FINAL

Report of the Regional Co-ordination Meeting for the Baltic Sea region (RCM Baltic) 2015

Fish Resources Research Department of Institute BIOR
Daugavgrivas str. 8, RIGA, LATVIA
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1. Executive summary

The RCM Baltic met in Riga (Latvia) between 24 and 28 August 2015. The main purpose of the RCM is to coordinate the data collection carried out by EU Members States (MS) in the region concerned. For the RCM Baltic 2015 the coordination on the 2016 data collection in the Baltic region was limited as the MS's National Programmes for 2011-2013 have been rolled over for the period 2014-2016. Therefore, the main focus at this year RCM meeting was i) assess the consequences of the implementation of the landing obligation on the DCF data collection programmes, ii) to improve data quality, iii) to take the first steps towards establishing regional programmes instead of national programmes, iv) the view of the national administrations on regional coordination and cooperation and regional data base issues, and finally v) the evolution towards the RCG's (Regional Coordination Groups).

A data call was launched by the chairs of the RCM Baltic, RCM NS&EA and the RCM NA where MS were requested to upload data for 2014 into the regional data base (RDB FishFrame) hosted by ICES. All Baltic MS have put a lot of effort into quality assurance of the data and all complied with this request.

All Baltic Member States (Denmark, Estonia, Finland, Germnay, Latvia, Lithuania, Poland and Sweden) are willing to upload the "Landings and effort data" as well as "Sampling data" to the RBD at the present level of details. Further, all Baltic Member States would like to stress that a RBD is a prerequisite for regional coordination and cooperation.

Based on the uploaded data a number of analyses were carried out prior to the RCM Baltic meeting. This approach where analyses were carried out in advance of the meeting made it possible during the meeting to discuss the outcome of the analysis. In addition, the ICES Data Center has developed and implemented a number of standard reports in the RDB which enables quick and easy reporting and overviews, thus increasing the efficiency of the meeting. Based on the analysis the data quality issue could be discussed and agreements on actions to be taken to improve the data quality could be made.

The RCM Baltic 2015 would like to stress that for the coordination and the exchange of data the ICES Secretariat is seen as the ultimate RDB manager. In the management one crucial thing is that it includes development and implementation of new methods and functionalities in the RDB in close interaction with end-users (RCMs and e.g. ICES assessment working groups).

Clear progress in data availability to the RCM has been achieved since the FishFrame evolved into a RDB. However, the regional work would progress even faster if there were additional standard outputs including pre-produced reports, tables and graphs in the RDB. Hence, Baltic RCM 2015 reiterates its recommendation from 2014 that the RCM work will benefit immensely if the meeting can focus on the discussions and the decisions that are needed, instead of producing the standardised result tables and result graphs.

Analyses of total landings by species were compared with the Annex VII in COM DEC 2010/93/EU. The main outcomes of this comparison were that several important species in the region are not included in the Baltic Sea section. Hence, MS are presently not obliged to sample the relevant stocks for these species under DCF. Therefore, the RCM Baltic recommends that the stock list given in Annex VII in COM DEC 2010/93/EU for the Baltic region for the new EU-MAP is revised. Pike (Esox lucius) should be deleted and the following; Vendance (Coregonus albula), Smelt (Osmerus eperlanus) and Whiting (Merlangius merlangus) should be added.

The RCM Baltic carried out a number of case studies on *length at age relationships* and *weight at age relationships* for selected species. Standard reports on these relationships are suggested as a very useful tool in the stock assessment work and for all stock coordinators. Therefore, the RCM Baltic recommends that standard report on *length at age relationship* and *weight at age relationship* are developed in the RDB. In this context, when data from different MS are presented, the RCM Baltic stresses that it is crucial to take into account any differences in sampling design before jumping into false conclusions.

Based on the analyses carried out the RCM Baltic 2015 suggests that task-sharing in terms of e.g. age determination and quality improvement could be reorganized to increase efficiency, as earlier concluded by RCM Baltic 2011-2014. Present agreements including task sharing that has been concluded bi- or multi-laterally. Additional task-sharing is underway but too premature to implement.

The RCM Baltic 2015 concluded that all potential announcements of the new grants from the Commission intended to promote regional coordination will definitely give a possibility to enhance projects where task-sharing is included. Sharing e.g. age readings instead of having in house expertise for aging all species at each institute might be more efficient but he quality issues also have to be taken into account.The data quality in different senses could also be improved if coordinating this work.

The RCM Baltic 2015 would like to stress that a Regional Data Base is a crucial and essential tool for the regional coordination and cooperation data collection. Further, that the Regional Data Base is a prerequisite for successful regional data collection, for providing quality assured data that are processed transparently using agreed methods for

the use in the scientific advice processes for the support of the management of the Common Fisheries Policy.

Cost sharing of surveys has been discussed and the RCM Baltic agreed that before setting the surveys' cost sharing model an analysis of the structure and distribution of the cost between MS regarding surveys currently conducted on the Baltic Sea is needed. The chair of the RCM Baltic has offered to collect and compile the data required for such an analysis to be performed before the RCM Baltic meeting next year.

Furthermore, before deciding on model to use for cost sharing of surveys, feedback from end-users is required. The group decided to request ICES, through the Commission, for a confirmation on what surveys in the Baltic Sea are required to meet the ICES needs for providing advice in support of the Common Fisheries Policy.

Landing obligation:

At the RCM Baltic meeting in 2014 it was agreed that all MS involved in the discard sampling of Baltic Sea cod fisheries (DK, DE, LT, LV, PL, SE) should provide RCM Baltic 2015 with a short summary on the experience gained from sampling activities in quarter 1 and 2 of 2015. The MS should assess the following aspects:

- If and how the MS has adapted the sampling program to the new management regime?
- Are there changes in the access to vessels to sample catches (rejection rates)?
- Are there any indications on changes in the quality of the discard data?
- Have fishermen changed their fishing behavior? If yes, what has changed and how can we adjust and account for these changes in our sampling?

A questionnaire was send to all MS in summer 2015 and the summary of the results were presented to the RCM Baltic 2015. There are indications that the reported amounts (volume in weight) in logbooks or landing declarations differ significantly to the observer estimates, where the observer estimates are 10 times or more higher than the reported catch of fish below the MCRS. In addition, one MS with big TAC has serious problems to get aboard on vessel >12 m. This will probably have a significantly negative impact on the quality of data provided for assessment.

The RCM Baltic underlines the importance of establishing statistically sound sampling designs for the on-board observations. Also, in order to maintain the collection of unbiased catch data for scientific purposes, the integrity of scientific observers has to be maintained (no mixing with observers used for control). Therefore RCM Baltic reiterates that to remove doubts on the scientific estimates, it is essential that sampled vessels do not change their behaviour when observers are on-board. This is best achieved if there is no ambiguity on the scientific role of the observer. Separating clearly the monitoring for surveillance for control, from the collection of data for scientific assessment is the pre-condition to run a scientific observer program. If there is any doubt that the information collected by the scientific observers will be used for purposes of control and enforcement, then the data will be compromised and the information collected could become useless.

The landing obligation was introduced in the Baltic in 2015 for the pelagic industry and for the cod and salmon fisheries. Data from 2015 in its present state has still not been fully evaluated for scientific purposes. However, there appear to be areas were the data quality could be improved.

Haul by haul data in the logbook would increase the data quality. In the Baltic Sea haul by haul information in the logbook has been required and implemented for all MS since 2015. If the MCRS fish was recorded on these logbooks, this would allow more detailed information on where the main catches of BMS fish are taking place. Furthermore, haul by haul information can be used to link the logbook data with CCTV and with VMS data given a much higher resolution and quality in the data and thereby improving the discard Atlas. It would also improve the potential to 'control' the logbook data if the skippers are obliged to fill in the information on a haul by haul level.

Effective implementation including adequate compliance of the landing obligation would imply possibly considerable reduction of discard sampling at sea observer trips, especially for the cod-directed fisheries. This possible reduction in sampling effort at sea could be used to collect information/data on wanted and unwanted catch from onshore sampling. As 2015 is the first year of implementation of the landing obligation, 2015 can serve as a transitional period to evaluate the reliability of the landings of the fraction which previously was discarded at sea. This fraction could be sampled at landing site.

However, preliminary observation indicate that data on the landed volumes of unwanted cod (<35 cm) obtained during at sea observers trips and "discard" landed in harbors differs significantly, in some cases by orders of magnitude. Therefore, presently the discard data obtained from harbor sampling cannot be regarded as reliable and should not be used to estimate the amount of fish caught under MCRS when preparing data for stock assessment.in a raising procedure. For this reason most of the MS in the Baltic Sea region do not sample discards from landings in ports (only Germany and Sweden are doing it). It is important to note

that these significant differences between the logbook data and the “true” discards can only be detected by at-sea observers, thus highlighting their role even under a landing obligation probably also in the future.

2. Introduction

2.1 General

The RCM Baltic met in Riga (Latvia) 24-28 August 2015. The availability of SharePoint offered by ICES proves to be very efficient in organising the work before, during and after the meeting.

The Terms of Reference for all the RCM have been made in cooperation between the Commission and the chair of the RCMs. The RCM for the Baltic and the RCM for the North Sea & Eastern Arctic have agreed to use the same template for the reports for the two RCMs in order to ease the subsequently work at the Liaison Meeting and by the fisheries data collection community.

This year all Baltic MS have uploaded data for 2014 to the RDB FishFrame according to the official data call. A large number of data analyses were carried out prior to the RCM meeting which made the meeting very efficient.

The meeting dealt with all terms of reference and considered whether there was a need to adjust the National Programmes (NP) for 2016. Most of the work was done in plenary but also in 3 subgroups.

Previous RCM meetings focused on developing examples of how quality of data could be demonstrated on a regional level making use on data provided by Member States (MS) in a Regional Data Base (RDB). This year, a process, has been proposed, how to deal with the quality control of national sampling data and reporting of data quality on a regional level in the future. The work has been carried out in a subgroup.

The new Common Fishery Policy (CFP) has introduced an obligation to land all catches of quota species. This means that undersized fish species allocated by quota, which previously were discarded needs to be landed and reported. The landing obligation became effective to cod, salmon, herring and sprat in the Baltic from 2015 and for pelagic fisheries and industrial fisheries in 2015 in other regions. In other regions, demersal species will gradually be faced in from 2016 to 2019. The landing obligation may or will most likely have a big impact on the biological sampling of the catches.

Under the new CFP a revised Data Collection Framework will become operative. A recast of the DCF has been proposed by the EU Commission and been lauched in June 2016. According to this proposal data collection programmes will be set up on a regional level, taking better into account the data needs from end-users like ICES, STECF, ICCAT, GFCM, etc. This requires a different kind of coordination and cooperation.

2.2 Background & legal requirements

The EU Data Collection Framework (DCF; EC 2008a, 2008b, 2008c, 2010) establishes a framework for the collection of economic, biological and transversal data by Member States (MS). This framework provides the basic data needed to evaluate the state of fishery resources and the fisheries sector and the impact of the fisheries on the marine ecosystems.

The Regional Coordination Meeting for the Baltic proceeds from the present Data Collection Framework (EC Regulation no. 199/2008) that establishes a community framework for the collection, management and use of data in fisheries sector for scientific advice regarding the CFP. According to this regulation and without prejudice to their current data collection obligations under EU law, MS shall collect primary biological, technical, environmental and socio-economic data within the framework of a multi-annual national programme drawn up in accordance with the EU programme.

According to EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its technical Decision 2010/93/UE specifying practical aspects for data collection, actions planned by MS in their national programme shall be presented according to the predefined regions.

The coordination of the data collection are carried out at a regional level and specific Regional Coordination Meetings (RCMs) are in charge of facilitating this and these meetings aim to identify areas for standardisation, collaboration and task sharing between MS. RCMs are held annually and involve participants from each MS involved in the DCF.

At present, five RCMs are operative: 1) The Baltic Sea (ICES areas III b-d), 2); The North Sea & Eastern Arctic (ICES areas IIIa, IV and VIId), (ICES areas I and II), (ICES divisions Va, XII & XIV and the NAFO areas. 3); The North Atlantic (ICES areas V_X, excluding Va and VIId); 4) The Mediterranean Sea and the Black Sea and 5) Long distance fisheries: regions where fisheries are operated by Community vessels and managed by Regional Fisheries Management Organisation's (RFMO) to which the Community is contracting party or observer.

The regional split over 5 regions allows for coordination while taking into account regional aspects and specific problems. Regional Coordinating Meetings (RCMs) are held annually and involve National Correspondents and both biologists and

economists from each MS involved in the DCF programme. The key objectives of the RCMs are to identify areas for standardisation, collaboration and co-operation between MS.

A Liaison Meeting (LM) between the chairs of the different RCMs is being held annually to analyse the RCM reports in order to ensure overall co-ordination between the RCMs.

Within the DCF, the role of the RCMs and their tasks in regional coordination are clearly defined in various articles of the Council regulation.

Council Regulation 199/2008 Article 5: Coordination and cooperation

1. Member States shall coordinate their national programmes with other Member States in the same marine region and make every effort to coordinate their actions with third countries having sovereignty or jurisdiction over waters in the same marine region. For this purpose the Commission may organise Regional Coordination Meetings in order to assist Member States in coordinating their national programmes and the implementation of the collection, management and use of the data in same region.

2. In order to take into account any recommendation made at regional level at the Regional Coordination Meetings, MS shall where appropriate submit amendments to their national programmes during the programming period. Those amendments shall be sent to the Commission at the latest two months prior to the year of implementation.

Commission Regulation 665/2008 Article 4: Regional co-ordination

1. The Regional Coordination Meetings referred to in Article 5(1) of Regulation (EC) No 199/2008 shall evaluate the regional co-ordination aspects of the national programmes and where necessary shall make recommendations for the better integration of national programmes and for task, sharing among MS.

2. The Chair of the meeting shall be designated by the Regional Coordination Meeting in agreement with the Commission for a two year period.

3. The Regional Coordination Meetings may be convened once a year. The terms of reference for the meeting shall be proposed by the Commission in agreement with the Chair and shall be communicated to the national correspondents referred to in Article 3(1) three weeks prior to the meeting. Member States shall submit to the Commission the lists of participants two weeks prior to the meeting.

2.3 Terms of Reference

1. Review progress since 2014 following up the 11th liaison meeting report.
2. Review feedback from end users, and expert groups, to include: GFCM WG on DCRF, WGCATCH 2014, RDB SC and WKRDB 5, PGDATA, PGMED, STECF, WKISCON2, ICES, WK on trans variables, Zagreb 2015) and NC meetings.
3. Regional data collection, analysis and storage and the evolution towards RCGs.
    a) Consider the progress of the “strengthening regional cooperation in data collection” mare/2014/19, and possible implications.
    b) Review progress in data quality screening, harmonisation of national and regional data checking procedures.
    c) Consider the role of the sampling data format in terms of integration of sampling data collection, recording and the present and future RCM data calls
    d) Consider the data collection protocols for at-sea and on-shore sampling in the context of regional sampling designs and probability selection methods.
    e) Discuss design-based sampling: state of play of which MS are using it or plan to use it.
    f) Analyse the RCM data call for the RDB 2014 data (analysis to be done as much as possible prior to the meeting, and the type of analysis e.g. ranking of ports to sample, to be determined beforehand).
    g) Identify the areas and topics where there is a need for intra-institute intersessional work to achieve coordinated sampling, and how such groups can be organised, coordinated, and funded e.g. joint surveys, sampling plans for MSFD variables, data quality scrutiny groups, international sampling frames.
4. Review proposal for task sharing and criteria for joint surveys.
5. Identify any amendments to NP needed in 2016.
6. Consider future funding mechanisms to continue strengthening regional cooperation

7. Landing Obligation.
    a) Evaluate the impact of the introduction of the landing obligation, and/or preparations for its implementation.
    b) The operation of at-sea observer programmes, and role of scientific observers.
    c) Quality and integrity of catch data collected by the control agencies, i.e. logbook sales notes data.
    d) The generation of catch estimates derived from sampling programme data.
    e) Experiences of on-shore sampling of landed discards.
    f) Review progress from last year's recommendations

8. National Administrations
    a) Address any issues relating specifically to national administrations and consider the role of NC within the RCM RCG context.
    b) Harmonisation of control agency data collection and the cross border sharing of control agency data, for vessels operating and landing outside their flag country.
    c) Harmonisation of catch data recordings.
    d) The position of national administrations on populating the Regional Data Base according to the RCM data call with i) Landings and effort data and ii) Sampling data.
    e) Task sharing and task trading mechanisms that might operate within the context of a regional sampling designs.
9. Metiers.

    Discuss the role of metiers in sampling and estimation, as descriptors of fishing, as domains for estimation and their merging in the InterCatch, the RDB and the STECF data base and as an aide to sampling. Define how they are to be used in the future, the extent to which national and regional lists need to be harmonised and how lists are to be stored for use in a regional context.

10. Future multi-annual programme for data collection
    a) Propose list of research surveys that should be carried out in the region in 2016.
    b) Review and comment on ICES advice on what data are necessary for scientific advice regarding recreational fisheries
    c) Review and comment on list of proposed stocks& biological variables to be included in EU MAP. (The Commission will provide background documents/input for this ToR)

11. Any other business

2.4 Structure of the report

The following table lists the sections in the report where the various t.o.r. have been addressed.

t.o.r	section
1	3
2	4
3a-e+g	5
3f+6c	6
4	7
5	8
6	9
7	10

8	11
9	5
10	12
11	13

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3. Progress in regional co-ordination since 214 following up the 11th Liaison Meeting outcome

In 2013, the Commission put the proposal for a revised DCF forward until June 2015. Therefore, the Commission decided to carry over the National Progammes from the Member States for 2011-2013 unchanged to the period 2014-2016. The RCM Baltic though decided work towards the implementation of statistical sound sampling schemes as suggested by the various ICES expert groups and the RCM Baltic also started the discussion on how to establish regional sampling schemes instead of the present national sampling schemes.

The Steering Committee for the Regional Data Base has continued its work. See section 4.5.

The chairs of the RCMs Baltic, North Sea & Eastern Arctic and North Atlantic cooperated in the formulation of a common data call for 2015 and also by preparing the terms of reference of this year's meetings.

3.1 Follow-up of recommendations from the 2013 Liaison meeting

The 11th Liaison meeting (November 2014) considered all recommendations made by the RCMs and PGECON. These recommendations are listed below. The Liason identified overlap between some recommendations made by the different RCMs and decided to merge these. Note that the recommendations LM 1-6 are merged and composed from elements provided by several RCMs.

The recommendations are complemented comments from the RCM Baltic 2014 in the field 'follow up in 2014'.

