

TECHNICAL REPORT

GERMAN NATIONAL FISHERIES DATA COLLECTION

2009

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I GENERAL FRAMEWORK

The German National Programme (NP) 2009-2010 for sampling of fisheries data 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 2008/949/EC. The Technical Report (TR) 2009 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 2008/949/EC.

The report year is 2009. If the reference year differs from the report year, it is accordingly stated in the sections for Modules IV and V.

IMPORTANT NOTES:

Standard tables: This TR is based on the "Guidelines for the submission of Technical Report on the National Data Collection Programmes, Version 2009", which is related to the layout and contents of the NP 2011-2013. Due to the fact that the outline and tables of the NP 2009 (= part of the NP 2009–2010) were different and not congruent to the NP 2011-2013, not all cells in the standard tables could be filled.

Precision estimates: The hands-on workshop for the 'COST project' (FISH/2006/15, Lot 2) tools and implementation (ICES WKCOST) was only carried out in late April 2010 shortly before the deadline of the Technical Reports. Although Germany made every effort to convert the 2009 data into the COST format, it was not possible to provide all precision estimates (see section III.C.2 Baltic Sea). Germany is currently working on this issue in order to give all required precision estimates in future.

II NATIONAL DATA COLLECTION ORGANISATION

II A NATIONAL CORRESPONDENT AND PARTICIPATING INSTITUTES

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

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Website: <http://www.ble.de>

The **BLE** (unit 522) holds the fishing vessel list including capacity data based on EU Regulations 2090/98, 2091/98 and 2092/98 as well as landings and effort data based on EU Regulations 2807/83 and 2897/93. The BLE unit 621 (formerly unit 422) is responsible for the central database of all national fisheries-related data and central IT services.

The **vTI** collects biological and economic data, biological survey data as well as data from sampling of commercial fishing vessels under German flag. The vTI-OSF is responsible for the Baltic Sea and recreational fisheries sampling, while the vTI-SF is responsible for the North Sea & Eastern Arctic, Northeast Atlantic and the other areas. The vTI-FOE is responsible for the pilot study on eel sampling.

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

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BLE and vTI are institutions under the auspices of the Bundesministerium für Ernährung, Landwirtschaft und Verbraucherschutz (**BMELV**) (Federal Ministry of Food, Agriculture and Consumer Protection).

Within the institutions of BMELV, responsible persons are appointed in order to co-operate and implement the NP. The vTI-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.

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 (Other regions). Apart from regional (multilateral) agreements established at the RCMs, Germany currently holds bilateral agreements with Denmark, Sweden, The Netherlands and the UK on sampling foreign-flag vessels, see NP. 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.

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 2009. 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. With regard to 'Long Distance Fisheries', few vessels under German flag were operating in fisheries on small pelagic species in the Southeast Pacific (FAO area 87). In contrast to earlier years and as stated in the NP, no fishing was conducted by German flagged vessels in the CECAF area (Mauritanian EEZ). Also, other than stated in the NP, Germany has no deep-sea fisheries in the North Atlantic, as no deep-sea fish stocks as listed in Reg. (EC) 2347/2002 are targeted.

III B ECONOMIC VARIABLES

III B 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

On the "Imputed value of unpaid labour": The basis number for an average annual salary has been altered from 37.000 €, as provided in the NP, to 30.600 €, which in the meantime had been published by the Federal Statistical Office as a more appropriate number.

On "Energy costs": A distinction has been introduced between types of fuel. 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 and one for larger vessels > 3000 kW.

On the Value of physical capital: The basis for the calculation of physical capital has been the price per GT unit. In the NP, it was stated the price per GT will be distinguished by fleet segment. Due to the low number of actual first sale or building prices, this concept could not be applied. Instead the same price per GT unit has been applied to all fleet segments.

The clustered segment named „Vessels using other active gears 24-40 m*“ in the NP has been renamed into „dredgers 24-40 m*“ in the TR as the cluster represents dredgers only.

Due to its size, the segment "DFN12-18m" could be published separately and was therefore excluded from the clustering as scheduled in the NP. Accordingly, the name of the clustered segment has been changed from "Drift and/or fixed netters 12-18 m*" into "Drift and/or fixed netters 24-40 m*".

Clustering of the pelagic vessels is irrelevant in practice, as the data cannot be published for confidentiality reasons anyway.

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

There has been no specific requirement for data quality specification in the NP proposal, as the guidelines had not been effective at the NP due time. However, the requested indicators have been calculated as far as they are available and meaningful.

The bias indicator "coverage rate" (planned and achieved), as requested in the SGECA 09/02 report, is not presented in table III_B_3 since it is identical with the "planned sample rate" and "achieved sample rate" as provided in table III_B_1.

In addition to the template table, the subsequent figure gives a thorough and specific overview over the sampling and response rates achieved in the 2009 data collection, containing also the rates for the segments in both clustered and unclustered formats. Moreover, a comparison is available between the fleet at the reference date Jan 1 and the entire number of vessels which have been part of the German fleet for any time of the year:

Specification of sampling and response rates for German fleet 2008																				
fleet segment	Ref. Time = Jan_1			Ref. Time = all_2008			no. of responses			no. vessels polled			total			%		Cluster		
	active	nonactive	sum	active	nonactive	sum	Census	NSS	PSS	Census	NSS	PSS	polled	response	populatio n	response	polled	populatio n	response	polled
DFN1218	16	2	18	16	2	18		6	2		6	7	13	8	18	44%	72%			
DFN1824	2	0	2	2	0	2	0			2	0	2	2	0	2	0%	100%			
DFN2440	5	0	5	6	0	6					0	3	3	0	6	0%	50%	10	10%	60%
DRB1218	1	0	1	1	0	1	0			1	0	1	1	0	1	0%	100%			
DRB2440	3	4	7	3	4	7	2		2	7	0	7	7	2	7	29%	100%	12	25%	100%
DRB40XX	3	1	4	3	1	4	1		1	4	0	4	4	1	4	25%	100%			
DTS0010	2	0	2	2	0	2					0	1	1	0	2	0%	50%			
DTS1012	14	0	14	14	0	14		5			5	2	7	5	14	36%	50%	16	31%	50%
DTS1218	41	1	42	42	1	43		26		26	14		40	26	43	60%	93%			
DTS1824	31	2	33	31	2	33		12		12	2	2	14	12	33	36%	42%			
DTS2440	12	1	13	14	3	17		1	3		1	3	4	4	17	24%	24%	25	48%	48%
DTS40XX	8	0	8	8	0	8	8		8	8	0	8	8	8	8	100%	100%			
FPO1218	1	0	1	1	0	1	1	1		1	1		1	1	1	100%	100%			
FPO1824	0	0	0	0	0	0	0			0	0		0	0	0	0%	0%			
FPO2440	1	0	1	1	0	1				0	0		0	0	1	0%	0%			
PG0010	884	473	1357	912	486	1398		5	69		5	348	353	74	1398	5%	25%			
PG1012	76	6	82	77	6	83		18	2		18	21	39	20	83	24%	47%			
TBB0010	17	12	29	17	13	30			1		0	9	9	1	30	3%	30%			
TBB1012	6	1	7	6	1	7					0	2	2	0	7	0%	29%	37	3%	30%
TBB1218	147	8	155	148	8	156		61			61	1	62	61	156	39%	40%			
TBB1824	64	2	66	64	2	66		22			22	1	23	22	66	33%	35%			
TBB2440	9	0	9	9	0	9	1		1	9	0	9	9	1	9	11%	100%	11	9%	91%
TBB40XX	2	0	2	2	0	2					0	1	1	0	2	0%	50%			
TM1012	1	0	1	1	0	1					0		0	0	1	0%	0%			
TM1218	1	0	1	1	0	1	1		1	1	0	1	1	1	1	100%	100%			
TM1824	0	0	0	0	0	0	0			0	0		0	0	0	0%	0%			
TM2440	5	0	5	5	0	5	4	4		5	4	1	5	4	5	80%	100%			
TM40XX	5	0	5	5	0	5			4			4	4	4	5	80%	80%	12	75%	83%
Σ	1357	513	1870	1391	529	1920		161	94		161	452	613	255	1920					

Reason for applying non probability sampling: data for some segments are mainly collected under the rules of the Farm Accountancy Data Network (FADN -

http://ec.europa.eu/agriculture/rica/pdf/site_en.pdf) which already includes a thorough quality check.

As the participation is voluntary and the sample can be regarded as a panel, the sampling strategy is NSS. The sample rate is usually >30%, which is regarded as sufficiently high. As an additional measure, the distributions of variables which are exhaustively available are compared between the entire population and the sample. As the results of the NSS are weighted by these variables within the estimation procedure, the effect of potential biases is compensated as far as possible.

Error and accuracy indicators for FTE and capital values: 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). 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 doubtful whether the indication of accuracy and sampling strategy are really appropriate and informative. The same applies to the debt/asset ratio, of which the capital value is a component.

Value of accuracy indicators: In some cases, CV could not be calculated, because no figures were provided by the companies. This was the case in particular for the PG0008 segment survey (e.g. the variables “other income”, “direct subsidies”).

Characterisation of fleet segments in sheet III_B_3, column K: For the sake of brevity, the segment codes have been adjusted to the related length groups, which are not necessarily the “official” length class borders.

III B 3 FOLLOW-UP OF REGIONAL AND INTERNATIONAL RECOMMENDATIONS

No recommendations.

III B 4 ACTIONS TO AVOID SHORTFALLS

No shortfalls.

III C METIER-RELATED VARIABLES

Note that Tables III.C.3 and III.C.4 were filled for all regions with the same data, as the differentiations listed in Table III.C.4 (Sampling frame: Fishing activities, geographical location and seasonality) were not requested in the NP 2009, see also comment in section I (General Framework). For information collected during the sampling year regarding the number of sampled trips and numbers of age and length sampling, refer to the standard tables III.C.3 – III.C.6. Zeros in the discard column in Table III.C.5 are indicating that there were no discards observed on the sampled trips.

III C BALTIC SEA

III C 1 Achievements: Results and Deviation from NP Proposal

Legend:

At sea: Samples of the trip drawn by an observer on board fishing vessel (concurrent) at sea

Other: Samples of the trip drawn in a harbour or by a fisherman at sea (self sampling)

Total: Sum of all trips

NP: No trip planned

2224 PTM_SPF_32-104_0_0

Sampled metiers: PTM_SPF_32-104_0_0, PTM_SPF_32-89_0_0, PTB_SPF_32-104_0_0, PTB_SPF_32-89_0_0, OTB_SPF_32-89_0_0

At sea: $3 / 4 = 75\%$, Other: $13 / 12 = 109\%$, Total: $16 / 16 = 100\%$

Reason for shortfall: Lower quota in herring lead to less trips and hence chance to embark.

2224 PTB_SPF_16-31_0_0

Sampled metiers: PTB_SPF_16-31_0_0

At sea: $0 / 0 = \text{NP}$, Other: $1 / 1 = 100\%$, Total: $1 / 1 = 100\%$

2224 GNS_SPF_32-109_0_0

Sampled metiers: GNS_SPF_32-109_0_0, FYK_SPF_0_0_0

At sea: $0 / 0 = \text{NP}$, Other: $20 / 21 = 95\%$, Total: $20 / 21 = 95\%$

The number of trips was limited due to a lower herring quota.

2224 OTB_DEF_>=105_1_110

Sampled metiers: OTB_DEF_>=105_1_110, PTB_DEF_>=105_1_110

At sea: $20 / 9 = 222\%$, Other: $21 / 23 = 91\%$, Total: $41 / 32 = 128\%$

Reason for exceeding: The planned number of trips is based on experience. Due to an increase in at-sea sampling staff, the trips to sample concurrently at sea increased as well.

2224 GNS_DEF_110-156_0_0

Sampled metiers: GNS_DEF_110-156_0_0

At sea: $7 / 3 = 233\%$, Other: $1 / 3 = 33\%$, Total: $8 / 6 = 133\%$

The sampling frame comprises the often together used metiers GNS_DEF_110-156_0_0 and GTR_DEF_110-156_0_0. Due to an increase in at-sea sampling staff, the samples needed not to be purchased.

Reason for exceeding: The planned number of trips was influenced from the experience of difficulties to embark the smaller boats and even to purchase samples from the usually small catch.

2224 MIS_FWS_0_0_0

Sampled metiers: MIS_FWS_0_0_0

At sea: $0 / 0 = \text{NP}$, Other: $4 / 2 = 200\%$, Total: $4 / 2 = 200\%$

The sampling frame comprises the metiers MIS_FWS_0_0_0, GNS_FWS_0_0_0 and a few OTB_FWS_0_0_0.

Reason for exceeding: The planned number of trips was low due to missing experience in this metier.

2532 PTM_SPF_16-104_0_0

Sampled metiers: PTM_SPF_16-31_0_0, PTM_SPF_16-104_0_0, PTB_SPF_16-104_0_0

At sea: $0 / 2 = 0\%$, Other: $5 / 0 = \text{NP}$, Total: $5 / 2 = 250\%$

Reason for shortfall: The target species sprat is now sampled regularly in foreign harbours. The at-sea sampling aimed at observation of the by-catch situation. The trips start in foreign harbours. This results in difficulties in coordination to embark.

2532 OTB_DEF_>=105_1_110

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

At sea: $13 / 2 = 650\%$, Other: $6 / 3 = 200\%$, Total: $19 / 5 = 380\%$

Reason for exceeding: The planned low numbers based on last years' experience. Due to an increase in at-sea sampling staff, the number of trips increased as well.

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

It was decided to use the COST package (outcome of project FISH/2006/15 Lot 2) for calculation of precision levels for the 2009 data. However, the usage of COST was not straightforward and caused considerable problems:

- The import of data provided a major obstacle for the usage of COST and considerably shortened the tight time window for preparing the CV estimates. Unfortunately, it turned out that in spite of intense conversion efforts, the German national databases are not fully adapted to the COST format yet. The complete preparation of landings (CL) and effort (CE) data in the required COST format was not possible within the limited time. For Baltic Sea species, data was available only for cod.
- To raise discards to the total landings, effort data is required by COST. Effort data, however, was not yet available in the COST format by 31 May 2010. Therefore, CV on discard estimates could not be calculated.
- Even after the successful participation in the COST training workshop in late April 2010, intense study and exercise of the COST manuals and previous experience with the underlying software 'R', it was not simple to calculate all required precision parameters using COST. More user-friendliness would facilitate the application of COST for inexperienced users.
- The R-script in Annex 4 gives an impression on the amount of programming required. One major problem was the necessity to raise the data by species, implying that for each species, the script length increases considerably. To reduce the length of the script, it was decided to calculate CVs only analytically. The script volume would double when calculating additional bootstrap precisions, as for each new approach, additional db-objects need to be created. The same problem arises for the separate calculation of precisions on discards and landings.
- It is not fully understandable why COST needs to raise the sampling data by landing statistics to calculate CV. The necessity to obtain landing statistics stratified by metier, month and statistical rectangle doubled the amount of required data to calculate CV.
- It became evident that the COST routines to calculate precision are not in full accordance with the layout requirements of the TR, e.g. the calculation of length@age parameters is not implemented within COST. Thus, not all parameters could be calculated for the present TR.
- Using the HL table from the national COST data, CV for length measurements could be calculated. However, the data could not be separated by stock and thus CV values had to be calculated by species only. Furthermore, for calculating sampling precisions of age data, the raising of age data to the total catch would have been required, which could not be performed due to the lack of data compatibility (no effort data available).
- In conclusion, COST can be considered as a useful tool for analysing and raising the sampling data of national institutes. However, to allow an efficient use of COST for future TR, COST should become more user-friendly and better adapted to the requirements of the TR. For the preparation of the TR, a routine for calculating CVs analytically and by bootstrapping for required biological parameters for each stock would facilitate the preparation of the TR. Furthermore, the format and requirements of the TR should remain constant over the next years to avoid a necessity for constant adaptation of COST.

III C 3 Follow-up of regional and international recommendations

To allow meaningful international task sharing, the German métiers were described in template forms (see RCM Baltic 2010).

Source	Message	Follow-up
RCM Baltic 2009 Recommendation	Prepare exchange of sampling data, national ranking data and métier descriptions for the task sharing before RCM Baltic 2010.	German sampling and national ranking data was provided to the RCM Baltic in May 2010. The German métiers were described in the demanded template forms (see RCM Baltic 2010).

III C 4 Actions to avoid shortfalls

The sampling scheme for selecting vessels is still opportunistic, as true random sampling is far from possible. The chance to embark on a vessel depends on the quota, the length of the fishing season and last but not least on the readiness of the fishermen to take an observer on board. The latter is sometimes influenced by current consequences of the fishery policy, which causes single fishermen to decline from assisting the DCF. Thus, the vTI-OSF tries to cover all fleet segments, selecting sampling opportunities to meet the spatial, temporal and technical sampling strata. Furthermore, through various trust-building programmes such as ecolabelling initiatives, the vTI-OSF attempts to improve the cooperation of fishermen.

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 very conservatively for 2009. On the other hand, conservative planning leads to exceeding the sampling plan resulting in so-called 'oversampling'. However, oversampling may not be the right term, as for statistical purposes, the sampling intensities are usually not too high and excess sampling is not a scientific problem.

For the NP2011-2013, the proposed sampling intensities will be reviewed and updated until October 2010, using the experience from 2009.

III C NORTH SEA AND EASTERN ARCTIC

III C 1 Achievements: Results and Deviation from NP Proposal

Sampling of fishing trips

After métier merging, 12 fisheries were selected either by landings, effort or value (see NP 2009-10). 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: 2 observer trips were planned. The listed third trip is in fact part of a saithe-directed fishing trip which took mainly place in ICES Division IVa. Only one day during this trip took place in Div. IIa.

OTM_SPF_32-69_0_0

Target species: Atlanto-Scandian herring. Peak season: August/September/October. Area: Norwegian Sea. Duration of trips: 3 to 4 weeks. Sampling effort: 1 observer trip was planned and conducted.

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

TBB_CRU_16-34_0_0

Target species: Brown shrimp. Peak season: All year round with peaks in the 2nd and 3rd quarter. Area: German North Sea coastline. Duration of trips: 1 to 3 days. Sampling effort: 8 observer trips were planned. Only five trips were conducted. Reasons for the shortfalls are: 1) some trips were cancelled on short notice because of unfavourable weather conditions, 2) some vessel owners refused to take an observer because of lack of space onboard (most vessels fishing on brown shrimp are small cutters with lengths between 8-18m) and 3) other logistic reasons indicated by the ship owners.

TBB_DEF_70-89_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 trips were planned, 3 observer trips were conducted. Reasons for the shortfalls are: 1) some trips were cancelled on short notice because of unfavourable weather conditions, 2) some vessel owners were only prepared to take observers in exchange of additional fishing days.

OTB_MCD_70-89_0_0

Target species: Mixed crustaceans (*Nephrops*) and demersal fish. Peak season: All year round. Area: Southern North Sea. Duration of trips: 4 to 6 days. Sampling effort: 1 observer trip was planned. This fishery was not sampled, as an RCM (NS&EA) agreement had been established in 2008, with Denmark covering this metier.

OTB_DEF_>=120_0_0

Target species: Saithe. Peak season: All year round. Area: Northern North Sea. Duration of trips: 1 to 2 weeks. 4 observer trips were planned and conducted. Two additional trips were sampled by opportunity, e.g. due to the fact that the skipper decided on very short notice to cancel a planned pair trawl trip directed on cod and switched to a saithe-directed OTB trip.

OTB_DEF_70-89_0_0

Target species: Flatfish. Peak season: All year round. Area: Central and southern North Sea. Duration of trips: 5 to 8 days. 2 observer trips were planned and conducted.

OTB_DEF_<16_0_0

Target species: Sandeel. Restricted fishing season. Area: Northern North Sea. Duration of trips: 6 to 10 days. The German share of the EC TAC was 0.14% (Commission Regulation 517/2009) 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.

PTB_DEF_>=120_0_0

Target species: Cod. Peak season: 2nd/3rd quarter. Area: Northern North Sea. Duration of trips: 1 to 2 weeks. 2 observer trips were planned, and only one trip was conducted. Merged with the metier *OTB_DEF_>=120_0_0*, see explanation for shortfall below.

SSC_DEF_>=120_0_0

Target species: Cod. Peak season: 2nd/3rd quarter. Area: Northern North Sea. Duration of trips: 1 to 2 weeks. 2 observer trips were planned, but 3 trips were conducted. The additional trip was sampled as the opportunity arose.

OTM_SPF_32-69_0_0

Target species: Herring, Mackerel. Peak season: Restricted fishing season for mackerel in the North Sea – January/February, 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 but could not be conducted. Instead of the observer trips, two self samplings were carried out, but this was not sufficient for all length and age measurements. In comparison to earlier years, these fisheries are diminishing. Due to logistic problems indicated by the ship owners, there was no possibility to place an observer onboard the remaining vessels. One reason was that some vessels were directly steaming from fishing grounds outside the North Sea into the North Sea fishing grounds without a harbour stop-over.

PTM_SPF_32-69_0_0

Target species: Herring. Peak season: 3rd quarter. Area: North Sea. Duration of trips: 1 to 2 weeks. Sampling effort: 1 observer trip was planned but could not be conducted. Only two vessels are conducting this fishery. Due to logistic problems indicated by the ship owners, there was no possibility to place an observer onboard.

