurvey: Daten für 2016 liegen noch nicht vollständig vor. 2015 wurden 323 Beprobungen durchgeführt und dabei über 1500 Angler befragt und etwa 3800 Dorsche vermessen. Die Hochrechnung dieser Daten hat gezeigt, dass die deutsche Freizeitfischerei auf Westdorsch inzwischen eine ähnliche Menge entnimmt wie die deutsche, kommerzielle Fischerei. Aufgrund der schlechten Bestandssituation des Westdorsches gilt ab 2017 eine Beschränkung bei der Fangmenge für die Freizeitfischerei, Angler dürfen nur noch 5 Tiere pro Tag entnehmen (3 Tiere während der Schonzeit im Februar und März).

Lachstrolling: Die Entnahme von Ostseelachs wird mittlerweile durch die Angelfischerei dominiert. In der deutschen Freizeitfischerei wird Lachs fast ausschließlich beim Trolling (Schleppangeln) im Bereich Rügen gefangen und die Saison dauert etwa von Dezember bis Mai. Für die Erhebung des Angelaufwandes

und der Fänge wurde 2016 im Rahmen einer Masterarbeit eine Pilotstudie durchgeführt. Die Pilotstudie diente dazu eine kontinuierliche Datenerhebung zu entwickeln, die in 2017 beginnen soll. Zur Erhebung des Angelaufwandes werden in den relevanten Häfen Trollingbootausfahrten gezählt. Zeitgleich werden Anglerbefragungen vor Ort durchgeführt, um die Einheitsfänge zu ermitteln.

Heilbutt-Studie: Im Rahmen unserer Kooperation mit dem norwegischen Meeresforschungsinstitut (IMR) wurde eine Untersuchung zur Stressphysiologie nach dem Fangen-und-Zurücksetzen (C&R) in der Angelfischerei am Beispiel des Heilbutts durchgeführt. Dazu wurde den Fischen Blut entnommen und verschiedene mit Stress assoziierte Blutparameter gemessen, die nun in den Analysen mit verschiedenen Fangparametern verschnitten werden können. Außerdem wurde ein Vitalitätsassessment basierend auf äußerlich erkennbaren Reflexen durchgeführt. Es konnte viel praktische Arbeitserfahrung für stressphysiologische Untersuchungen bei Fischen gesammelt werden, die sicherlich auch bei uns Anwendung finden können (z.B. Thema „Magerdorsche“ in der östlichen Ostsee oder mögliche nicht letale Effekte bei geangelten und zurückgesetzten Dorschen). Die Ergebnisse werden 2017 erwartet.

Nebenerwerb: Im Rahmen einer Bachelorarbeit wurde zur Charakterisierung der Nebenerwerbsfischerei (Demographie, Ökonomie, Fischereipraxis) eine postalische Befragung aller Nebenerwerbsfischer der deutschen Ostsee mittels eines Fragebogens durchgeführt. Etwa 25% der angeschriebenen Nebenerwerbsfischer haben an der Befragung teilgenommen. Die vollständige Auswertung im Rahmen der Bachelorarbeit wird Anfang 2017 vorliegen.

c. Beprobung der kommerziellen Fischerei auf Aal in Binnengewässern

Insgesamt sind vier Publikationen in 2016 veröffentlicht worden. Die Saison 2016 ist soweit beendet, die Beprobungszahlen liegen leicht unter den Vorgaben des NP. Männchen sind in den Beprobungen immer noch unterrepräsentiert, da diese kleiner sind als Weibchen und durch die Netze schlüpfen.

Aalmodell: Die bisherige Berechnung des Aalmodells wird durch den anstehenden Ruhestand von Rainer Oeberst (TI-OF) wegfallen. Hier wird in 2017 eine Nachfolge gesucht werden müssen. Auch die beiden Stellen für die Datenerhebung werden neu ausgeschrieben.