LM 1. Regional Database – Consultation of RCMs	
RCM Baltic and RCM NS&EA 2014 Recommendation 1	RCM NS&EA recommends that the RCMs are consulted before the Commission takes decision on future database structure for DCF data and that the future RCG needs are properly considered
Justification	The RDB is the backbone in present regional coordination of data collection between MS and the RCM Baltic foresee that the importance of a well-functioning database adapted to the needs of the regional coordination group will be even more crucial in the future when moving towards regional programs, design based approach as well as stronger focus on quality assurance and end-user interactions. It is thereby of urgent importance that the RCM needs are carefully considered when the Commission choose system for storage and management of DCF data.
Follow-up actions needed	COM to properly consult RCMs before decisions are taken on future database structures and to properly consider RCM/RCG needs
Responsible persons for follow-up actions	European Commission
Time frame (Deadline)	2014
LM comment	The Commission has committed to consult the RCMs
Action – RCM Baltic 2014-2015	*No further action is needed for the time being. COM has, according to the LM recommendation, concluded that the present set-up with regional database probable is the best solution. This conclusion was made after taking feed-back from different parties into account.*

LM 2. Implications of the landing obligation - Scientific data collection and at-sea sampling	
RCM NS&EA 2014 Recommendation 2	RCM NS&EA recommends that MS maintain scientific observer programmes and continue at-sea sampling schemes for the collection of scientific data for stock assessment and advice. Additionally that the role of scientific observer is not conflated with any monitoring role. Appropriate modifications to at-sea sampling protocols and recording should be devised for sampling the retained discard fraction.
Justification	Discarding will become illegal for the most part, and this has the potential to disrupt the historical time series of catches used in assessment models. Nevertheless, at-sea sampling needs to be maintained because discards at-sea will continue for various non TAC species and exemptions allowed under the landing obligation. Additionally the landing obligation will introduce a new category of retained discards and this fraction has to be sampled to obtain scientific data for the complete catch composition. Until such time as the feasibility of sampling this catch component on-shore can be determined there is a need to maintain at-sea sampling. The RCM NS&EA underlines the importance of maintaining statistically sound sampling designs for the on-board observations, and the integrity of scientific observers.
Follow-up actions needed	Scientific institutions to prepare sampling protocols appropriate for at-sea sampling of the retained fraction and the extra faction (landing part for industrial purpose of fish under the minimum reference size) due to the landings obligations and modify their sampling protocol . MS & ICES to consider if modifications are needed for recording, storage and estimation processes (data exchange format, IT systems, ...)
Responsible persons for follow-up actions	Scientific institutions within MS
Time frame (Deadline)	Prior to the implementation of the landing obligation
LM comments	The LM fully support this recommendation and in addition that the ICES WGCATCH (November 2014) explore sampling strategies which can be applied under the landing obligation management regime including sampling of the landing fraction of the catch which previously was discarded. LM recommends to MS to follow the guidelines provided by WGCATCH.
Action – RCM Baltic 2014-2015	*This issue was addressed in section 4 of the WGCATCH 2014 report: Provide advice on adapting sampling protocols to anticipated changes in management measures (e.g. discard ban) or technical advances in monitoring* *Status for 2015: All MS have maintained scientific observer programmes and continue at-sea sampling schemes after the landing obligation entered into force as far as it has been possible. Due to co-operation issues with the fishing fleet, Sweden has had difficulties performing at sea-sampling.*

LM 3. Implications of the landing obligation - Scientific data storage, IT systems and estimation	
RCM NS&EA and RCM NA 2014 Recommendation 3	RCM NS&EA recommends that scientific institutions and ICES ensure that data recording systems, IT systems and estimation routines are able to appropriately deal with the retained discard fraction. Also, authorities should adjust logbooks and IT systems to accommodate the accurate recordings of all catch components, including the part that can be released under the de minimis exemptions.
Justification	The landing obligation will introduce a new category of retained discards and this fraction of the catch will require to be estimated. This necessitates that within national institutions and ICES all stages of the recording, storage and estimation processes are able to accommodate this fraction. Many national IT systems may have data models based on a distinction between landed and discarded data that will require modification to accommodate retained discards fraction. Routines to estimate national catch compositions for length and age for assessed stocks will need to be adjusted. The ICES InterCatch system and the regional data base may be similarly affected.
Follow-up actions needed	Scientific institutions and ICES data centre to consider if present systems are appropriate and if not make the required modifications.
Responsible persons for follow-up actions	Scientific institutions within MS & ICES National and EU authorities
Time frame (Deadline)	Prior to the introduction of the landing obligation, January 2015 for pelagic stocks and January 2016 for demersal stocks.
LM comments	LM agrees in principle but recognises that no action can be taken until the implementation of the landing obligation is specified. The LM though suggests that MS consider how the new data sets can be accommodated in their scientific data bases.
Action – RCM Baltic 2014-2015	*A harmonization of the nomenclature is of importance. Therefore, RCM Baltic needs to agree on how to name the different catch fractions. Preferably a harmonisation with the control authorities would be recommended. Thereafter, it will be possible to develop databases accordingly to this standard.*

LM 4. Implications of the landing obligation - Monitoring catch data collection	
RCM NS&EA 2014 Recommendation 4	RCM NS&EA recommends that monitoring catch data collected by control agencies should be maintained and enhanced to account for the additional need to assess the impact of the landing obligation. Specifically the logbook system should be able to record continuing discards and the retained discard fraction as well as the landed fraction. Selective gear measures adopted by vessels should be recorded in logbooks.
Justification	The landing obligation will herald significant changes in the behaviours of fishers, fishing practices, and will most likely result in a proliferation of the use of more selective gears. There will also be requirements to record continuing discards, retained discards and the landed fraction of the catch. If these changes are not adequately recorded in the official catch monitoring data then the ability to make inference from scientific samples to fishing fleets will be limited. The better the accuracy and integrity of the monitored catch data the better are the estimates of the total catch.
Follow-up actions needed	Commission, European and national control agencies to consider the adequacy of catch monitoring procedures.
Responsible persons for follow-up actions	Commission, European and national control agencies
Time frame (Deadline)	Prior to the introduction of the landing obligation
LM comments	LM support this recommendation and suggests that the Commission address this to the MS and that the issue is taken into account when evaluating and approval process of the discard plans.
Action – RCM Baltic 2014-2015	*So far few MS have changed the reporting system (logbooks and landing declarations) to make it possible to specifically record retained discard fractions. Only Germany and Lithuania seem to have made substantial progress. It is suggested to that contact to national authorities on this issue are made in all MS.*

LM 5. Quality assurance – Agreed metiers and updated list	
RCM NS&EA 2014 Recommendation 6	RCM NS&EA recommends to update the list of metiers
Action – RCM Baltic 2014-2015	*Not relevant for the RCM Baltic*

LM 6. Quality assurance – Tools to analyse the data uploaded to the RDB	
RCM NS&EA 2014 Recommendation 7	RCM NS&EA recommends to develop tools to analyse the quality and the status of completeness of the data in the RDB
Justification	It is presently difficult to access the completeness of data uploaded to the RDB. Knowledge of the status of data is essential to RCM work. Reports and tools allowing the RCMs to examine completeness thereby need to be developed. In order to ensure information on the status of the data uploaded to the RDB is available for the data user, it is further suggested that facilities to mark the status of the various data type uploaded the RDB.
Follow-up actions needed	RCM NS&EA to list the needs for evaluating the quality and the status of completeness of the data in the RDB
Responsible persons for follow-up actions	RCM NS&EA
Time frame (Deadline)	As soon as possible
LM comments	The LM endorses this recommendation and stress the importance of the further development of such tools. The development of the requested tools is part of the roadmaps towards the implementation of the revised DCF and are included a study proposal. Therefore, the LM recommends that the study proposal will be funded as soon as possible.
Action – RCM Baltic 2014-2015	*Discussions are ongoing to conclude what analyses that would be most relevant to perform. Besides, discussions are underway by whom these analyses should be performed. During RCM 2015, this issue will be dealt with further in the sub-groups. See section 6.*

LM 7. Quality assurance - Calibration of age readings	
RCM Baltic 2014 Recommendation	RCM recommends that WGBIOP develop a procedure for an annually intermediate calibration
Justification	To make sure on a regular basis that age reading is done in a consistent way and that a reference set is available for age readers before the start reading a new seasons of otoliths. WebGr could be used as a tool for uploading pictures on otoliths. All experts involved in the age reading for the specific stock should participate in the exercise which should be performed annually for all stocks
Follow-up actions needed	WGBIOP to look into a standard procedure
Responsible persons for follow-up actions	ICES WGBIOP
Time frame (Deadline)	Next WGBIOP meeting to be held in August - September 2015.
LM comments	LM endorses this recommendation
Action – RCM Baltic 2014-2015	*RCM Baltic still supports the earlier suggested setup regarding intermediate age reading calibrations. Next WGBIOP meeting will be held in the first week of September 2015.* *Regarding Eastern Baltic Cod Stock:* *MS are obliged to collect otoliths under the DCF. All MS should continue to perform stock-related sampling according to their NP. However, RCM Baltic recommends/agrees that MS postpone the age readings og Baltic cod as it currently is not possible to do correct/quality ensured age reading and as no valid age-based assessment is carried out.When the age redaing problem is solved age reading of the archived cod can continue.*

LM 8. Quality assurance – More detailed logbook registration	
RCM Baltic 2014 Recommendation	RCM Baltic recommends that all fishermen fishing in the Baltic region document their catches on haul by haul basis in the logbook.
Justification	The introduction of the new CFP (article 15) will probably change the approaches to monitoring the fishery with the current scientific observer sampling programmes and the control of the fisheries. To ensure quality in catch data a more detailed registration of catches is necessary and this can be implemented by document the catches on a haul-by-haul basis in the official logbooks.
Follow-up actions needed	
Responsible persons for follow-up actions	Commission / BALTFISH
Time frame (Deadline)	Before the 1st of January 2015
LM comments	LM endorses this recommendation
Action – RCM Baltic 2014-2015	*All MS (except Finland) are currently registering their catches on haul by haul basis.*

LM 9. Concurrent sampling	
RCM NA 2014 **Recommendation 1.**	The RCM NA recommends that a comprehensive evaluation of the utility of the data being collected with the concurrent sampling should be performed.
Justification	It is unclear whether the significant resource needed to carry out concurrent sampling provides benefits that outweigh the costs. Some ICES Working groups have benefited from concurrent sampling data collected however there is no empirical evidence to support this. In order to decide if concurrent sampling should continue, more feedback from end-users is required.
Follow-up actions needed	MS should carry out the evaluation on their own data collection schemes and report back to the RCM NA. ICES to setup a workshop proposal to see the implication to the stopping the concurrent sampling for those stocks and benefits concurrent sampling are providing or can provide considering the new and broader scopes of the revised DCF, such as the evaluation of impacts of fisheries on marine biological resources and on the ecosystem.
Responsible persons for follow-up actions	1. MS, RCM NA 2. ICES
Time frame (Deadline)	a) MS: Intersession work with results reported to RCM NA 2015. b) ICES: Workshop to take place in 2015.
LM comments	The LM endorses this recommendation.
Action – RCM Baltic 2014-2015	*RCM Baltic supports the overall conclusion from WKISCON2 stating that sampling the full range of species should be the future aim when moving towards 4S in the commercial sampling. Further, for at sea a strict stock based sampling is not an option to take into account again. (RCM Baltic also supports the overall conclusion from WGRFS stating that the sampling method has to be chosen on a case by case basis in the recreational sampling.)*

LM 10. Quality assurance – RDB data corrections	
RCM NA 2014 Recommendation 2	The RCM NA recommends that 1. the reference lists for metiers, harbours and species in the RDB are restricted to the agreed lists (metiers: RCM metier lists, harbours: EU Master Data Register, species: AphiaID (WoRMS)); 2. any data that cannot be uploaded should be recorded on a standard upload log distributed with the data call; 3. MS reload all their data in reference to the restricted lists.
Justification	There are inconsistencies and errors in the data on the RDB that have been caused by non-restrictive reference lists for metiers, harbours and species, and insufficient data checks by MS. The annual data checking procedures that are currently carried out at RCMs reveal these errors and data gaps, limiting the potential for data analysis. A log of data completeness is needed so that users can assess the limitations of the data and therefore what interpretations or analysis can be done with it. Currently it is unclear how the data can be used. The RDB will be developed to record the status of the data within it, but until this feature is available a standard log submitted at the time of each data call can provide RCGs and data users with a reference to what data is not on the system as well as what is.
Follow-up actions needed	1. RCMs to provide ICES, as the RDB administrators, with the restricted reference lists. ICES needs to incorporate these lists in the RDB; 2. RCM chairs to include upload log in data call 2015; 3. MS need to reload their data (ICES needs to delete all the data first) and complete the log and submit it to RCM chairs. These logs should be made available for analysis at the next RCMs.
Responsible persons for follow-up actions	1. RCMs, ICES (Data Centre) 2. RCM chairs 3. MS, ICES (Data Centre)
Time frame (Deadline)	1. Reference lists: before RCM data call 2015 2. Upload log: to include in data call 2015 3. Reloading of data and submitting of upload log to RCM chairs: by deadline specified in data call 2015
LM comments	The LM endorses this recommendation. Based on the progress done in the RDB – considering no fundings are expected inmediately- RCM chairs will considerate in the moment of launching the Data Call if a complete reload –all year series- or current year is needed.
Action – RCM Baltic 2014-2015	*The data base facilities are in progress. Corrections of the reference lists for métiers and harbours respectively are successfully finished. The species reference list is being processed.*

LM 11. Enlarge PGMed scope to Large Pelagics	
RCM MED&BS-LP 2014 **Recommendation** **LP sub-group**	Considering the new configuration taken in place in 2014 with LP subgroup associated to RCM MED&BS within a RCM MED&BS-LP, the LP subgroup recommend to enlarge PGMed ToRs to take into account LP subgroup. The list of ToRs are annexed in this report (annex 3)
Action – RCM Baltic 2014-2015	*Not relevant for the RCM Baltic*

LM 12. Coordinated PGMed and LP data call	
RCM Med & BS-LP 2014 **Recommendation** **LP sub-group**	The data required each year by the PGMed should be collected within the framework of a data-call defined by the following elements: **Content:** The content is defined according to the ToRs, which can now include issues specifically dedicated to the Large Pelagics subgroup or relevant to both groups. **Format:** For generic ToRs the format of the data will be similar to the format contained within the templates, spreadsheets and text files, used until now. For the CV computations and investigation of sampling consistency, the data will be collected to be consistent to the Standard Data Exchange Format (SDEF) proposed by the Large Pelagics subgroup, allowing to use the same tools and methodology for a more thorough investigation of sampling stratification and precision. **Dates:** The start and end dates of the data-call are set-up so that member states have time and flexibility for answering it, while complying with the 6 months period after the end of data collection during which data cannot be required. **It has been agreed to launch the data-call the 1st of March and to set the deadline to the 15th of July**. **Person in charge:** The chairs of the RCM MED&BS-LP will be responsible for launching the data-call.
Action – RCM Baltic 2014-2015	*Not relevant for the RCM Baltic*

LM A1. ***AGREEMENT***	
Quality assurance – Upload of historical data to RDB FishFrame	
RCM Baltic 2014 Agreement	The RCM agrees on a data call demanding all MS to ensure that all historical data (including data in salmon and eel) for the period 2009-2013 are uploaded to RDB FishFrame.
Justification	A complete and easily accessible regional data set is crucial for the progress of a statistical sound sampling design in the data collection at a regional level.
Follow-up actions needed	Data call to all MS via NC Uploading of missing data by all MS
Responsible persons for follow-up actions	RCM Baltic chair to send out data call, NC data call followed
Time frame (Deadline)	1st December 2014
LM comments	LM endorses this agreement
Action – RCM Baltic 2014-2015	*Most MS have been working on uploading historic data back to 2009. This process is ongoing for the coming months.*

LM A2. ***AGREEMENT***	
Quality control documentation	
RCM NS&EA 2014 Agreement 1	It is agreed that all MS attending the **RCM NS&EA** will document their data checks and quality control procedures in reference to the data capture and data processing stages of their national sampling programmes.
Justification	In order to develop a comprehensive set of data checks in the RDB and in addition also can be implemented in MS national data bases it is suggested to assemble information of all present data quality checks used by MS.
Follow-up actions needed	ICES to develop an easier procedure for comparing the data.
Responsible persons for follow-up actions	MS within RCM NSEA
Time frame (Deadline)	RCMs 2015
LM comments	The LM fully support this agreement and suggest that this work is done in all regions and by all RCMs.
Action – RCM Baltic 2014-2015	*The RCM Baltic endorses the suggestion. It was agreed during the RCM that before a template is conducted on quality checks it is very difficult to use the information on quality check from other countries directly. It would however be a task for the intercessional RCM group on data quality to conduct a template for all RCMs on this issue.*

LM A3. ***AGREEMENT***	
Regional Coordination - Cost sharing of International Ecosystem Survey in Nordic Waters and Blue Whiting joint research surveys	
RCM NS&EA 2014 Agreement 2	**RCM NS&EA** 2014 agreed that the cost sharing model where those MS having a EU-TAC share >= 5% is sharing the survey cost according to their EU-TAC shares for the main species concerned: i) the International Ecosystem Survey in the Nordic (Atlanto-Scandian herring), ii) the Blue Whiting Survey (blue whiting). This model will be used for the International Ecosystem Survey in the Nordic Seas (IESNS) carried out by the Danish R/V Dana and the Blue Whiting Survey carried out by the Irish R/V Celtic Explorer and the Dutch R/V Tridens for years 2014 and 2015 or until a new data regulation is in place.
Justification	There is a need to update current agreements to reflect the new financial structure under the EMFF, while the surveys themselves are automatically rolled-over to 2014 and 2015 under the current DCF regime. Furthermore, the cost sharing models for both surveys should be aligned.
Follow-up actions needed	Approved by National Correspondents from Belgium, Denmark, Germany, the Netherland, Sweden and UK. The NC's from Ireland, France, Portugal and Spain should at the RCM NA be consulted.
Responsible persons for follow-up actions	The RCM NS&EA and the RCM NA
Time frame (Deadline)	Invoices should be sent to the MS concerned before 1 November 2014.
Follow up in 2014	The NC's concerned from the RCM NA to be consulted.
LM comments	LM endorses this agreement
Action – RCM Baltic 2014-2015	*As no international joint surveys are carried out in the Baltic this issue has been postponed until the new DCF has been agreed.*

4. Feedback from end-users and expert groups

4.1 ICES general feed-back

Recommendations to RCM Baltic from ICES Working Groups (2015)
Two ICES Expert Groups directed recommendations to RCM Baltic in 2015. The Working Group on Bycatch of Protected Species (WGBYC) recommended increasing the sample coverage in in trammel nets and set gillnets in the Baltic under the DCF to contribute to the assessment of bycatch of Protected, Endangered and Threatened Species (PETS). The Baltic Salmon and Trout Assessment Working Group (WGBAST) recommended increasing the data coverage of sea trout parr densities from typical trout streams from Northern Sweden while achieving longer data time series is required from all Baltic member countries. At the same time WGBAST recommends to explore the unreporting of salmon in pelagic fisheries targeting other species.

Recommendations to RCM Baltic from ICES Working Groups (2014)
In 2014, two ICES Expert Groups reported recommendations to RCM Baltic, which should be followed up in the next RCM Baltic. The Baltic Salmon and Trout Assessment Working Group (WGBAST) recommended to 1) estimate recreational fishing catches for salmon and trout, 2) estimate the amount of undersize salmon taken as bycatch in longline and other fisheries, and 3) the amount of salmon bycaught in other fisheries (once all salmon quota has been fished) and released back into sea. The Baltic International Fish Survey Working Group recommends that Sweden should participate in the BASS survey covering Subdivision 27.

Recommendations to RCM Baltic from the Liaison Meeting (2014)
Four recommendations from the Liaison meeting are considered relevant for RCM Baltic and these recommendations have been considered by ICES and are listed below:

LM 2. Implications of the landing obligation - Scientific data collection and at-sea sampling
This was addressed in section 4 of the WGCATCH 2014 report: Provide advice on adapting sampling protocols to anticipate changes in management measures (e.g. discard ban) or technical advances in monitoring.

LM 3. Implications of the landing obligation - Scientific data storage, IT systems and estimation.
ICES reiterated that it will not be in the position to evaluate the implications the policy on the stock assessments until data and information on landings and discards become available
.
For the time being the catch options conducted by ICES assumes a constant selectivity and that this might not be what will occur in the fishery.

Terminology used in ICES advice: Wanted catch" is used to describe fish that would be landed in the absence of the EU landing obligation. The "unwanted catch" refers to the component that was previously discarded.

LM 7. Quality assurance - Calibration of age readings
WGBIOP meeting will take place between the 7th and 11th of September 2015.

LM 9. Concurrent sampling
A specific workshop was setup, WKISCON2. The full report was not available at the time of the RCM Baltic meeting but a brief summary is outlined in the section "Main outputs from WKISCON2: Workshop on Implementation Studies on Concurrent Length Sampling" of this report.

Planned benchmarks relevant to RCM Baltic

Sole (*Solea solea*) in Division IIIa and Subdivisions 22–24 (Skagerrak and Kattegat, Western Baltic Sea)
An interbenchmark process for sole (IBPSOLKAT) is being conducted between August and October 2015 and will report by 1 November to the attention of ACOM. The main issues to consider in this interbenchmark relate to the analytical stock assessment method used to provide advice for this stock. Parameters that are planned to be evaluated are: quality of the commercial trawler cpue time series, survey design and survey index, additional model parameter settings. A new stock assessment method will be proposed based on the new results and biological reference points will be revised following WKMSYREF3 (ICES, 2015a) guidelines.

Salmon (*Salmo salar*) in Subdivisions 22–31 (Baltic Sea, excluding Gulf of Finland)
A benchmark process is proposed to take place in 2017. Thus, the corresponding data compilation workshop will be planned for the autumn of 2016. Data from river stocks in assessment units 5 and 6 will be required (smolt age distributions, maturation

rates, exploitation rates, post-smolt survival and exploitation of the stock in different sea areas (=migrations), smolt and spawner counts). In addition good quality data from effort and catches of recreational fisheries will be needed in order to include the recreational sea fishery into the assessment model. New parameterisation for SR-relationship Spawner stock biomass per recruit (SBPR) should be calculated as a function of post-smolt mortality (Mps), natural mortality (M), maturation rates, fecundities and sex ratios, instead of giving it a prior distribution (as currently). Because Mps and maturation rates vary in time, SBPR would also vary. Further, a model for predicting the maturation depending on sea surface temperature and an update of fecundity parameter values will be reviewed in the benchmark if necessary. The current biological reference points will be revised and specific stock MSY-levels will be explored.