Length and age measurements:

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 over-sampling 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). In several cases, the planned sample sizes have not been achieved. Note that Germany has provided sufficient length measurements and age samples to the relevant ICES workings groups for assessment purposes.

Species with shortfalls and their reasons:

Sebastes marinus und *S. mentella* in I,II (L=Length and A=Age)- No directed fishery took place in 2009. The achieved numbers were derived from by-catch measurements (e.g. in the cod fisheries).

Clupea harengus in IV,VIIId (L, A) – see above metier description OTM_SPF_32-69_0_0 and PTM_SPF_32-69_0_0

Solea solea in IV (A) – As one planned trip could not be sampled (metier TBB_DEF_70-89_0_0), the number of age determinations was lower than planned.

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

see section III.C.2 Baltic Sea

III C 3 Follow-up of regional and international recommendations

Source	Message	Follow-up
RCM NS&EA 2008 Recommendation	North Sea OTB_CRU_70-99_0_0: Denmark will sample the <i>Nephrops</i> fishery in FU 33 (Off Horn Reef), allowing Germany to apply for a derogation for sampling this fishery.	This RCM agreement continues to be valid.
RCM NS&EA 2009 Recommendation	UK and Germany to formalise a bilateral agreement to ensure adequate sampling coverage for the UK landings from the relevant metiers in areas I & II.	UK and Germany have established a bilateral agreement to ensure the sampling coverage (see German NP 2011-13).

III C 4 Actions to avoid shortfalls

Based on the list of fishing vessels supplied by the Federal Agency for Agriculture and Food, 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 yet not possible. This leads also to a rather 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 several metiers.

III C NORTH ATLANTIC

III C 1 Achievements: Results and Deviation from NP Proposal

Sampling of fishing trips:

After metier merging, 7 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 2008/949/EC. 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 sampling strategy for all trips is concurrent sampling-at-sea.

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

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

OTB_DEF_>=120_0_0

Target species: Greenland halibut. 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. One observer trip had to be cancelled due to injury of the allocated observer at short notice.

OTM_DEF_>=120_0_0

Target species: Redfish. Peak season: 2nd/3rd quarter. Area: Irminger/Labrador Sea (ICES Sub-areas XII and XIV, NAFO Sub-areas 1-2). Duration of trips: 4 weeks to 3 months. This fishery has not been conducted since 2008 inclusive. Germany will sample this metier if it occurs again.

OTB_DEF_>=120_0_0

Target species: Redfish. Peak season: 3rd quarter. Area: Iceland/Faroes. Duration of trips: 2 to 3 weeks. In recent years, this fishery only took place in 2007 and was not conducted since. Germany will sample this metier if it occurs again.

Fishing ground: NAFO areas

OTB_DEF_>=120_0_0

Target species: Greenland halibut. Peak season: 3rd/4th quarter. Area: West Greenland (NAFO Div. 1D). Duration of trips: 6 weeks to 3 months. Sampling effort: 1 observer trip was planned but could not be conducted, as the obligatory presence of an official observer required by the Greenlandic authorities and the corresponding fully occupied accommodation space onboard prevented placing a biological observer onboard the vessel.

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

OTM_SPF_32-69_0_0

Target species: Mackerel, horse mackerel, blue whiting. Peak season: March to June/October/November. Area: West British waters and Bay of Biscay. Duration of trips: 3 to 4 weeks. Sampling effort: 3 observer trips were planned, 2 trips conducted. Because of lack of space, there was no possibility to place an observer on a third trip. Instead, one trip was self-sampled by the crew.

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: Long soaking times of the pots simulate high effort - 4 weeks. 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. Fishing by landings and value is negligible. In compliance with the RCM NA, a bilateral agreement with Spain was initiated.

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. Duration of trips: Long soaking times of the set nets simulate high effort - 4 weeks. 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. Fishing by landings and value is negligible. In compliance with the RCM NA, a bilateral agreement with Spain was initiated.

Length and Age measurements:

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 over-sampling is often that all fish of a once randomly chosen subsample has 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 is often the case on trips with low discard rates like most of the high-seas fishing trips.

In several cases, the planned sample sizes have not been achieved. Note that Germany has provided sufficient length measurements and age samples to the relevant ICES workings groups for assessment purposes.

Species with shortfalls and their reasons:

Micromesistius poutassou in I-IX, XII, XIV (L,A) – Due to logistic reasons indicated by the ship owner, no trip directed on blue whiting could be sampled. The achieved length measurements are derived from by-catches.

Sebastes marinus und *S. mentella* in ICES Sub areas V, VI, XII, XIV & NAFO SA 2 + (Div. 1F + 3K) (L, A) - No directed fishery took place in 2009. The achieved length measurements were derived from by-catch in other fisheries (e.g. cod and Greenland halibut).

Reinhardtius hippoglossoides in East Greenland (A): The observer was only allowed to take otoliths from a part of the catch 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 were sold separately to Asian markets.

Reinhardtius hippoglossoides in West Greenland (L, A): No observer trip could be carried out, so no sampling was possible.

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

see section III.C.2 Baltic Sea

III C 3 Follow-up of regional and international recommendations

Source	Message	Follow-up
RCM NS&EA 2009 Recommendation	RCM NA recommends that Germany liaise with Spain to formalise a bilateral agreement encompassing the arrangements agreed at RCM NA for the metier GNS_DEF_>=220_0_0 in West of Ireland.	A bilateral agreement between Spain and Germany has been prepared and will be discussed at the RCM NA.

III C 4 Actions to avoid shortfalls

Based on the list of fishing vessels supplied by the Federal Agency for Agriculture and Food, 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 yet not possible. This leads also to a rather 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 several metiers.

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. 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 waters (CECAF area). Duration of trips: 3 to 4 weeks. In 2009, no German-flagged fishery directed on *Sardinella* in Mauritanian waters took place. However, if it occurs again, the sampling in the CECAF area will be subject of multilateral agreement in the RCM Long-distance Fisheries (RCM LDF). A bilateral meeting with the Netherlands took place in August 2009 (see Annex 2), inter alia addressing this issue.

OTM_SPF_32-69_0_0

Target species: Jack Mackerel. Peak season: -. Area: South Pacific. Duration of trips: 4 weeks to three months. The sampling of this fishery will be subject of multilateral agreement in the RCM Long-distance Fisheries. A bilateral meeting with the Netherlands took place in August 2009 (see Annex 2), inter alia addressing this issue.

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

not relevant

III C 3 Follow-up of regional and international recommendations

not relevant (no RCM Long-distance Fisheries took place in 2009 or earlier)

III C 4 Actions to avoid shortfalls

Sampling in the CECAF and the South Pacific area has to be subject of bi- or multilateral negotiations within the RCM Long-distance Fisheries, which was only established recently (March 2010).

In the past few years, a German-flagged fishery in the CECAF area on small pelagics has only occurred occasionally. The vessels operating in the CECAF area are obliged to take Mauritanian observers onboard making it difficult to place additional observers.

The German-flagged fisheries on small pelagics in the South Pacific was more substantial, but no formal data and sampling requirements have been defined in the DCF Commission (Implementation) Decisions or by the relevant SPRFMO yet. At the first RCM LDF, first attempts had been made to identify metiers and possible sampling plans. A bilateral meeting with The Netherlands took place in August 2009 to consider the extent of the fisheries, possibilities in sampling the long distance fisheries and the set-up of possible sampling programmes (see Annex 2).

III D RECREATIONAL FISHERIES

III D BALTIC SEA

III D 1 Achievements: Results and Deviation from NP Proposal

Anglers

EFFORT

planned	achieved	Deviation and reason for shortfalls
a. In 2009 a mail survey will be realised to estimate the annual effort (number of angling days) exerted during 2008. This mail survey will be limited to estimate applied effort in the coastal waters of Mecklenburg-Western Pomerania.	The mail survey was started in Mecklenburg-Vorpommern (MV) at the end of 2008/beginning of 2009. The method was similar to the survey in 2005 (Pilot study: The German recreational fisheries' cod catch in the Baltic and North Seas, 2004-2006). The questionnaire was supplemented by questions to the special effort for eel angling and eel catches. 24.862 questionnaires were sent to distributors/vendors of the angling licences for the coastal waters of Mecklenburg-Vorpommern with a request to forward the questionnaire (together with a labelled envelope) to the acquirers of the angling licences. The return rate was 3,0 % (752 sheets, of these 19 sheets were invalid). 200 sheets contained exact data, based on diaries or concrete memories (especially when only few days or no days were spent angling), 533 sheets contained estimated data of angling effort.	Following recommendations from the "Workshop on sampling methods for recreational fisheries (WKSMRF)" in Nantes in April 2009 it was decided not to complete the mail survey. For the end of 2010 and for 2011 a new phone-diary survey is in preparation to estimate the effort of anglers. To estimate the effort of anglers in 2009 the results from the mail surveys 2004-2006 were used (pilot study).
b. The number of hours fished per angling day will be recorded during the census of catches of recreational fishermen.	283 samples were realized in total, 2.292 anglers were interviewed (see also CATCHES), and the number of hours fished were recorded.	

CATCHES

Cod

Catch per unit effort

Corrected table for planned monthly sampling in 2009 (corrected figures are given in brackets):

shore fishing and angling whilst wading¹		boat und vessel angling, trolling¹	
time period	No. of samples	time period	No. of samples
Fri., Sat., day before holiday	1 (5)	Sat., Sun, holidays	20 (10)
		Mon., Tue., Wed., Thu., Fri.	20 (10)
¹ reduced sampling in winter time possible, because of bad weather conditions			

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

shore fishing and angling whilst wading¹				
No. of samples planned	No. of samples achieved	Deviation to planned sampling	Reason(s) for shortfalls	No. of anglers interview
60	49	11	The sampling was not realized because of bad weather conditions (9 of the missing samples were from Jan/Feb)	223
boat und vessel angling, trolling¹				
240	234 ¹	26	The planned sampling was not realized because of bad weather conditions (25 samples) and illness (1 samples).(14 of the missing samples were from Jan/Feb)	2069
¹ of this number, 20 samples could be added in addition to the planned samples. The reason for this was that during the collection of length compositions on charter vessels it was possible to extend the inquiry collecting catch data.				

Length compositions of catches

planned	achieved	Deviation and reason for shortfalls
a. Length compositions of the landings from beach fishing and cutter angling will be collected in cooperation with the angling associations and angling clubs.	Lengths of 288 cod were measured on charter vessels events (6 samples).	Lengths of 3 beach fishing events were delivered as mixed length distribution of all species caught (cod, flounder, whiting and others) and had to be excluded.
b. Additionally, a technician will measure the lengths of caught cod once per month on a vessel.	Lengths of 1789 cod were measured during 37 vessel trips.	
c. Ca. 30 boat and/or trolling anglers, distributed over the whole German Baltic coast, will measure their cod landings themselves. They will be trained and receive measuring boards.	Measuring boards were distributed to 11 anglers. Lengths of 47 cod were measured during 5 trolling trips and 217 cod during 24 boat trips.	Only 4 of the selected anglers measured their catches. The willingness for self-measurements was lower than expected. This might be due to the perception of anglers that the research results may cause stronger regulations.

Catches in number

The method of the estimation is described in the pilot study.

Basis for the estimate of cod catches in numbers:

- Estimate of the mean effort/angler (angling days/year) from the results of the mail surveys in 2004/2006.
- Estimate of the number of anglers, starting their activities from the German Baltic coast, using the actual number of members in the angling associations in MV and SH, the number of fishery licenses sold in MV and SH and the annual numbers of angling licenses sold for the coastal waters of MV.
- Catch per unit effort from stratified random sampling.

The following table provides the numbers of landed and released cod by anglers calculated by means of **recorded effort data**:

Period	January - June		July - August		Year total	
	Landed cod	Released cod	Landed cod	Released cod	Landed cod	Released cod
Shore angling	37363	126302	145585	1033988	182948	1160289
Wading angling	0	5822	11153	3718	11153	9540
Boat angling	228629	214251	343983	325299	572612	539550
Vessel angling	210567	106223	468516	170009	679083	276233
Trolling	15022	8493	5388	0	20410	8493
Total	491581	461091	974625	1533014	1466207	1994105

The following table provides the numbers of landed and released cod by anglers calculated by means of **estimated effort data**:

Period	January - June		July - August		Year total	
	Landed cod	Released cod	Landed cod	Released cod	Landed cod	Released cod
Shore angling	63591	267602	236866	1605640	300457	1873241
Wading angling	0	9847	17682	28648	17682	38495
Boat angling	474754	435684	558264	501060	1033018	936744
Vessel angling	252308	149448	516914	220775	769222	370222
Trolling	24417	13197	8025	0	32441	13197
Total	815069	875777	1337751	2356123	2152820	3231900

Note: In contrast to discarded cod in the commercial fishery, the mortality of released cod in the recreational fishery is lower (see section below).

Catches in weight

The method of the estimation is described in the pilot study.

Basis for the estimate of cod catches in weight (1):

- Length composition of the catches of anglers using vessels, boats and trolling boats.
- The mean weight of released and landed cod from vessels, boats and trolling boats was calculated using the length-weight relationship from the sampling of the German commercial fishery in Sub.-Div. 22 + 24, 2009.
- The mean weight of landed cod from shore angling and wading was calculated using the length-weight relationship from the sampling of the German commercial fishery in Sub.-Div. 22 + 24, passive gears, 2009.

The following table presents the amount of **landed and released cod** (t) by anglers calculated by means of **minimal annual landings and released cod** in numbers and **recorded effort data**:

Period	January - June		July - August		Year total	
	Landed cod	Released cod	Landed cod	Released cod	Landed cod	Released cod
Shore angling	54	23	212	297	267	320
Wading angling	0	1	13	1	16	2
Boat angling	350	40	527	93	878	133
Vessel angling	323	20	718	49	1041	68
Trolling	23	2	8	0	31	2
Total	751	85	1482	440	2233	525

The following table presents the amount of **landed and released cod** (t) by anglers calculated by means of **maximum annual catches** in numbers and **estimated effort data**:

Period	January - June		July - August		Year total	
	Landed cod	Released cod	Landed cod	Released cod	Landed cod	Released cod
Shore angling	93	50	433	461	525	510
Wading angling	0	2	32	8	32	10
Boat angling	728	81	865	144	1592	224
Vessel angling	387	28	801	63	1187	91
Trolling	37	2	12	0	47	2
Total	1245	162	2143	676	3384	838

Compared to the landings of the German commercial fishery from Sub.-Div. 22 + 24 in 2009 (4,020 t), the anglers landed 56 % and 84 %, respectively, of this quantity.

Releases of undersized cod (< 38 cm) have been considerably high in 2009, indicating a strong incoming year-class of cod. However, we refrained from estimating annual/bi-annual total catches, because released cod cannot be compared to discards from the commercial fishery, since the mortality rate of released cod, caught in the recreational fishery, is relatively low.

Commission Decision 2008/949/EC, Chapter III, B1, 3, 3, a) states: *“For the recreational fisheries targeting the species listed in Appendix IV (1 to 5), Member States shall evaluate the quarterly weight of the catches.”*

Reasons for the deviation from this are:

- When the Commission Decision 2008/949/EC came into force, the NP 2009 was already written and confirmed.

The effort data from the mail surveys 2004/2006 cannot be divided quarterly, so these data will only be available after a new effort survey has been conducted in 2010 and 2011. Consequently, this may increase costs to ensure the statistical quality of quarterly CPUE-data. The challenge remains how to deal with possibly low sample sizes. This will be further discussed at the ICES Planning Group for Recreational Fisheries Surveys (PGRFS).

Salmon, Eel

No activities planned and no activities realized.

Leisure fishermen

(Recreational fishermen using commercial gears like gill nets, long-lines, fykes, eel pots)

Cod, Salmon, Eel

No activities planned and no activities realized. A pilot study for eel is in preparation

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

As planned in the NP and required by Council Regulation EC/949/2008, data related to annual estimates must achieve a precision level 1 (95 % confidence interval inside a deviation of plus/minus 40 %).

An analysis of the calculated landing data by means of bootstrapping yielded a relative deviation between 13 % as minimum and 24 % as maximum for the different estimated numbers of landings (see table below).

		Confidence intervals ($\alpha = 0,025$)	
	Landings (numbers)	2,5 % Percentile	97,5 % Percentile
Recorded effort-data, Jan - Jun	491581	413091	588158
Recorded effort-data, Aug - Dec	974625	845867	1107919
Estimated effort-data, Jan - Jun	815069	655915	1008842
Estimated effort-data, Aug - Dec	1337751	1101987	1594772

III D 3 Follow-up of regional and international recommendations

During the RCM Baltic meeting in spring 2010, the potential for regional coordination of recreational fisheries surveys was discussed. Exemplary, estimated cod catches in SD 22-24 vary between 2000-5000 t in Germany, 600 t in Denmark and 90t in Sweden. Due to the progress in this area and the relative high recreational catches it is anticipated to investigate the potential to coordinate recreational fisheries surveys of cod catches in SD22-24 among these MS. This will be discussed at PGRFS (Planning Group on Recreational Fisheries Surveys), which will be held from 7-11 June 2010 in Bergen, Norway. In the future, recreational fisheries surveys of eel and sea trout catches could extend this coordinated approach.

The issue of quarterly weight estimates has been discussed at the RCM Baltic 2010 meeting. The group agreed that this is causing excess workload and emphasized that annual estimates would be more appropriate. RCM Baltic 2010 recommended discussing the proposal at the Planning Group on Recreational Fisheries Surveys (PGRFS) and come out with a recommendation to DG MARE.

The economic subgroup at the RCM Baltic 2010 meeting encouraged including the collection of socioeconomic data into the recreational fisheries surveys.

III D 4 Actions to avoid shortfalls

New effort data by quarter

A phone-diary survey to estimate the effort per quarter is planned for 2010/11. Results will be available end of 2011 or 2012.

Length compositions of angling associations and self-sampling boats anglers

It is necessary to have more contacts, by phone or direct, with the associations and the self-sampling boats anglers.

III D NORTH SEA AND EASTERN ARCTIC

III D 1 Achievements: Results and Deviation from NP Proposal

Cod, Eel

No activities planned and no activities realized. A pilot study for eel is in preparation.

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

not relevant

III D 3 Follow-up of regional and international recommendations

not relevant

III D 4 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 2008/949/EC as by-catch in fisheries directed towards other species can only be recorded on board.
- 61%, 61% and 65% of the landings in 2007, 2008, 2009, respectively, from stocks that have to be sampled (Table III.E.1) occurred in foreign countries, which confirms the situation in recent years.

Due to the reasons mentioned above, Germany prefers in most cases to sample catches at sea (especially in the North Sea and North Atlantic).

The provision of a legal basis for biological sampling on board of German fishing vessels is still in preparation. In 2005 and 2006, a legal text was prepared for this purpose, but not implemented. The present status of a scientific observer on board of a German fishing vessel is a guest status. Article 11(3) of Council Regulation 199/2008 stipulates that samplers shall be accepted onboard, which might improve the 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 still difficult and might be not optimal in the future (even if a new legal basis for onboard sampling is in place), since there will be some excuses to refuse an observer.

Data are gathered in connection with sampling of commercial sources (observer trips, harbour and self sampling) and on 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 2009. Note that for some species (e.g. redfish and Greenland halibut), otoliths were only taken but not read.

Reasons for over-sampling:

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 over-sampling is often that all fish of a once randomly chosen subsample has 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).

In several cases, the planned sample sizes have not been achieved. Reasons for shortfalls are explained in the following text by region. Note that Germany has provided sufficient length measurements and age samples to the relevant ICES workings groups for assessment purposes.

III E BALTIC SEA

III E 1 Achievements: Results and Deviation from NP Proposal

The required, planned and achieved sampling is summarized in Table III.E.3. General reasons for exceeding the sampling plan are explained above under “General remarks”. Germany is obliged to sample seven stocks in the Baltic Sea.

Clupea harengus SD22-24 IIIa: The decline in the TAC resulted in a shortened fishing season for herring, so that the planned number samples could only be fulfilled to 81%. For weight@length, the planned number of samples was initially set too high, because it was erroneously assumed that weight data will be sampled during the BITS surveys.

Gadus morhua SD22-24, SD25-32: Baltic cod was sampled within the planned range, and the achieved sample volume of 10,912 fish reflects the long experience in sampling this species.

Limanda limanda SD22-32: Dab was sampled exceedingly. The planned number of 200 individuals was set precautionarily low due to the lack of age reading capacity. However, the age reading capacity increased during 2009, allowing an increase in sampling intensity.

Perca fluviatilis IIId: Due to lacking experience, perch was sampled according to the DCF minimum requirements resulting in the low number of 189 sampled individuals.

Platichthys flesus SD22-32: This species was sampled exceedingly due to conservative planning and increased age reading capacity of staff.

Sprattus sprattus SD22-32: Baltic sprat was sampled in the planned range except for weight@length, because the planned number of samples was initially set too high for the same reasons as for herring.

See Annex 3 for a description of the European Eel (*Anguilla anguilla*) data collection in German freshwater habitats.

Additional sampling:

Flatfish species such as brill, turbot and plaice were sampled without obligation within the German DCF. Specimens of these species are obtained as by-catch from the commercial fishery and from survey samples. Biological parameters obtained 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/ICES initiative on stock assessment strategies for flatfish in September 2010.