ICES WGEEL: Ein großes Manko bisher ist die nur national stattfindende Berechnung für den Europäischen Aal. Es gibt keine einheitliche Berechnung oder Datenprüfungen. Es gibt dadurch keinen fundierten Advice und keine Bestandsabschätzung. 2017 wird voraussichtlich ein Datencall zum Aal erfolgen.

d. Datenerhebung im Bereich Ökonomie

i. Flottenökonomie

Die Fragebögen für 2016 sind verschickt worden. Auch hier gab es bereits negative Rückmeldungen, die durch die Kürzungen der (Westdorsch-)Quote begründet worden sind.

ii. Fischverarbeitung

Keine Meldungen

iii. Aquakultur

Keine Meldungen

e. Logbuch- und Anlandedaten

Die Daten für 2016 werden wie gewohnt im Februar fertig sein und dem TI zur Verfügung gestellt. Ab 2017 gilt ein neues erweitertes Logbuch für die Fischerei. Auch bei Schiffen <12m wird nun die Fangtiefe abgefragt. Diese ist jedoch nicht obligatorisch und nicht genau definiert (z.B. Kopftautiefe, Lottiefe etc.). Die Angaben zu BMS-Anlandungen sind zwar einzutragen, doch es werden nur "Alibi-Mengen" angegeben. Wissenschaftliche Fänge erhalten zukünftig das Kürzel „SCI“ und werden als Fangkategorie im Logbuch eingetragen.

f. Zugang zu VMS-Daten

VMS-Datenlieferung läuft wie geplant über SFTP-Server.

2. Datenverarbeitung und Datenbanken: Stand & Zukunft

a. Nationale Datenbank(en), Logbuch-/Anlandedaten

s. oben, zukünftig erfolgt Lieferung der Logbuch- und Anlandedaten aus der neuen FIT-Datenbank (hier sind noch Anpassungen nötig).

b. Regionale Datenbanken (RDB FishFrame)

Der ICES steuert hier weiterhin von der nationalen zur regionalen Datenverarbeitung. Regionalpläne (z.B. gemeinsame Beprobungspläne zwischen MS) sollen entwickelt werden, die RDB wird weiter ausgebaut und soll intensiver regional genutzt werden.

Einschub in der Tagesordnung: Übersicht DCF/EMFF (Dr. Christoph Stransky), Vortrag EMFF-Begleitausschuss Bonn 24.11.2016 – Historie, Entwicklung des Datenerhebungsprogrammes, gesetzliche Grundlagen (Rahmen-VO, EU MAP, Nationale Programme), Wechsel zur geteilten Mittelverwaltung von direkter Mittelverwaltung, zur Reform: Kernelemente sind geblieben, aber weniger detaillierte Vorschriften zur Erhebung + Regionalisierung + bessere Nutzung + neu: Beifänge/Ökosystemansatz/soziale Daten/Umweltauswirkungen Aquakultur + freiwillig Daten aus Süßwasseraquakultur/Fischverarbeitung

3. Datennutzung

- a. Daten-Abruf durch die EU
 - i. Ökonomie
 - ii. Fischereiaufwand
- b. ICES-Datenabrufe
- c. Datenübermittlung (Tabellen der EU-KOM auf Basis der Antworten von Datennutzern)
-> alle Datenabrufe 100% beantwortet durch Deutschland (vgl. STECF-Berichte zur Evaluierung der Jahresberichte & Datenübermittlung)

4. Regionale Koordinierung: Ergebnisse der Regionalen Koordinierungstreffen (RCMs)

- a. RCM Long-Distance Fisheries (Vilnius/LTU, 7.-10.6.2016 - Panten)
- b. RCM Baltic (Rostock, 29.8.-2.9.2016 – Krumme, Stötera, Freese)
- c. RCM North Sea & Eastern Arctic (Edinburgh/UK, 5.-9.9.2016 - Stransky)
- d. RCM North Atlantic (Lissabon/PRT, 12.-16.9.2016- Ulleweit)
- e. Liaison Meeting (Brüssel, 4.-5.10.2016 – Krumme, Stransky)

Die RCMs sind weiterhin auf dem Weg zu regionalen Gruppen (RCGs) im Zuge der Umsetzung des EU-MAP und der nationalen Arbeitspläne. Im nächsten Jahr sollen erstmal überregionale Untergruppen gebildet werden, welche Kernaufgaben (etwa die Datenauswertung) vorab bearbeiten sollen, um so die eigentlichen RCGs zu entlasten. Unbekannt sind bisher die Auswirkungen des "Brexit".