Cod (*Gadus morhua*) in Division IIIa East (Kattegat)
A benchmark process is proposed to take place in 2017. Thus, the corresponding data compilation workshop will be planned for the autumn of 2016. During the benchmark the use of new Natural mortality (M) estimates in the stock assessment will be explored. This is of particular importance given the increasing number of Baltic grey seals (*Halichoerus grypus*). Genetic markers, historical tagging studies and otolith morphometrics will be used to establish a mix ratio between the Kattegat and North Sea cod stocks in the area. The tuning series used in the analytical stock assessment will be revised, especially given the availability of data from a new survey (CODS) that has been carried out since 2008. The coverage and representativeness of discard data will be evaluated, as well as biological parameters (i.e. catch weight, stock weight, maturity). Current and additional parameter settings in the used SAM model will be evaluated. Further, performance of the model SS3 will be explored. Biological reference points will be revised following WKMSYREF3 (ICES, 2015a) guidelines.

Herring (*Clupea harengus*) in Subdivision 31 (Bothnian Bay)
A benchmark process is proposed to take place in 2017 and the corresponding data compilation workshop will be planned for the autumn of 2016. During the benchmark the use of new Natural mortality (M) estimates in the stock assessment will be explored given the increasing local population of ringed seals (*Phoca hispida*). The impact of the addition of a tuning series (commercial gillnet data held at the Swedish University of Agricultural Sciences) to the stock assessment input data will be assessed. The degree of mixing between herring stocks from Subdivisions 31 and 30 will be explored. Currently, the stock assessment model used is XSA and runs using SAM will be tested during the benchmark. The possibility of defining biological reference points will be studied.

Herring (*Clupea harengus*) in Subdivision 30 (Bothnian Sea)
A benchmark process is proposed to take place in 2017 and the corresponding data compilation workshop will be planned for the autumn of 2016. Besides exploring the degree of stock mixing between the herring stocks from Subdivisions 31 and 30 as outlined above, the benchmark experts will explore changes in the assessment tuning series. Firstly, the cpue from the commercial trapnet (data available from 1990 onwards) is considered no longer reliable due to lack of trapnet fishing effort and unbalanced spatial coverage. On the other hand, an acoustic survey started in 2007 and the time series may be now enough to provide a fishery-independent tuning series. Biological reference points will be revised following WKMSYREF3 (ICES, 2015a) guidelines.

4.2 WGCATCH 2014

The Working Group on Commercial Catches (WGCATCH), chaired by Mike Armstrong (UK) and Hans Gerritsen (Ireland), met in ICES HQ, Copenhagen, Denmark, 10–14 November 2014. The meeting was attended by 34 experts from 21 laboratories or organizations, covering 16 countries. The tasks of the meeting were as follows:

1. Develop the longer term work plan for WGCATCH;
2. Evaluate methods and develop guidelines for best practice in carrying out sampling of commercial fish catches on shore;
3. Provide advice on adapting sampling protocols to anticipated changes in management measures (e.g. discard ban) or technical advances in monitoring;
4. Provide advice to the RDB Steering Group on development of the RDB to support design-based data collection and estimates;
5. Evaluate responses to test applications of data quality assurance tables for onboard and port sampling developed by WKPICS, SGPIDS and PGCCDBS, make improvements for further testing, and develop clear guidelines for completing and interpreting the tables.

In order to evaluate methods and develop guidelines for best practice in carrying out sampling of commercial sampling of commercial fish catches onshore, a questionnaire was circulated before the meeting. This questionnaire was structured around guidelines developed by the ICES Workshop on Practical Implementation of Statistically Sound Catch Sampling Programmes (WKPICS) for best practice at each stage of the sampling process, and asked for a description of current practices at each of

these stages. Based on these questionnaires, common and specific problems were catalogued and potential solutions were identified. At the same time, the discussion of the questionnaires provided a form of peer-review of the sampling designs and identified where improvements could be made.

The other main subject addressed by WGCATCH concerns the provision of advice on adapting sampling protocols to deal with the impact of the introduction of the landing obligation, which will alter discarding practices and result in additional categories of catch being landed. A second questionnaire was circulated before the meeting to allow the group to identify the fleets that will be affected and possible issues that are anticipated, as well as to propose solutions to adapt existing monitoring and sampling schemes and to quantify bias resulting from the introduction of this regulation. In total 15 countries provided questionnaires with responses that were included into the report.

WGCATCH outlined a range of likely scenarios and the expected effects of these on fishery sampling programmes, and developed guidelines for adapting sampling schemes. The group also explored a range of analyses that could be conducted in order to quantify bias resulting from the introduction of the landing obligation. Finally, a number of pilot studies/case studies were summarized, highlighting the practical issues involved.

The group provided advice on how the Regional Data Base (RDB) should be developed to support design-based data collection and estimates. Some general comments on future development of quality indicators are given in the report

The working group did not produce any data outputs; the outputs of the group are the report and the appendix with the responses from the Questionnaires. PGDATA

4.3 PGDATA

The group meet for the first time in the beginning of July 2015 in Lysekil, Sweden. The meeting was scheduled to be a 4 days meeting with the main focus this year on the benchmark process and how to increase the data quality in this process. 10 different countries were represented by 19 participants at the meeting, and 2 representatives from ICES were attending as well.

ToRs for the meeting were:

- Review all or a representative selection of previous ICES benchmark and associated data compilation and evaluation meetings to determine how these were implemented, focusing particularly on how (if at all) data quality was evaluated, how this information was utilised at the benchmark assessment meeting, how proposals for new work or data collection were arrived at and prioritised, and where there were shortfalls that need to be addressed through establishing a clearer framework for each type of benchmarking process.
- Review the responses to the data-quality questionnaires for discards estimates included in the 2015 data call for stock assessment EGs, and how the information was used by the EGs.
- Using the planned benchmark meeting for the Irish Sea (WKIRIS) as a test case, work with the assessment team to identify the data needed, and use this as a test case to develop an initial draft framework and guidelines for compilation and evaluation of relevant data for benchmark assessments, including provision of time series of data quality indicators (bias and precision) that can be incorporated directly in assessment models or used as supporting information.
- Clearly define the scope and working practices of PGDATA and identify the working relationships that PGDATA should establish within ICES (e.g. ICES SCICOM/ACOM Steering Groups; survey and other data collection EGs; assessment EGs; ICES Data Centre) and with external bodies.
- Review and adapt the work programme for the next two years of PGDATA, and develop the ToRs for the 2016 meeting.
- Consider the need for specific workshops prior to the 2016 core-group meeting, or study proposals to address PGDATA goals.
- (to be added by ICES – respond to Commission query on use of recreational fisheries data and frequency of surveys)
- PGDATA could advising/ prirotazing ICES on the development and use of InterCatch for compiling and raising data for stock assessment working groups alongside developments in Regional Databases.

The 2 main issued at the meeting were to compile a template/ guideline for the Benchmark process using the Irish Sea as a test case (ToR C) evaluate former benchmarks and discard data quality score cards. All the participants had to evaluate a earlier benchmark process before the PGDATA meeting following a common template. 44 different benchmarkes were analysed before the meeting and a summarize of the quality were then presented at the workshop. The evaluated benchmarks differed in a lot of

issues, ex. if a separate data compliation workshop has been conducted, if stakeholdes have been involved, feeling out issues list (and including them in the report) or filling out score cards ect. These outcomes were used as guidelines on what would be important to focus at for the upcoming benchmark in the Irish Sea. During the meeting a flow chart were further developed on the benchmark process and on the feedback loop to the data provider if some data were lacking or not in the quality state that can be used in stock assessment. The planning group also received two late ToRs one on InterCatch and prioritising the work to be conducted within ICES, however do to time constrain this issue were postpone to be conducted intercessional. The second extra ToRs were on the frequency of recreational surveys, how they should be used in assessment and for whar purpose.

4.4 WKISCON2

Main outputs from WKISCON2: Workshop on Implementation Studies on Concurrent Length Sampling
WKISCON2 originated from a request from RCM NA and the 11th Liaison Meeting to ICES WGCATCH to set up a workshop that would evaluate the utility of the data being collected by concurrent sampling. The group (Co-Chairs: Liz Clarke, Scotland, and Nuno Prista, Portugal) met 16–19 June 2015 in Sukarrieta, Spain and was attended by 12 experts from 9 institutes, covering 7 Member States.

Two questionnaires and a data call were sent to DCF National Correspondents and ICES Expert Groups (EG). As a result 17 replies from National Institutes and 30 from ICES EGs were obtained.

WKISCON2 concluded that stock assessment and discard estimation and management are the major current users of concurrent sampling data. Other users like scientific catch estimation, advice to local, national and international authorities, research on MSFD descriptors, mixed fisheries and gear interactions and on mortality of rare species, data-poor stocks and PETS also take place in ICES EGs and national institutes.

Increased information on by-catch species, general catch composition, and improved data on mixed-fisheries were considered by EGs to be the major benefits of concurrent sampling. WKISCON2 noted that many of these uses and benefits do not specifically require length data that have been sampled concurrently on a trip and that models have not been developed yet to make full use of concurrent data at trip-level. WKISCON2 further concluded that concurrent sampling for lengths of discards and landings at-sea is a long-established practice in most MS and that haul-level and trip level data is already available for current and future uses albeit sometimes limited by the lower sample size of these programmes. In what concerns concurrent sampling of landings on-shore fewer MS carry it out, those that do not cite increased costs and workload as the main practical issues. Where it was applied, concurrent sampling of fishing trips onshore resulted in substantial increases in the number of species sampled for lengths without jeopardizing the main uses of the data.

Overall, it is a simple and effective way to estimate species composition (in weight and length) of landings but it is prone to bias caused by incomplete sampling and can be an inefficient method of obtaining length distributions of specific stocks when officially reported species compositions (e.g. from logbooks) are considered accurate. Other statistically sound methods of selecting species to sample are not yet fully developed or tested in the field but may provide useful alternatives in these cases. Increased information on by-catch species, general catch composition, and improved data on mixed-fisheries were considered by EGs to be the major benefits of concurrent sampling. Finally, WKISCON2 concluded that full species concurrent sampling of the catch at a haul-level is the best way to provide data to measure the interactions between all species caught and evaluate the impacts of fisheries on marine biological resources and on the ecosystem and that sampling at-sea is the ideal way of sampling commercial fisheries.

At-sea sampling is generally more costly and displays lower fleet coverage than on-shore sampling, but currently, it is not usually possible to sample the discarded component of the catch on-shore. To take full advantage of the benefits of concurrent sampling, both at-sea and on-shore, full-species concurrent sampling should be implemented without resort to species lists such as the current G1 and G2 lists. Incomplete sampling events need to be flagged in national and international databases.

The sampling should be regionally coordinated to ensure implementation is consistent and data are comparable at a regional level. Overall, WKISCON2 concluded that the implementation of concurrent sampling of landings onshore and at-sea has provided benefits in terms of provision of data for more species. However, more than concurrent sampling itself, statistically sound sampling of the full range of species caught should be the overall aim of future revisions of the DCF and a return to strict stock based sampling should not be an option. To achieve statistically sound sampling of commercial catches various statistical approaches may be valid, concurrent sampling being one among them.

4.5 RDB-SC

The steering committee for the regional database (RDB-SC) met 25-26 November in Copenhagen, Denmark. It was the sixth meeting of the committee. Participants were representatives from the RCM Baltic, RCM North Sea & Eastern Arctic, RCM

North Atlantic, ICES as well as observers from the RDB-SC for large pelagic fish (LPF) and Ireland. The RDB-SC is responsible for strategic planning, technical governance, operational issues and estimates of costs in the overall governance of the regional database (RDB). The RDB-SC interacts with the Regional Coordination Meetings (RCMs) and Liaison Meeting (LM) on other tasks such as development needs and content governance.

Throughout the year have a long row of recommendations on development needs for the RDB been directed towards the RDB-SC. The recommendations origins primarily from the RCMs and LM but also from expert groups dealing with methodological aspects of data collection. The recommendations cover a wide range of aspects such as harmonization of reference lists, reports from the database to the RCMs, possible reports to make compilation of technical reports to COM more efficient, uptake of upload logs, adaptation of the exchange format to meet expected requirements coming from a design based approach, landing obligation and regional sampling programmes but also future estimation processes and interaction between InterCatch and the RDB. As there presently are limited funds (no EU funds for development) for development are however the possibilities to act upon the recommendations limited. Nevertheless the RDB-SC discussed all different recommendations and initiatives, sorted them into a short, medium and longterm time scale and suggested ways forward were possible. A new workshop, RDB VI, was initiated within this process. The workshop will deal with exchange format for effort and landings data to meet requirements for design based sampling and estimation. The workshop will be held in Sete, France November 2015.

The RDB-SC further went through all comments from the MS on the data policy document and prepared generic answers.

4.6 WKRDB 5

The WKRDB 2014-01 workshop for the regional database (RDB) was held in Aberdeen Scotland from 27 to 31 October 2014. This was the 5th regional database workshop and was aimed at developing the data exchange formats to enable design based sampling and estimation. Twenty-three participants from 13 national institutions including ICES and the RDB hosts attended. The workshop was co-chaired by Alastair Pout and Liz Clarke from Marine Scotland Science.

Case studies of stratified and multi-stage sampling schemes from 13 nations were presented and scrutinised. For each case study, the sampling hierarchies were identified, and at each level in the hierarchy inclusion probabilities were derived. Where the inclusion probabilities were required to be estimated this was described. Traditionally a lot of estimation in fisheries has required the recording of weights, and a move to design based sampling would be a move towards also recording probabilities based on counts.

A prototype sampling data structure appropriate for design based sampling and estimation was developed prior to the workshop. A key element of the new structure was the sampling event “SE” table which is required to contain information on the primary sampling units and the sampling design that is not included in the current data format. It was agreed that the new sampling data structure should incorporate a form of this table. The new structure also incorporated many of the suggested changes from previous working groups (WKRDB 3, SGPIDS 2013, RCM NS & EA 2013, RCM NA 2013 etc.).

Insights from the case studies and scrutiny of the prototype data format served to highlight and identify the situations where new fields were required and where modification to the code lists used by the RDB were necessary. More widespread use of this format for design-based estimation could identify further requirements. The recording of numbers sampled, in relation to the available total, as a means of generating a sampling probability, is a new feature of the exchange format. For the calculation of a sample weight, this sampling probability is required at all levels of the sampling hierarchies. The issues this raises need further consideration. Therefore despite the progress made it is apparent that a final data structure suitable for design-based estimation will only emerge as a result of the widespread adoption of design-based estimation.

Within the workshop there was a discussion as to whether the exchange format should move towards an efficient storage system (with much less replication of data already in the system) or a more informative descriptive exchange format (in which information is replicated for ease of analysis). Consideration was also given to the idea of more than one exchange format might be necessary ; perhaps that there will be an exchange format for importing the data into the RDB and another format for exporting data out of the RDB and for use between countries.

A prototype population data structure was presented and discussed. It was agreed that the issues in the use and need for population data was complex and could not be resolved at a single workshop. These issues included, amongst other things: when the appropriate links between the population and the sample need to be made; how complex the population data need to be; how effort metrics and landings values are combined, and how appropriate effort measures are defined for different fisheries. It was felt that the development of the population data format required the input of a wide range of interested parties.

There was a recognition the design-based estimation for fisheries will be developed in the statistical environment R, which most of the people at the workshop were using. The extent to which fisheries estimation can be carried out using the R package "survey" should be tested in national institutes. The use of the survey package was demonstrated for discard estimation where sampling strata overlapped domains, including using post-stratification corrections to improve the precision of the estimates. Also the estimation of numbers-at-length for a market day PSU where there was sampling of multiple commercial categories from a number of different vessels. The use of R has implications as to how estimation would be developed in conjunction with the RDB. The utility of the R language is such that use of R would benefit collaboration, and also greatly enables development work and testing of the formats used by the RDB.

There was a general desire to harness the momentum of the workshop in order to develop this format in a regional setting. To that end international collaboration be-tween all interested parties was felt to be important and that this could best be achieved by projects or study contracts. The use of a SharePoint site for the exchange of code would facilitate this process. All interested parties should be involved and at some point wider regional participation, involving a representation from all countries will be required. The RDB is a comprehensive tool which includes not just a database, but import and export functionalities, and will need to include design-based estimation. One of the main aims of the RDB is that the data used for the stock assessment and advice can be documented, and that all the estimation methods are approved and standardised. The RDB should also be considered as a platform for development of formats and analysis tools as well as a means of storing and exchanging data.

Members of the workshop found the hands-on approach focussed the discussion and provided a way to make faster progress, and there was a general desire for more workshops along similar lines. Initially the RDB workshops were set up to help nations populate the database, the requirement now is for workshops for the development of the database.

4.7 STECF general feed-back

STECF has since the RCM Baltic meeting in 2014 produced three plenary reports (STECF 14-24; 15-01 and 15-13), and one ad hoc Workshop report addressing different issues on data collection. The reports provide a number of recommendations to be taken into account for the present and future data collection.

The RCM Baltic was given an overview of results of EWG 14-17 on preparation for future data collection under the revised DCF (reviewed and adopted by the STECF 14-24). The RCM Baltic 2015 notes that STECF EWG recommendations have already been into account or initiatives have been made to do so. Several recommendations of EWG 14-17 have already been implemented. The results of the STECF Workshop on Transversal variables are presented in the Section 4.8.

Issues from the various STECF EWG to be highlighted

The EWG 14-17. Preparation for future data collection under the revised DCF.

Main taks and outcome was simplification of the DCF guidelines and templates and improved use of the information contained in MS Work Plans and Annual Reports by data end-users. The revised guidelines have been used for the Annual Report for 2014.

Other isseus discussed were the preparation of a template for National Work Plans for data collection.

Under the EMFF, Member States must submit an Operational Programme for 2014-2020. STECF EWG 14-17 addressed the point on preparation of a template for NWP. According to the Terms of Reference the focus of the exercise was on simplification.

The EWG discussed possible solutions and has provided some ideas for the future preparation of the NWP and the Annual Reports. According to these, a dynamic system for data exchange using the same data format between MS should be implemented. A common storage of data (at regional level, for a group of regions, or at European level) as well as common reporting functionalities will allow to access to the metadata required for the evaluation of the NWP.

The NWP will most likely be implemented as a multi-annual Plan to avoid annual evaluations. However, in order be flexible and to anticipate on changes in end-user requirements, it should remain possible to deal with annual changes in data collection without needing to update the NWP. EWG envisaged that the NWP will be divided into two parts, a static and a flexible part.

The elements of the static part of NWP would apply to all years and may be modified occasionally. Such a elements may be:

1. Description of methods;

2. A description of the various sampling methods the MS will apply,
3. A description of data bases,
4. Quality assurance,
5. A description of actions taken at the MS level to ensure the quality of the data,
6. A description of the procedures the MS will apply e.g. with regard to the transmission of data through data calls,
7. Surveys,
8. Derogations: a list of agreed permanent derogations from obligation; Agreements: which apply between MS and have a multi-annual character.

The elements of the flexible part would house other elements in the NWP, which are subject to frequent revisions or annual changes. These revisions would need to be evaluated annually only if revisions are made. These elements are: Sampling intensities; Description of deviations, possible recent changes made in the static part of the NWP, derogations and recommendations.

Proposed Database with NWP information
The EWG 14-17 proposed that the future submission of the NWP should be facilitated by uploading intended sampling information to a database (to be developed). Similarly, the achieved sampling information, presently presented in Excel files in the Annual Report (AR) should be submitted to this database either through a RDB or directly from a national database.

Regional coordination of NWP development and data quality evaluation
EWG 14-17 considered that future tasks of RCGs include preparing general guidelines on sampling procedures, allocating tasks and harmonising quality standards at regional level. In general, the procedure of NWP creation should follow a series of steps, beginning from specifying objectives of the data collection in terms of end-user needs, identifying the most appropriate statistical design of data collection schemes, evaluating the sampling effort and its distribution across strata needed to deliver the required estimates and precision. After that, MS would implement this scheme in their NWP.