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

see section III.C.2 Baltic Sea

III E 3 Follow-up of regional and international recommendations

Source	Message	Follow-up
RCM Baltic 2009	Prepare data on planned number to be sampled for age, length, weight, sex and maturity.	The exchange data tables from the German NP have been provided to the RCM Baltic.

III E 4 Actions to avoid shortfalls

Exceeding sampling intensities occurred for five of the seven stocks. For statistical purposes, the achieved sampling intensities are not too high, but reflect difficulties in planning. For the NP2011-2013, the proposed sampling intensities will be reviewed and updated until October 2010, using the experience from 2009.

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 required, planned and achieved numbers of fish for age, weight, sex and maturity. **Reasons for over-sampling are explained in the beginning of this chapter under “General remarks”.** Germany was obliged to sample 11 stocks in this region, after applying the exemption rules for stock-related variables (Commission Decision 2008/949/EC, chapter III.B.B2.5). See Annex 3 for a description of the European eel (*Anguilla anguilla*) data collection in German freshwater habitats.

Skagerrak and Kattegat (ICES Division IIIa):

Pollachius virens: According to Commission Decision 2008/949/EC, *Pollachius virens* in the Skagerrak has to be sampled. Catches in the Skagerrak, however, are belonging to the same 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.

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

Clupea harengus, *Crangon crangon*, *Gadus morhua*, *Limanda limanda*, *Pollachius virens*. For *Pollachius virens*, the indications for the planned numbers of maturity and sex were too high. Usually, these parameters are collected on surveys and not by commercial samplings. The numbers of samples on surveys are lower than on commercial sampling trips.

Eastern Arctic (ICES Sub-areas I and II): *Gadus morhua*, *Melanogrammus aeglefinus*, *Pollachius virens*, *Sebastes marinus*, *Sebastes mentella*. Redfish (*Sebastes* spp.) could not be sampled, as there was no German fishery in 2009 in ICES I and II.

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 for assessment purposes in the ICES HAWG, WGWIDE and WGNSSK, respectively. Furthermore, all stocks are targeted by fishing metiers which have to be sampled by Germany. These stocks are highlighted in green in Table III.E.3: *Clupea harengus* in **ICES 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

see section III.C.2 Baltic Sea

III E 3 Follow-up of regional and international recommendations

Source	Message	Follow-up
RCM NS&EA 2008 Recommendation	The RCM NS&EA recommends that all invertebrates can be pooled into the category ‘invertebrates’, except for the following species/groups: - some commercially important crustaceans require identification at the species level both in landings and discards: <i>Cancer pagurus</i> , <i>Crangon crangon</i> , <i>Homarus vulgaris</i> , <i>Lithodes</i>	Germany has followed this recommendation in the implementation of the NP 2009.

	<i>maja</i>, <i>Maja brachydactyla</i>, <i>Necora puber</i>, <i>Nephrops norvegicus</i> and <i>Pandalus borealis</i> - all shellfish at the species level in landings - <i>Pecten maximus</i> at the species level in discards in Division VIIId (cf. Appendix VII of COM Decision 2008/949/EC) - cephalopods should be grouped into 'squid' and 'octopus' Fish should always be regarded as G3-species wherever they are not in G1 or G2, except when: - on-board identification is extremely difficult or even impossible (then genus or even family level can be sufficient, see Annex 4 Table 3) - identification is always difficult for a certain genus: <i>Argentina spp.</i>, <i>Callionymus spp.</i>, <i>Arnoglossus spp.</i>	
RCM NS&EA 2008 Recommendation	When a certain G-status (G1 or G2) is applied to a higher taxonomical group (family or genus), the RCM NS&EA recommends that all species within this group benefit the same status on the species level: - Ammodytidae: G2-status for <i>Ammodytes tobianus</i>, <i>A. marinus</i>, <i>Hyperoplus lanceolatus</i> and <i>H. immaculatus</i> - <i>Anarhichas spp.</i>: same status for <i>Anarhichas lupus</i>, <i>A. denticulatus</i> and <i>A. minor</i> (see below for the status) - <i>Argentina sp</i>: G2-status for <i>Argentina silus</i> and <i>A. sphyraena</i> - Rajidae: G1-status for all species of <i>Amblyraja</i>, <i>Leucoraja</i>, <i>Raja</i> and <i>Rostroraja</i> - Sharks: G1-status for all shark species relevant for Sub-areas I, II, IV and Divisions IIIa and VIIId	Germany has followed this recommendation in the implementation of the NP 2009.
RCM NS&EA 2008 Recommendation	The RCM NS&EA recommends changes in the G-status for the following taxa: - <i>Anarhichas spp.</i>: G3 instead of G2 - introduction of G3-status for cephalopods grouped into squid and octopus (no species specific G-status), only requiring total weights - introduction of G3-status for some crustaceans that are landed in significant quantities: <i>Cancer pagurus</i>, <i>Hommarus vulgaris</i>, <i>Lithodes maja</i>, <i>Maja brachydactyla</i>, <i>Necora puber</i>, <i>Crangon crangon</i> in Sub-areas I-II and Division IIIa, <i>Nephrops norvegicus</i> in Sub-areas I-II and <i>Pandalus borealis</i> in Divisions IVb, IVc and VIIId - shellfish only G3 in landings (except for <i>Pecten maximus</i> in Division VIIId - > remains G2)	Germany has followed this recommendation in the implementation of the NP 2009.

III E 4 Actions to avoid shortfalls

see section III.C.4 North Sea and Eastern Arctic

III E NORTH ATLANTIC

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. **Reasons for oversampling are explained in the beginning of this chapter under “General remarks”.** For cod in the North Atlantic and Western Channel, different quotas were assigned for following areas: 1) Vb(EU),VI,XII,XIV, 2) V,XIV(GL waters), NAFO 0&1(GL waters), 3) VIIb-k,VIII,IX,X,CECAF34.1.1(EU), 4) VIIa, 5) Vb(FAR). Germany has a quota share in areas 1), 2) and 5). Only in area 2 (V,XIV GL waters, NAFO 0&1 GL waters), the German share exceeds 10%. This fishery was re-established in 2007 and takes mainly place in ICES Div. XIVb. Therefore, Germany sampled cod in this area.

Iceland, Greenland and Irminger Sea (ICES Sub-areas XII and XIV and Division Va): *Gadus morhua*, *Reinhardtius hippoglossoides*, *Sebastes* spp. The under-sampling for age of *Reinhardtius hippoglossoides* was due to the fact that the observer was only allowed to take otoliths from a part of the catch 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 were sold separately to Asian markets. The reason for the under-sampling of redfish was that data were only collected on surveys as no commercial fishery was carried out in 2009.

NAFO areas: *Reinhardtius hippoglossoides*. The planned observer trip was not carried out, therefore no sampling took place. For reasons, see chapter III.C.

Two 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 for assessment purposes in the ICES working group WGWIDE. Furthermore, all stocks are targeted by fishing metiers which must be sampled by Germany. These stocks are highlighted in green in Table III.E.1: *Micromesistius poutassou*, *Scomber scombrus*, *Trachurus trachurus*. However, due to logistic reasons, it was not possible to place an observer on a trip directed on blue whiting (*Micromesistius poutassou*). Therefore, this fish species was not sampled.

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

see section III.C.2 Baltic Sea

III E 3 Follow-up of regional and international recommendations

Source	Message	Follow-up
RCM NA 2008 Recommendation	- Saithe - Germany to provide breakdown by area.	Not possible, as there was no saithe directed fishery in the NE Atlantic area in 2009. Landings are from IIIa, IV and I and II.

III E 4 Actions to avoid shortfalls

see section III.C.4 North Atlantic

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 3 stocks after applying the exemption rules for stock-related variables (Commission Decision 2008/949/EC, chapter III.B.B2.5) for other regions, namely: *Sardina pilchardus*, *Sardinella aurita*, *Trachurus* spp.

Germany asked for derogation for sampling these species in the NP 2009-10, but there was no fishery under German flag in this area in 2009 anyway.

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

not relevant

III E 3 Follow-up of regional and international recommendations

not relevant (first RCM LDF took place in 2010)

III E 4 Actions to avoid shortfalls

see section III.C.4 Long Distance Fisheries

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 Follow-up of regional and international recommendations

No recommendations.

III F 1 4 Actions to avoid shortfalls

No shortfalls.

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 not 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. However, these data are only a rough estimate of the vessel owners, who usually do not keep track of their fishing trips in a way which would allow to fulfil the requirements of the DCF.

III F 2 3 Follow-up of regional and international recommendations

No recommendations.

III F 2 4 Actions to avoid shortfalls

No shortfalls.

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 Follow-up of regional and international recommendations

No recommendations.

III F 3 4 Actions to avoid shortfalls

No shortfalls.

III G RESEARCH SURVEYS AT SEA

III G 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

In 2009, Germany conducted 12 surveys supported within the DCF and participated in the Atlanto-Scandian Herring Acoustic Survey conducted by Denmark, as well as the Blue Whiting Survey conducted by the Netherlands and Ireland. There were no changes in strategy or design, except when it was co-ordinated with the relevant ICES planning/working group. Of course, the number of hauls and length of hydroacoustic tracks depended on weather conditions as well as on the performance of the equipment and/or of the vessel, but were for all surveys within the range of records for the former survey years. For the number of hauls and sampling activities, refer to standard table III.G.1. The following text provides a short description of all surveys carried out in 2009, with a map of the achieved sampling activities. **Note that possible small deviations from days-at-sea planned to days-at-sea achieved are – if not otherwise stated – due to minor adaptations of the 2009 vessel schedule during late 2008 and early 2009.**

Baltic Sea:

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

The survey parts were conducted from 13/02/09 to 02/03/09 and from 27/10/09 to 13/11/09 on FRV “Solea”. Refer to Fig. III.G.1 a and b for the station grid of both parts. Occurring shortfalls were under the margin of 10%.

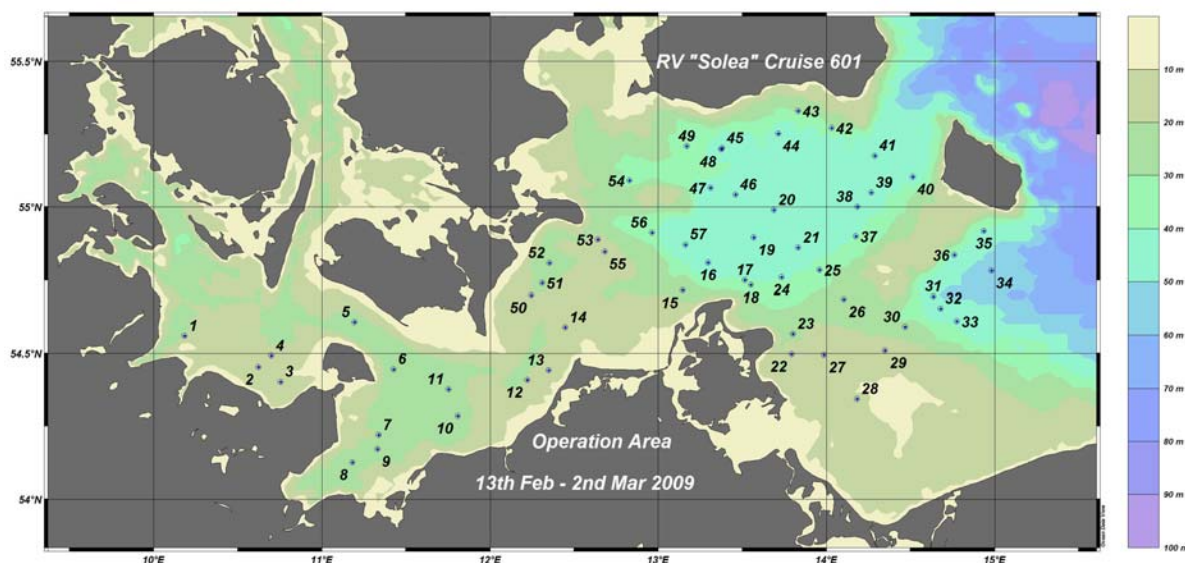


Fig. III.G.1a: Baltic International Trawl Survey – Station grid (BITS, 1st quarter 2009).

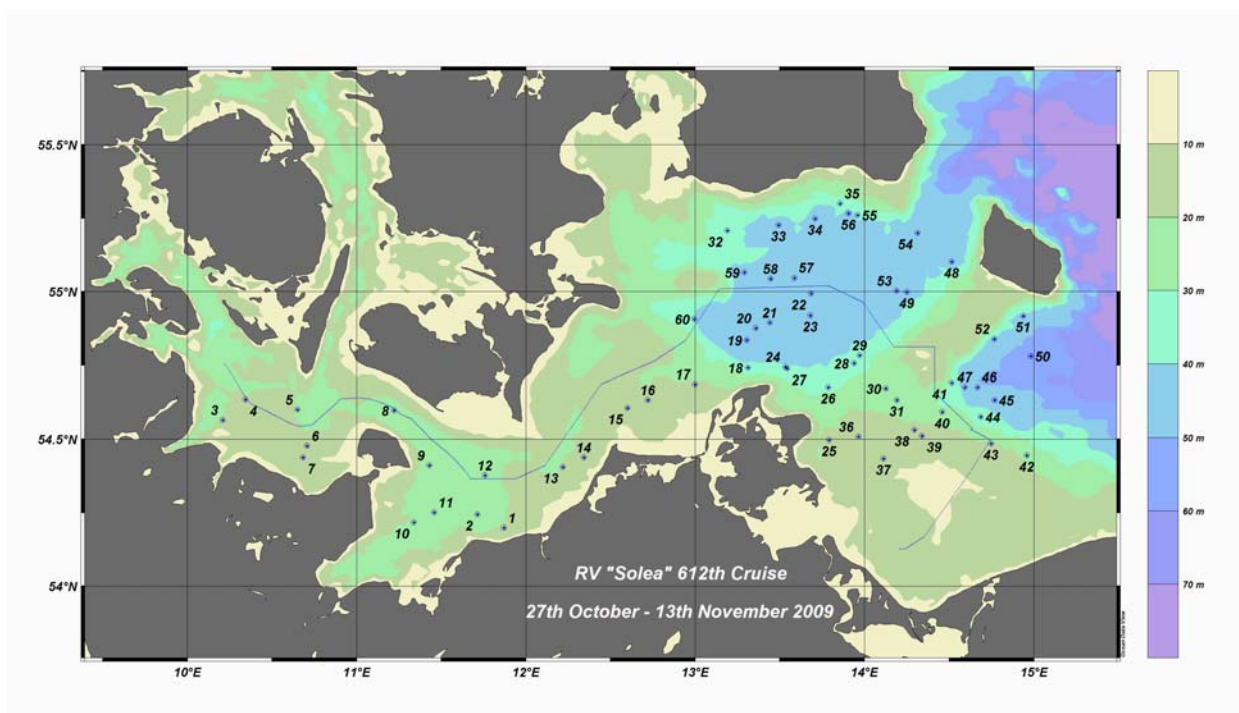


Fig. III.G.1b: Baltic International Trawl Survey – Station grid (BITS, 4th quarter 2009).

2 Baltic International Acoustic Survey

The survey took place from 02/10/09 to 21/10/09 with R/V “Solea”. Refer to Fig. III.G.2 for the cruise track and fishery stations conducted on the German part of the Baltic Herring Acoustic Survey. Occurring shortfalls were under the margin of 10%.

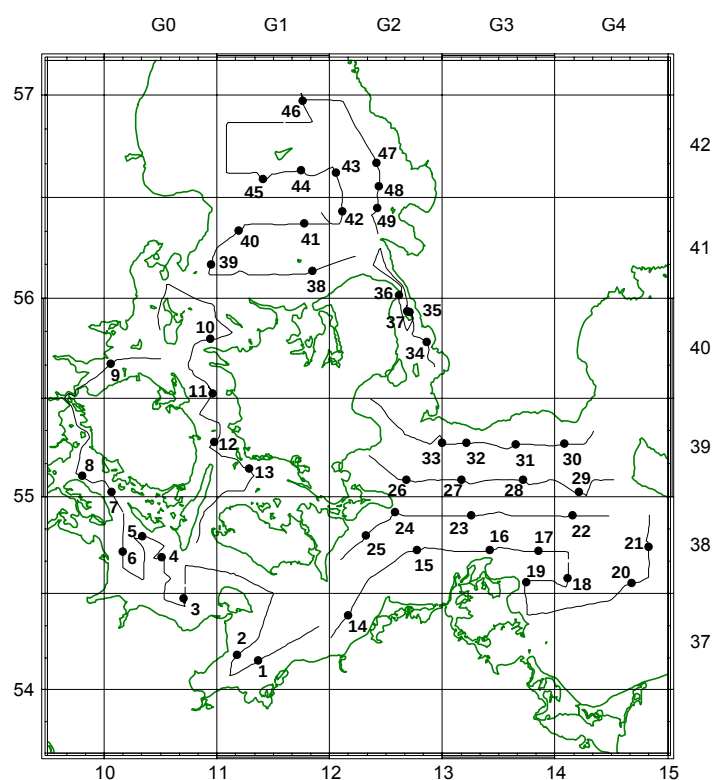


Fig. III.G.2: Baltic Herring Acoustic Survey. Cruise track and trawl positions of RV „SOLEA“ in October 2009

3 Baltic Sprat Acoustic Survey

The survey took place from 04/05/09 to 25/05/09 with R/V “Walther Herwig III”. Refer to Fig. III.G.3 for the cruise track and trawl stations conducted on the German part of the Baltic Sprat Acoustic Survey. Germany was asked by WGBIFS to cover additional Echo nm due to the cancellation of another survey participant leading to a slight oversampling of 118%.

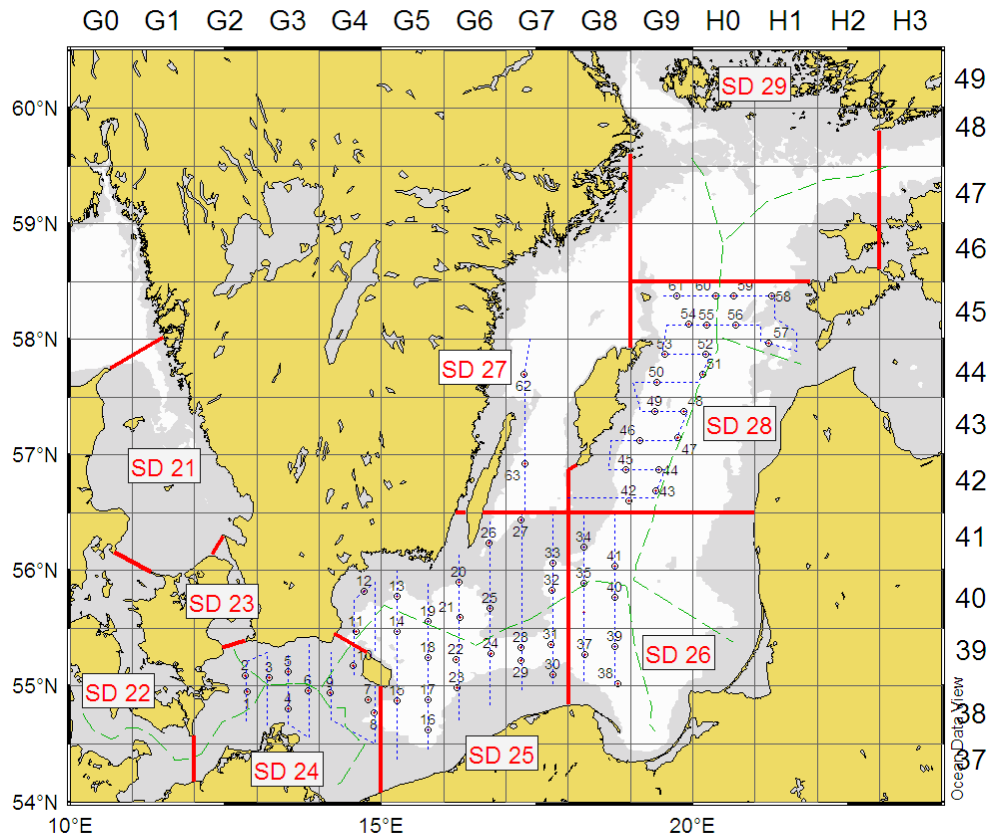


Fig. III G.3: Hydroacoustic tracks and trawl positions (Cruise No. 322 of RV “W. Herwig III” in May 2009).

4 (Rügen) Herring Larvae Survey

The Rügen Herring Larvae Survey in the western Baltic (ICES area IIIId/ 24) took place during 1 week in February and 14 weeks in March-June in 2009 on FRC “Clupea”. Figure III.G.4 shows the survey area and station grid. Shortfalls and deviations: Although ship time was lost due to a technical failure of the vessel’s engine, favourable weather conditions allowed sampling the planned stations plus additional stations in less time.