5. Ergebnisse relevanter Arbeitsgruppen, Workshops und Konferenzen

a. *STECF-Expertenarbeitsgruppen (EWGs), PGECON*

STECF-EWG zur Evaluierung der Jahresberichte war im Juni, deutscher Bericht mit „yes“ bewertet. Die nationalen Arbeitspläne für 2017-2019 (Workplans) sind größtenteils akzeptiert worden (EWG im November) und können in Kraft treten (*Anm.: Dt. Arbeitsplan ist am 14.12.2016 angenommen worden*). Vom STECF vorgeschlagene redaktionelle Änderungen können später eingepflegt werden. PGECON und weitere STECF-Treffen waren durch deutsche Vertreter besetzt.

b. *ICES-Expertengruppen (PGDATA, WGBIOP, WGCATCH, etc.)*

Kurzer Überblick über Aufgaben und Besetzung der Gruppen (PGDATA - Stransky, WGBIOP – Planung der Altersleseworkshops etc. – Stransky, Krumme, WGCATCH – Wischniewski, Krumme), dazu weitere Gruppen z.B. Altersleseworkshops / Freizeitfischerei (WGRFS) / WGBYC / WGTRUTTA und die Besetzung der Assessmentgruppen.

6. Europäischer Meeres- und Fischereifonds (EMFF), Mehrjahresprogramm zur Datenerhebung (EU MAP)

s. Einschub oben

7. Nationaler Arbeitsplan 2017-2019: Status & weitere Planung

s.o., Mehrjahresplan wurde anerkannt, keinen gravierenden Handlungsbedarf für DEU, Fortführung der bisherigen Beprobungspläne, bei zukünftigen Regionalplänen evtl. Anpassung nötig sowie nach Input von Drs. Bernreuther / Wischniewski zur besseren statistischen Herangehensweise auch Änderungen möglich.

8. Datenqualität: Beprobungsanleitung, Datenvalidierung

Die Anleitungen zur Beprobung sollen im Rahmen des Arbeitsplans 2017-2019 ausgebaut werden. Zum Thema "Datenqualität" ist ein STECF-Workshop im nächsten Jahr geplant. Dokumentierung wird zunehmend ernst genommen.

9. Projekte & Studien

-

10. Internetportal dcf-germany.de

steht weiterhin zur Verfügung, wird aktualisiert mit neusten Verordnungen, Arbeitsplänen, Veröffentlichungen etc.

11. Veröffentlichungen

s. Portalseite dcf-germany.de (Dokumente)

12. Verwaltung (Zeiterfassung, Reisekostenabrechnungen, Finanzen -> Neuerungen unter EMFF, Personal)

Das Fachreferat 311 der BLE übernimmt 2017 die Abrechnungen von Reisekosten. Dafür soll es vorher noch eine Schulung geben. Es ist mit strengeren Prüfungen zu rechnen, wie etwa dem Nachweis tatsächlich gefahrener Strecken bei Nutzung des eigenen PKW.

Stundenzettel nur noch nötig bei Personal mit anteiliger DCF Beschäftigung.

Planung für 2017:

a. *Sonderfängerlaubnisse 2017*

Werden noch vor Weihnachten verschickt. Achtung: **Neues Anmeldeformular für**

Beprobungsreisen!!

b. *Bedarf an Koordinierungstreffen, bilateralen Treffen etc.*

Treffen mit NL geplant, ansonsten RCMs/RCGs

c. *Jahresbericht 2016:*

Einreichfrist **31.Mai 2017!**

13. Sonstiges

- keine Anmerkungen

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 a slight increase in annual glass eel recruitment during the past years, recruitment is still low (2.7% of the 1960-1979 average in the 'North Sea' and 10.7% in the 'Elsewhere' series). Thus, the stock situation remains critical (ICES 2016).