Annual Reports
The EWG 14-17 found that since the format and contents of National Work Plans are not defined yet, it was premature to conclude on future Annual Report structures.

Ideally, most of the information needed on fleet activities, conducted sampling etc. can be generated from existing (or future) regional or supra-regional databases. Therefore the EWG reiterated a clear need for regional databases. It would be more efficient and cost effective to have databases designed by data type/regional requirement, rather than a more complicated, “hold all” database. Databases should be in place by 2017. The management of the future DCF could be greatly facilitated through these databases.

4.8 STECF expert workshop on tranversal variables

The Workshop on the Transversal Variables took place in Zagreb from the 19th to 23rd of January, 2015. This workshop was proposed by the Planning Group on Economic Issues (PGECON) at its 3rd meeting (May 31 - April 4, 2014). PGECON proposed the realization of an ad-hoc workshop on “Linking economic and biological effort data / call design” in 2014. The need for the workshop was due to the increasing need of having economic and biologic data on a level of disaggregation that would allow a proper interoperability between datasets. The terms of reference (ToR) the group addressed were:

A. Comparison of economic and biological effort data calls (resolution/level of aggregation); experience from management plan evaluation;
B. Definition of variables (e.g. days at sea vs. fishing days) – what is really required/used/desirable?;
C. Opportunities for harmonization (resolution, definition, codification); any conclusions for DCMAP?
D. Exploration of optimum timing for the data calls and specific data sets.

The workshop had 29 attendees (25 experts from MS, 3 experts from JRC and the focal point from DG MARE). The skills of the experts that attended the WK were deliberately varied through the request for registrations from biologists, economists and data managers. This allowed a broad coverage on the issues to be discussed. The work was conducted in three subgroups: data crunching (ToR A), variables estimation and definition (ToR B) and Codes Harmonization (ToR C). ToR D was addressed in plenary. Terms of Reference were addressed fully.

ToR A, was addressed using three approaches: 1. Identify what data is available from these three data calls launched by DGMARE (Fleet economic data call, Effort regimes data call and Mediterranean and Black sea data call.The Official data call letters and definitions can be found at DCF website at http://datacollection.jrc.ec.europa.eu/data-calls.) and managed by JRC and what data would be required to prepare a dataset to support bio-economic modelling. This analysis has focused on the data structure, rather than on the content and has allowed identification of the convergences and mismatches between data calls and to put forward solutions that would support overcoming the differences; 2. Compare landings and effort data between the data calls and explore the reasons for the different values; 3. Explore how datasets can be used and merged using a case study.

The main conclusion is that though problems were found in terms of dimensionality in each data call individually, the group concluded that by merging the two data sets the dimensions in place would be the ones needed for bio-economic analysis at supra national level.

Additionally, it was identified that there is a strong need for guidance and identification of standards with regards to data provision for the MS. Several specific misunderstandings from the effort data call and the economic data call were identified. Situations such as those arising due to data confidentiality must be objectively tackled by providing clear policy to MS to avoid missing data and/or data rejection during JRC data calls. Maybe EUROSTAT's vast experience might be of good use for JRC. In general the effort and economic landings data sets are relatively comparable. However, an investigation into landings data in both data sets (limited to North Sea demersal species in 2012) revealed several inconsistencies and discrepancies, including mismatch between gears and values. To help resolve this there needs to be 1 clarification from some MS on how data are allocated to gear categories, particularly within the economic data call.

On addressing ToR B, the group has prepared a full description of the calculation methods each MS uses when estimating effort variables - days at sea and fishing days - under 6 fishing scenarios; This has proved that different calculation methodologies are in place across MS and sometimes within a MS. This has a huge impact on data comparability and data coherence.

The Transversal WS January 2015 agreed to set up common standards for calculating the number of days at sea and number of fishing days and recommends that all MS use this common standard when calculating days at sea and fishing days. In order to have sufficient information for carrying out the various analyses requested by the EU Commission the Transversal WS January 2015 recommends that the status of some of the existing logbook fields (dimension of passive gears, and fishing time) are changed from optional fields to mandatory fields. In addition, MS should make every effort to ensure completion of an existing mandatory field (number of fishing operations).

Calculation of days at sea and fishing days in the EU Member States is carried out using several different methods. Ways to estimate fishing days for passive gears and vessels not carrying logbooks should be examined in a follow up technical workshop. The workshop should also identify the information needed to calculate the estimates and evaluate to what extent the identified information is available through logbooks and other official statistics. The workshop should then agree on harmonized ways to estimate fishing days that can be implemented in MS.

With regard to ToR C, the group has thoroughly evaluated the drafted suggestions for standardisation of codes and variable definitions used in both the effort and economic data calls and defined a single approach (where possible). The main variable groups considered were Capacity, Landings and Effort. In reviewing the data call code lists the group also compared the standard codes published by DG MARE in the EC Master Data Register (MDR). This contains data structures and lists of fisheries codes to be used in electronic information recording and exchanges among Member States and for Member States' communications with Norway to record and report fishing activities.

For harmonization on resolution, definition and codification: a set of tables with standard codes and levels of disaggregation to be used in the three data calls for the future was produced; (already aligned with the DGMARE Master Data Register). Also the group suggested standardisation of codes and variable definitions for use in both effort and economic data calls and definition of one single approach (where possible). The main variable groups considered were Capacity, Landings and Effort.

ToR D, discussed the timing for the data calls, however it was agreed that this issue had already been fully addressed by a STECF EWG (EWG 14-17) 2 and therefore further elaboration from the workshop was unnecessary.

Given the important conclusions drawn and the additional work identified, the group has agreed on a roadmap for the way forward to tackle the different problems encountered and put in place solutions. This roadmap entails firstly a presentation of the workshop results to the STECF spring plenary. Second, to have an intermediate workshop with MS to assess how MS data would result from the new standards and to assess to what extent the scenarios identified represent the range of situations MS will find in their own data, so as to guarantee a smooth implementation for the 2016 data calls.

5. Regional data collection, analysis and storage and evolution towards Regional Coordination Groups (RCGs)

5.1 The FishPie project (mare/2014/19)

The project "strengthening regional cooperation in data collection" MARE2014-19 has been renamed "fishPi" and is a collaboration of 13 scientific institutions form 12 member states based on the RCM NSEA region. Members of the RCM NA and RCM Baltic have prominent roles within the project. There are two external experts with particular statistical and survey design experience involved. The fishPi project is running in parallel with a project with similar aims and objectives in the Mediterranean and Black Sea region. The project started in April 2015 and is due to run for one year. An overview of the project structure, work packages, aims, objectives and progress was presented to plenary.

Progress since April 2015 has covered the following:
A kick off meeting with the commission was held in April, this has been followed by project start up meetings, statistical planning meeting and software planning meeting in Aberdeen in May. A case study start up meeting was held in June, and a data quality work package meeting in July in Port en Bessan. The work package dealing with bycatch, stomach sampling designs and small scale fisheries was held in Sukarrieta during July. These face to face meetings have involved the work package leaders and their core teams from different institutes across Europe. Numerous web based meetings between the work package and core teams have occurred to facilitate the progress of the work. A web based meeting to explore mutual aspects of the fishPi project and the Mediterranean and Black Sea project was held in July.

Document drafting the statistical principles underlying design based sampling and probability based selection, and the use of appropriate statistical estimators has been drafted. Software scripts to simulate two stage cluster sampling and scripts to run estimation software have been written.

Each case study has collated a fine scale data sets based on logbook and sales note data has been assembled from 13 scientific institutions operating in the regions. These have been harmonized and checked for the various case study components and will enable simulation models of alternative sampling designs to be tested, and the estimation process used, to be tested. This process was facilitated by the generation of software tools, scripts and functions which have been disseminated within the core team of the work package.

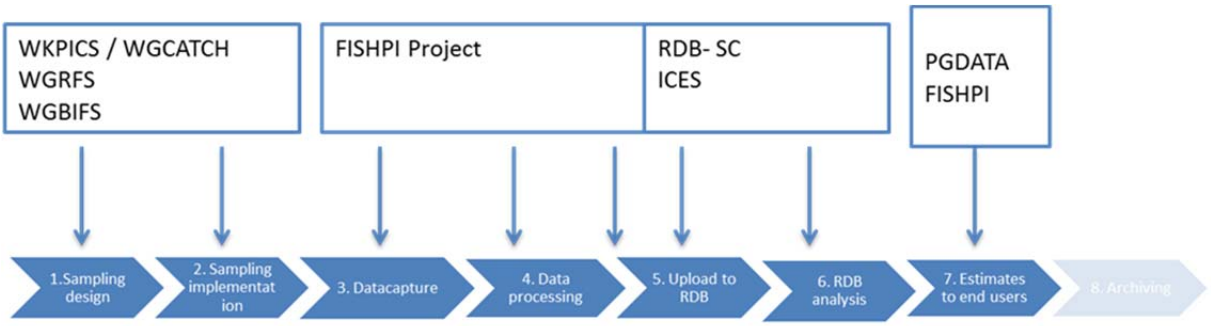
The csData format developed at the WKRDB 5 workshop in October 2014 has, with some additional refinements, has been defined as an R object and stored in an R package "fishPiFormats". The code lists for WoRMS species list, the FAO ASFIS species lists, the revised metier table, the UNLOCODE table, and the DCF vessel type codes have been collected into R and compiled into an R package "fishPiCodes".

Prior to the commencement of the work of the project a consortium agreement was drawn up and signed by the project partners. Prior to the collation of the data a data sharing agreement was drawn up and signed by the project partners. An interim meeting with the commission is scheduled for 21st October.

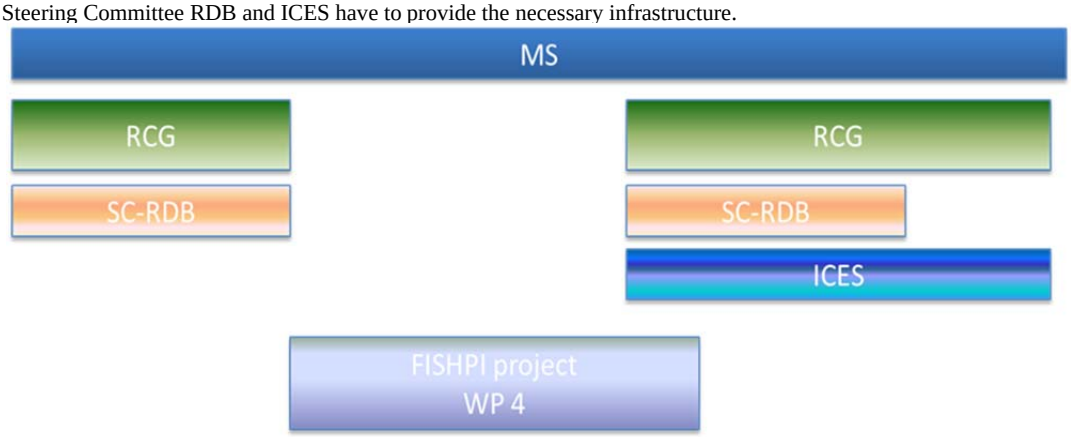
5.2 Progress in data quality screening, harmonisation of national and regional data checking procedures

Data quality is an issue for all steps involved in data collection and the workflow was described involving seven steps in RCM NS&EA 2014 report. To reach a regional coordinated sampling program which can produce high quality data, all steps need to be taken into account. For the data collection community it is important to elaborate and develop procedures for each step, each involving different kinds of actions. However, the workflow below illustrates the ideal situation where the raising of data is conducted within the RDB, which is not the present situation. An additional step involving "Data archiving" should also be considered.

The outcome from several ICES workshops and working groups, EU projects (e.g. WKPICS, WGCATCH, WGRFS, fishPi) is valuable input to the different steps to increase the data quality.



A MS is responsible for the quality of the national data from the very first step until the raising in the RDB. RCMs/RCGs, Steering Committee RDB and ICES have to provide the necessary infrastructure.



MS will have to provide their Annual Work Plans (AWP) by 31st of October 2016. These AWP will have to contain detailed descriptions of the sampling design and sampling implementation as well as the quality checking procedures used in MS, involving step 1-4 in the figure above.

To ensure that all MS describe their sampling procedure in a standardized way, a master template is needed. Recommendations and examples of best practice have been developed in several recent ICES workshops and meetings (e.g. WKPICS2 2012, WKPICS3, WKCATCH 2014, RCM NS&EA 2014).

To cover step 1 in the figure above, RCM Baltic suggests that the template developed in WKPICS2 2012 is used to describe the sampling design. The United Kingdom provided an example in RCM NS&EA 2014 (Annex 3) which was based on that template.

The MS in RCM Baltic agreed to complete the table (for the different sampling schemes, covering all stocks) using the UK example as guidance prior to the next RCM Baltic in 2016.

There are no finalized guidelines/ templates yet on how to describe sampling implementation (step 2) and this has to be developed further. RCM Baltic recommends that this should be developed before MS start to describe their sampling implementation to ensure that harmonized descriptions are provided in the national AWP.

The outcome from the FishPi project WP 4 will be available by early 2016 and give valuable input to further developments of the step 3 and 4, and partly of step 5 in the above figure. The task for the project is to give guidance to MS on basic data checks to be done on national data and also the actual R-scripts to run. R-scripts that will be developed include range checks, the identification of: missing variables, outlier data points, erroneous entries etc. The development of the R package can be found on GitHub.com/ldbk/fishPifct. Feedback and test of developed scripts are welcomed.

Data quality checks on national data were also described in detail in RCM NS&EA 2014, section 5, p. 46-47.
Data quality checks on international data (stock coordinator level) were given in RCM Baltic 2014.

A document giving guidelines to the overall data quality work (including all 7 steps) is necessary and would be of great value for the EU data collection community. Such a document would make it possible to harmonize sampling programmes and the quality control needed and would be the basis for regional cooperation and the set-up of regional sampling programmes.

RCM Baltic suggests to setup a project involving a few experts to come up with this document based on the outcome from the different meetings as well as good examples. Role of the sampling data format in terms of integration of sampling data collection, recording and the present and future RCM data calls

5.3 Design-based sampling: state of play

Statistically sound sampling programmes (Design-based sampling) in the Baltic Sea region have at present time been (partly) implemented by Denmark, Sweden and Germany. Design-based sampling was first introduced in the observer programs, by the three MS and the development of the programs has been time consuming and needed to be adjusted over time. Denmark and Sweden introduced design–based sampling program in the at-shore sampling program in 2014. Each of those three MS applied slightly different solutions regarding the design and practical implementation such as draw-list, stratification and effort allocation ranking system. Some of these differences are reflecting the organisation pattern as well as the ability to target the landings and vessels within the MS, however, in all cases sampling is based on statistical principles of random sample selections and documentation. The most important elements of design-based sampling are documentation of design, implementation, a random drawlist, relevant stratification, recording of refusal rate, methods to handle data gaps etc.,

Poland, Lithuania and Estonia have made some preparatory steps to implement the design-based sampling in the near future. Latvia and Finland, due to the characteristic of their fisheries, do not consider changes to their current sampling designs.

For those MS which plan to implement design-based sampling schemes, Denmark and Germany offered to share its experience on that field, with an option of visiting relevant Institutes to see the way system works and is operated.

5.4 Bilateral and multilateral agreements in place

The RCM Baltic reviewed the list of bilateral and multilateral agreements currently in force in the Baltic region. Although some of the bilateral agreements between the Baltic MS are under the revision process, there were no changes to both the number and scope of those agreements as compared to previous years.

Following the recommendation of the RCM Baltic 2011 on procedures to be applied in order to identify where bilateral agreements on sampling of foreign landings have to be set up, addressed by LM8 and secondly by STECF EWG 11-19 (STECF-12-02) and subsequently agreed on, the RCM Baltic performed an analysis aimed to determine if a new bilateral agreements are needed, based on landing data from 2012-2014 (from FishFrame) and applying following, previously agreed criteria:

- *that the 200 tonnes limit exemption rule (2010/93/EU B2.1.5) is applied also for foreign landings;*
- *that species where less than 5% of a Member State's total landings are landed abroad are excluded (corresponding to the application of 1639/2001);*
- *that if the No. of samples according the old DCR (1639/2001appendix XV) are 3 or less, there is no need for sampling of the landings by the landing country and can instead be sampled by the flag country. Also, in these cases no formal agreement needs to be set up.*

An overview giving the landings abroad of cod, herring and sprat for 2012 - 2014 is given in table 5.1

The Member States for whom the above table indicates that a bilateral agreement shall be set are invited to enter into appropriate arrangements to establish such agreements in order to secure sufficient sampling level satisfying the needs of the end-users.

With regard to landings from cod stocks in the Baltic in 2012 – 2014 table 5.1 does not provide the split between western and eastern cod stock and, therefore, in order to determine if the bilateral agreements are required MS concerned shall perform further analysis of 2012 – 2014 landings by respective cod stock.

Table 5.1 Overview of 2012-2014 average annual national landings and landings abroad exceeding 200t, by country (Source: RDB FishFrame)

Flag Country	Land Country	Stock	2012-2014 Avg. landings abroad (tonnes)	2012-2014 Avg. total Landings (abroad + national) tonnes	% Abroad	Bilateral suggested	Bilateral already in place?	NOTE!
DNK	POL	cod-2224	225	7,702	2.93%			no need for sampling (as only 3 or less samples would be required)
DNK	SWE	cod-2224	651	7,702	8.45%	YES	NO	
DNK	POL	cod-2532	2,351	7,846	29.96%	YES	NO	
DNK	SWE	cod-2532	937	7,846	11.95%	YES	YES	
EST	POL	cod-2532	260	366	70.91%			no need for sampling (as only 3 or less samples would be required)
FIN	POL	cod-2532	642	726	88.43%			no need for sampling (as only 3 or less samples would be required)
DEU	POL	cod-2532	482	1,216	39.60%			no need for sampling (as only 3 or less samples would be required)
LVA	POL	cod-2532	1,332	2,903	45.89%	YES	NO	
DNK	SWE	her-2529+32(-GOR)	906	3,048	29.74%			no need for sampling (as only 3 or less samples would be required)
EST	LVA	her-2529+32(-GOR)	637	22,223	2.86%			no need for sampling (as only 3 or less samples would be required)
FIN	EST	her-2529+32(-GOR)	3,052	21,287	14.34%			no need for sampling (as only 3 or less samples would be required)
FIN	SWE	her-2529+32(-GOR)	1,431	21,287	6.72%			no need for sampling (as only 3 or less samples would be required)
DEU	DNK	her-2529+32(-GOR)	1,267	1,354	93.57%			no need for sampling (as only 3 or less samples would be required)
LTU	DNK	her-2529+32(-GOR)	1,598	2,338	68.35%			no need for sampling (as only 3 or less samples would be required)
LTU	LVA	her-2529+32(-GOR)	260	2,338	11.14%			no need for sampling (as only 3 or less samples would be required)
POL	DNK	her-2529+32(-GOR)	904	23,667	3.82%			no need for sampling (as only 3 or less samples would be required)
POL	LVA	her-2529+32(-GOR)	322	23,667	1.36%			no need for sampling (as only 3 or less samples would be required)
POL	SWE	her-2529+32(-GOR)	374	23,667	1.58%			no need for sampling (as only 3 or less samples would be required)
SWE	DNK	her-2529+32(-GOR)	13,493	29,618	45.56%	YES	YES	
FIN	EST	her-30	703	96,997	0.72%			no need for sampling (as only 3 or less samples would be required)
FIN	SWE	her-30	24,384	96,997	25.10%	YES	YES	
SWE	DNK	her-30	1,282	9,997	12.82%			no need for sampling (as only 3 or less samples would be required)
DEU	DNK	her-3a22	280	12,056	2.32%			no need for sampling (as only 3 or less samples would be required)
SWE	DNK	her-3a22	376	2,496	15.08%			no need for sampling (as only 3 or less samples would be required)
DNK	SWE	spr-2232	210	23,756	0.88%			no need for sampling (as only 3 or less samples would be required)
FIN	EST	spr-2232	3,880	10,615	36.55%	YES	NO	Estonia has sampled Finnish vessels without formal agreement.