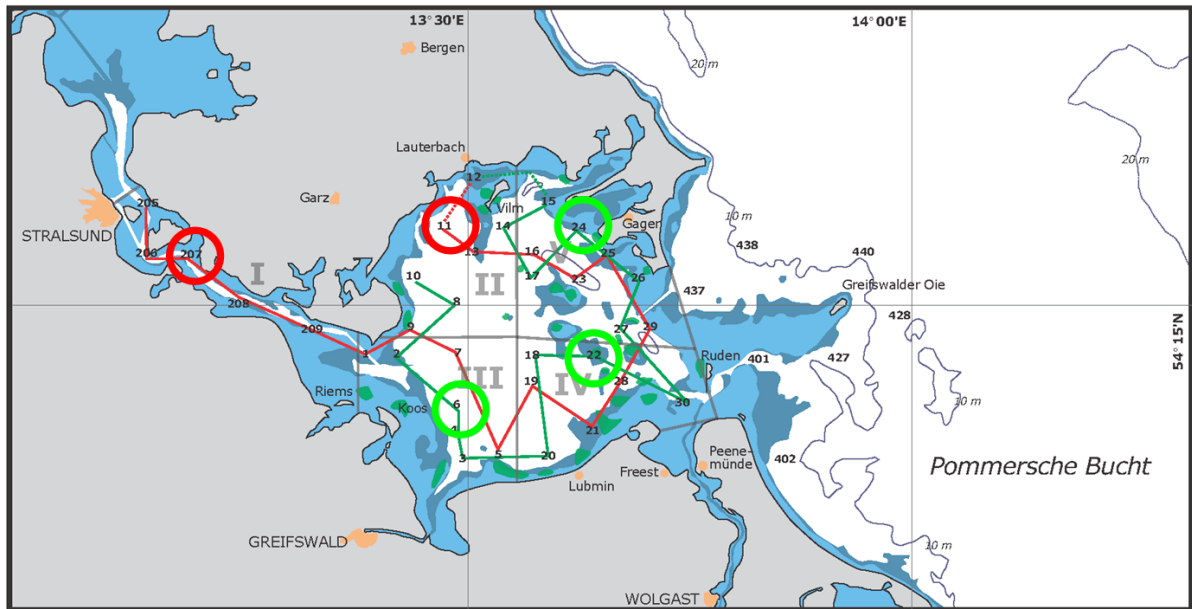


Fig. III G. 4: 2009 Rügen Herring Larvae Survey. Stations for ichthyoplankton hauls and CTD casts.

North Sea and Eastern Arctic:

5 International Bottom Trawl Survey (IBTS) in Quarter 1

In 2009, the survey in quarter 1 was conducted from 23/01/09 to 18/02/09 on FRV “Walther Herwig III”. Please refer to Fig III.G.5 for the allocation of the fishing positions. Occurring shortfalls were under the margin of 10%.

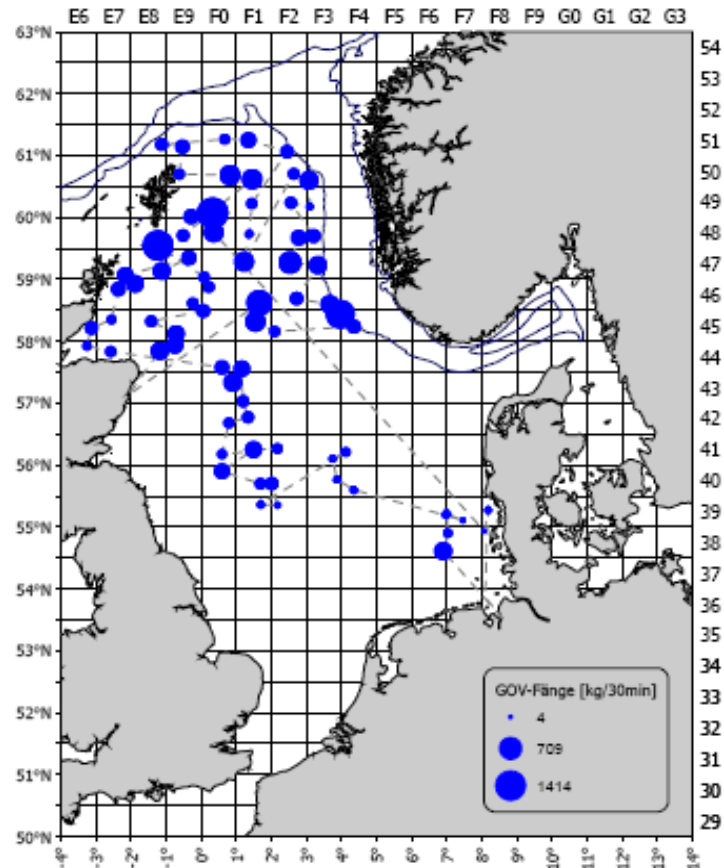


Fig. III G.5: International Bottom Trawl Survey (IBTS) 1st quarter. Fishing positions and catch weights 2009.

6 International Bottom Trawl Survey (IBTS) in Quarter 3

The IBTS survey in Quarter 3 is conducted in conjunction with a national survey from 14/07/09 to 10/08/09 on FRV "Walther Herwig III". Only 8 days within this period are devoted to IBTS. The other days are covering a programme on national expense (German Small Scale Bottom Trawl Survey, GSBTS). Additional hauls were made as requested by the corresponding ICES working group. Please refer to Fig. III.G.6 for the cruise track of the German part of the International Bottom Trawl Survey in Quarter 3.

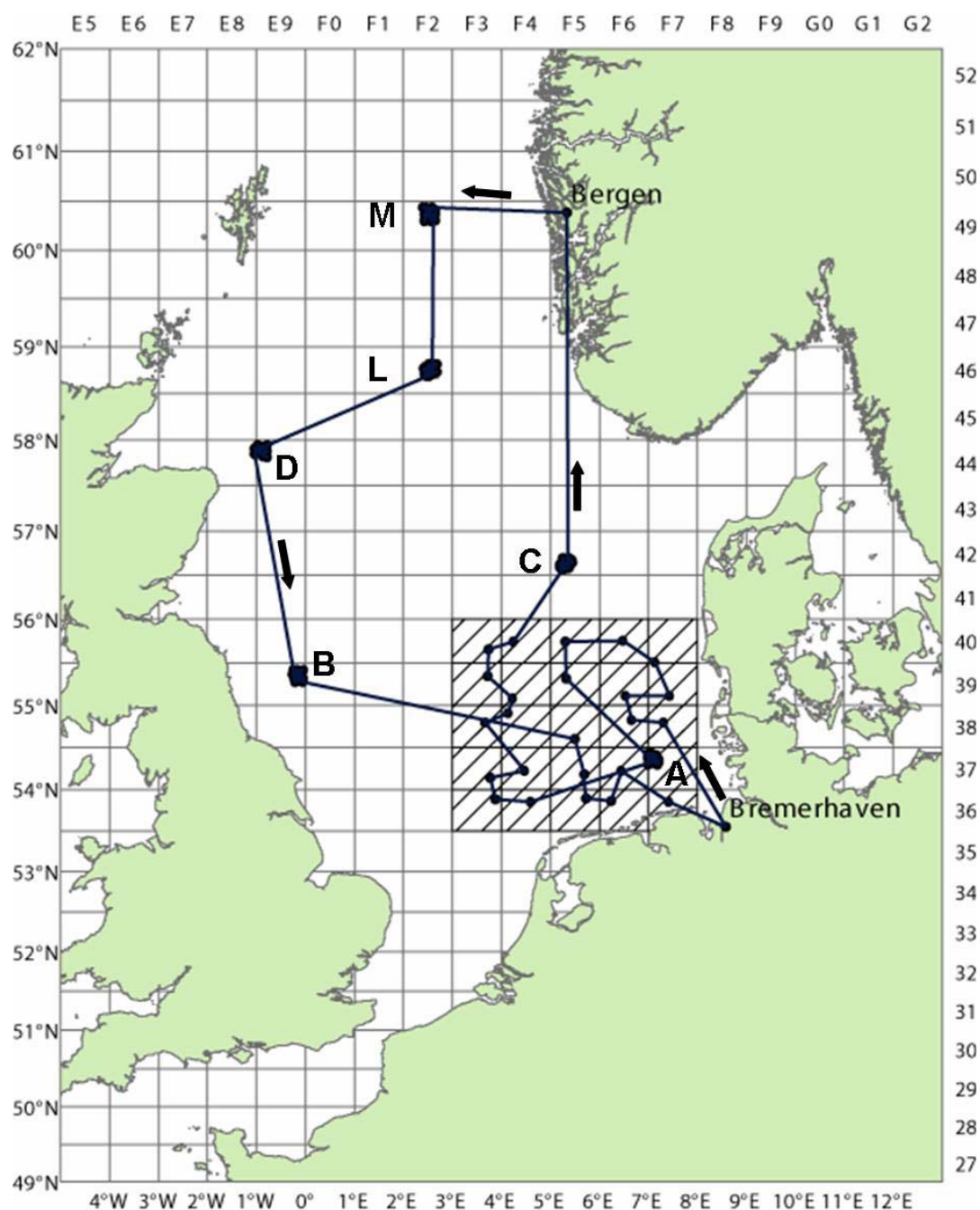


Fig. III.G.6: Cruise track of WH 324, GSBTS and IBTS 2009. Hatched area: ICES rectangles sampled within the IBTS

7 North Sea Beam Trawl Survey (BTS)

In 2009, the survey took place from 14/08/09-26/08/09 on FRV “Solea”. Fig. III.G.7 shows the trawl positions of the German part of the North Sea Beam Trawl Survey in 2009. Shortfalls and deviations: 12 additional hauls (= 4 additional statistical rectangles) were carried out due to changed requirements of WGBEAM leading to an oversampling (127%). The deviation between planned and achieved days-at-sea is due to a wrong entry in the NP. 3 days from the survey are dedicated to a monitoring programme on national expenses. They were wrongly included in the planned days-at-sea.

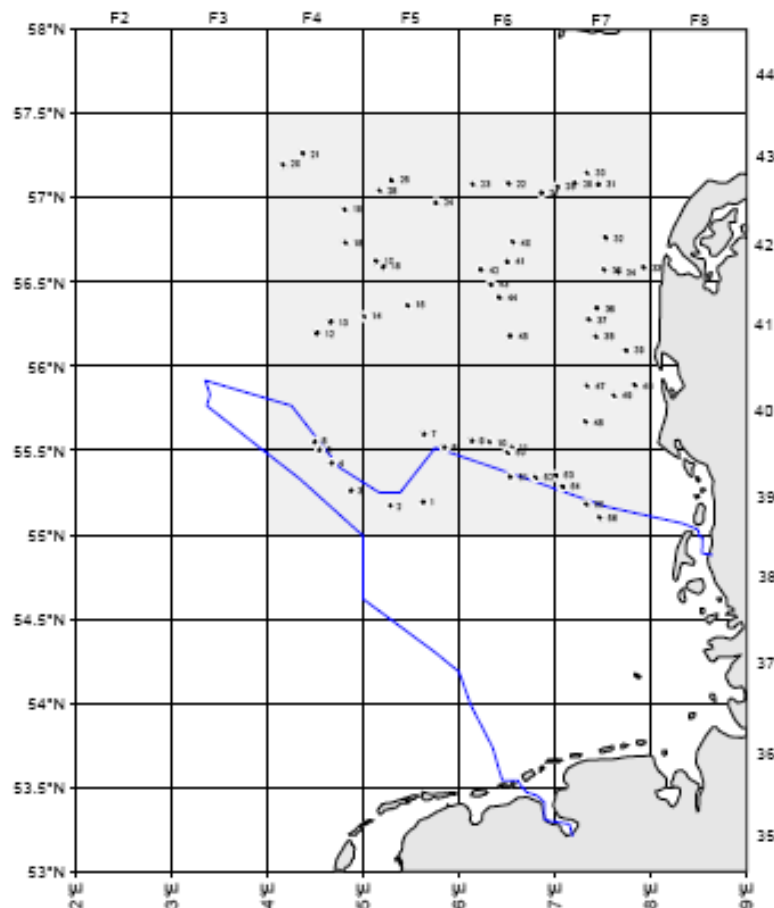


Fig. III.G.7: North Sea Beam Trawl Survey (BTS). Trawl positions 2009.

8 Demersal Young Fish Survey (DYFS)

The German part of the survey, which is conducted by DK, D and NL, consists of five components (short trips on chartered small fishing cutters) which took place in five different areas (Fig. III.G.8) in Sep-Oct 2009. Shortfalls in days and fishing hauls were due to bad weather conditions.

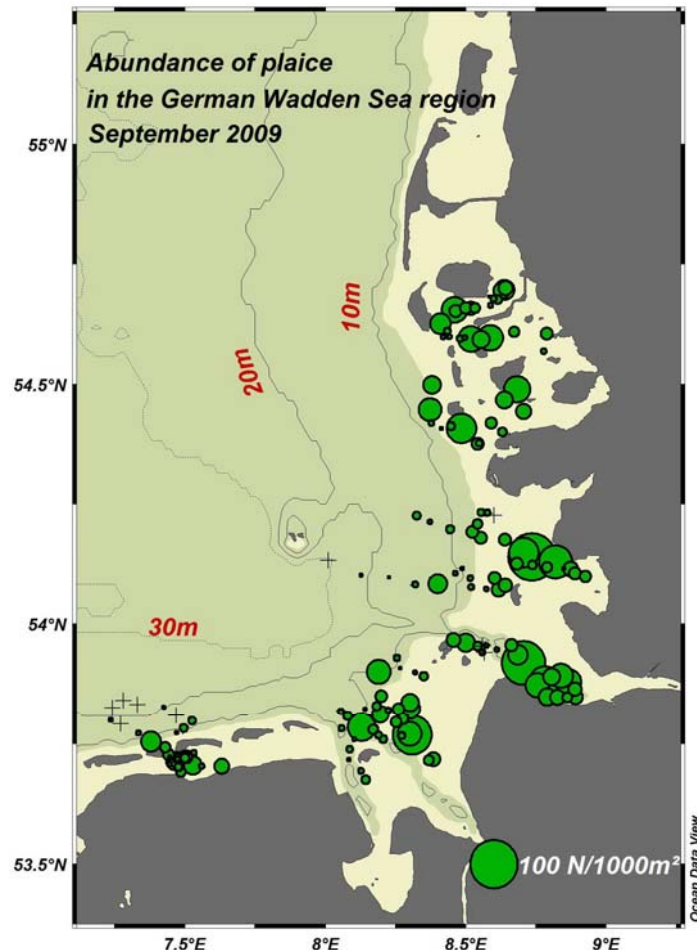


Fig. III.G.8: Demersal Young Fish Survey (DYFS). Example of station map of the German part, with abundances (10 individuals per 1000 m²) of young plaice in 2009.

9 International Ecosystem Survey in the Nordic Seas

Germany participated in this survey with one scientist. It also took the financial share in order to support Denmark to conduct the survey. The survey took place from 01/05/09 to 28/05/09.

10 International Redfish Survey (Norwegian Sea)

For this newly established survey, a Member State providing a vessel has still to be determined. Only Norway participated in the 2009 survey. The relevant planning group is ICES PGRS.

11 Herring Larvae Survey (North Sea)

The herring larvae surveys took place in the channel area of the North Sea from 06/01/09-16/01/09 and in the Orkney/Shetlands and Buchan area from 15/09/09-29/09/09 on FRV “Walther Herwig III”. Fig. III.G.11 shows the positions of the plankton hauls. Shortfalls and deviations: The available ship-time were shortened by the exchange of an injured crew member in port (2 days), and heavy weather conditions (3 days), leading to an substantial shortfall in days-at-sea and ichthyoplankton hauls in January. In September, the occurring shortfalls were under the margin of 10%.

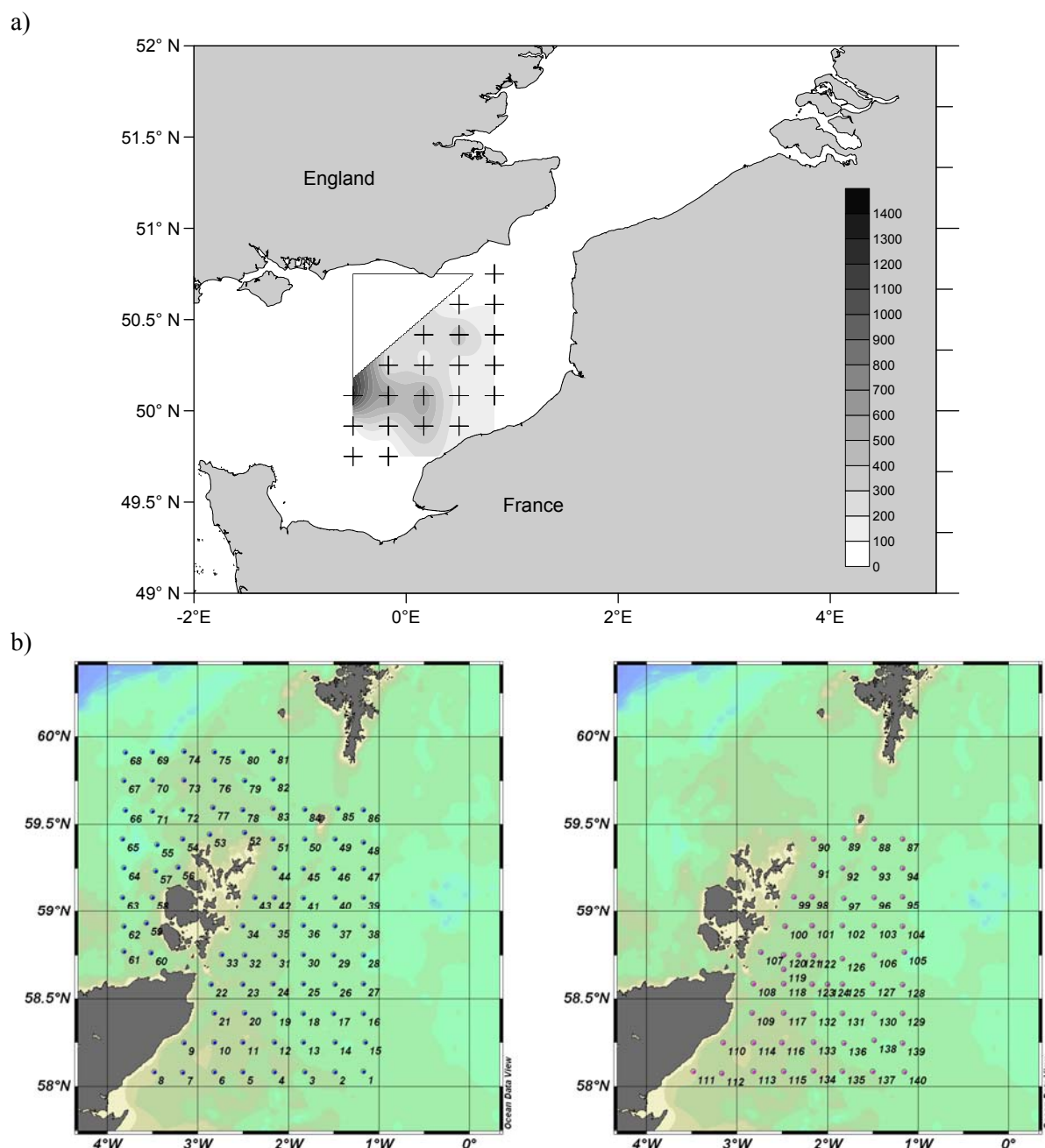


Fig. III.G.11a-b: Herring Larvae Survey in the North Sea and Eastern Channel. a) Positions of plankton hauls and estimated abundance of herring larvae (n/m^2) in January 2009, b) the first (left panel) and second (right) coverage in the Orkney/ Shetland area in September 2009.

c)

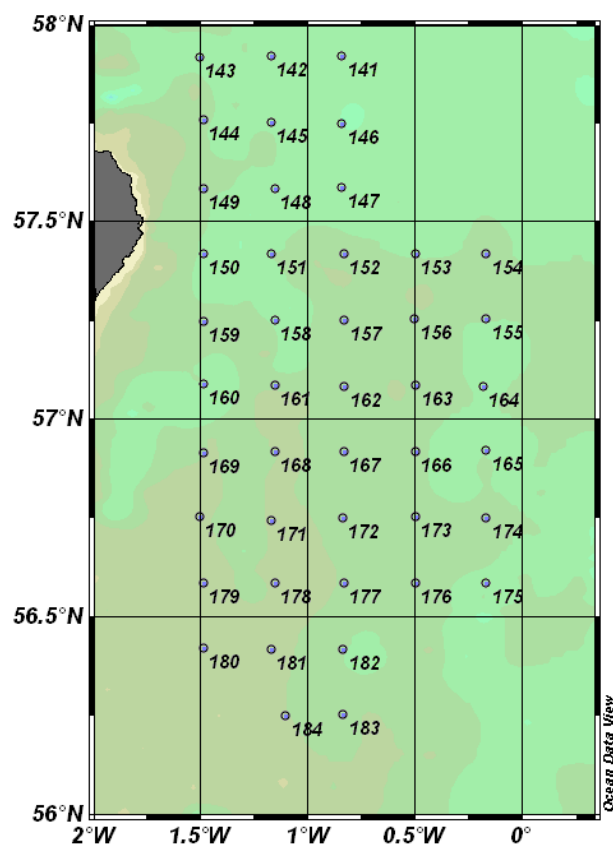


Fig. III.G.11c: Herring Larvae Survey in the North Sea and eastern Channel. c) Coverage in the Buchan area (September 2009).