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 facultative 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 the EU-Data Collection Framework (2008/199/EC) in German freshwater habitats

Sampling in Germany started in May 2016. 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 transformation from DCF to EU MAP (starting in 2017), the national proposal for the sampling of eel in German River Basin Districts (RBDs) remained unchanged for 2016. 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 in the Oder river was organized within an official bilateral agreement between Poland and Germany, stating that Poland is responsible for reporting DCF data for the Oder RBD to the EU, granting Germany access to the respective data. In total, 584 eels (excluding around 200 eels from the river Oder) were sampled in 2016 (see table 1).

As above-mentioned the pilot phase officially ended in 2016. During this phase, the development of habitat specific growth functions was considered an important objective to meet end-user requirements (e.g. calculation of silver eel escapement based on German eel model by regional authorities). Therefore, sampling in some RBDs focused on the collection of specific life stages and sizes in order to provide a complete dataset of length-back calculations from otoliths, facilitating the development of the aforementioned growth curves. Given the increased effort of this data collection, sample sizes were smaller, as compared to previous years. Sampling in the RBDs Elbe and Warnow/Peene, where respective datasets are available from national monitoring programs, was considered subordinate, with no data being collected in the Warnow/Peene.

Yellow eels were mostly collected in spring/summer and silver eels in autumn (for detailed information see tab. 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.

Due to the limited number of commercial fishermen and better comparability, sampling was restricted to only few locations. To optimize sampling, eels were preferably collected downstream in the system (figure 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.

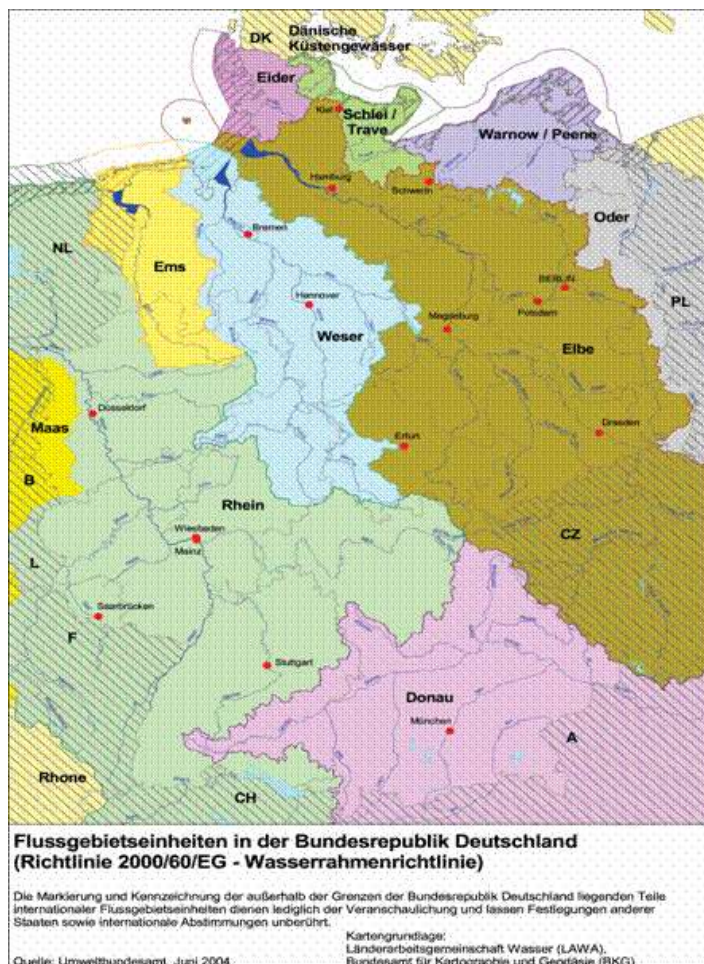


Figure 1: River Basin Districts (RBD) in the Federal Republic of Germany

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).