FIN	SWE	spr-2232	1,429	10,615	13.46%			no need for sampling (as only 3 or less samples would be required)
DEU	DNK	spr-2232	9,432	10,564	89.28%	YES	YES	
DEU	SWE	spr-2232	351	10,564	3.33%			no need for sampling (as only 3 or less samples would be required)
LVA	DNK	spr-2232	225	31,596	0.71%			no need for sampling (as only 3 or less samples would be required)
LTU	DNK	spr-2232	8,710	10,418	83.60%	YES	NO	
LTU	EST	spr-2232	310	10,418	2.98%			no need for sampling (as only 3 or less samples would be required)
LTU	LVA	spr-2232	982	10,418	9.43%			no need for sampling (as only 3 or less samples would be required)
POL	DNK	spr-2232	13,629	67,195	20.28%	YES	YES	
POL	LVA	spr-2232	1,774	67,195	2.64%			no need for sampling (as only 3 or less samples would be required)
POL	SWE	spr-2232	4,859	67,195	7.23%	YES	YES	
SWE	DNK	spr-2232	25,685	47,819	53.71%	YES	YES	

5.5 Areas and topics where there is a need for intra-institute intersessional work

The RCM Baltic discussed in response to ToR 3g various needs and aspects relevant for facilitating future work of the RCMs/RCGs. Future tasks do not differ much from the current tasks.

Structure of RCGs

Converting RCMs to RCGs has been subject of many discussions over the last years in various groups. The common idea is that the RCGs will work as a process rather than a meeting once a year, although the meetings are crucial for the success of the coordination process. In the future, one annual meeting (or more when required) of the RCGs is foreseen to address the four main topics listed above, including identifying, distributing and steering the work in support of the coordination tasks, such as developments of the regional database, updating reference lists and development and implementation of sampling procedures. The work in support of the coordinating tasks will be done intersessionally throughout the year either in structured and formalised subgroups like the current Steering Committee for the Regional Databases or on a more temporal basis to address ad hoc issues. A data preparation group prior to the main meeting(s) is needed as well, to compile, to quality check and prepare the data needed for analysis during the RCG, thus limiting the time needed at the RCG for manipulating the data. The annual meeting also details proposals for task sharing between MS to fulfil the commitments of a regional sampling plan. These proposals can then be discussed, refined when needed and agreed upon during a dedicated 2nd meeting by the NCs.

The RCM Baltic expressed a short term need to identify persons within the national institutes that can support the coordination process by addressing specific issues. This list can also be used in the future to establish dedicated groups to cover certain subjects. Moreover, certain issues might require specific expertise and the RCGs may have the opportunity to employ expert panels to address certain issues e.g. quality audit on MS sampling schemes. In other cases, individual institutes might be requested to address a specific issue. This need implies that the RCG need commitment by MS to allocate certain tasks to (groups of) persons. This also requires the commitment of national institutes to the RCG processes by providing and facilitating the experts to carry out their tasks during the year, rather than during one meeting a year. Working procedures and subsequent responsibilities differ for each MS, and it is suggested that the RCM chairs liaise with the EFARO board to discuss this issue and to prepare the ground for commitment to future tasks.

Issues that are common for all RCGs should be addressed on a supra regional level, ensuring efficient use of resources and uniform development of tools, reference lists and sampling designs. To enhance this process, intersessional cooperation between the RCG chairs is needed, as well as the establishment of supra regional subgroups when addressing these issues. Aligning the annual workplan for the RCGs shall be done by the RCGs chairs.

6. Analysis of RDB 2014 data

6.1 Status of the Regional Data Base (RDB)

Harbour codes
This year only LOCODE should be used for harbour codes. LOCODE is a 5 alphanumeric code (typically only alphabetic characters) where the first 2 is the ISO country code and the last 3 is the harbour code. The LOCODE reference list is the Code-location under the EC's Master Data Register, the current version is Code-locatioon-v1.7.xls, https://circabc.europa.eu/faces/jsp/extension/wai/navigation/container.jsp?FormPrincipal:_idcl=FormPrincipal:libraryContentList:pager&page=1&FormPrincipal_SUBMIT=1&org.apache.myfaces.trinidad.faces.STATE=DUMMY . ICES has updated all existing LOCODE with correct harbour name (Gr+ñs+Â to Gräsö)

Added missing LOCODE
Automatically found the correct LOCODE where there was a match on the harbour and updated to LOCODE. Deleted 1768 none-LOCODE harbours.There is still some harbour codes which have not been substituted with LOCODE, when an obvious LOCODE harbour have not been identified. It the coming time ICES will contact countries, which will be asked to map the outstanding harbour codes to LOCODE codes. ICES will then make the final update.

Metier acceptance per area
This year the only specific metiers were allowed depending on the area. ICES received a matrix of valid metiers and fishing grounds. ICES then changed from the previous metier check to a tailored metier check where each metier is checked based on the area. If a country have a metier, which is not accepted, it should be tried to find a substituting valid metier from the list send with the data call. If that is not possible the country should take contact to the RCM chair who maybe together with experts should be able to advice on what metier to use or if the metier need to be allowed, in such case ICES should contacted for adding the new valid metier.

Data exchange format document
A new version of the RDB exchange format document has been send out and it is available on the RDB website, http://www.ices.dk/marine-data/data-portals/Pages/RDB-FishFrame.aspx , and in the RDB. It is not a new exchange format, it is the same data exchange format, but the document have been made simpler, references have been corrected and updated, and the document have been made consistent with the existing checks.

Data Policy document
Before last year's RCM an updated version of the Data Policy document for the RDB was sent to all national correspondents for acceptance and support. All countries except France accepted and supported the Data Policy document and a few countries had comments or questions. Since last year ICES have compiled all comments and questions and the SCRDB have given answers, which was send to all countries.

At the National Correspondent meeting in Brussels the 25th March 2015 the European Commission (EC) informed all Member States (MS) that the Commission sees the Data Policy as an important and the EC lawyers agreed in the content of the document. Therefore, the Commission encouraged all MS to sign in for it - including France.

EC feasibility study on storage and transmission
The EC's feasibility study on "Scientific data storage and transmission under the 2014-2020 Data Collection Multi-Annual Programme (DC-MAP)" concluded that the majority supported scenario 4 referred to as "Fisheries data hub", which is a structure not so far from the structure today, with data uploads to the RDB at ICES, see the figure 6.4 below. However, with indications of in the future to have a more streamlined data flow.

Figure 8. Scenario 4: "Fisheries data hub"

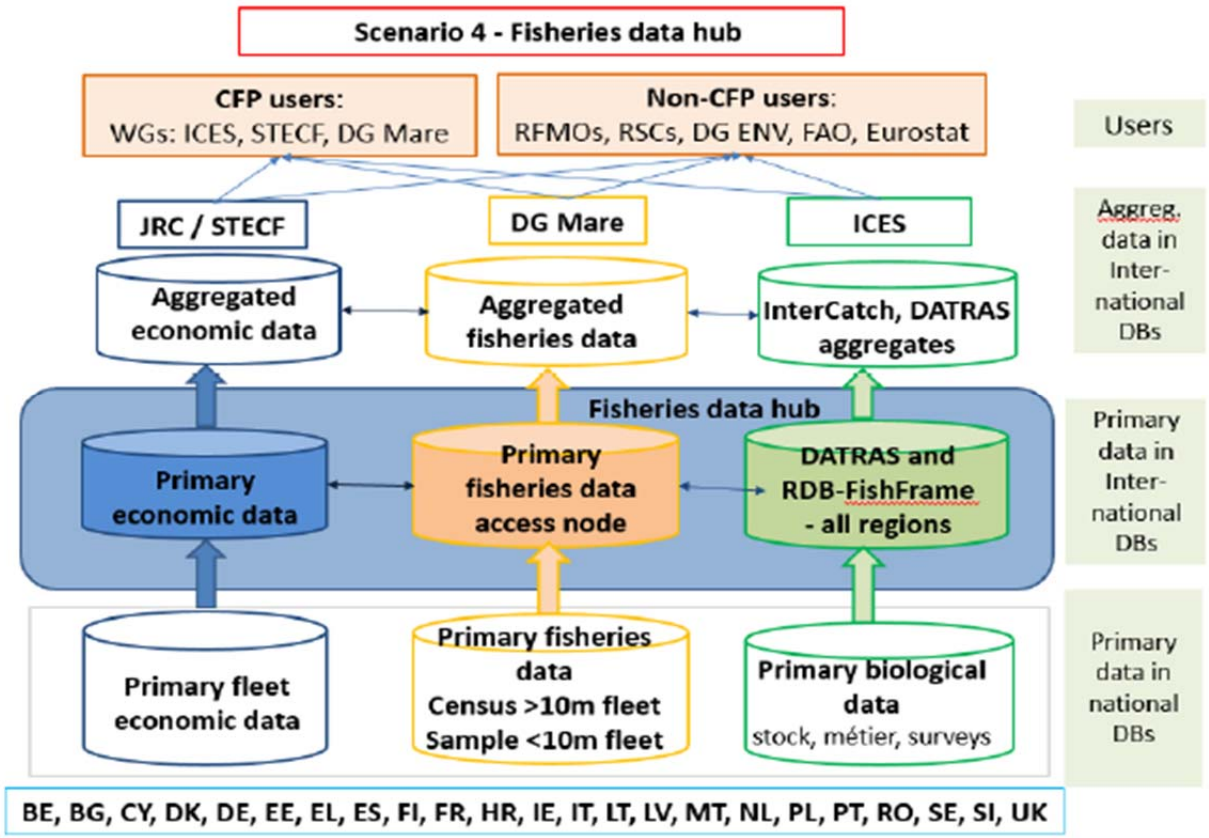


Figure 6.4 showing the preferred scenario 4 – Fisheries data hub

The RDB strategy

There are many benefits of having a central system like the RDB; common quality check also across countries, standardised methods to raise/estimate fisheries data, efficient standardised reports and analysis. Looking at the raising/estimation methods it is essential to only be able to raise/estimate data with approved and documented standardised methods, and it is also essential to be able to document all data processing steps. The move towards using statistical sound raising methods is ongoing in the fishPi project, WKRDB and WGCATCH. The starting point has been the R methods in the R survey. When the method have been approved and finalised, the most cost effective way to use these methods is to include the methods directly into the RDB using version control. Using standardised raising methods is one thing. But it is also essential that the national institutes after uploads and estimations can extract the data from the RDB, so they can verify the uploaded data and follow the data through the processing steps. In the figure 6.5 below the future RDB system structure is shown.

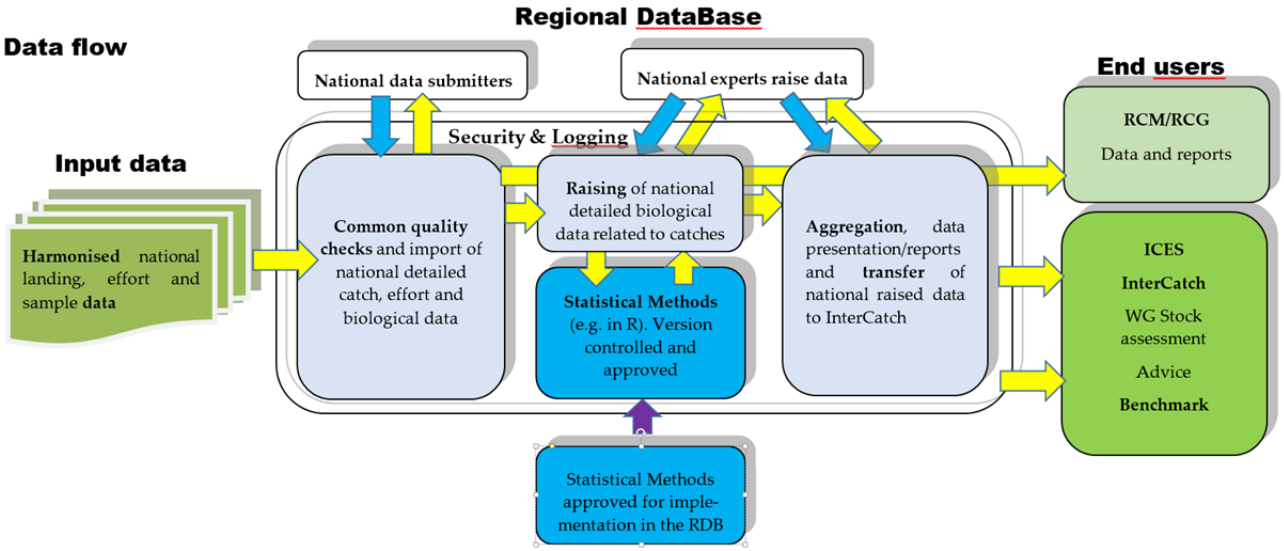


Figure 6.5 of the future RDB system structure

ICES one time funding of development of the RDB
The RDB improves the data quality, ensures standardised raising methods and documentation. It is therefore very important that there is funding for development of the RDB, so the RDB is able to adapt to new demands and there is progress. The Commission has so far not funded developments of the RDB hosted by ICES. But in September 2014 the ICES council delegates approved a one time development of the RDB for 91 000 EUR, because ICES sees the need for development. The focus has been on new analysis reports.

RDB funding in the future
The RDB have for several years been the essential system for data for analysis for the RCM Baltic Sea, RCM North Sea & Eastern Arctic and RCM North Atlantic, and it can support the Member states in raising national data and answering data calls. The RCMs depend on the RDB, and the data for stock assessment and advice to the Commission also depend on data quality, standardised proven raising methods and documentation, it is therefore difficult to understand that the Commission is financially supporting developments of the RDB.

The RDB is a large and complex system with a large relational database behind it and complex data manipulations, algorithms and methods. The RDB is the most cost efficient way to work with all the data from all the countries because the heavy raising processing and processes for all data is more or less the same. Since the environment around the RDB is continuously changing with new needs and demands, it is essential that there is funding for development.

The most optimal and cost efficient way of funding RDB development would be to include RDB development in the existing Memorandum of Understanding (MoU) agreement about the RDB between the Commission and ICES. This will ensure qualified resources, which would be able to implement new needs and demands, in the most cost efficient, safe and successful way. It would not be a sustainable approach not to have a longer term funding for development of a system like the RDB. If developments have to be funded by studies/projects, there would first of all be a long time delay from a need is identified to a call for tender, to a project proposal, to acceptance, to project start and finally the implementation. This approach administratively very burdensome and not cost efficient.

In addition external experts without in depth knowledge of the RDB would have to be hired on short term contacts. It would reqiere a steep and long learning curve of the large and complex RDB system. Such a scenario is not cost efficient and would not benefit any parties. Therefore it is recommended that development of the RDB is included in the MoU between the Commission and ICES. It would also seem natural that the Commission is interested in progress and stabile development of the RDB, especially after the conclusions drawn from the feasibility study on storage and transmission.

The RCM Baltic 2015 would like to stress that a Regional Data Base is a crutial and essential tool for the regional coordination and cooperation data collection. Further, that the Regional Data Base is a prerequisite for successful regional data collection, for providing quality assured data that are processed transparently using agreed methods for the use in the scientific advice processes for the support of the management of the Common Fisheries Policy.

6.2 Response of the data call

Following the data call from 18th of June 2015 coordinated by the chairs of the RCM Baltic, RCM North Sea and Eastern Arctic and RCM North Atlantic all Baltic Sea countries were requested to upload 2014 data to the RDB FishFrame. The data call included only data from 2014 for all species and for all métiers. To ensure that existing data in the RDB until 2013 were complete, all MS were also instructed to check that all species, and not only the major species, had been uploaded in response to earlier data calls.

Data uploaded to the RDB (by 23/08/2015) for 2009-2014 from the Baltic region are presented in tables 6.1 - 6.4. In the tables, information on RDB record used is included.

Table 6.1 Number of records (CL) in the commercial landing statistics by flag country and data year (in the RDB per 23/08/2015).

Number of landings records held on the RDB as of the 23/8 2015	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Denmark	2009	2010	2011	2012	2013	2014
Estonia	31855	28651	27620	26343	24503	28136
Finland	641	3904	4010	15639	18422	20526
Germany	1196	1179	1182	1185	1163	6187
Latvia	16699	14613	14511	15353	13409	14287
Lithuania	3632	2507	2579	2454	2522	3853
Poland	187	131	374	479	507	686
Sweden	8244	7773	9557	11009	11249	12010
Grand Total	**86497**	**78117**	**77129**	**88144**	**90977**	**101340**

Table 6.2 Number of species in commercial landings statistics (CL records) per flag country and data year (in the RDB per 23/08/2015).

Number species in the landings statistics per country (vessel flag)	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Denmark	49	55	47	51	54	53
Estonia	28	38	40	33	38	35
Finland	21	21	21	21	21	21
Germany	43	43	40	45	46	45
Latvia	30	12	12	12	12	34
Lithuania	12	11	13	27	12	25
Poland	36	38	36	34	36	34
Sweden	49	48	47	42	42	45
Grand Total	**268**	**266**	**257**	**265**	**261**	**292**

Table 6.3 Number of species in the commercial samplings (HH and HL records) per flag country, catch category and data year (in the RDB 23/08/2015).

Number species in the length sampling statistics per country (vessel flag)	Catch category	2009	2010	2011	2012	2013	2014
Denmark	Landing	25	27	20	22	19	18
	Discard	31	38	30	23	24	35
Estonia	Landing	5	12	19	30	32	43
	Discard	-	-	-	-	-	-
Finland	Landing	12	9	8	29	29	30
	Discard	13	6	5	24	22	21
Germany	Landing	22	15	17	19	23	24
	Discard	23	27	22	25	25	24
Latvia	Landing	4	4	10	11	9	9
	Discard	2	4	15	10	12	15
Lithuania	Landing	3	4	4	4	5	6
	Discard	2	1	2	2	7	14
Poland	Landing	19	18	22	36	32	36
	Discard	23	21	36	34	36	39
Sweden	Landing	13	18	19	16	14	20
	Discard	22	24	20	25	28	47
Grand Total		**219**	**228**	**249**	**310**	**317**	**381**

Table 6.4 Number of species in in the commercial samplings (CA records) per flag country, catch category and data year (in the RDB 23/08/2015).

Number species in the age sampling statistics per country (vessel flag)	Catch category	2009	2010	2011	2012	2013	2014
Denmark	Landing	12	11	11	11	15	10
	Discard	6	8	9	8	8	9
Estonia	Landing	5	12	19	30	32	43
	Discard	-	-	-	-	-	-
Finland	Landing	6	7	7	8	7	7
	Discard	1	5	3	3	5	4
Germany	Landing	8	8	7	9	9	8
	Discard	5	8	7	8	7	7
Latvia	Landing	4	4	9	10	10	8
	Discard	2	1	2	2	2	6
Lithuania	Landing	3	4	4	4	4	5
	Discard	2	1	2	2	2	4
Poland	Landing	8	11	11	12	14	16
	Discard	5	7	10	11	9	13
Sweden	Landing	3	4	3	3	3	4
	Discard	2	2	1	2	2	2
Grand Total		**72**	**93**	**105**	**123**	**129**	**146**

Overall the response to the data call can be described as satisfactory. Even though a few of the MS, due to various reasons, have notified that they have not been able to upload parts of their data sets. E.g. Sweden has yet to upload the complete biological sampling of salmon and eel.

There are also cases where data have been uploaded successfully, but probable not according to the current protocol. To be able to compile information on these issues further comparative analysis has to be carried out. However, a brief summary like this can also be very helpful.

Having knowledge of the status of available data is crucial e.g. for auditing purposes, for quality control and for determination of usage of data. It also allows users, within reasons, to account for missing data in their estimates or reports. Therefore, RCM Baltic 2013 recommended that a system for administering and recording uploaded data and a facility to provide a clear reference for data users on how complete the data is should be developed in the RDB. The RCM Baltic 2014 and also the RCM Baltic 2015 reiterates this recommendation.

RCM Baltic 2015 also stresses for the further work and development of the RCMs (or RCGs) that it is a prerequisite to have access to complete data sets on a regional level, preferable in the RDB maintained by the ICES Secretariat. See agreement below.

Agreement	
Quality assurance – Upload of historical data to RDB FishFrame	
RCM Baltic 2015 Agreement	The RCM Baltic agrees on a repetitive data call demanding all MS to ensure that all historical data (including data on salmon and eel) for the period 2009-2014 are uploaded to the RDB hosted by ICES.
Justification	A complete and easily accessible regional data set is crucial for the progress of a statistical sound sampling design in the data collection at a regional level.
Follow-up actions needed	Data call to all MS via NC Uploading of missing data by all MS
Responsible persons for follow-up actions	RCM Baltic chair to send out data call.
Time frame (Deadline)	1st February 2016
LM comments	

The RCM Baltic 2015 takes the opportunity to once again acknowledge the ICES Secretariat as the ultimate RDB manager. In the management one crucial thing is that it includes development and implementation of new methods and functionalities in the RDB in close interaction with end-users (RCMs and e.g. ICES assessment working groups). In this context, the RCM Baltic also wants to thank the ICES Secretariat. The communication during the uploading process was a fast as usual and all MS appreciates the support including helpful suggestions that they received when encountering problems.