12 North Sea Herring Acoustic Survey

The survey took place from 26/06/09 to 15/07/09 on FRV “Solea”. Fig III.G.12 shows the cruise track and fishing positions of the German part of the North Sea Herring Acoustic Survey. The substantial oversampling in terms of fishing hauls was due to an increased number of found target shoals in the investigation area. Compared to the planned number of hauls which were based on the average number of hauls from the years before, this leads to doubled number of hauls. An exact planning of these validation hauls is not possible.

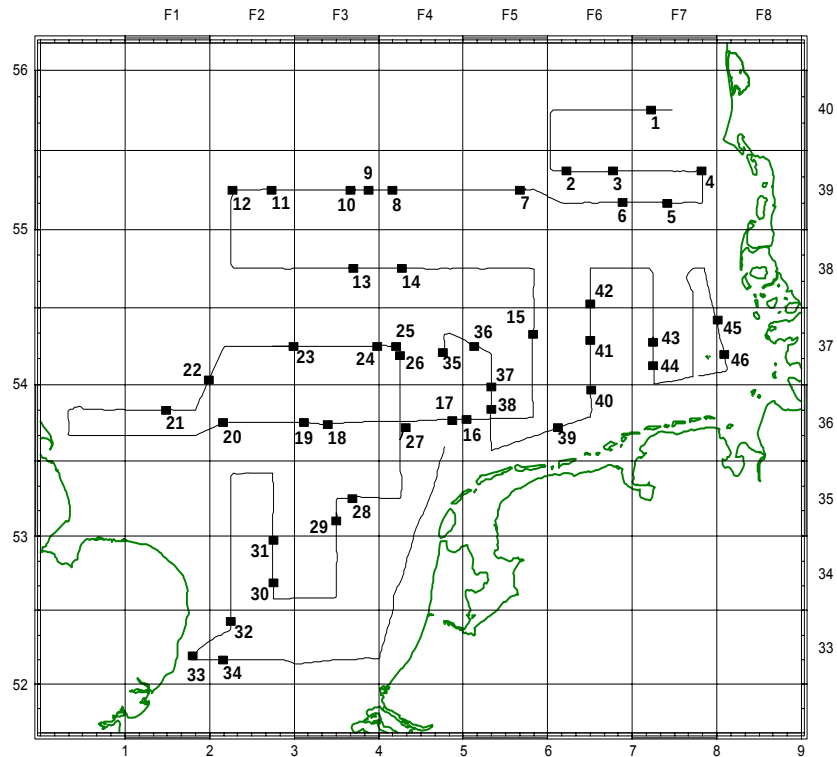


Fig. III.G.12: North Sea Herring Acoustic Survey. Cruise track and fishing positions in 2009.

North Atlantic:

13 International Redfish Trawl and Acoustic Survey

The German part of the survey was carried out from 05/06/09-04/07/09 on FRV “Walther Herwig III”. Fig. III.G.13 shows the hydro-acoustic cruise track and the fishing positions. No major shortfalls occurred.

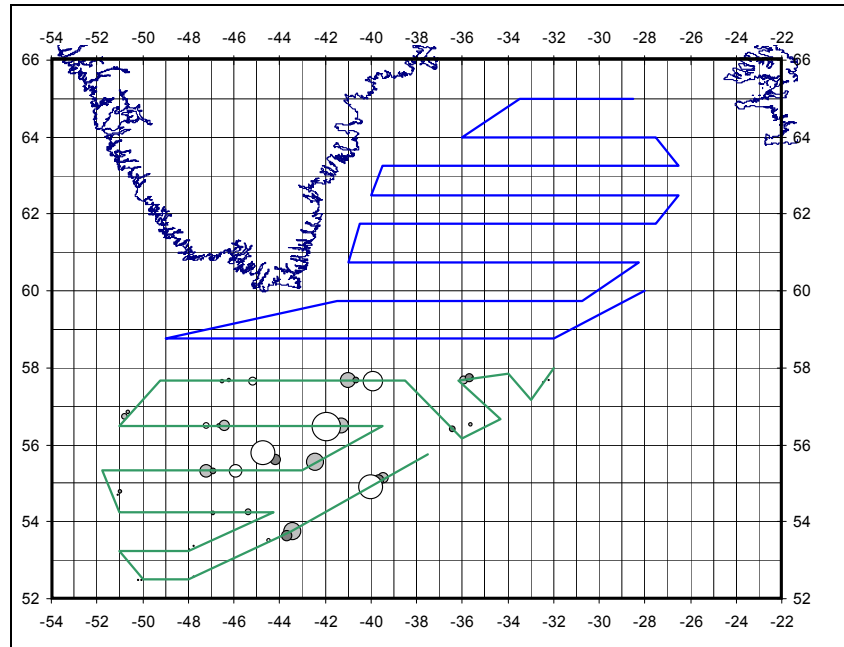


Fig. III.G.13: International Hydro-Acoustic Oceanic Redfish Survey 2009. Hydroacoustic survey tracks (green line) and trawl hauls (circles) of FRV 'Walther Herwig III' and the Icelandic vessel (blue line).

14 Greenland groundfish survey

The Greenland groundfish survey was carried out from 08/10/09-20/11/09 on FRV “Walther Herwig III”. Fig III.G.14 shows the positions of the fishing hauls and CTD stations. Shortfalls were due to bad weather and heavy ice conditions in the survey area.

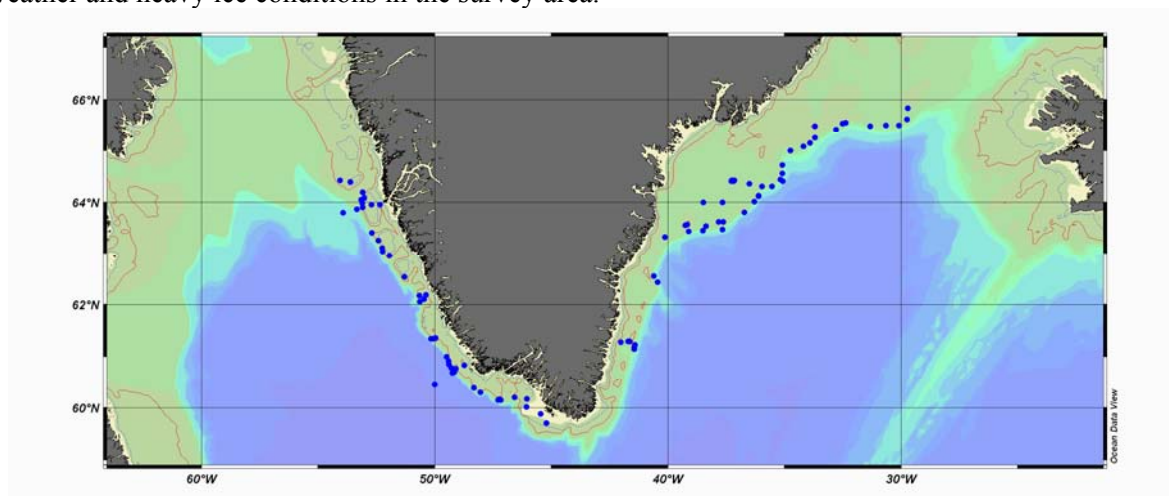


Fig. III.G.14: Greenland groundfish survey 2009. Positions of fishing hauls and CTD stations.

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 different survey parts took place from 11/03/09 to 04/04/09.

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 groups.

III G 3 FOLLOW-UP OF REGIONAL AND INTERNATIONAL RECOMMENDATIONS

Source	Message	Follow-up
RCM NS&EA 2008 Recommendation	The RCM NS&EA recommends that a cost and staff share is established for the redfish survey in the Norwegian Sea (REDNOR), similar to the ASH survey.	The 2009 survey has only been conducted by Norway, without EU MS participation.

III G 4 ACTIONS TO AVOID SHORTFALLS

Bad weather conditions: No action is possible.

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

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

IV A COLLECTION OF ECONOMIC DATA FOR THE AQUACULTURE

IV A 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

In the NP 2009-2010, Germany planned to sample the four eel aquaculture plants. Germany has a moratorium to apply the Aquaculture Statistics Regulation 762/2008 until 2012. That means that no data are officially reported on the number of enterprises in the aquaculture sector. Furthermore, no information on their production volume or value is officially known. To specify the population, a thorough investigation was necessary in order to obtain results.

Unfortunately, as the owners of the plants were not willing to answer very specific questionnaires especially due to confidentiality reasons, Germany has not sampled those four eel plants. Due to confidentiality reasons, a publication would not have been possible as well. This is true for the only oyster farm in Germany as well.

This part of the investigation had the character of a pilot study.

For the 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 send out. 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 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.

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 accuracy indicators.

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.

IV A 3 FOLLOW-UP OF REGIONAL AND INTERNATIONAL RECOMMENDATIONS

None.

IV A 4 ACTIONS TO AVOID SHORTFALLS

not relevant

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 Institute of Sea Fisheries and the Federal Statistical Office (Details are mentioned in the NP 2009-2010). Results are presented in Tables IV.B.1 and IV.B.2 with the information collected during the sampling year 2009.

Since enterprises with 50 and more employees are responsible for more than 80% of sector's sales and more than 75% of sector's employment, low response rates in the segments with less employees do not affect the results in terms of representation of the sector eminently. The data collected represent between 50% and 80% of the sector's whole 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%.

Commission Decision 2008/949/EC requires the census of all enterprises processing fish, even if it is not their main business. Germany planned to use the register of EU veterinary approval numbers for fish processors to identify those enterprises. Unfortunately, a complete version of this register was not

available before early 2010. This was due to long bureaucratic processes and the federal structure of Germany. Now this register is available and a questionnaire to all enterprises that carry out fish processing, but not as a main activity, has been sent out in 2010. This results in a delay, but as the data are available soon, no further actions to avoid shortfalls have to be undertaken.

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

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

Results of the data quality evaluation may be found in Table IV.A.3 with the values of the accuracy indicators.

IV B 3 FOLLOW-UP OF REGIONAL AND INTERNATIONAL RECOMMENDATIONS

None.

IV B 4 ACTIONS TO AVOID SHORTFALLS

not relevant

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 2009.

V 2 ACTIONS TO AVOID SHORTFALLS

not relevant

VI MODULE FOR MANAGEMENT AND USE OF THE DATA

VI 1 ACHIEVEMENTS: RESULTS AND DEVIATION FROM NP PROPOSAL

Data were transmitted to regular data users, see Table VI.1. No deviations occurred.

A shortfall occurred regarding the issue VI.A.1.4 of the NP 2009-2010, the implementation of the BI-Tool 'Microstrategy'. According to a staff changeover in 2009, the goal of using Microstrategy by 2010 could not be achieved. Nevertheless, the software Microstrategy is installed, training courses were successfully completed by the new staff members and a test environment of Microstrategy is being implemented in 2010. The configuration of the BI-Tool took more time according to the processing and integration of aggregated data of the very complex Data Calls on effort and economic data at the end of 2009 and in the beginning of 2010.

Regarding the Data Calls, several problems occurred. Changing the definitions for FISHING_TECHNIQUE (Gear Codes) in the DCF Fleet Segment was one problem. Another one was the absence in the guidelines of how to deal with NULL- or empty values in processing data (e.g. for landings). According to some data, there was no information available in the data source so that estimation was the only way to answer the questions.

VI 2 ACTIONS TO AVOID SHORTFALLS

not relevant for data transmission

VII FOLLOW-UP STECF RECOMMENDATIONS

Source	Recommendation to MS	MS action
SGRN 09-01 (Evaluation of NP proposals 2009-10)	ON DEROGATIONS FOR DISCARDS AND LANDING SAMPLING: SGRN consider that derogations can only be granted if the level of discard is statistically proven and supported by documentation.	Requests for derogations by Germany are considering this aspect, but also take into account bilateral and multilateral agreements on a regional level (RCMs).
SGRN 09-01 (Evaluation of NP proposals 2009-10)	ON SPECIES DEROGATIONS AND NON CONFORMITIES: Species derogations can be granted on the basis of less than 200 tons in total landing, if there is not any different provision from relevant RFMO. (...) MS should provide these data so the derogation can be evaluated. SGRN suggests MS to provide a cost/benefit analysis in detail to determine the excessive cost as mentioned in the NP.	Germany has provided detailed landings data (incl. stocks for which <200t were landed) at the recent RCMs and in the current NP proposal.
SGRN 09-01 (Evaluation of NP proposals 2009-10)	ON THE CONSISTENCY OF DIFFERENT ECONOMIC DATA SOURCES: SGRN asks MS to explain in the national program how the consistency of information derived from different data sources has been checked.	This has been described in section III.B.1(d) of the NP.
SGRN 09-01 (Evaluation of NP proposals 2009-10)	ON SAMPLING IN DISTANT AREAS: SGRN underlines that all target species concerned and all species for which it is mandatory to collect data according to the provision of the RFMO concerned, must be included in the NP of each MS concerned.	Sampling of long-distance fisheries has been considered by Germany in sections III.C and III.E.
SGRN (Evaluation of the TR 2008)	not relevant, as part of the former DCR	n.a.

VIII LIST OF ACRONYMS AND ABBREVIATIONS

Acronym/ Abbreviation	Explanation
aeglef.	aeglefinus
AFWG	ICES Arctic Fisheries Working Group
BAD	Baltic Acoustic Database (BADI = aggregated data; BADI = raw data)
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)
BMELV	Bundesministerium für Ernährung, Landwirtschaft und Verbraucherschutz, (Ministry for Food, Agriculture, and Consumer Protection)
BRZ	Bruttoreaumzahl (gross tonnage)
BSRP	Baltic Sea Research Project
CPUE	Catch per unit effort
CTD	Conductivity-Temperature-Depth probe
DATRAS	Database for trawl surveys
DCR	Data Collection Regulation
DCF	Data Collection Framework
DMV	Deutsche Meeresangler Vereinigung e.V. (German Marine Anglers Association)

DYFS	Demersal Young Fish Survey
EU	European Union
FADN	Farm Accountancy Data Network system
FOE	Institut für Fischereiökologie (Institute of Fisheries Ecology)
FTE	Full time employment
Funct.	Functional
FYK	Fish traps
GNS	Set nets/Gill nets
gt	Gross Tonnage
HAWG	ICES Herring Assessment Working Group
HERSUR	Herring Survey
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
IFREMER	French Institute for Exploitation of the Sea
kW	kilowatt
LDF	Long-distance Fisheries
LOA	Length overall
MAGP	Multi-annual Guidance Programme
MIX	Mixed fisheries
MV	(Federal Country of) Mecklenburg-Vorpommern
NACE	Statistical classification of economic activities in the European Community (Nomenclature statistique des Activités économiques dans la Communauté Européenne)
NAFO	Northwest Atlantic Fishery Organisation
NASC	Nautical Area Scattering Coefficient
No	Number
NP	National Programme
NR	Not relevant
NWWG	ICES North-Western Working Group
OSF	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
PGHERS	ICES Planning Group for Herring Surveys
poutas.	poutassou
PRODCOM	The EU-wide harmonised classification of products produced by the industrial sector (PRODUCTION COMMUNAUTAIRE)
PTB	Two ship trawl bottom
PTM	Two ship trawl midwater
RCM	Regional Co-ordinating meeting
Reg.	Regulation
SC	Scientific Council
SF	Institut für Seefischerei, Hamburg (Institute of Sea Fisheries)
SGRN	STECF Subgroup on research need and data collection
SGRS	ICES Study Group on Redfish Survey
SH	(Federal Country of) Schleswig-Holstein
StBA	Statistisches Bundesamt (Federal Statistical Office)
STECF	Scientific, Technical and Economic Committee for Fisheries

TAC	Total allowable catch
TBB	Beam trawl
TTB	Twin trawl (Special gear which is used by the demersal fishery)
UK	United Kingdom
vTI	Johann Heinrich von Thünen-Institute, Federal Research Institute for Rural Areas, Forestry and Fisheries
WG	Working Group
WGBEAM	ICES Working Group on Beam Trawl Surveys
WGBFAS	ICES Baltic Fisheries Assessment Working Group
WGECO	Working Group on Ecosystem Effects of Fishing Activities
WGFAST	ICES Working Group on Fisheries Acoustic Science & Technology
WGMEGS	ICES Working Group on Mackerel and Horse Mackerel Egg Survey
WGNPBW	ICES Northern Pelagic and Blue Whiting Fisheries Working Group
WGNSSK	ICES Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
WGWIDE	ICES Working Group on the Assessment of Wide Distributed Species
ZUMA	Zentrum für Umfragen, Methoden und Analysen (Centre for Empirical Social Research and Methodology)

IX COMMENTS, SUGGESTIONS AND REFLECTIONS

see comments

X REFERENCES

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XII ANNEXES

ANNEX 1: MINUTES OF NATIONAL CO-ORDINATION MEETING 2009 [IN GERMAN]

**Datenerhebungsprogramm (DCR):
Nationales Koordinierungstreffen 2009
vTI Hamburg-Palmaille, 25.11.2009, 10:00-17:00**

Teilnehmer: E. Leu (SF), Frau C. Albrecht (OSF), S. Kroupis (SF), T. Groß (SF), T. Weddehage (SF), Dr. Nagel (FOE), Frau T. Müller (BLE), M. Ebeling (SF), Dr. Probst (OSF), K. Panten (SF), Dr. Stransky (SF/Vorsitz), J. Ulleweit (SF/Protokoll), T. Rohde (OSF), T. Jankiewicz (OSF), Dr. Velasco (OSF), S. Hagemann (OSF), U. Berth (OSF), N. Schulz (OSF), Dr. Berkenhagen (SF), Frau S. Helmert (SF), S. Heuss (BLE), G. Wolff (BLE), W. Wern (BLE)

Start der Sitzung: 10:00

Tagesordnung: keine Änderung der Tagesordnung

- 1. Kurze Vorstellung der Teilnehmer**
- 2. Durchführung des DCR-Programms 2009: Erfolge & Probleme**

a. Beprobungen auf See

Stransky: stellt Stand anhand NP Metierliste vor, gibt allg. Begriffserklärungen (Regionen, Metiers, Fishing Grounds, etc.) und zeigt SF Abdeckung
Probst für die Ostseebeprobungen: gute Abdeckung, aber nicht alle Anforderungen gedeckt, Fischer nicht immer kooperativ, Abfischung Dorsch sehr schnell daher haben Fischer schnell Quote abgefischt, in der Folge sind Beprobungen nicht wie geplant möglich
Hafenproben: zeitweise schwierig an Proben zu kommen
für SF: Das Führen einer Telefonliste über Kontakte zur kommerziellen Fischerei nach dem Beispiel OSF wird empfohlen, das Führen einer gemeinsamen Liste mit Ökonomie möglich, Vorschlag .T Müller: Führen der Liste auf DCR-Portal

bei Problemen mit Fischern: es wird empfohlen, Kritik sachlich niederzuschreiben und an Vorgesetzte weiterleiten, die dann die Kritik an Industrie weitergeben

Kroupis: typisches Problem: Reederei sagt Beprobung zu, aber Besatzungen sind dagegen

Stransky: Probleme müssen konstruktiv mit Industrie angegangen werden. Wichtig: wenn den Daten nicht vertraut werden kann, muss das klar sein, auf Protokollen/im Bericht klargestellt werden

Probst: für die Ostsee gibt es den runden Tisch mit Fischerei, bei der Probleme besprochen werden können.

Stransky: Mitnahme ist gesetzlich geregelt nach EU-VO! Das ist aber relativ weiche Formulierung.

Probst/Hagemann: letztendlich sind die Beprober aber immer von Wohlwollen der Fischer abhängig, Ausnahmeregelung im Sinne der VO immer möglich, keine zufällige Auswahl der Mitfahrten (Randomsampling) ist möglich

Kroupis: Besatzung nimmt uns nicht ernst

Stransky: Zusammenarbeit mit Wissenschaft zukünftig wichtiger, um beispielsweise zusätzliche Fangtage in einzelnen Fischereien zu bekommen, damit sind Anreize für Fischerei gegeben, mit uns zusammenzuarbeiten

Berth: Propagandakampagne nötig

Stransky: Aufgaben der Beprobungen müssen immer den Besatzungen wieder aufgezeigt werden, es geht um den langfristigen Bestandserhalt!

Stransky fragt nach Stand der Stellnetzbeprobungen in Ostsee

Probst: soll weiter ausgebaut werden, ein paar Beprobungen sind durchgeführt worden, hohe Skepsis bei Fischern, vielleicht im Rahmen einer Ökozertifizierung (MSC) in einem Hafen (Freest) verstärkt möglich, Hering, Dorsch und Plattfisch, Schlauchbooteinsatz soll ausgebaut werden

Berth: Abdeckung in Ostsee gut

b. Beprobung der Freizeitfischerei

Schultz: personell aufgestockt, vier regionale Beprober auf 400€ Basis insbes. für

Fehmarn/Heiligenhafen wurden seit März eingestellt, 263 Beprobungen durchgeführt, das sind weniger als geplant wegen Wetterbedingungen

insgesamt 2000 Anglerbefragungen, doppelt so viele wie 2008, Längenmessungen wurden versiebenfacht

Finanzierung einer Bachelorarbeit (Punktaufnahme bei Fehmarn Vergleich kleine Angelkutter mit großen Kuttern: Ergebnis: keine Unterschiede bei Längenverteilungen

Probleme mit Aalbeprobungen bei Freizeitfischerei, Adressen für Lizenzträger sind aus datenschutzrechtlichen Gründen noch nicht zu bekommen

letzte Woche hat Schultz regionale Beprober besucht

Lachs wird speziell beobachtet, zum Teil hohe Aktivitäten von Lachstrolling vor Rügen

Insgesamt wird Beprobungsstrategie den Ergebnissen des Workshops on Sampling Methods for Recreational Fisheries (WKSMTF) angepasst.