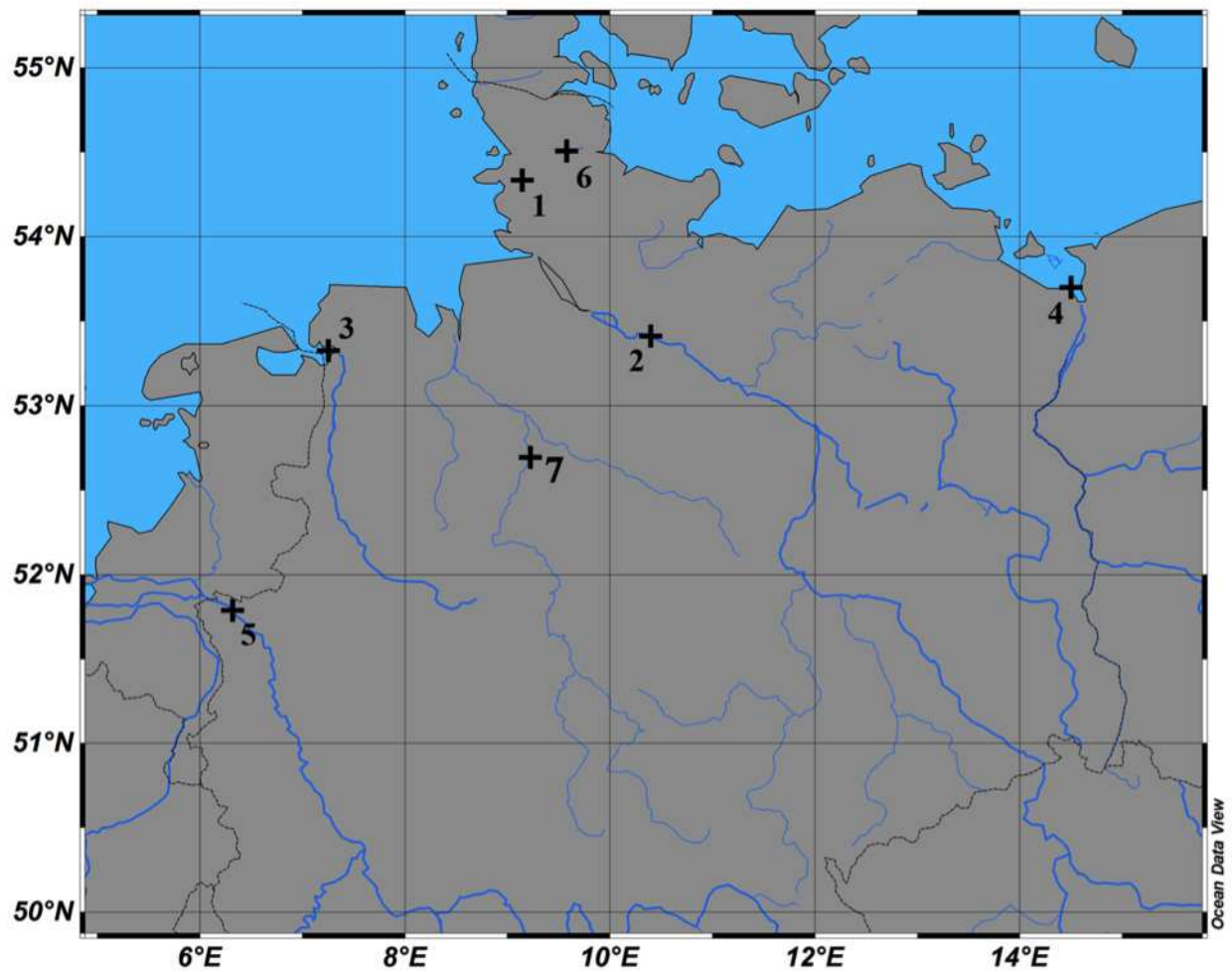


Figure 2: Overview of the spatial resolution for concurrent sampling of eels in German River Basin Districts (RBD)

Black crosses: Places of commercial eel catches, where samples were collected. For the Schlei/Trave (inland waters) 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 (Schlei fjord): 6
 Weser: 7

Table 1: Detailed sampling scheme per RBD in the year 2016. Yellow eels were classified as stage 1-3, silver eels as stage 4-6 after Durif et al. (2005).

No.	RBD	Sampling Time	Sample Size (n)*		Total	Gear
			Y	S		
1	Eider	July 2016	28	30	58	Fyke
2	Elbe	June 2016	69	7	76	Fyke
3	Ems	June 2016	48	52	100	Fyke
4	Oder	DATA COLLECTION COVERED BY POLISH REPORT				
5	Rhine	June 2016	72	4	76	Fyke
6	Schlei/Trave (Schlei Fjord)	Oct 2016	5	14	19	Fyke
6	Schlei/Trave (inland waters)	May 2016	14	62	77	Fyke
7	Weser	June 2016	85	1	86	Fyke
7	Weser	Nov 2016	3	89	92	Stow Net
TOTAL			324	259	584	

*: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.