The accessibility to data prior to the meeting resulted in that the meeting time could again be used even more effectively and some of the analyses in this section were already produced prior to the meeting thanks to standard outputs and to some extent recently pre-produced reports.

Clear progress in data availability to the RCM has been achieved since the FishFrame evolved into a RDB. However, the regional work would progress even faster if there were additional standard outputs including pre-produced reports, tables and graphs in the RDB. Hence, Baltic RCM 2015 reiterates its recommendation from 2014 that the RCM work will benefit immensely if the meeting can focus on the discussions and the decisions that are needed, instead of producing the standardised

result tables and result graphs. Even if the adoption of the RDB considerably has improved, a substantial part of the RCM time is still spent compiling data and correcting errors.

The list of possible outputs that are considered beneficial for future work that RCM Baltic compiled in 2013 (see Section 6.72 in 2013-report) is still valid. The RDB is discussed more in detail in section 6.7.

Last, since RCM Baltic 2015 only presents a small part of data currently uploaded to the RDB mainly general conclusions have been possible to draw from the data call response.

6.3 Métier-related sampling

6.3.1 Ranking of métiers

Due to the delay in the legislation process related to the revision of the DCF, the COM and MS has agreed to roll-over the last approved NPs from the period 2011-2013 to the new period 2014-2016 in order to avoid a legal vacuum in the data collection.

Bearing this in mind, there is not yet any real requirement for a detailed discussion on coordination of NPs at the regional level the coming year. However, in order to check if the fisheries in 2014 had a similar pattern as in previous years or whether there had been significant changes, the group continued performing a general overview of fishing activities in the Baltic Sea based on the ranking of métiers at national and at regional level. Even though the RCM Baltic hold on to that current métier related sampling is not the best approach for the stock assessment work due to various reasons.

First the ranking of métiers was done by using commercial landing statistics data on effort (days at sea), landings and values for 2014 from the RDB (per 23/08/2015). This ranking was then compared with the ranking based on the NP-s 2011-2013. Still, it was not expected that the outcome of the two ranking methods would be identical. Instead differences between the 2014 data uploaded to the RDB and the reference period applied in the NPs 2011-2013 was expected, since they are based on different years.

When studying the ranking, it is wise to be aware of that effort data from the small-scale fisheries (i.e. vessels not obliged carrying EU-logbook) is collected in multiple ways in the region depending on the strategy of each MS. Therefore, effort data might not be comparable inbetween all métiers.

Results from the ranking exercises are presented in Annex 2. The ranking according to 2014 data for SD 22-24 are presented in tables 1, 3 and 5 and for SD 25-32 in tables 7, 9 and 11. Results from the ranking based on NPs 2011-2013 are found in tables 2, 4 and 6 (SD 22-24) and in tables 8, 10 and 12 (SD 25-32). The results from these exercises are presented both at a national and a regional level.

In SD 22-24, a total of 70 different métiers have been identified for 2014 and only 36 of them (51%) are covered by regional ranking. In SD 25-32, a total of 85 different métiers have been identified for 2014 and only 28 of them (33%) are covered by regional ranking. Hence, a regional approach in sampling design will require major changes in the sampling set-up for most MS.

In tables 13 and 14 in Annex 2, a comparison between the two ranking methods at the regional level is presented. Here, métiers highlighted in grey are those that were ranked regionally according to the RDB FishFrame data for 2014. As can be seen, there are some important métiers (e. g. OTB, OTM in SD 22-24 or PTB, GNS in SD 25-32) that are selected for sampling at national level, but that are not covered by the regional ranking method.

Additionally, the RCM Baltic performed a comparison of métier rankings for the top ten métiers (in SD 22-24 and in SD 25-32) selected on the basis of 2014 data for effort, landings and value in order to check if there were any substantial fluctuations in ranking positions of the top métiers over the period 2011-2013. The results presented in tables 15-20 in Annex 2, show that, in general, the five top métiers selected in 2014 were also top métiers in 2011 - 2013. The very top métier selected in 2014 for landings, effort and values were also the top métier in 2013.

Based on the above analysis of the most recent métier ranking at the regional level compared with the métiers selected for sampling in the NPs 2011-2014, the RCM Baltic is of the opinion that there is currently no need for changes or amendments to the NPs for 2014-2016 in the Baltic region. Unless the individual MS concerned decides otherwise, based on its own analysis of MS’s métiers ranking procedure.

Issues on quality insurance have again been discussed by RCM Baltic 2015 and are dealt with in section 5.2 (data quality).

6.3.2 Updated métier list

RCM Baltic 2015 compiled a new version of the region's metiér list, see Annex 3.

The aim of the compilation was to ensure that all métiers in the updated version would be unique at a regional level.

The updated version of the métier list was presented in plenary and RCM Baltic decided that all MS should take it back home and double check that the new minimized métier list comprises all national métiers. Further all MS should check that the updated version of the métier list is compatible with their national databases. RCM Baltic 2015 chair will collect the requested information through e-mail correspondence.

6.4 Stock-related sampling

6.4.1 Ranking of species

Additionally RCM Baltic 2015 did a ranking of all species by using commercial landing statistics data from RDB FishFrame (per 23/08/2015). A weakness in the analysis might be that not all MS have uploaded landings for all species to the RDB.

This ranking exercise, that RCM Baltic performed for the first time, was first done for total landings (in tonnes) and secondly for total value (in thousand €). See Annex 4, table 1 and 2. Note that not all countries have uploaded landings values or the true values of the landings.

RCM Baltic 2015 then compared the species ranking list with Annex VII in COM DEC 2010/93/EU where a list of Biological variables with stock sampling specification is presented for each region. The text table below shows the species in the Baltic region that are included in the list of stocks in the DCF annex VII and whether the species is included in the MoU between the Commission and ICES and whether a TAC is set.

Species	DCF Annex VII	ICES MoU	TACs & Quotas
European Eel	X	X	
Herring	X	X	X
Common Whitefish	X		
Pike	X		
Cod	X	X	X
Dab	X	X	
Perch	X		
Flounder	X	X	
Plaice	X		X
Turbot	X	X	
Salmon	X	X	X
Sea trout	X	X	
Pike-perch	X		
Brill	X		
Sprat	X	X	X

The main outcomes of this comparison were that several important species in the region are not included in the Baltic Sea section. Hence, these have not obliged to sample under DCF. Therefore, RCM Baltic 2015 recommends the following species (stocks) should be included for biological sampling in the future legislation:

- Vendance *Coregonus albula*
- Smelt *Osmerus eperlanus*
- Whiting *Merlangius merlangus*

RCM Baltic 2015 further recommends that the following species (stocks) should be removed:

- Pike *Esox Lucius*

By adding vendance and smelt, which are important for the fisheries in the northern part of the Baltic Sea, the present southern focus in the Baltic region will shift to a true regional focus instead, since these species are important at the regional level too.

RCM Baltic 2015. Sampling of species	
RCM Baltic 2015 Recommendation 1	The RCM Baltic recommends that the species list given in Annex VII in COM DEC 2010/93/EU for the Baltic region for the new DC-MAP is revised. Pike (*Esox lucius)* should be deleted and the stocks of the following species should be added; Vendance *(Coregonus albula)*, Smelt *(Osmerus eperlanus)* and Whiting *(Merlangius merlangus)*.
Justification	Analyses of the total landings/catches by species caought in the Baltic shows that several important species in the region are not included Annex VII in COM DEC 2010/93/EU for the Baltic region. Therefore, RCM Baltic 2015 recommends that the stock list is revised.
Follow-up actions needed	The recommendation is forwarded to the LM and the Commission.
Responsible persons for follow-up actions	The Commission
Time frame (Deadline)	To be included in the new DC-MAP

Besides, while compiling the species ranking list, duplicate names of some species were detected in the RDB and this information has been forwarded to ICES.

Further, RCM Baltic 2015 discussed briefly whether future supposed thresholds for stock sampling should be set according to present criteria or if new criteria should be established. One of the suggestions raised was to follow similar rules as has been applied for métier sampling with a cut-off for landings and value respectively. No decisions were made on at which percentage this cut-off should be set in that case.

RCM Baltic 2015 suggests that, in the future, the ranking should preferably be made for stocks instead of species.

6.4.2 Case studies – Cod, sprat and herring

The RCM Baltic 2015 compiled and compared stock-related data collected by the MS in 2012-2014. Data from the RDB (per 23/08/2015) was used.

Before presenting the results, RCM Baltic 2015 reminds of the fact that knowledge regarding the sampling design is crucial when performing analysis as discussed in Baltic RCM 2013 report (section 4.4). Besides, aiming for a standardisation of the sampling in the region might be an important objective. Also, detailed knowledge of the fishing pattern of the fleet is crucial. Another aspect is that the sampling size in some cases is low, which could have an impact on the results. Last, one should take into account the share in total landings that each of the countries has, when drawing conclusions. Unfortunately it was not possible to correct for all these factors here.

Like in 2014, following was investigated a) *length at age relationship* and b) *weight at age relationship* for the key commercial species in the Baltic (cod, sprat and herring). The data from 2014 were plotted in graphs by SD and MS to facilitate the interpretation. See Annex 5 (age-length) and Annex 5 (age-weight).

In addition, the RCM-Baltic continued exploring the *length at age relationship* of cod in SD 25 and *length at age relationship* of sprat in SD 28 more in detail by comparing the 2012-2014 data plots to try to trace any possible changes in the patterns over the period.

Conclusions from the analysis of the length-age and weight-age relationships for cod, sprat and herring:

Cod - For the *length at age relationship* there seems to be quite a high variability overall in between the MS and especially in SD 25 and SD 26. The information from SD 22 and 24, insists that the consistent differences between some countries in age interpretation decreased in the most recent data year. Age-length and age-weight relations now show an improved agreement compared to the analysis compiled by RCM Baltic 2014. Swedish data were excluded from the analysis, since national sampling scheme makes it impossible to compare the relationships directly. As pointed out earlier, one explanation for an observed discrepancy may be the different sampling approaches in the countries' NP.

Sprat – A very good agreement among all MS in all SD was observed for the *length at age relationship*. For the *weight at age relationship* the results are more variable, where e.g. data from SD 24 display a high variability. To be able to explain the results in detail, further investigations are needed.

Herring – A good agreement in the *length at age relationship* is displayed for all MS in almost all Sub-divisions. The agreement is less obvious in SD 26 and in 28. For the *weight at age relationship* the results are more variable, also here, the highest variability among the different MS is found in SD 24, 26 and 28. The variation increases in larger/older herring and decreasing sample sizes. The variation between the results in these subdivisions can be explained besides to possible different age interpretation also by the effect of population structure of herring.

Conclusions from the case studies of cod in SD 25 and sprat in SD 28:

For **cod in SD 25**, the *length at age relationship* seemed to show some higher level of agreement for the countries in 2014 data sets, particularly for age groups <5. The coherence of results for older ages was very low (Figure 6.1).

In fisheries targeting cod, the fishing pattern of the fleet in the region is believed to be relatively heterogeneous and also, the fleet uses different gear types. Besides, the heterogeneity probable holds for the sampling design. Altogether, this suggests that the validity of these results is low.

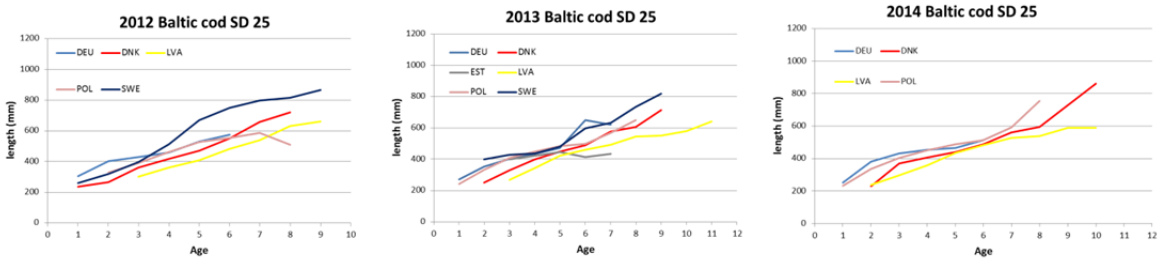


Figure 6.1. Cod in SD 25 and *length at age relationship* for 2012, 2013 and 2014 (Data from the RDB per 23/08/2015).

As has been pointed out earlier years regarding the Swedish data set, the observed discrepancy is due to differences in sampling design, where Sweden alone applies a size category stratification method. In 2014 data sets, the Swedish data were removed to account for the national sampling scheme. Sweden will, prior to RCM Baltic 2016, present an R-script written to adjust for these differences. It should though be considered whether the Swedish sampling approach should be adjusted in accordance with the recommended methods.

For **sprat in SD 28**, the good agreement for *length at age relationship* that has been seen earlier is also valid for 2014 data set (Figure 6.2).

In fisheries targeting sprat, the fleet in terms of fishing pattern and gear is believed to be more homogenous in the region in comparison with fisheries targeting cod. This probable holds for the sampling design too. If this is true, the validity of these results is high.

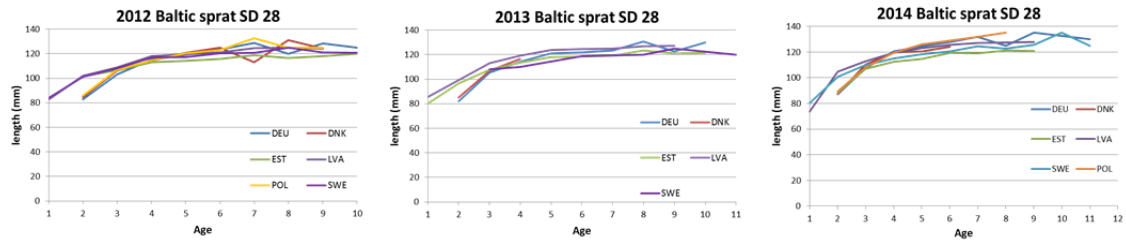


Figure 6.2. Sprat in SD 28 and *length at age relationship* for 2012, 2013 and 2014 (Data from the RDB per 23/08/2015).

The discrepancy in the interpretations of a given length as an age 0 or an age 1 is related to when the sampling has been performed. According to practice, the first otolith ring is interpreted as age 1 in samples from quarter 1 and as age 0 in samples

from quarter 4. RCM Baltic 2015 did a cross-check of the dataset to confirm that this was the case. The same pattern can be detected throughout the whole time series for both sprat and herring.

General conclusion:

RCM Baltic 2015 emphasizes that these case studies on *length at age relationship* and *weight at age relationship* are a very useful tool in the stock assessment work and this conclusion is therefore addressed to all stock coordinators.

RCM Baltic 2015. Quality assurance – length at age relationship and weight at age relationship	
RCM Baltic 2015 Recommendation 2	The RCM Baltic recommends that standard report on *length at age relationship* and *weight at age relationship* are developed in the RDB and that any sampling method is taken into account when data are aggregated over time and country.
Justification	The RCM Baltic finds it useful to have stadard table on *length at age relationship* and *weight at age relationship* when analysing data. It would be a useful tool for the stock coordinator when analysing data to be used in the stock assessment prosesses.
Follow-up actions needed	ICES Data Center has to analyse implications both in terms of cost and in terms of technicalities.
Responsible persons for follow-up actions	The RCM Baltic chair to contact the ICES Data Center
Time frame (Deadline)	Medio 2016

6.5 Landings by stock and harbour

For all Baltic small pelagic- and demersal stocks, RCM Baltic 2015 compiled landings per harbour that account for up to 95% of the total landings and a comparison of harbours that have accounted for 95% of Eastern Cod landings in years 2012-2014 (Annex 6). The outcome of this exercise will be used for intersessional work prior to RCM Baltic 2016. The first aim will be to look into the landings by stock and harbor in the Baltic region in more detail and the second aim will be to suggest possible improvements in the overall sampling scheme when moving towards a regional approach.

6.6 Sampling intensity

6.6.1 General overview

Overviews of the 2014 sampling per species for length and for weight, age, sex and maturity for SD 22-24 and SD 25-32 respectively are presented in Annex 8. Data are presented per species together with total landings (Annex 7, table 1) and per species and country (Annex 8, table 2). The overviews are based on data uploaded to the RDB per 23/08/2015.

The total number of samples in the Baltic region 2014 for these parameters is summarized below (Table 6.5).

Table 6.5. Total No of biological samples 2014 in SD 22-32 per country and grand total (in the RDB per 23/08/2015).

FlagCountry	DEU	DNK	EST	FIN	LTU	LVA	POL	SWE	Grand Total
Age	13888	8900	35087	6112	6302	15980	13891	20057	**120217**
Weight	15249	16675	64101	10505	6307	15956	13891	20471	**163155**
Sex	12129	582	40550	9469	5398	12649	13673	12709	**107159**
Maturity	14219			8120	5487	6027	12761	617	**47231**
Length	15249	16675	64104	10505	6307	16056	13891	20471	**163258**

In general the sampling activity in the Baltic region is at a high level. The overview of the uploaded data show that most countries are sampling for age, weight, sex and sexual maturity to a high extent. Note that where more samples have been collected for “Maturity” than for “Sex”, this is due to that it is difficult to sex all juveniles.

6.6.2 Data limited stocks (DLS)

In the ICES Data Limited Stocks (DLS) Guidance Report (ICES 2012) the following stocks in the Baltic region are listed as data limited:

- **Plaice** *Pleuronectes platessa* SD 21-23 (SD 21 is not in the Baltic region)
- **Plaice** *Pleuronectes platessa* SD 24-32
- **Dab** *Limanda limanda* SD 22-32
- **Turbot** *Psetta maxima* SD 22-32
- **Brill** *Scophthalmus rhombus* SD 22-32
- **Herring** *Clupea harengus* SD 31
- **Flounder** *Platichthys flesus* All stocks

RCM Baltic 2015 continued following eventual changes in the total number of length-measured individuals for the six species (plaice, dab, turbot, brill, herring and flounder) which have a DLS status in the Baltic and results for the period 2010-2014 are presented below (Figure 6.3). Data are unfortunately not compiled at stock level for Plaice. The same holds for Flounder, where the prevailing division into stocks in the Baltic has changed since 2012. The RCM-Baltic concluded that the sampling intensity in 2014 in the commercial fisheries has more or less remained at the same level as last year for all species except brill according to the output from the RDB (per 23/08/2015). However, some stocks showed a further decrease in sampling intensity, such as plaice and dab, while the number of sampled turbot increased significantly. This increase is explained by two German samples from a seasonal turbot-directed fishery in the second quarter of 2014.