Stransky zu Aalbeprobungen und Zustand der Aalbestände: sehr schlechter Bestand, Fischerei wird entweder geschlossen oder stark eingeschränkt, d.h. keine kommerziellen Beprobungen von See langfristig

c. Beprobung der kommerziellen Fischerei auf Aal in Binnengewässern

Nagel berichtet aus seinem Arbeitsbereich: Aufbau eines Netzwerkes, um alle nennenswerten Aalfangplätze (Flusssysteme) abzudecken, positiv, guter Kontakt, nun steht der Aufbau der Beprobungen an, welche Parameter sind wichtig, nicht nur Anforderungen der DCF aber auch Parameter zur Beschreibung des Bestandszustandes

Anforderung: 1600 Aale pro System als Stichprobe übers Jahr, schwierig, da Fänge stark rückläufig

Stransky: Soll gegenüber EU als Monitoringprogramm geltend gemacht werden

Nagel: zukünftig regionale Einschränkung möglich, d.h. Konzentration auf wichtigste Aalfangplätze

d. ökonomische Datenerhebung

Berkenhagen zur Fangflotte – Einnahmen und Ausgaben:

Einnahmen werden über BLE dokumentiert, läuft gut, Teil der Kostendaten kommen über Testbetriebsnetz, einige Daten fehlen z. Bsp. für die pelagischen Freezertrawler (Firma liefert keine Daten)

Anderes Problem: kleine Stellnetzkipper ohne Logbuchauflage, hier konnten in 2008 über

Umfrageaktion 25% aller Fahrzeuge erreicht werden, dabei wurde Adressdatei der BLE ergänzt

Wern: Wie wird Effort von Stellnetzfahrzeugen berechnet?

Berkenhagen: über „days at sea“, d.h. kein wirklicher sondern virtueller Aufwand

Wolff: Fahrzeugdatei wird aktualisiert, da wegen Erteilung neuer Fanglizenzen in diesem Jahr aufgrund veränderter VO alle angeschrieben werden bzw z.T. schon worden sind, an sich müssen Änderungen von Fischern angemeldet werden, das bleibt aber manchmal aus, daher ist Adressdatei fehlerhaft

Ebeling zur Fischverarbeitung:

Lage zu Vorjahren verbessert, mehr Rückläufe von Umfragen

Die neue VO hat zusätzliche Erhebungsparameter z.Bsp. Geschlecht der Beschäftigten, bekommt man aber vom statistischen Bundesamt

Stransky: Döring leitete STECF Gruppe zur Fischverarbeitung, hier gab es eine erste Sichtung der Daten, Fischverarbeitung ist neuer Bereich, der größer werden wird. Interessant ist, welchen Einfluss haben die Fangmengen/Quotenänderungen in der Fischerei auf die Fischverarbeitung ?

Ebeling: VO muss verändert werden, da VO keine artenspezifischen Fischverarbeitungsdaten verlangt, das ist aber nötig, um Daten mit anderen Modulen innerhalb DCF zu verzahnen, soll zukünftig passieren

zur Aquakultur: Grundgesamtheit kann noch nicht bestimmt werden, da es erst jetzt gesetzliche Auflagen zur Erfassung gibt, in der Muschelfischerei ist die Lage klar, da nur neun Lizenzen vergeben worden, für alle anderen Bereich ist es schwieriger, hier muss erst Netzwerk aufgebaut werden, es gibt aber einige Berichte aus der Industrie, die man nutzen kann

Stransky: Vorstellung der Liste mit Datenanforderungen aus der Aquakultur - geforderte Arten nach Arten und Artengruppen, wichtig ist, dass Süßwasserarten optional sind

e. Daten-Abruf durch die EU

i. Flottenökonomie (Nov. 2008)

Der Call kam zu früh, so dass noch keine Daten aus TBN da waren. Hier mussten Daten nachgeliefert werden, das war nicht nur deutsches Problem, zukünftig sollen Datenaufrufe später kommen

Stransky/Wolf: Diskussion über Verknüpfung von Flottenbericht mit DCF-Flottenökonomie, unterschiedlicher Ursprung (Zusammenhang Kapazität/Fangmöglichkeit) erschwert dies

ii. Ökonomie Fischverarbeitung (Sep. 2009)

alle Daten wurden geliefert, aber kein Rohfischeinsatz nach Art (da nicht in VO), sowie Werte der Investitionen (Betriebsgebäude etc.)

f. Kommunikation mit der Fischerei & Beprobungsmöglichkeiten

wurde schon unter Punkt 1 abgehandelt

3. Datenbanken: Stand & Zukunft

a. Vereinbarungen über Zugriff & Verwendung von Daten, Datenschutz

Stransky: Es gibt noch keine richtigen Vereinbarungen, aber ein Dokument zum Verfahren, die Daten werden zentral in Bonn verwaltet, aber wir können auf Daten zugreifen

BLE Datenschutzbeauftragte sieht Datenschutz sehr strikt

Müller: Berichtet über Austausch zwischen Ministerium und BLE

Daten dürfen für DCF genutzt werden, das steht außer Frage, dürfen aber nicht lokal gespeichert werden sondern nur auf BLE-Server

Stransky: Onlinezugang muss realisiert werden für Arbeitsgruppenteilnehmer etc, die Zugangsberechtigung müssen geklärt werden, evtl. ist gar kein Zugang zu Rohdaten nötig, wenn man aggregierte Abfragen nutzen kann

b. *Überarbeitung durch BLE (Juli 2009)*

Die Erlösdaten werden aus Anlendedaten herausgelöst, und nur den Fischökonomen zugänglich gemacht, sind damit aber auch innerhalb unserer Arbeitsgruppe für die Programmerstellung verfügbar, um beispielsweise das Ranking zu erstellen

c. *OSF-BLE Entwicklung*

Müller: Es ist eine zentrale Datenbank vorhanden mit einer Struktur, die erweiterbar ist, die Datenbank wird zunächst mit RHLS aufgebaut als Testdatenbank, soll zukünftig auch für kommerzielle Daten genutzt werden können, da Datenstruktur sehr flexibel ist, aber es müssen gemeinsame Schnittstellen/Schlüsselfelder da sein, ein Problem ist beispielsweise, dass die Forschungsschiffe keine Eu-Nummer haben

allgemein:

Wern/Wolf weisen auf neue Kontrollverordnung ab 2010 hin. Dann werden Forschungsfänge, die vermarktet /verkauft werden, auf Quote angerechnet, wenn sie 2% der Gesamtfangmenge überschreiten

Stransky/Wolff: Die Kontrollverordnung hat Auflagen (Stichprobenprogramm) zur Freizeitfischerei, die der EU zukünftig ermöglicht auch diese Fischerei zu kontrollieren, Schultz: wird schwierig, da Angelfahrzeuge keine Fischereifahrzeuge sondern Fahrgastschiffe sind, d.h. nicht erfasst sind, wenn dann müssen die Angler selbst kontrolliert werden

Wern weist darauf hin, dass es zur Zeit noch je nach Schiffsgröße Anlandeerkklärungen ODER Verkaufsabrechnungen gibt. Zukünftig gibt es für alle Anlandeerkklärungen mit der Folge, das Zuordnung nicht mehr eindeutig ist, da für einzelne Schiffe beide Erklärungen vorliegen können.

4. Internetportal dcr-germany.de

Webseite: <http://dcr-germany.de> bzw. zur Zeit noch <http://preview.dcr-germany.de>
Stransky stellt das Portal vor. Portal wurde errichtet, um die Rechtsauflage der EU-DCF VO zur Einrichtung einer Webseite zu erfüllen, soll aber allen Mitarbeitern der DCF nützen.
Der Inhalt ist in Entwicklung: Struktur der DCF, Links zu EU-Verordnungen und anderen Dokumenten, Beprobungsanleitungen, Beprobungsübersichten, bilaterale Abkommen etc. sollen ergänzt werden.

5. Stand und Weiterentwicklung der Auswertungssoftware 'MicroStrategy'

Müller: Consultant von der Firma 'MicroStrategy' zur Zeit da, der Anpassung an Bedürfnisse der DCF durchführt

Was ist 'MicroStrategy'? Stransky: Auswertungstool, das viele Auswertungen und graphische Darstellungen möglich macht

zukünftig auch nutzbar für andere Nutzergruppen, zur Zeit gibt es zwei Nutzergruppen: eine biologische und eine ökonomische Gruppe, das Tool ist evtl. ab Ende Dezember nutzbar

Eine Dokumentation findest sich im Internet unter [microstrategy](http://microstrategy.com).

Vorschlag: Durchführung eines Anwender- und Vorstellungsworkshop Anfang 2010!

6. Ergebnisse eines bilateralen Treffens mit den Niederlanden (12.8.2009)

Stransky stellt die Ergebnisse des Treffens vor (siehe separates Protokoll), im weiteren Verlauf berichtet Kroupis von seinen Erfahrungen auf einem holländischen Krabbenkutter. Die Reise wurde im Rahmen des bilateralen Treffens organisiert.

7. Ergebnisse der Regionalgruppen (RCMs), Veränderungen im NP 2010

a. *North Sea & Eastern Arctic (Boulogne, 15.-19.9.2009)*

- bilaterales Abkommen mit Dänemark zur Nephropsbeprobung ist in Kraft, bei Metier Grundschleppnetz über 120mm in 2A auf Kabeljau/Schellfisch gibt es nach ersten Analysen wohl nicht genügend Übereinstimmung mit UK, daher wurde ein bilaterales Abkommen nicht verwirklicht
 - Für die Ökonomie soll es zukünftig ein eigenes, regelmäßiges Forum geben.
 - Programm 2010 bis 2013 wird auf Basis der Daten von 2007/2008 erstellt, die nächsten RCMs werden im April/Mai 2010 stattfinden
 - Regionale Datenbanken sollen auf Basis von FishFrame entstehen, wobei die Finanzierung noch unklar ist
 - Vorstellung des COST-Tools zur Präzisionsabschätzung
- b. *North Atlantic (Cadiz, 29.9.-2.10.2009)*
- Abkommen über Langleinenfischerei auf Seeteufel und Korbffischerei auf Tiefseekrebse (deutsch geflaggte Schiffe mit spanischen Eignern, die nur in Irland und Spanien anlanden) mit Spanien ist in Arbeit aber noch keine Antwort
 - weitere Punkte wie bei RCM North Sea & Eastern Arctic
- c. *Baltic (Helsinki, 6.-9.10.2009)*
- Betonung auf Tasksharing, einzelne Mitgliedsländer übernehmen Beprobungsaufgaben von Ländern, die verpflichtet sind nur kleine Mengen zu bearbeiten, Diskussion der Zentralisierung von Alterslesungen in sogenannten Alterslesecentern.
 - weitere Punkte wie bei RCM North Sea & Eastern Arctic

Andere:

RCM zur „long distance“-Fischerei wird im nächsten Jahr erstmalig stattfinden und geleitet von Spaniern

8. Besetzung von DCR-relevanten Sitzungen und Workshops

Die Besetzung der ICES-Expertengruppen (PGCCDBS, Workshops), RCMs, STECF-Untergruppentreffen (SGRN Evaluierungstreffen Nat. Prog., Techn. Bericht sowie GECA) wurden vorgeschlagen und diskutiert.

9. Datenqualität: Beprobungsanleitung

Zur Ergänzung der Beprobungsanleitung werden Beschreibungen zur Ostseefischerei (Heringsbeprobungen) und Aalbeprobungen erbeten.

10. Pilotprojekte (Studies)

Folgende Vorschläge zu möglichen Studien wurden vorgebracht:

Aalstudie

Freizeitfischerei auf Aal

Vorschläge zu Studien/Beprobungen über RCMs

Das Projekt WEBGr ist im Frühjahr 2010 abgeschlossen / Vorstellung

11. Veröffentlichungen

Es wurden zwei Artikel für die Informationen aus der Fischereiforschung gefertigt. Ein Artikel im Rahmen des Sonderbandes „100 Jahre Seefischerei“ ist in Arbeit.

12. Sonderfangerlaubnisse 2010

Sonderfangerlaubnisse für 2010 sind zu beantragen, es kann eine Neuregelung aufgrund der geänderten TAC-VO mit einer anderen Berücksichtigung von wissenschaftlichen Fänge geben, darauf ist zu achten (siehe auch unter Punkt 3).

13. Verwaltung (Zeiterfassung, Dienstreiseanträge, Reisekostenabrechnungen)

Zeiterfassung: elektronische Projektzeiterfassung läuft noch nicht überall und fehlerfrei, Appell an alle entweder die Excel-Stundenzettel auszufüllen oder die elektronische Projektzeiterfassung zu benutzen! Für die Richtigkeit unterschreibt der Nationale Koordinator!

Hauptproblempunkt bei elektronischer Projektzeiterfassung ist die fehlende Möglichkeit zur Eigenkorrektur

Reisen zu Assessmentgruppen können abgerechnet werden, aber es müssen alle Reiseunterlagen eingereicht werden (Tickets, Hotelrechnungen etc.)

Allgemeine Kritik an vTI-Reiseestelle: Interne Reiseabrechnungen dauern zu lange!!!

14. Planung für 2010:

Stransky gab einen Überblick über:

- a. Neue Richtlinien und Tabellenvorlagen ab 2010

- b. Nationales Programm 2011-2013 bis 31.3.2010

Anmerkung: Programmerstellung ist in das Frühjahr vorgezogen, es gibt neue Vorlagen und Richtlinien, das zu erstellende Programm ist das erste Dreijahresprogramm

- c. Technischer Bericht & Finanzbericht 2009 bis 31.5.2010

Anmerkung: Auch hier gibt es neue Vorlagen und Richtlinien wie auf RCMs vorgestellt

15. Sonstiges

Neu durch DCF finanziert: Grönlandsurvey nun vollständig, dazugekommen ist der Heringslarvensurvey Nordsee und der Rügen Heringslarvensurvey.

Eine neue Otolithensäge wurde angeschafft, diese läuft im SF sehr gut, im OSF nach Anfangsschwierigkeiten auch gut.

Problematisch: Austrocknen der langen Harzblöcke führte zuerst zum Aufbiegen der Blöcke, das führte zu einem unpräzisen Sägeansatz und damit zu unbrauchbaren Schnitten. Dem Problem wird nachgegangen.

Am OSF werden Beprober wegen Fehmarnbeltprojekt ausfallen, darum besteht Bedarf für zusätzliches Personal. Insgesamt wird es Mehrarbeit für DSF-Personal geben wegen Mitarbeit in anderen zusätzlichen Forschungsprojekten.

Schultz gab Anmerkung, dass in der EU-Kommission oft über Fischerei gesprochen und geschrieben ohne klar von der Freizeitfischerei abzugrenzen. Das führt zu Missverständnisse, so glauben einige Angelschiffbesitzer deshalb, dass sie Blackboxen an Bord haben müssen.

Stransky gab zu, dass es in den Verordnungs-, Durchführungs- und Gesetzestexten viele Inkonsistenzen gibt, die nicht auszuschließen sind'.

Schluss der Sitzung: 16:20 Uhr

ANNEX 2: MINUTES OF BILATERAL MEETING D-NL

Minutes of the Bilateral Coordination Meeting between the Netherlands and Germany on the cooperation of sampling of data in the DCF

In preparation of the National Programmes (NP) of Germany and the Netherlands for 2011-2013 and an the update of their NPs for 2010, the National Correspondents (NC) of Germany and the Netherlands and a number of German and Dutch scientists involved in the co-ordination of DCF obligations met in The Hague on 12 August 2009. The meeting was initiated by Germany because of comments on their NP on distant water fisheries by the EC (based on the evaluation of the NP proposal 2009-2010). The DCF includes the collection of data for fisheries in distant waters. Specific comments were given for the CECAF area, asking for setting up a plan for sampling in this area. This applies also to the Netherlands. In addition a number of other subjects of common interest were discussed. The Commission was also invited to this meeting but apologised for not being able to participate. Ad Corten was invited to join the group for the first 2 agenda points (see below) as an expert of the fisheries in Pacific and African waters. Annexed to these minutes are tables with catches (landings) in CECAF-waters and in SPRFMO-waters.

The following participants attended the Meeting:

- Dirk Jan van der Stelt (NC, NL)
- Christoph Stransky (NC, GER)
- Edwin van Helmond (NL)
- Jens Ulleweit (GER)
- Sieto Verver (NL)
- Kay Panten (GER)
- Frans van Beek (NL)
- Ad Corten (invited independent expert, NL)

The minutes of this meeting will be attached to the Technical Reports (TR) of Germany and the Netherlands for 2009.

The following subjects were discussed:

- 1 sampling of the long distance fleet on small pelagics in the South Pacific
- 2 sampling of the long distance fleet on small pelagics in CECAF/Mauritanian EEZ
- 3 sampling of beam trawlers on brown shrimp (*Crangon*) in the North Sea
- 4 sampling of the pelagic trawler fleet on mackerel, horse mackerel and herring in western waters (from Norway down to Portugal)
- 5 sampling of beam trawlers on sole and plaice and sole in the North Sea
- 6 sampling of recreational fisheries

As a private consultant, Ad Corten has been carrying out a number of research projects in Pacific and African waters on behalf of the Ministry of LNV and the Dutch pelagic industry on a contract basis. These projects are not linked to the DCF. Most information available at this meeting on the research activities in these areas originate from these projects.

1) Pelagic fishery in the South Pacific

The fishery in the South Pacific is directed to jack mackerel (*Trachurus murphi*), and chub mackerel, (*Scomber japonicus*). About 90% of the catch is jack mackerel. The fishery takes place in international waters outside the 200 miles zone. The organisation responsible for management of these resources is the interim South Pacific Regional Fisheries Management Organisation (SPRFMO). Presently, the only regulation in force is a voluntary freeze on fishing effort by a number of nations. There are no TACs or licences and there is in fact an open access to the fishery by countries that have not agreed to

the interim measures. Recent draft regulations by SPRFMO contain a provision for 10% scientific observer coverage of the effort in this fishery. Presently only Chilean assessments exist for jack mackerel, but the SPRFMO intends to carry out a joint assessment before the end of 2009.

Four EU Member States are active in the pelagic fishery in the South Pacific: the Netherlands, Germany, Poland and Lithuania with about 10 vessels all operating in the same métier. Some of the vessels are so-called flag vessels¹ owned by Dutch companies. EU catches range between 3-7% of the total international catches depending on the species. Registration of catches by EU vessels is adequate because they have to use logbooks. Also catch statistics from Chilean fleets are good. The quality of catch reporting of other (non-EU-) participants in the fishery is unknown.

The main fishery is between March and September. The Dutch and German vessels are operating from Chile and occasionally from Peru. The fishery is a direct and relatively clean fishery. Like in most pelagic fisheries discarding is low (about 5-10% in weight, pers. comm. Ad Corten) mostly consisting of damaged fish or other species. In contrast to the fishery in Mauritania, by-catches of large protected and vulnerable species are very small. The catch composition of the EU fleet is supposed to be representative for most fleets of other countries fishing on these target species (same métier).

Sampling of the pelagic fishery is required for all EU MS through the DCF métier selection procedure. This métier qualifies because it is the only métier which is operating in the area. However, none of the species caught in this fishery are listed in the DCF for age-length and biological sampling. Also discarding is less than 10%. Sampling would become required through RFMO² data requirements if the draft provisions will be agreed.

Since all EU vessels (Poland, Lithuania, Germany, and the Netherlands) are operating in the same fishery with the same gear, it would be preferable to set up a common EU sampling strategy. The sampling programme should preferably be an EU observer programme covering 10% of the EU effort. The sampling protocol should adhere to the data requirements specified by SPRFMO. Indication of costs of such a programme would be based on 7 months of observer sea time, coordination of the programme and data management.

NL and GER recommend discussing the approach to be applied in sampling this fishery with Poland and Lithuania in the 'RCM for distant waters'. This RCM is not yet established, but the EU suggested that this RCM will be arranged by the end of 2009.

2) Pelagic fishery in the CECAF/Mauritanian waters

The fishery in Mauritanian waters is regulated through agreements between Mauritania and other parties including the EU. The first agreement with the EU dates from 1996. The recent fishery agreements contain conditions regarding logbooks and (scientific) observers.

Scientific advice is provided through CECAF, which is a regional science organisation like ICES with no management responsibility but supporting assessment WG.

The fishery takes place all year round, within the 200 miles zone of Mauritania. The pelagic fisheries carried out by NL GER and FR target the same species composition and can be considered as one métier. In this fishery, the main activity is from May to October directed to *Sardinella aurita*. During

¹ Flag vessel: A ship owned and registered in different countries. In this case, Dutch companies are owning vessels registered in e.g. Germany. In the scope of the DCF, "flag vessels" don't have a separate legal status. The fact that flag vessels are mentioned here is because of the similarity in fishing behaviour between "true" Dutch vessels and flag vessels.