	Baltic	North Sea	Total
Age*	81	293	374
Length	96	488	584
Mass	96	488	584
Maturity	95	488	583
Total	96	488	584

*: 176 age readings for the North Sea were not available at the time of the report. The remaining difference

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:

In Denmark (DTU-Aqua): Marie Storr-Paulsen: msp@aqua.dtu.dk

In Germany (vTI): Kay Panten (North Sea): kay.panten@vti.bund.de

Nik Probst (Baltic): nikolaus.probst@vti.bund.de

Signatures:

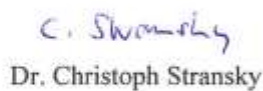
For Denmark (DTU-Aqua)


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.

Contact persons:

In Sweden (IMR): Maria Hansson: maria.hansson@fiskeriverket.se
In Germany (vTI): Kay Panten (North Sea): kay.panten@vti.bund.de
Nik Probst (Baltic): nikolaus.probst@vti.bund.de

Signatures:

For Sweden (SBF)



Dr. Joakim Hjelm

Director Institute of Marine Research

For Germany (vTI)



Dr. Christoph Stransky

German National Correspondent

Johann Heinrich von Thünen-Institut

Bundesforschungsinstitut für
Ländliche Räume, Wald und Fischerei
Institut für Seefischerei
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

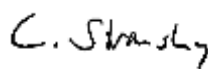
Signatures:

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.

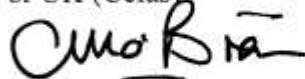
Contact persons:

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

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

Signatures:

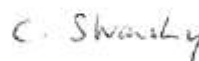
For UK (Cefas)



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:

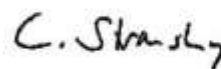
Poland



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

April 2015

This Amendment adapts the Amendment dated December 2014 to extend the effective time-frame for this multi-lateral agreement and to reflect budget modifications for 2016. This amendment commences 1st of January 2016.

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 Member States concerned in June 2011, and amended in December 2014, is amended as follows from 1st January 2016 onwards:

Term:

The multi-lateral agreement is extended until 31 December 2016.

Costs:

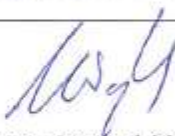
The cost share of the total costs for 2016 for each Member State follows a key based on the share in average landings in 2008-2012, as previously agreed. Following EMFF co-funding rules, co-funding of the national expenses shall be covered through the National EMFF budget of each respective Member State.

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
Germany	0	0	20,650	37,088	14,582	14,464	4.96%	€ 3,358
Latvia	68,410	81,283	87,237	89,667	30,723	71,464	24.51%	€ 16,593
Lithuania	120,100	124,480	116,040	121,000	44,133	105,151	36.06%	€ 24,413
Netherlands	83,630	68,019	92,980	55,044	34,926	66,920	22.95%	€ 15,537
Poland	17,709	46,287	14,605	60,177	29,178	33,591	11.52%	€ 7,799
TOTAL	289,849	320,069	331,512	362,976	153,542	291,590	100.00%	€ 67,700

Signatures for agreement

Member State	Name	Function	Signature
Germany	Christoph Stransky	National Correspondent	 Date: 22 April 2015
Latvia	Aivars Berzins	Director, Institute of Food Safety, Animal Health and Environment BIOR	 Date: 28 May 2015
Lithuania	Indre Sidlauskiene	Director, Fisheries Service under the Ministry of Agriculture of the Republic of Lithuania	 Date: 14 May 2015
The Netherlands	Sieto Verver	Head Centre for Fisheries Research	 Date: 22 April 2015
Poland	Ireneusz Wójcik	Head of Department of Logistics & Monitoring	 Date: 22 April 2015

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.

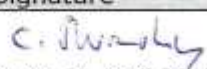
Access to vessels

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 Sidlauskienė	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".