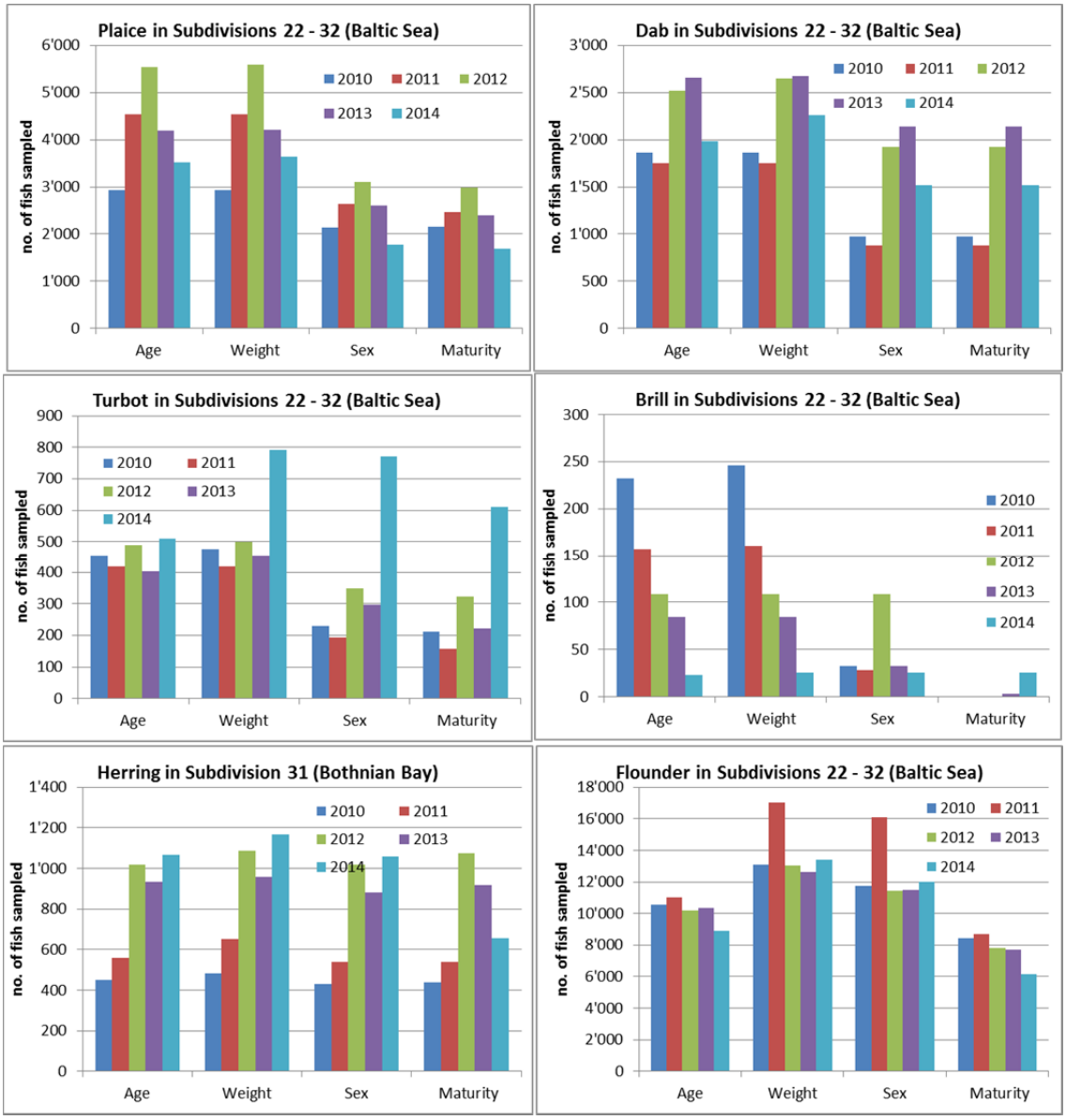


Figure 6.3. Number of length-measured individuals for the period 2010-2014 for the five species having DLS in SD 22-32 (plaice, dab, turbot, brill and flounder) and the species having DLS in SD 31 (herring). (Data from the RDB per 23/08/2015).

6.6.3 Salmon, sea trout and eel

As previously known, not all MS have been able to upload data from their biological sampling of salmon and eel. In addition other MS have uploaded incomplete datasets. In order to get an overview of the quantity of available data in the RDB, RCM Baltic 2015 continued compiling this information on salmon and eel. RCM Baltic 2015 also included information on uploaded sea trout data.

Figures on the total number of biological samples per stock 2009-2014 for these species are presented in Annex 9. In the Annex 9, the number of biological samples divided per country is also presented in a table. Note that not all MS have biological sampling of the three species in their NPs.

Current recovery plans may lead to the reduction of TACs and several fishing restrictions and therefore it may not be possible to reach a required sampling intensity in the commercial sampling in the future. RCM Baltic 2015 discussed the possibility to include additional surveys in the region (nationally or regionally) to reach a higher sampling intensity for salmon, sea trout and eel. In this context, Finland informed the RCM that their national survey intensity for Salmon in rivers will be reduced because of diminishing resources. Here, cost-sharing in the region might improve the situation.

6.7 Task sharing for biological data

Task-sharing in terms of age determination and quality improvement could be reorganized to increase efficiency, as earlier concluded by RCM Baltic 2011-2014. Present agreements including task sharing that has been concluded bi- or multi-laterally, see section 5.4. Additional task-sharing is underway.

The RCM 2015 concluded that all potential announcements of the new grants from COM intended to promote regional coordination will definitely give a possibility to enhance projects where task-sharing is included. This is because efficiency wise it is probably the best way to share e.g. age readings, instead of having in house expertise for aging all species at each institute. The data quality in different senses could also be improved if coordinating this work.

7. Proposal for task sharing and criteria for joint surveys

Like in the present legislation, the proposal of a new EU-MAP regulation (which ultimately will replace the current DCF Regulation) contains the provision on the list of mandatory surveys to be carried by MS in support of i.a. the CFP and MSFD – support to stocks assessment, ecosystem indicators, plastic contaminants and other. This proposed new regulation provides also for rules of participation in surveys, including cost sharing between MS based on the relative shares in respective stock exploitation.

There are currently six surveys in support of stock assessment conducted annually in the Baltic Sea. The group discussed the possible model for sharing the surveys costs between MS concerned, pointing out that a number of elements need to be taken into account, including, i.a:

- Stock by stock approach (with more than one stock targeted during survey),
- Relative shares in the catch possibilities (TAC),
- Relevance of the survey for MS not involved so far.

The group agreed that before setting the surveys' cost sharing model an analysis of the structure and distribution of the cost between MS regarding surveys currently conducted in the Baltic Sea is needed. The chair of the RCM Baltic has offered to collect and compile the data required for such an analysis to be performed before the RCM Baltic meeting next year.

Furthermore, before deciding on key of sharing costs related to surveys, the feedback from an end-user is required. The group decided to request ICES, through the Commission, for a confirmation on what surveys in the Baltic Sea are required to meet the ICES needs for providing advice in support of the Common Fisheries Policy.

8. Amendments needed to NP for 2016

RCM Baltic concluded that there is no need to amend the NPs in 2016.

9. Future funding mechanisms to continue strengthening regional cooperation

According the Regulation (EU) No 508/2014 of the European Parliament and of the Council article 86, under the direct management, Commission has funding available for the support of *"cooperation activities between Member States in the field of data collection, including those between the various regional stakeholders, and including the setting–up and running of regionalised databases for the storage, management and use of data which will benefit regional cooperation and improve data collection and management activities as well as improving scientific expertise in support of fisheries management"*. Therfore, it is possible for the Commission to fund initiatives suggested by the RCM/RCG's.

The RCM Baltic discussed various studies that could improve data collection and especially improve cooperation, cooordination and the quality assurance.

The following study proposals were agreed:

Study proposal on

"Development of the Regional DataBase for support of RCM/RCGs and other user"

(Priority 1)

Background:
From the European Commission there is focus on regional coordination and cooperation, and using the Regional DataBase (RDB) have huge cost-benefit advantages for the regions. However, the full potential of the RDB should be used, and this can be done by developing the needed functionalities. With focus on coordinating the sampling of all relevant species in the regions, which are using the RDB, is it essential to draw conclusions based on the comprehensive data in the RDB. Therefore it is important that the RDB fully support the needs of the RCM/RCGs. This include common harmonised quality checks and data analysis reports. Furthermore the RDB can support countries in raising/estimating national biologic data, landings and effort for further international raising in InterCatch for ICES stock assessment and advice to EC. But ensuring the right raising/estimation of the existing methods and development a new statistical method are needed to support the countries in reducing the resources spend in raising/estimating data for data calls.

Indicative budget: € 450,000

Development
The main fields for development in 2016-17 are identified by the RDB-Steering Committee and presented in no specific order of priority:

1. Development of additional reports for analysis and data tabulating to support regional coordination. (10 % of total budget)
Outputs: Specifications of reports, programming development
Development of output reports which provide:

- More advanced standard reports used by the RCM/RCGs
- Reports Overview of data status by region; data coverage;
- Overview of completeness of data uploads
- Support the planning of future regional based sampling schemes;
- Overview of potential areas for task sharing between member states.

2. Testing of trial species (12 % of total budget)
Testing of trial species from different stock assessment working groups for national raising/estimations, by borrowing age-length keys from own and/or other countries and correction of eventual issues. This should be done in two phases: Phase A: Where one or two stocks should make a comprehensive test of the system and corrections should be made. Phase B: Several representative stocks should be tested throughout the system for raising/estimation and eventually corrections should be made.
Outputs: Test plan, tests, coordination, reports, comparisons, issues, solutions, corrections

- All data submitters for the selected stocks raise data in the RDB in two phases
- Output compared and corrections made where needed in two phases

3. Extended data logging - what have been uploaded when (12 % of total budget)
Implement a functionality, which makes it possible to see down to details what have been imported when, full data auditing
Outputs: Specification of functionalities, development, implementation, test

- Identify what is the optimal solution for this. User and time stamp in relevant tables or expand the existing logging. Develop functionalities that allows countries and end-users to see all details of what have been uploaded when. As it is now it is now it is possible to see the first part of data uploaded by persons.

4. Implement quality control functionality (12 % of total budget)
Taking a starting point in the quality control checks developed under the fishPi project. Identifying the best way to incorporate the checks and implement them. The functionality will allow the users to identify differences within a country and across the countries.
Outputs: Technical report, Technical meetings/workshops covering all regions, development and implementation of methods

- All relevant checks on country level and across countries should be documented
- All relevant checks should be developed and implemented

5. Explore options and cost implications of implementing of external tools (i.e. COST) in the RDB (10% of total budget)
Outputs: Technical report, Technical Workshop(s), conceptual development
Such analysis should include the following elements:

- An inventory to collate and examine the tools present but also tools missing
- Specification of relevant issues regarding data and format
- Conceptual development of an interface to RDB

6. Requirements and automation of Data calls procedures. (12% of total Budget)
Analysis of the different data calls and identify which can be extracted directly from the RDB, but also identify which data calls can be extracted from the RDB by changes to the RDB.
Outputs: Technical report, programming development

- Analysis of the data and aggregation levels of relevant data calls
- The present data and functionalities in the RDB need to be compared with possible data calls
- Develop functionalities which automatically created potential data calls

7. Development of statistical sound raising in the RDB. (20% of total budget)
Outputs: Technical report, Technical meetings/workshops covering all regions

- Identify the consequences of implementing the new exchange format for the existing methods, processes and data flow
- Specifications of the database changes to accommodate the new exchange formats in the RDB.
- Specification of new tables and fields to store the new processed data raised with statistical methods. Specifications of incorporation of statistical methods in R into the RDB.
- Identify which additional processing functionalities are need to be developed in order to comply with statistical raising methods
- Prove of concept for inclusion of the methods in R in the RDB

8. Update of the existing roles and access module. (14 % of total budget)
Outputs: Technical report, programming development

- Specification, test, development and implementation of updated internal structures final test

RCM Baltic comments

This RDB is prerequisite and therefore highly relevant. Indispensible tool needed for coordination by RCM and RCG's. Development of tool is delayed because of lack of resources.

RCM Baltic agreement on intermidiate solution for the WebGR

WebGR is a set of Open Source web services developed within an EU tender project in 2008 to support studies of fish growth (age) and reproduction (maturity). This tool assists fisheries scientists in the organization and data analysis of calibration workshops for classification of biological structures and provides means to analyse the results of such exercises. WebGR is a set of web services, which support fisheries scientists in the organization and data analysis of calibration studies of biological parameters, and provide means to analyse the results of such exercises. These standard calibration exercises of age and maturity have been conducted among EU Members States (MS) under the Data Collection Framework umbrella and also for the routine work of age and Maturity quality assurance within a MS.

Currently WebGR 1.0 has 281 registered experts from 31 countries in Europe (6 of them on the Mediterranean coasts) and from 26 institutes. Studies using WebGR have been carried out on 41 species, across 61 workshops, resulting in 7195 images and 57412 annotations now stored on the database. The tool has not been further developed since 2010. Nevertheless, since 2010 more than 60 workshops and exchanges have used WebGR with variable success. Unanimously, the members of these expert groups saw a great potential in using this software and its tools.

Unfortunately, there has been no team of developers available to update the open source code of WebGR. Therefore, after seven years a cybersecurity auditory at the hosting institute revealed that the WebGR server was presenting a large security weakness, and concluded that the system should be shut down by the end of 2015. Presently, the service is freely provided at http://webgr.azti.es, but without any warranties in case of problems, with a high risk of data loss. It would be rather beneficial both for ICES and the users, if ICES could host the server. This would guarantee a wider dissemination of this useful tool and ensure a better site management and support. To avoid the loss of important ageing and maturity calibration exercises and to aid in greater internationalize of the system, the following "Rescue Plan" has been proposed.

Rescue Plan:
The final aim of the Rescue Plan is to have a virtual machine on a GNU/Linux Debian LAMP server with all the latest security updates and with an updated (not upgraded) WebGR server running on it. The total cost is estimated to be 5 800€ excl VAT, and the transfer will be performed by the SME created by the original developer of WebGR (Rauthe IT) with the help of AZTI and ICES IT specialists.

In any case, following the original spirit of WebGR, the code and virtual machine will be publicly available through the typical Open Source Repositories (SourceForge) in order to be used by any user.

Detailed work plan

- Update ZendFramework 1.9 to 1.12.
    - The Zend Framework is an open source, web application framework implemented in the programming language PHP 5. The update fixes security issues, bugs and performance issues of this framework.
- Update PHPIDS
    - This is an open source PHP Web Application Intrusion Detection System. The main goal is to give the ability of finding intrusion data coming from client/hacker to php web application and stop it. The update includes the latest filter description for new kinds of attacks.
- Publishing the new source code to sourceforge.com
    - Sourceforge is a platform for hosting Open Source projects like Berlios. Berlios was used for WebGR but it was closed last year, therefore, the project needs a new home for further developing.
- Making WebGR a virtual machine and deploying to the ICES server
    - Make the WebGR application work on the ICES server.
- Update Database
    - The MySQL database server have to be updated to the latest version to make the application secure. For this reason the WebGR database, with all the data, need an update to be compatible with the new database server.
- Check WebGR Source code for deprecated funtions and security issues and refractor deprecated functions
    - The source code which was written by the BLE needs to be checked, whether old and outdated functions from PHP (because the new Version 5.4 of PHP will be used) or the ZendFramework are to be used. If so, the functions have to be replaced or rewritten.
- Testing the new version
    - A check of all functions of the WebGR UI; whether they work as expected with all the changes and new components of the WebGR application.

RCM Baltic comments

WebGR is a tool already frequently used in quality evaluation of age reading. The RCM Baltic fully supports the rescue plan and therefore willing to finaciually to support it.

All RCM Baltic Member States, Denmark, Estonia, Finland, Germanay, Latvia, Lithuania, Poland and Sweden have agreeded financially by a miximum of € 500.00 by MS to support the needed update of the WebGR.

Study proposal for

“Further development and improvement of WebGR

(PRIORITY 2)

WebGR is a set of Open Source web services developed within an EU tender project in 2008 to support studies of fish growth (age) and reproduction (maturity). This tool assists fisheries scientists in the organization and data analysis of calibration workshops for classification of biological structures and provides means to analyse the results of such exercises. The tool has not been further developed since 2010. Nevertheless, since 2010 several workshops and exchanges have used WebGR with variable success. Unanimously, the members of these expert groups saw a great potential in using this software and its tools. However they experienced different problems while using it and at the same time had several requests on how to improve this tool and obtaining more complex outputs. This feedback highlighted the strong need for further improvement of WebGR and it is the basis for the present study proposal.

The objective is to substantially improve the software, which will amend the contribution to improve the quality of growth and reproduction studies, by guaranteeing a consistent application of age reading protocols and maturity scales, ultimately influencing fisheries management advice. Additionally, the use of this tool is not necessarily limited to age and maturity studies. In principle WebGR can be applied to all situations, where individual scientists need to discuss the interpretation of a protocol, for the identification of the status of biological material.

The desirable upgrading of WebGR is manifold. First of all, a more user-friendly interface would be beneficial both for workshop managers organizing online exercises and for participants joining them. The arrangement of a workshop is currently troublesome, consisting in more steps than actually needed, therefore a process consisting of sequential steps and a detailed error report need to be implemented. Furthermore, there is a great need for improvement of the picture uploading mechanism and to enhance exploring tools, in terms of new measuring tools. Concerning the output, the most basic features are presently implemented and the easy export procedure allows users to use the data on a standard statistical package or spreadsheet. The main aim is to develop an R package and implement a set of statistical methods. An extended statistical output will give a more complete and standardized evaluation of potential differences among readers/stagers.

Presently, the service is freely provided at http://webgr.azti.es but without any warranties in case of problems, with a high risk of data loss. It would be rather beneficial both for ICES and the users, if ICES could host the server. This would guarantee a wider dissemination of this useful tool and ensure a better site management and support. Furthermore, an offline access to the workshop is to be aimed for. This features needs to be implemented so that all individual users’ annotations will be synchronized with the server as soon as one goes online again).

The second Workshop on national age reading coordinators (WKNARC2) took place in May 2013 and embarked on the first phase through identification and debate on the more practical user interface improvements, and made an outline of a Study proposal for a full upgrading of WebGR. Subsequently, the Workshop on Statistical Analysis of Biological Calibration Studies (WKSABCAL), taking place in October 2014, will give the necessary input to the second phase (i.e. statistical output) of the improvement of WebGR.

The project objectives will be achieved over 18 months through the realization of a list of tasks classified in 5 Work-Packages (WP). WP 1: Project Management; WP 2: Development; WP 3: Statistical methods; WP 4: Training and dissemination; WP 5: Site management.

PGCCDBS strongly supports this initiative and study proposal

Indicitative Budget

€ 300,000 for a 18 months project.

RCM Baltic comments

WebGR is a tool already frequently used in quality evaluation of age reading. The tool needs to be updated and a number of bugs to be fixed and these tasks will be carried out financially supported by the MS.

Further, it is suggested that the tool is hosted, developed and maintained maintenance by an RFMO or an international scientific organization with adequate expertise like ICES. It will be an important tool in quality evaluation process expected to be implemented by RCG. The tool can be used supraregionally.

10. Landing obligation

10.1 Impact of the introduction of the landing obligation, and/or preparations for its implementation

RCM Baltic 2014 stated the following: "Under the new landing obligation, at-sea observers will monitor unwanted catches that has to be landed by the fishermen. However, there is an incentive for the fishermen to discard part or all of the unwanted catch of a trip as landing of lower-value unwanted catch is discounted from the quota of the vessel. Under these new circumstances, the at-sea observer may witness events where fishermen throw unwanted catch over board, i.e. the observer will register an illegal operation. (1) As a consequence, the level of refusal of observers by the skippers may increase. (2) Even if an observer is onboard, the sampled fishing trip may be still biased (e.g. fishing trip in another fishing ground or the fisherman will have a legal behavior although he would usually discard unwanted catch)".

As a way to build on the experience of the different member states as well as getting early warning signals if the quality of the discard data deteriorates substantially, RCM Baltic 2014 proposed a following action in order to evaluate the consequences of the landing obligation to data sampling:

All MS involved in the discard sampling of Baltic Sea cod fisheries (DK, DE, LT, LV, PL, SE) should provide RCM Baltic 2015 with short working papers, based on the experience from the sampling activities in quarter 1 and 2. The MS should assess the following aspects:

- If and how the MS has adapted the sampling program to the new management regime
- Are there changes in the access to vessels to sample catches (rejection rates)?
- Are there any indications on changes in the quality of the discard data?
- Have fishermen changed their fishing behavior? If yes, what has changed and how can we adjust and account for these changes in our sampling?

The questionnaire was circulated in summer 2015 among the countries involved and the summary of its results about running observer programmes is presented in the Annex 9. There are some indications that the reported amounts differentiate significantly of the observer estimates, being even ten times lower. In addition, one MS with big TAC has serious problems to get aboard on vessel >12 m, which with high probability will endanger the quality of the assessment.

Action to be taken: RCM Baltic expresses its concern about the uncertainity of the catches of cod in the Baltic Sea and that the present increased outtake of cod most like will increase the fishing mortality above the recommended and agreed levels. The chair of the RCM Baltic will raise the issue for the Presidency of the BALTFISH group.

10.2 Operation of at-sea observer programmes and role of scientific observers

RCM Baltic recommends that at-sea sampling needs to be maintained because discards at-sea will continue for various non TAC species and exemptions allowed under the landing obligation. Additionally the landing obligation will introduce a new category of retained discards and this fraction has to be sampled to obtain scientific data for the complete catch composition which is needed for stock assessment and advice.

Therefore, there is an urgent need to define the different parts of the catch and to modify existing sampling protocols appropriate for at-sea sampling. Database recordings and estimation process has to be changed accordingly.

The RCM Baltic underlines the importance of establishing statistically sound sampling designs for the on-board observations, and to maintain the integrity of scientific observers (no mixing with observers used for control), in order to maintaining the collection of unbiased catch data for scientific purposes. Therefore RCM Baltic reiterates that in order to remove doubts on scientific estimates, it is essential that sampled vessels do not change their behaviour when observers are on-board. This is best achieved if there is no ambiguity on the scientific role of the observer. Separating clearly the monitoring for surveillance for control, from the collection of data for scientific assessment, is the pre-condition to run a scientific observer program. If there is any doubt that the information collected by the scientific observers will be used for purposes of control and enforcement then the data will be compromised and no utilization of the information collected will be possible.