² According to STECF-SGRN, data requirements defined by Regional Fisheries Management Organisations (RFMO) should be part of the NP.

the rest of the year, there is a limited fishery on other species (sardines and horse mackerels). Part of the catch is landed in the EU in Las Palmas (Spain).

Other EU MS conducting pelagic fisheries in this area are Poland, Lithuania and Estonia. The fisheries of these (former East European) countries is mainly directed to horse mackerel species and can be considered as a different métier.

In the past, the Netherlands has carried out a sampling programme on the Dutch pelagic fleet operating in Mauritanian waters. This programme was not linked to the DCF. The Dutch sampling programme stopped in 2005. Based on the results of these programmes, it was concluded that overall discarding is low (<10% in weight). However, on the species level, there have been observations of discards >10%. Also, there have been observations of by-catches of large animals such as sharks, manta rays, sea turtles, and dolphins. It must be noted that recently, technical adjustments have been made to the fishing gear designed to avoid these by-catches.

Presently, two sampling programmes are carried out.

- Spain (IEO) has included the sampling of the landings of the pelagic EU métiers in the CECAF/Mauritanian EEZ in their NP 2009-2010. The NP also includes the collection of biological parameters. Spain has carried out the sampling in the past, and the results of the monitoring have been presented to the assessment WG.
- After the termination of the RIVO-IMROP observer programme in 2005, a new observer programme is being set up by IMROP³ at present. This programme is financed entirely by the Mauritanian government (following the EU-Agreement). The Netherlands provide technical assistance through a small project (€ 50,000/yr in 2009 and 2010) financed by the Dutch ship owners association PFA and the Dutch Ministry of Agriculture, Nature and Food Quality. Ad Corten is responsible for the Dutch technical cooperation project. The IMROP programme employs about 25-30 Mauritanian scientific observers which are to carry out an extensive sampling programme on board all industrial fishing vessels. This sampling also includes discards and by-catches. The results of the monitoring are to be presented to the assessment WG and used in the assessment.

Sampling of the pelagic fleet off Mauritania is required, as well through DCF selection criteria, the fishing agreement between EU and Mauritania and CECAF data needs. The sampling programme carried out by Spain is complying with EU sampling rules. The DCF has no influence on IMROP sampling, but the sampling carried out by the Mauritanian Institute presently complies with data needs of CECAF working groups. For the case of a data call, there is a need for an agreement with IMROP on data quality and data access. It would be difficult to implement EU sampling rules in third countries. An annual technical report of the sampling activities carried out by Mauritanian observers is required to have a complete overview of the sampling activities. As advisor of the Mauritanian sampling programme, Ad Corten will advise to introduce the production of an annual report as part of the routine programme. NL and GER will provide Ad with information on requested information.

3) Shrimpers (*Crangon*) in North Sea

This métier is operated by NL, Bel, Ger and DK in continental coastal waters with same gear type and target species (level 5) but possibly different mesh size ranges (level 6). Also UK conducts a small shrimp fishery in the Wash. The largest stakeholders in this fishery are NL and GER.

NL has about 180 vessels with a shrimp licence of which 80 are fishing in the North Sea only. Part of the time they also participate in other métiers. The other vessels also operate in the estuaries (the Wadden Sea). Within the NP 2009, NL runs an observer programme of 20 trips. Because of technical issues of handling the catch on board, 2 persons are needed to collect a representative sample. For the same reason, self sampling is not possible. If sampling would be restricted to the fish bycatch only, it could be carried out by only 1 observer. Practical problems encountered are lack of accommodation

for 2 observers and lack of cooperation from the fishermen. The latter problem has improved after a meeting with the PO at Wieringen, one of the important shrimp harbours in the Netherlands.

GER has about 250 vessels mainly operating by day trips. Within the NP for 2009, GER also runs an observer programme of 8 trips (8 sampling periods of one to several days each). For the same reasons as listed for NL, 2 observers are needed on board to take the samples and self-sampling is not possible.

The scientific use of the data has been limited so far. There is no international management of the stock. There are no analytical assessments carried out for brown shrimps. Discard data of fish can potentially be used in fish stock assessments. However, most discarded fish are very young and cannot be used because the data are outside the age range in which the assessments are carried out.

Given the effort needed to collect the data and the limited use of the data, GER and NL consider that the sampling of this métier is relatively expensive. They decided to restrict future sampling to the minimum required. They wish to discuss this subject further in the RCM NS&EA with other MS. GER and NL are aiming for a recommendation through the RCM to request to adjust the terms of reference of WGCAN. The adjustment would be: *“to analyse the spatial, temporal and technical overlap in national fishing activities in order to be able to derive regional sampling strategies”*.

Further GER and NL agree to exchange NL and GER observers on discard trips on shrimpers. This will already be done in 2009.

4) Pelagic trawler fleet in western European waters

The NL, GER and FRA pelagic vessels operate in various fishing grounds in western waters. They fish for the same species composition, use the same gear and belong to the same métier. The vessels from GER and FRA are mainly Dutch-owned flag vessels. NL and GER have both included the monitoring of this métier in their NP. Both NL and GER apply an observer concurrent sampling scheme. It was planned to have a bilateral meeting between NL and FRA on the sampling of the French effort. However such a meeting has not been taken place yet.

The sampling effort of the NL is 12 observer trips per year. The average trip duration is 4 weeks. The sampling also contains activities relating to EU Regulations on monitoring by-catches of cetaceans and conditions for catching deep sea fish. GER carries out 5 trips a year.

The ideal situation would be to merge sampling programmes of the all MS concerned. In fact, this year one of the vessels sampled by NL had a GER flag. However, the complications of introducing such an approach could not be discussed within the scope of this meeting. It was agreed that both NL and GER would keep each other updated on the development in their programmes. Also it was agreed to work together in the planning of the trips in order to achieve a more balanced coverage of the fishing grounds.

Further discussion is needed in the future on share of data and processing the data (raising of samples to métier estimates).

5) Beam trawlers for flatfish in the North Sea

In the North Sea, 3 fleets can be distinguished:

- beam trawlers >300hp fishing with mesh size over 100mm for plaice;
- beam trawlers >300hp fishing with mesh size between 80 and 100mm for a mixture of plaice and sole and
- beam trawlers <300hp fishing with mesh size between 80 and 100mm for a mixture of plaice and sole. These vessels can also operate within the 12 miles zone and the plaice box. Many of these vessels also operate in other métiers (e.g. shrimping).

NL applies for all three fleets separate sampling programmes for landings (in fish markets) and discards (self-sampling and observer programmes). Until 2009, discards were only monitored in the fleet >300hp 80-100 mm by an observer programme. Since 2009, self-sampling programmes have been introduced in all 3 métiers. A limited observer programme is run in parallel to check the representativeness of the new sampling system in order to be able to continue present data series on discards. Sampling of discards is presently biased through vessels from southern ports and vessels operating chain mats are poorly represented in the sampling fleet (lack of cooperation).

The German beam trawler fleet >300hp 80-100mm consists of 5 vessels. These are Dutch owned flag vessels operating in IVb and IVc landing their catch mostly in NL. Germany applies a concurrent sampling system of 1 trip by quarter (4 annually). More than 100 vessels >300hp are operating at least occasionally with mesh sizes between 80 and 100mm directed on flatfish. However, most of the vessels are shrimpers, most of the other are so-called Euro Cutters operating with different gears throughout the year. Germany aims at sampling this fleet with one trip per quarter as well.

In principle, NL and GER agreed to share their data for this metier but further discussion is needed.

6) Recreational Fisheries

This subject was dealt with briefly. The MS informed each other on their (intended) activities.

Germany: Previous pilot studies have indicated that recreational catches of cod in the North Sea are very low. Germany has been granted with derogation for sampling these catches. However, these pilot studies have indicated that the catches in the Baltic are significant (about 50% of the total catch). A continuous sampling programme is included in the NP for this area using about 2 man-years effort each year.

Netherlands: Previous pilot studies gave very uncertain estimates of Dutch recreational cod catches in the North Sea but indicate that the recreational catches could be of the same magnitude as the commercial catches in present years where cod quota are very low. NL has applied for derogation for sampling these catches in 2009, but this was refused. NL is presently setting up a sampling programme for marine recreational fisheries. This programme will probably be based on telephone surveys (effort) and field observations (cpue) and will become operational end of 2009. For eel, estimates of recreational catch have been made in the past on a multiannual basis. This approach will be continued in the future.

Landings and no. of vessels DE/NL in the CECAF area (Mauritania)

						No. of vessels			
<i>Sardina pilchardus</i>	2006	2007	2008	Average	% EU		2006	2007	2008
DE landings	338	348	-	343	2,0	DE	2	1	0
NL landings	2585	8521	9075	6718	36,4	NL	5	4	5
EU landings	20190	14769	?	18480		EU			
Int. landings	704634	663147	?	683891	2,7	%EU of Int.	Int.		
<i>Sardinella aurita</i>	2006	2007	2008	Average	% EU				
DE landings	14783	12093	-	13438	16,8				
NL landings	45415	62862	67470	58583	73,3				
EU landings	58270	101577	?	79924					
Int. landings	311954	433765	?	372860	21,4	%EU of Int.			
<i>Trachurus trachurus</i>	2006	2007	2008	Average	% EU				
DE landings	161	465	-	313	3,8				
NL landings	7327	1041	1560	3310	39,7				
EU landings	4409	12257	?	8333					
Int. landings	92391	94049	?	93220	8,9	%EU of Int.			
<i>Trachurus trecae</i>	2006	2007	2008	Average	% EU				
DE landings	-	-	-	-	-				
NL landings	-	-	-	-	-				
EU landings	39524	61427	?	50476					
Int. landings	256698	307042	?	281870	17,9	%EU of Int.			
<i>Scomber japonicus</i>	2006	2007	2008	Average	% EU				
DE landings	62	201	-	132	1,6				
NL landings	1245	1288	1160	1231	14,8				
EU landings	7345	15202	?	11274					
Int. landings	206266	257543	?	231905	4,9	%EU of Int.			

Trachurus spp as we can't separate species from logbooks

Landings and no. of vessels DE/NL in the South Pacific

						No. of vessels			
	2006	2007	2008	Average	% EU		2006	2007	2008
<i>Trachurus murphi</i>									
DE landings	-	43588	46564	45076	46,3	DE	0	3	3
NL landings	-	37593	36853	37223	38,2	NL	0	2	2
EU landings	62137	123511	106665	97438		EU	?	8	7
Int. landings	1728916	1751085	1157986	1545996	6,3 %EU of Int.	Int.	?	56	53
<i>Scomber japonicus</i>									
DE landings	-	3449	1929	2689	2,8				
NL landings	-	3252	2337	2795	2,9				
EU landings	5989	9067	5879	6978					
Int. landings	356474	315201	139825	270500	2,6 %EU of Int.				

ANNEX 3: EEL SAMPLING

European Eel (*Anguilla anguilla*) data collection under the EU-Data Collection Regulation (Commission Decision 2008/949/EC) in German freshwater habitats

Introduction

The abundance of the European eel stock (all stages glass eel, yellow eel and silver eel) is at a historical minimum and continues to decline (ICES 2009). European Union Commission adopted a multiannual Community programme pursuant to Council Regulation (EC) No 199/2008 establishing 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). Thus, sampling of European Eel data also in freshwaters is now mandatory under the DCR.

Sampling in Germany has started in spring 2009 and the first DCR report for European Eel will be submitted in September 2010. Since this is the first time of DCR-sampling in freshwaters, the first period is considered as a “pilot” phase. Sampling was co-ordinated 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 a special, temporal position for a scientist has been established for the project period of 18 months.

In this first “pilot” phase, sampling focused on gathering biological parameters of eel in commercial catches of inland fisheries. 200 eels were sampled and investigated from each German river basin district (according to WFD, see Figure 1). An exemption was the RBD Maas (Meuse), where no commercial fishery exists in its German part. Consequently, sampling was not required according to DCR standards.

Yellow eels were collected in spring and silver eels were collected in autumn 2009 (detailed information in figure 2 & table 1). Analyses include length, weight, age, sex and maturity (detailed information in the list of biological variables). Although not mandatory under DCR regulations, some additional parameters such as infestation with the swim-bladder nematode *Anguillicoloides crassus* and fat content of eel muscle tissue have been analyzed as well.

Due to the limited number of 200 eels to be investigated per RBD as required by DCR, sampling was restricted to only few locations. To optimize comparability, eels were preferably collected downstream in the system (figure 2), close to the estuaries. However, for practical reasons, some exemptions from this general approach were necessary (e. g., in the river Rhine yellow eels sampling was performed in a more upstream region, as commercial fisheries on yellow eels are rare in the downstream areas of the German Rhine).

At present, no data on the fishery itself were gathered in the frame of the DCR. Fishery catch data collection has to be performed as part of the Eel Management Plans under the administrative constraints of the EU Council Regulation 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). The Danube was excluded since according to a decision of the European Commission the Danube does not constitute a natural distribution area for eel in the sense of the Council Regulation 1100/2007. Furthermore, an exemption is the RBD Maas (Meuse), where no commercial fishery exists in the German part of the RBD. Consequently, sampling was not required by the DCF.

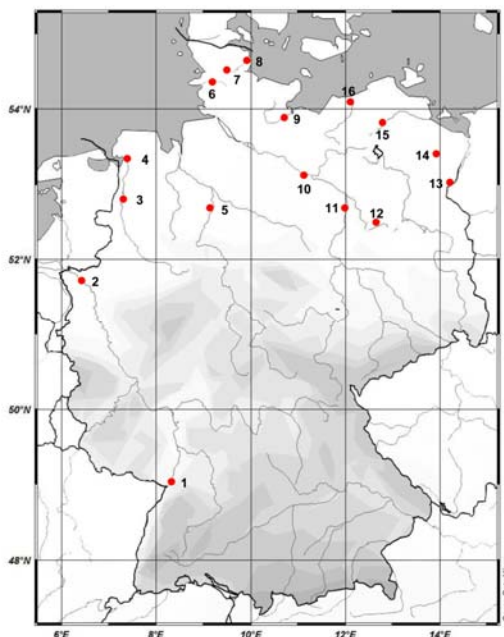


Figure 2 Overview of the spatial resolution for concurrent sampling of eels in German river Basin Districts (RBD). Red dots: Places of commercial eel catches, where eel samples were collected (Rhine: 1, 2/ Ems: 3, 4/ Weser: 5/ Eider: 6/ Schlei: 7, 8/ Trave: 9/ Elbe: 10, 11/ Havel: 12/ Oder: 13/ Uecker-lakes: 14/ Penne: 15/ Warnow: 16).

Table 1 Characteristics of eel samples according to each location in German RBD's in 2009-2010.

No.	RBD	Sample size [n]	Yellow/silver eel	Time of sampling	Fishing gear
1	Rhine	99	Y	May 2009	electro fishing
2	Rhine	96	B	October 2009	stow net
3	Ems	115	Y	June/September 2009	electro fishing
4	Ems	101	B	October 2009	stow net
5	Weser	111	Y	June 2009	stow net
	Weser	106	B	October 2009	stow net
6	Eider	93	Y	July 2009	fyke net
	Eider	101	B	October 2009	fyke net
7	Schlei	53	Y	May 2009	fyke net
8	Schlei	47	B	November 2009	fyke net
9	Trave	60	Y	June 2009	fyke net
	Trave	?	B	2010 ?	fyke net
10	Elbe	53	Y	June 2009	fyke net
11	Elbe	104	B	August 2009	stow net
12	Havel	99	Y	June 2009	fyke net
13	Oder	51	Y	July 2009	eel pots/fyke net
	Oder	?	B	2010 ?	fyke net
14	Uecker-lakes	51	Y	June 2009	fyke net
	Uecker-lakes	50	B	October 2009	fyke net
15	Peene	50	Y	June 2009	fyke net
	Peene	47	B	September 2009	fyke net
16	Warnow	42	Y	June 2009	stow net
	Warnow	51	B	September 2009	stow net

List of biological variables with eel (*Anguilla anguilla*) sampling specification

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 (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 (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) were analyzed for each RBD. However, not for all RBDs 200 eels were available. To date, additional silver eel samples are still required for the rivers Trave and Oder. Age reading of otoliths was performed using a “cutting and burning” protocol (WKAREA, ICES 2009b).

Financing

The average price for European Eel in German freshwaters of 14 € per kilogram caused final costs of approximately 9.000.- € for 1.600 eels*. By considering a further decline in eel abundance and therefore eel landings, increasing eel prices for a second DCR period 2011-2013 have to be considered.

* expected total costs (due to outstanding invoices of some fishermen and outstanding silver eel samples from the rivers Trave and Oder)

Proposal for the data collection of European Eel (*Anguilla anguilla*) under the EU-Data Collection Regulation (2010/93/EU) for the period 2011-2013

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

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

Several reviews on parasites and contaminants in eels have emphasized their negative influences on migration and reproduction. Therefore, estimation of an effective spawner biomass requires the quantification of the adverse effects of contaminants, parasites, diseases, and low fat levels on the capacity of eels to migrate and successfully spawn (ICES 2009a).

In line with the report of the 2009 session of the Joint EIFAC/ICES Working Group on Eels (ICES 2009a) and the ICES Advice (ICES 2009c) we strongly recommend that eel quality issues like *Anguillicoloides crassus* infestation as well as pollution with harmful contaminants like PCB's, DDT, dieldrin and heavy metals especially for silver eels should be taken into account for the new EU-Data Collection programme (2010/93/EU).

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

ANNEX 4: COST-SCRIPT FOR CALCULATING ANALYTIC CV FOR FISH SPECIES SAMPLES WITHIN THE GERMAN BALTIC DCF

```
#####
#### Importing vTI-data from 2009 into COST to calculate precisions values for raised biological variables ####
#### May 2010 by W.N. Probst #####
#####

#-----
# 1. Load libraries
library(COSTcore)
library(COSTeda)
library(COSTdata)
library(COSTmbe)
library(COSTdbe)
source("C:/R data/tcltkCOST.r") # Important for function 'controlMap'
path1<-"C:/R data/COST/TR 2009/OSF Daten/" # Path
path2<-"C:/R data/COST/TR 2009/SF Daten/"

#-----
# 2. Create CS data object named osf2009cs and cl data object named osf2009cl

# 2.1 Import data from vTI-OSF (Rostock)
# 2.1.1 Import sampling data
osf2009cs<-
csData(tr=paste(path1,"s_tr.csv",sep=""),hh=paste(path1,"s_hh.csv",sep=""),sl=paste(path1,"s_sl.csv",sep=""),hl=paste(path1,"
s_hl.csv",sep=""),ca=paste(path1,"s_ca.csv",sep=""),check=TRUE)
# 2.1.2 Import landing data
osf2009cl<-clData(paste(path1,"OSF_cod_CL.csv",sep=""),check=TRUE)

# 2.2 Import data from vTI-SF (Hamburg)
# 2.2.1 Import sampling data
sf2009cs<-
csData(tr=paste(path2,"TR_Tabelle.csv",sep=""),hh=paste(path2,"HH_Tabelle.csv",sep=""),sl=paste(path2,"SL_Tabelle.csv",sep="")
),hl=paste(path2,"HL_Tabelle_test.csv",sep=""),ca=paste(path2,"CA_complete_distinct.csv",sep=""),check=TRUE)
# 2.2.2 Import landing data
sf2009cl<-clData(paste(path2,"CL_Tabelle.csv",sep=""),check=TRUE)

#-----
# 3. Validate data
osf2009cs_v<-csDataVal(osf2009cs) # Here it needs to be made sure that the object name has a 'cs' at the end
(osf2009cs not osf2009)
osf2009cl_v<-clDataVal(osf2009cl)

#-----
# 4. Consolidate data
str_con<-strIni(spaceStrat="area",timeStrat="quarter",techStrat="foCatlv16")
osf2009cs_con<-csDataCons(osf2009cs_v,str_con)
osf2009cl_con<-clDataCons(osf2009cl_v,str_con)

#-----
# 5. Calculate precision by species

#####
# 5.1.Baltic cod Gadus morhua

# 5.1.1 Create relevant dbf-objects for length & age, maturity, sex-ratio
cod_an<-dbfObject(desc="Baltic cod 2009 length & age",species="Gadus morhua",strataDec=str_con,catchCat="LAN")
cod_an_w<-dbfObject(desc="Baltic cod 2009",species="Gadus
morhua",param="weight",strataDec=str_con,catchCat=c("LAN","DIS"),methodDesc="analytical")
cod_an_mat<-dbfObject(desc="Cod CV 2009",species="Gadus
morhua",param="maturity",strataDec=str_con,catchCat=c("LAN","DIS"),methodDesc="analytical")
cod_an_sexr<-dbfObject(desc="Cod CV 2009",species="Gadus
morhua",param="sex",strataDec=str_con,catchCat=c("LAN","DIS"),methodDesc="analytical")

# 5.1.1.1 Raise analytical
cod_an<-RaiseLgth(cod_an,osf2009cs_con,osf2009cl_con)
cod_an<-RaiseAge(cod_an,osf2009cs_con)
cod_an_w<-bpEstim(cod_an_w,osf2009cs_con,adjust=TRUE)
cod_an_mat<-bpEstim(cod_an_mat,osf2009cs_con,adjust=TRUE) # If 'adjust=TRUE' then information from length-frequencies (hl-
table) is also used
cod_an_sexr<-bpEstim(cod_an_sexr,osf2009cs_con)

# 5.1.1.2 Calculate CI and CV for length, age, number and weight
cod_an<-dbfCalc(cod_an,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
num@length
cod_an<-dbfCalc(cod_an,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
num@age
cod_an_w<-dbfCalc(cod_an_w,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
weight@length
cod_an_w<-dbfCalc(cod_an_w,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
weight@age
cod_an_mat<-dbfCalc(cod_an_mat,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
maturity@length
cod_an_mat<-dbfCalc(cod_an_mat,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
maturity@age
cod_an_sexr<-dbfCalc(cod_an_sexr,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
sex-ratio@length
cod_an_sexr<-dbfCalc(cod_an_sexr,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
sex-ratio@age
cod_an<-dbfCalc(cod_an,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for num@length
cod_an<-dbfCalc(cod_an,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for num@age
cod_an_w<-dbfCalc(cod_an_w,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for weight@length
cod_an_w<-dbfCalc(cod_an_w,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for weight@age
```

```

cod_an_mat<-dbeCalc(cod_an_mat,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for maturity@length
cod_an_mat<-dbeCalc(cod_an_mat,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for maturity@age
cod_an_sexr<-dbeCalc(cod_an_sexr,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for sex-ratio@length
cod_an_sexr<-dbeCalc(cod_an_sexr,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for sex-ratio@age

# 5.1.1.3 Compile precision estimates
species_cod<-"Baltic cod"
area_cod<-"SD22-32"
parameters_IIIC5<-c("num@length","num@age")
parameters_IIIE3<-c("weight@length","weight@age","maturity@length","maturity@age","sex-ratio@length","sex-ratio@age")

num_length_cod<-cod_an@lenNum$DCRCvIndicator # Precision number@length (Table III_C_5)
num_age_cod<-cod_an@ageNum$DCRCvIndicator # Precision number@age (Table III_C_5)
weight_len_cod<-cod_an_w@lenNum$DCRCvIndicator # Precision weight@length (Table III_E_3)
weight_age_cod<-cod_an_w@ageNum$DCRCvIndicator # Precision weight@age (Table III_E_3)
mat_len_cod<-cod_an_mat@lenNum$DCRCvIndicator # Precision maturity@length (Table III_E_3)
mat_age_cod<-cod_an_mat@ageNum$DCRCvIndicator # Precision maturity@age (Table III_E_3)
sex_len_cod<-cod_an_sexr@lenNum$DCRCvIndicator # Precision sex-ratio@length (Table III_E_3)
sex_age_cod<-cod_an_sexr@lenNum$DCRCvIndicator # Precision sex-ratio@age (Table III_E_3)

param_C5_cod<-c(num_length_cod,num_age_cod)
param_C5_cod<-round(param_C5_cod,digits=2)
param_E3_cod<-c(weight_len_cod,weight_age_cod,mat_len_cod,mat_age_cod,sex_len_cod,sex_age_cod)
param_E3_cod<-round(param_E3_cod,digits=2)

summary_C5<-cbind(species,area,parameters_IIIC5,param_C5_cod)
summary_E3<-cbind(species,area,parameters_IIIE3,param_E3_cod)
#####
# 5.2.Baltic herring

# 5.2.1 Create relevant dbe-objects for length & age, maturity, sex-ratio
her_an<-dbeObject(desc="Baltic herring 2009 length & age",species="Clupea harengus",strataDec=str_con,catchCat="LAN")
her_an_w<-dbeObject(desc="Baltic herring 2009 weight",species="Clupea harengus",param="weight",strataDec=str_cv,catchCat=c("LAN","DIS"),methodDesc="analytical")
her_an_mat<-dbeObject(desc="Baltic herring weight maturity",species="Clupea harengus",param="maturity",strataDec=str_cv,catchCat=c("LAN","DIS"),methodDesc="analytical")
her_an_sexr<-dbeObject(desc="Baltic Herring 2009sex-ratio ",species="Clupea harengus",param="sex",strataDec=str_cv,catchCat=c("LAN","DIS"),methodDesc="analytical")

# 5.2.1.1 Raise analytical
her_an<-RaiseLgth(her_an,osf2009cs_con,osf2009cl_con)
her_an<-RaiseAge(her_an,osf2009cs_con)
her_an_w<-bpEstim(her_an_w,osf2009cs_con,adjust=TRUE)
her_an_mat<-bpEstim(her_an_mat,osf2009cs_con,adjust=TRUE) # If 'adjust=TRUE' then information from length-frequencies (hl-
table) is also used
her_an_sexr<-bpEstim(her_an_sexr,osf2009cs_con)

# 5.2.1.2 Calculate CI and CV for length, age, number and weight
her_an<-dbeCalc(her_an,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
num@length
her_an<-dbeCalc(her_an,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
num@age
her_an_w<-dbeCalc(her_an_w,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
weight@length
her_an_w<-dbeCalc(her_an_w,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
weight@age
her_an_mat<-dbeCalc(her_an_mat,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
maturity@length
her_an_mat<-dbeCalc(her_an_mat,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
maturity@age
her_an_sexr<-dbeCalc(her_an_sexr,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
sex-ratio@length
her_an_sexr<-dbeCalc(her_an_sexr,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
sex-ratio@age
her_an<-dbeCalc(her_an,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for num@length
her_an<-dbeCalc(her_an,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for num@age
her_an_w<-dbeCalc(her_an_w,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for weight@length
her_an_w<-dbeCalc(her_an_w,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for weight@age
her_an_mat<-dbeCalc(her_an_mat,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for maturity@length
her_an_mat<-dbeCalc(her_an_mat,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for maturity@age
her_an_sexr<-dbeCalc(her_an_sexr,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for sex-ratio@length
her_an_sexr<-dbeCalc(her_an_sexr,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for sex-ratio@age

# 5.2.1.3 Compile precision estimates
species_her<-"Baltic herring"
area_her<-"SD22-32"

num_length_her<-her_an@lenNum$DCRCvIndicator # Precision number@length (Table III_C_5)
num_age_her<-her_an@ageNum$DCRCvIndicator # Precision number@age (Table III_C_5)
weight_len_her<-her_an_w@lenNum$DCRCvIndicator # Precision weight@length (Table III_E_3)
weight_age_her<-her_an_w@ageNum$DCRCvIndicator # Precision weight@age (Table III_E_3)
mat_len_her<-her_an_mat@lenNum$DCRCvIndicator # Precision maturity@length (Table III_E_3)
mat_age_her<-her_an_mat@ageNum$DCRCvIndicator # Precision maturity@age (Table III_E_3)
sex_len_her<-her_an_sexr@lenNum$DCRCvIndicator # Precision sex-ratio@length (Table III_E_3)
sex_age_her<-her_an_sexr@lenNum$DCRCvIndicator # Precision sex-ratio@age (Table III_E_3)

param_C5_her<-c(num_length_her,num_age_her)
param_C5_her<-round(param_C5_her,digits=2)
param_E3_her<-c(weight_len_her,weight_age_her,mat_len_her,mat_age_her,sex_len_her,sex_age_her)
param_E3_her<-round(param_E3_her,digits=2)

summary_C5_her<-cbind(species_her,area_her,parameters_IIIC5,param_C5_her)

```

```

summary_E3_her<-cbind(species_her,area_her,parameters_IIIE3,param_E3_her)

rbind(summary_C5,summary_C5_her)
rbind(summary_E3,summary_E3_her)
#####

# 5.3 Baltic sprat

# 5.3.1 Create relevant dbe-objects for length & age, maturity, sex-ratio
spr_an<-dbeObject(desc="Baltic sprat 2009 length & age",species="Sprattus sprattus",strataDec=str_con,catchCat="LAN")
spr_an_w<-dbeObject(desc="Baltic sprat 2009 weight",species="Sprattus sprattus",param="weight",strataDec=str_cv,catchCat=c("LAN","DIS"),methodDesc="analytical")
spr_an_mat<-dbeObject(desc="Baltic sprat weight maturity",species="Sprattus sprattus",param="maturity",strataDec=str_cv,catchCat=c("LAN","DIS"),methodDesc="analytical")
spr_an_sexr<-dbeObject(desc="Baltic sprat 2009s ex-ratio ",species="Sprattus sprattus",param="sex",strataDec=str_cv,catchCat=c("LAN","DIS"),methodDesc="analytical")

# 5.3.1.1 Raise analytical
spr_an<-RaiseLgth(spr_an,osf2009cs_con,osf2009c1_con)
spr_an<-RaiseAge(spr_an,osf2009cs_con)
spr_an_w<-bpEstim(spr_an_w,osf2009cs_con,adjust=TRUE)
spr_an_mat<-bpEstim(spr_an_mat,osf2009cs_con,adjust=TRUE) # If 'adjust=TRUE' then information from length-frequencies (hl-table) is also used
spr_an_sexr<-bpEstim(spr_an_sexr,osf2009cs_con)

# 5.3.1.2 Calculate CI and CV for length, age, number and weight
spr_an<-dbeCalc(spr_an,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
num@length # Calculate confidence interval for
spr_an<-dbeCalc(spr_an,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
num@age # Calculate confidence interval for
spr_an_w<-dbeCalc(spr_an_w,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
weight@length # Calculate confidence interval for
spr_an_w<-dbeCalc(spr_an_w,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
weight@age # Calculate confidence interval for
spr_an_mat<-dbeCalc(spr_an_mat,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
maturity@length # Calculate confidence interval for
spr_an_mat<-dbeCalc(spr_an_mat,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
maturity@age # Calculate confidence interval for
spr_an_sexr<-dbeCalc(spr_an_sexr,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
sex-ratio@length # Calculate confidence interval for
spr_an_sexr<-dbeCalc(spr_an_sexr,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
sex-ratio@age # Calculate coefficient of variation
spr_an<-dbeCalc(spr_an,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for num@length # Calculate coefficient of variation
spr_an<-dbeCalc(spr_an,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for num@age # Calculate coefficient of variation
spr_an_w<-dbeCalc(spr_an_w,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for weight@length # Calculate coefficient of variation
spr_an_w<-dbeCalc(spr_an_w,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for weight@age # Calculate coefficient of variation
spr_an_mat<-dbeCalc(spr_an_mat,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for maturity@length # Calculate coefficient of variation
spr_an_mat<-dbeCalc(spr_an_mat,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for maturity@age # Calculate coefficient of variation
spr_an_sexr<-dbeCalc(spr_an_sexr,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for sex-ratio@length # Calculate coefficient of variation
spr_an_sexr<-dbeCalc(spr_an_sexr,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for sex-ratio@age

# 5.3.1.3 Compile precision estimates
species_spr<- "Baltic sprat"
area_spr<- "SD22-32"

num_length_spr<-spr_an@lenNum$DCRCvIndicator # Precision number@length (Table III_C_5)
num_age_spr<-spr_an@ageNum$DCRCvIndicator # Precision number@age (Table III_C_5)
weight_len_spr<-spr_an_w@lenNum$DCRCvIndicator # Precision weight@length (Table III_E_3)
weight_age_spr<-spr_an_w@ageNum$DCRCvIndicator # Precision weight@age (Table III_E_3)
mat_len_spr<-spr_an_mat@lenNum$DCRCvIndicator # Precision maturity@length (Table III_E_3)
mat_age_spr<-spr_an_mat@ageNum$DCRCvIndicator # Precision maturity@age (Table III_E_3)
sex_len_spr<-spr_an_sexr@lenNum$DCRCvIndicator # Precision sex-ratio@length (Table III_E_3)
sex_age_spr<-spr_an_sexr@lenNum$DCRCvIndicator # Precision sex-ratio@age (Table III_E_3)

param_C5_spr<-c(num_length,num_age)
param_C5_spr<-round(param_C5_spr,digits=2)
param_E3_spr<-c(weight_len_spr,weight_age_spr,mat_len_spr,mat_age_spr,sex_len_spr,sex_age_spr)
param_E3_spr<-round(param_E3_spr,digits=2)

summary_C5_spr<-cbind(species_spr,area_spr,parameters_IIIC5,param_C5_spr)
summary_E3_spr<-cbind(species_spr,area_spr,parameters_IIIE3,param_E3_spr)
rbind(summary_C5,summary_C5_spr)
rbind(summary_E3,summary_E3_spr)
#####

# 5.4 Baltic flounder

# 5.4.1 Create relevant dbe-objects for length & age, maturity, sex-ratio
fle_an<-dbeObject(desc="Baltic flounder 2009 length & age",species="Platichthys flesus",strataDec=str_con,catchCat="LAN")
fle_an_w<-dbeObject(desc="Baltic flounder 2009 weight",species="Platichthys flesus",param="weight",strataDec=str_cv,catchCat=c("LAN","DIS"),methodDesc="analytical")
fle_an_mat<-dbeObject(desc="Baltic flounder weight maturity",species="Platichthys flesus",param="maturity",strataDec=str_cv,catchCat=c("LAN","DIS"),methodDesc="analytical")
fle_an_sexr<-dbeObject(desc="Baltic flounder 2009s ex-ratio ",species="Platichthys flesus",param="sex",strataDec=str_cv,catchCat=c("LAN","DIS"),methodDesc="analytical")

# 5.4.1.1 Raise analytical
fle_an<-RaiseLgth(fle_an,osf2009cs_con,osf2009c1_con)
fle_an<-RaiseAge(fle_an,osf2009cs_con)
fle_an_w<-bpEstim(fle_an_w,osf2009cs_con,adjust=TRUE)
fle_an_mat<-bpEstim(fle_an_mat,osf2009cs_con,adjust=TRUE) # If 'adjust=TRUE' then information from length-frequencies (hl-table) is also used
fle_an_sexr<-bpEstim(fle_an_sexr,osf2009cs_con)

# 5.4.1.2 Calculate CI and CV for length, age, number and weight

```

```

file_an<-dbeCalc(file_an,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
num@length
file_an<-dbeCalc(file_an,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
num@age
file_an_w<-dbeCalc(file_an_w,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
weight@length
file_an_w<-dbeCalc(file_an_w,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
weight@age
file_an_mat<-dbeCalc(file_an_mat,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
maturity@length
file_an_mat<-dbeCalc(file_an_mat,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
maturity@age
file_an_sex<-dbeCalc(file_an_sex,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
sex-ratio@length
file_an_sex<-dbeCalc(file_an_sex,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
sex-ratio@age
file_an<-dbeCalc(file_an,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for num@length
file_an<-dbeCalc(file_an,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for num@age
file_an_w<-dbeCalc(file_an_w,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for weight@length
file_an_w<-dbeCalc(file_an_w,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for weight@age
file_an_mat<-dbeCalc(file_an_mat,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for maturity@length
file_an_mat<-dbeCalc(file_an_mat,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for maturity@age
file_an_sex<-dbeCalc(file_an_sex,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for sex-ratio@length
file_an_sex<-dbeCalc(file_an_sex,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for sex-ratio@age

# 5.4.1.3 Compile precision estimates
species_file<-"Baltic flounder"
area_file<-"SD22-32"

num_length_file<-file_an@lenNum$DCRCvIndicator # Precision number@length (Table III_C_5)
num_age_file<-file_an@ageNum$DCRCvIndicator # Precision number@age (Table III_C_5)
weight_len_file<-file_an_w@lenNum$DCRCvIndicator # Precision weight@length (Table III_E_3)
weight_age_file<-file_an_w@ageNum$DCRCvIndicator # Precision weight@age (Table III_E_3)
mat_len_file<-file_an_mat@lenNum$DCRCvIndicator # Precision maturity@length (Table III_E_3)
mat_age_file<-file_an_mat@ageNum$DCRCvIndicator # Precision maturity@age (Table III_E_3)
sex_len_file<-file_an_sex@lenNum$DCRCvIndicator # Precision sex-ratio@length (Table III_E_3)
sex_age_file<-file_an_sex@ageNum$DCRCvIndicator # Precision sex-ratio@age (Table III_E_3)

param_C5_file<-c(num_length_file,num_age_file)
param_C5_file<-round(param_C5_file,digits=2)
param_E3_file<-c(weight_len_file,weight_age_file,mat_len_file,mat_age_file,sex_len_file,sex_age_file)
param_E3_file<-round(param_E3_file,digits=2)

summary_C5_file<-cbind(species_file,area_file,parameters_IIIC5,param_C5_file)
summary_E3_file<-cbind(species_file,area_file,parameters_IIIE3,param_E3_file)
rbind(summary_C5,summary_C5_file)
rbind(summary_E3,summary_E3_file)

#####

# 5.5 Baltic dab

# 5.2.1 Create relevant dbf-objects for length & age, maturity, sex-ratio
dab_an<-dbfObject(desc="Baltic dab 2009 length & age",species="Limanda limanda",strataDec=str_con,catchCat="LAN")
dab_an_w<-dbfObject(desc="Baltic dab 2009 weight",species="Limanda
limanda",param="weight",strataDec=str_cv,catchCat=c("LAN","DIS"),methodDesc="analytical")
dab_an_mat<-dbfObject(desc="Baltic dab weight maturity",species="Limanda
limanda",param="maturity",strataDec=str_cv,catchCat=c("LAN","DIS"),methodDesc="analytical")
dab_an_sex<-dbfObject(desc="Baltic dab 2009s ex-ratio",species="Limanda
limanda",param="sex",strataDec=str_cv,catchCat=c("LAN","DIS"),methodDesc="analytical")

# 5.5.1.1 Raise analytical
dab_an<-RaiseLgth(file_an,osf2009cs_con,osf2009cl_con)
dab_an<-RaiseAge(file_an,osf2009cs_con)
dab_an_w<-bpEstim(file_an_w,osf2009cs_con,adjust=TRUE)
dab_an_mat<-bpEstim(file_an_mat,osf2009cs_con,adjust=TRUE) # If 'adjust=TRUE' then information from length-frequencies (hl-
table) is also used
dab_an_sex<-bpEstim(file_an_sex,osf2009cs_con)

# 5.5.1.2 Calculate CI and CV for length, age, number and weight
dab_an<-dbeCalc(dab_an,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
num@length
dab_an<-dbeCalc(dab_an,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
num@age
dab_an_w<-dbeCalc(dab_an_w,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
weight@length
dab_an_w<-dbeCalc(dab_an_w,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
weight@age
dab_an_mat<-dbeCalc(dab_an_mat,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
maturity@length
dab_an_mat<-dbeCalc(dab_an_mat,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
maturity@age
dab_an_sex<-dbeCalc(dab_an_sex,type="CI",vrbl="l",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
sex-ratio@length
dab_an_sex<-dbeCalc(dab_an_sex,type="CI",vrbl="a",probs=c(0.025,0.975),update=TRUE) # Calculate confidence interval for
sex-ratio@age
dab_an<-dbeCalc(dab_an,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for num@length
dab_an<-dbeCalc(dab_an,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for num@age
dab_an_w<-dbeCalc(dab_an_w,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for weight@length
dab_an_w<-dbeCalc(dab_an_w,type="CV",vrbl="a",update=TRUE) # Calculate coefficient of variation
for weight@age
dab_an_mat<-dbeCalc(dab_an_mat,type="CV",vrbl="l",update=TRUE) # Calculate coefficient of variation
for maturity@length

```

```

dab_an_mat<-dbeCalc(dab_an_mat,type="CV",vrbl="a",update=TRUE)           # Calculate coefficient of variation
for maturity@age
dab_an_sexr<-dbeCalc(dab_an_sexr,type="CV",vrbl="1",update=TRUE)       # Calculate coefficient of variation
for sex-ratio@length
dab_an_sexr<-dbeCalc(dab_an_sexr,type="CV",vrbl="a",update=TRUE)       # Calculate coefficient of variation
for sex-ratio@age

# 5.5.1.3 Compile precision estimates
species_dab<-"Baltic dab"
area_dab<-"SD22-32"

num_length_dab<-dab_an@lenNum$DCRcvIndicator           # Precision number@length      (Table III_C_5)
num_age_dab<-dab_an@ageNum$DCRcvIndicator              # Precision number@age        (Table III_C_5)
weight_len_dab<-dab_an_w@lenNum$DCRcvIndicator         # Precision weight@length     (Table III_E_3)
weight_age_dab<-dab_an_w@ageNum$DCRcvIndicator         # Precision weight@age        (Table III_E_3)
mat_len_dab<-dab_an_mat@lenNum$DCRcvIndicator          # Precision maturity@length   (Table III_E_3)
mat_age_dab<-dab_an_mat@ageNum$DCRcvIndicator          # Precision maturity@age      (Table III_E_3)
sex_len_dab<-dab_an_sexr@lenNum$DCRcvIndicator         # Precision sex-ratio@length  (Table III_E_3)
sex_age_dab<-dab_an_sexr@lenNum$DCRcvIndicator         # Precision sex-ratio@age     (Table III_E_3)

param_C5_dab<-c(num_length_dab,num_age_dab)
param_C5_dab<-round(param_C5_dab,digits=2)
param_E3_dab<-c(weight_len_dab,weight_age_dab,mat_len_dab,mat_age_dab,sex_len_dab,sex_age_dab)
param_E3_dab<-round(param_E3_dab,digits=2)

summary_C5_dab<-cbind(species_dab,area_dab,parameters_IIIC5,param_C5_dab)
summary_E3_dab<-cbind(species_dab,area_dab,parameters_IIIE3,param_E3_dab)
rbind(summary_C5,summary_C5_dab)
rbind(summary_E3,summary_E3_dab)

```