	DEN	EST	FIN	GER	LAT	LIT	POL	SWE
Running "at sea observer programme"	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Problems in running at sea observer programmes in 2015	No	No	N/A	N**	No	No	No	Yes
Type of sampling scheme (4S*/Ad hoc)	4S	Ad hoc	Ad hoc	4S	Ad hoc	Ad hoc	Ad hoc	4S***
Recording of non-response rate	Yes	No	Yes	Yes	No	Yes	No	Yes

* Statistical Sound Sampling Scheme. ** Some problems for Eastern Baltic cod. *** Not all sampling

Table 10.1. Overview showing the present status of the DCF at sea observer programme in the Baltic Sea

10.3 Quality and integrity of catch data collected by the control agencies, i.e. logbook sales notes data

The landing obligation was introduced in 2015 for the pelagic industry and for cod and salmon in the Baltic. Data from 2015 in its present state has still not been fully evaluated for scientific purposes. However, there appear to be areas were the data quality could be improved. See section 10.1

Presently there is only information on the total landings by species in the logbooks. This indicates that it is not possible to distinguish between the fraction landed below MCRS and the fraction landed above in the logbook. It is highly relevant that this fraction is recorded in the logbook and not just on the landing declaration.

For some countries it appears to be problematic receiving information on the fraction below MCRS if this fraction is not sold and therefore not on a sale note. A solution for recording the BMS fraction not sold is needed.

The preliminary results from the Baltic Sea indicate there is a discrepancy between the recorded data BMS in the landing declaration and the information from the observer trips.

Vessels under 10 meters, except for vessels fishing for cod in the Baltic where the length is 8 meter, are presently not required to fill in a logbook. For some countries information from this segment is only available from sales notes (where the MCRS landings will not be apparent when it is not sold). Therefore there is a need for more detailed information from the under 10 meter vessels. Some countries have developed a monthly fishing journal (simplified logbook), where this information could be captured.

Haul by haul data in the logbook would increase the data quality. In the Baltic Sea haul by haul information in the logbook has been required and implemented for all MS since 2015. If the MCRS fish was recorded on these logbooks this would allow more detailed information on where the main catches of BMS fish are taking place. Furthermore, haul by haul information can be used to link the logbook data with CCTV and with VMS data given a much higher resolution and quality in the data and thereby improve any discard Atlas. It would also improve the potential to 'control' the logbook data if the skippers are obliged to fill in the information by haul.

To avoid catching MCRS fish many MS have been reviewing and developing more selective gears and implementing them in different regions. However, if it is not mandatory to report this gear information in the logbook it is very hard to define the fleets and compare the catch compositions between different fleets with in a region without this information. Therefore the RCM Baltic is recommending it to be mandatory to report any selective devices.
Suggestions:

1. The below MCRS fraction in the logbook
2. Sales notes or equivalent for the none sold below MCRS fraction
3. Selective gear information in the logbook
4. Validation of the control data for the below MCRS fraction
5. Ensuring haul by haul information in the logbook

10.4 Generation of catch estimates derived from sampling programme data

Prior to 2015 the catch estimates from the commercial fisheries consist of the fraction of the catch that is landing and the estimated fraction that is discarded. Since January 2015 the entire catch of cod must be landed including the cod below the minimum conservation reference size (MCRS) of 35 cm for cod. In the Baltic Sea region, the landings estimates from 2009 and onwards are considered relatively reliable and are derived from logbooks and/or sales notes. However, the former landing information will now be merged with information from the BMS fraction.

All MS have to take the new fraction (MCRS) into account when raising the data. As an example, prior to the landing obligation the discard ratio could be calculated as: discard (estimated by observers on a trip) / total catch (landings from logbook + discard estimated by observers). Under the landing obligation, the landings from the logbook include the MCRS fraction.
Figure 10.1 shows how the discard ratio could be (wrongly) calculated. It very depends on how the MS is conducting the raising and the main message is therefore to pay attention to the new BMS fraction and make sure it has been accounted for in the calculation.

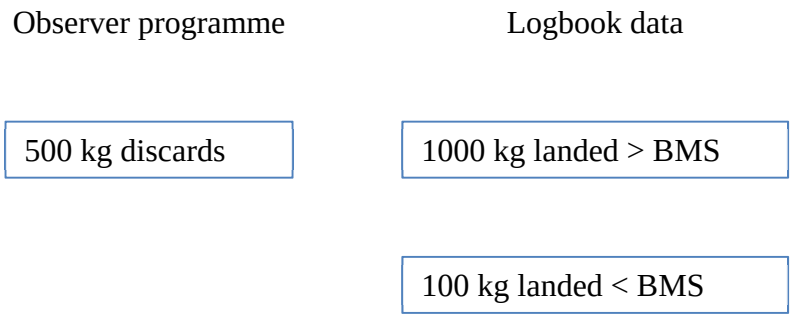


Figure 10.1: Example of data available for an observer trip from two sources (i.e. observer programme and logbook data) under the assumption that the observer is aware of the BMS fraction and the vessel is not landing all discards.

Discards / Total catch:

- CORRECT METHOD: 500 kg (discards) / 1500 kg (total catch) = 0.33
- WRONG METHOD: 500 kg (discards) / 1600 kg (total catch) = 0.31

Discards / Total landings:

- CORRECT METHOD: 500 kg (discards) / 1000 kg (total landings) = 0.5
- WRONG METHOD: 500 kg (discards) / 1100 kg (total landings) = 0.45

There are other issues to take into account such as High-grading. One example was presented on how size grade categories of cod of the landed part can be used to assess the true landing catch composition. Size grade categories of cod of selected vessels were compared before and after the installation of a camera system onboard. Once the camera was onboard, the smallest size grade category increased in the landings, or appeared at all. Figure 10.2 shows an example of size grade composition of cod before and after installing a electronic monitoring system including cameras onboard a fishing vessel. This clearly indicated that the vessel had been highgrading (i.e. discarding small, but market-size cod) before the camera was on boardinstalled.

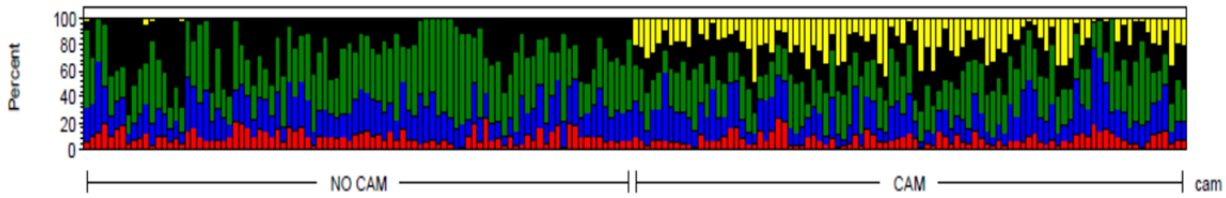


Figure 10.2 Example of size grade composition of cod before and after installing a electronic monitoring system including cameras onboard a fishing vessel. “NO CAM” is without a camera system and “CAM” is with the system. Red is sice grade 1 (largest), blue is sice grade 2, green is sice grade 3, black is sice grade 4 and yellow is sice grade 5.

RCM Baltic recommends that MS conduct similar analysis with their sampling data assessing the composition of size sorting categories of cod in the landings from trips of sampled vessels before the vessel was sampled, from the sampled trip and after the vessel was sampled. Analysis of VMS tracks and spatial pattern in fishing may provide additional information on whether or not the vessel changed its spatial fishing behavior due to an onboard observer.

In addition, the reported cod discard component of the vessel landed in the harbor (the fish landed as unwanted catch or below minimum reference size of 35 cm) could be compared with the total size distribution recorded at the observer trips. This would indicate if only a fraction of the catch has been landed. In addition, the landed size grade categories of trips before, during and after the vessel was sampled could be compared. This analysis could be prepared for cod before the next assessment working group (WGBFAS) and be presented there.

10.5 Experiences of on-shore sampling of landed discards

Since 1st January 2015 the landing obligation for the fisheries for cod, herring, sprat and salmon was introduced in the Baltic Sea. For cod this means that fish below the MCRS (cod<35 cm) have to be landed and may not be used for human consumption. It should be noted that until 2014, the minimum landing size of Baltic cod was 38 cm.

Effective implementation, including adequate compliance of the landing obligation, would imply possible considerable reduction of discard sampling at sea observer trips, especially for the cod-directed fisheries. This possible reduction in sampling effort at sea could be used to collect information/data on wanted and unwanted catch from onshore sampling. As 2015 is the first year of implementation of the landing obligation, 2015 can serve as a transitional period to evaluate the reliability of the landings of the fraction which previously was discarded at sea. This fraction could be sampled at landing site.

Preliminary observation indicate that data on the landed volumes of unwanted cod (<35 cm) obtained during at sea observers trips and “discards” landed in harbors differs significantly, in some cases by orders of magnitude. Therefore, presently the discard data obtained from harbor sampling cannot be regarded as reliable and should not be used to estimate the amount of fish caught under BMS (*Below Minimum Size*) when preparing data for stock assessment in a raising procedure. In the Baltic region most of the MS do not, for this reason, sample discards from landings in ports. Germany and Sweden are the only two countries that are doing it at the moment. It is important to note that these significant differences between the logbook data and the “true” discards can only be detected by at-sea observers, thus highlighting their role even under a landing obligation probably also in the future.

However, the sampling of unwanted catch, (i.e.”MCRS fish”, landed in harbors performed by some MS (Germany and Sweden), provides useful additional biological data, giving information on age and length distribution of this fraction of the catch.

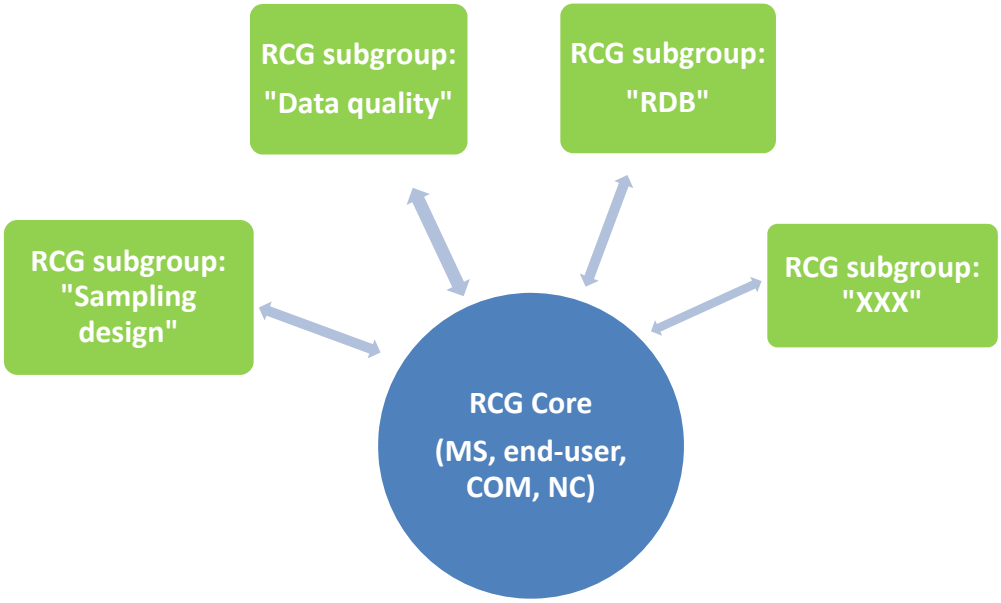
A major challenge in most MS is that there presently seems to be no straight forward way to get information on the amount of fish below MCRS that are landed from the official catch statistics (if the fish is not sold it will not appear in the sales slips, it is not always a distinction between fish above and below MCRS in the logbook). This might cause problems when sampled data is combined with official data prior to stock assessment.

At the next year’s RCM Baltic meeting discard sampling should be evaluated, based on experience gained in 2015.

11. National Administrations

11.1 Issues relating specifically to national administrations and the role of NC within the RCM/RCG context

The work conducted within RCG should aim for setting up regional sampling programs serving the end user needs. It was discussed how the RCG could be organized and following organization and responsibilities were suggested.



"RCG Core"
Responsibility:

- formulate the most important issues to tackle within the region
- set up a short term and long term plan to achieve the aims
- formulate T o R for subgroup work
- use outcome from sub-group work to improve and develop sampling programs
- suggest on regional sampling plans, co-operation and task sharing

"RCG Core" to meet once a year. The group consists of Experts from MS, end-users, the Commission and National Correpondents (NC). The NC join in the end of meeting to get information on state of play and possible take decisions. A chair should be designated for the group.

"Subgroups"
Responsibilities:

- addressed issues to be analyzed, documented and results and suggestions for solutions or way forward to be presented/ communicated with "RCG Core"

The expertise needed, or the naming on a sub group or the amount of subgroups is very much dependant on the issues that will be addressed. However, issues falling within "Sampling design", "Data quality" and "Regional database" are believed to be important in the near future and therefore statistical expertise will be needed to succeed with some of the crucial work. Other areas might be come up (e.g. work to be done for optimization of sampling) and therefore sub groups should not be fixed. Sub-group work could either be run by one institute only or by having experts from each MS contributing to the work. Physical meeting at least once a year and in addition Web based discussions and meetings are suggested for effective cooperation between MS. Chair/ work package leader to be responsible.

End user needs have to be defined:

- stocks to be sampled within the region
- other data to be sampled
- needs for surveys
- models to be used

It will be difficult to fully implement EU-MAP already in 2017. Therefore, RCM Baltic 2015 aims for a stepwise approach, where the goal is a regional sampling program. The regional plan's first step will be agreeing on methods etcetera. Here every country will be a stratum. Crucial will be to have a manual/guideline describing best practice. Case studies functioning as good example will be an important component in this work.

Furthermore, RCM Baltic 2015 agrees on that NCs should take part in the RCGs. One of the main issues for the NCs will be to take decisions on task sharing. The role of NCs is described in the regulations and more responsibility will be designated to the NCs in the new legislation. It will not be possible for the NCs to take decisions instantly on all issues in the RCGs due to that some questions have to be discussed nationally beforehand. Besides, there will be differences in between MS depending on how the national administrations are organized. RCM Baltic 2015 also discussed the needs of the Liaison meetings. Even though all regions will be able to make decisions on their own, some coordination in between the regions will be need

11.2 Harmonisation of control agency data collection, and the cross border sharing of control agency data, for vessels operating and landing outside their flag country

The European Fisheries Control Agency (EFCA) does organize operational coordination of fisheries control and inspection activities by the Member States and assists them to cooperate so as to comply with the rules of the common fisheries policy in order to ensure its effective and uniform application. Most of Member States provide fisheries control information to EFCA (transfer of information is done automatically).

In order to harmonize the monitoring of implementation of the landing obligation, MS in cooperation with EFCA have introduced a program called: "Last haul inspection" and a uniform report form has been set and is now used by control authorities in the Baltic Sea region. The purpose of this program is to get detailed information on the catch composition in the last haul of randomly selected fishing vessels during at sea inspection, in order to compare results with entries in the logbooks from previous hauls during the same fishing trip. The program of "Last haul inspection" covers both trawl and set nets fisheries.

The reports from the last haul inspections are sent by MS directly to EFCA. Analysis of data on discards volume recorded by fisheries inspectors would be very useful for the work of the RCM BS in discussion on sampling strategy. In view of the fact that information on fisheries from control agencies is difficult to obtain, direct contacts and cooperation between the RCM Baltic and EFCA could be beneficial for both parties. It was agreed that the RCM Baltic will seek cooperation with EFCA via ICES in data collection as well as data access.

11.3 Harmonisation of catch data recording e.g. metiers

There is a discrepancy between the information registered in the fishing vessel log books and the information needed to be reported under the current Data Collection Framework regarding metiers, i.e. Member States may end up in a situation where they do not have all information needed to report on a metier level. Part of the solution may be that some variables in the log book that are currently optional to fill in should instead be mandatory.

A tour de table among experts from member states during the RCM Baltic indicated that there are problems relating to reporting data on a metier level in nearly all countries present at the meeting, specifically regarding information on selection devices. Further, there are problems to report sufficient data for small scale fleets (fishing vessels below eight or ten meters which carry coastal journals), for which effort estimates can be poor. A more detailed review on harmonisation of catch data recordings in different Member States can be found in the report Scientific, Technical and Economic Committee for Fisheries (STECF) – Evaluation of Fisheries Dependent Information (STECF-15-12), 2015.

In conclusion, there is a need for harmonisation of catch data recordings, i.e. more detailed information should be reported in the log book, otherwise it is difficult to evaluate selection patterns within different metiers. The RCM Baltic concluded that either the requirements set for data level regarding metiers under the DCF needs to be lowered, or Member States should assure that all the information needed is reported in the log book.

11.4 The position of national administrations on populating the Regional Data Base according to the RCM data call with i) Landings and effort data and ii) Sampling data

During the RCM Baltic 2015 meeting, where all Baltic MS national correspondents (Germany and Poland represented by a substitute) were present, the position by each MS on submitting its "Landings and effort data" as well as "Sampling data" to the

RDB was questioned. All Baltic MS are willing to upload the data to the RBD and there is a general consensus among all Baltic MS that a RBD is a prerequisite for regional coordination and cooperation.

All Baltic Member States (Denmark, Estonia, Finland, Germnay, Latvia, Lithuania, Poland and Sweden) are willing to upload the "Landings and effort data" as well as "Sampling data" to the RBD at the present level of details. Further, all Baltic Member States would like to stress that a RBD is a prerequisite for regional coordination and cooperation.

11.5 Task sharing and task trading mechanisms within the context of a regional sampling design

The topic on task sharing and task trading mechanisms within the context of regional sampling designs was briefly discussed. The RCM Baltic found that they at the present stage were unable to come up with any plan or possible solutions. It was agreed that based on the outcome of the FishPie project a test case for the Baltic Sea region could be investigated.

12. Future multi-annual programme for data collection

12.1 List of research surveys to be carried out in the region in 2016

In relation to the revision of the DCF and the new DC-MAP a list of research surveys to be carried out is needed. In relation to this revision the EFARO (The European Fisheries and Aquaculture Research Organisation) and ICES have initiatied a process with the aim to streamline surveys and data collection. It is suggested to try to develop joint data collection plans using vessel surveys.

Therefore, until new or additional data needs or new information or more optimal use of survey effort in the Baltic Sea are available, the survey list is as given in the table below:

Survey name	Acronym	Area	Period	Main target species	Survey effort (days)
Baltic International Trawl Survey	BITS Q1 + Q4	IIIaS, IIIb-d	1 and 4 Q	Cod, demersal species	160
Baltic International Acoustic Survey	BIAS	IIIa, IIIb-d	Sep-Oct	Herring, sprat	115
Gulf of Riga Acoustic Herring Survey	GRAHS	IIId	3 Q	Herring	10
Sprat Acoustic Survey	SPRAS	IIId	May	Sprat, herring	60
Rügen Herring Larvae Survey	RHLS	IIId	March-June	Herring	50

12.2 Recreational fisheries necessary for the ICES advice

Main highlights from the 2015 EU request on data needs for monitoring of recreational fisheries
In 2015, the Commission forwarded a special request to ICES to address the following questions related to recreational fishing data needs to meet expected end-user requirements:

1. What are the drivers for the collection of recreational fishing data?
2. What recreational fishery data (biological, economic & fisheries activity) are needed to support the scientific advice?
3. How will these data be used in stock assessment and fishery management advice?
4. What spatial and temporal resolution of data is needed to support fisheries management?

The advice (ICES, 2015b) summary is as follows: ICES has identified that the main drivers for the collection of recreational fishery data are: providing advice on fishing opportunities, designing and evaluating management measures for recreational fisheries, developing fishery management plans and strategies, and supporting the development of marine spatial planning. The data needed to support the scientific advice and how these data are or could be used, are discussed for each of these drivers. The data needed depends on the type of advice and the scientific methods used in developing the advice. ICES is therefore not able to develop a generic list of recreational fishery data that would meet all needs for data in support of scientific advice. The species covered, type of data to collected, frequency of data collection, spatio-temporal resolution and target precision of recreational fishery catch estimates should be established on a regional basis with expert advice. With regards to data collected under the EU Data Collection Framework (DCF) (EU, 2008), ICES supports the process for evaluating end-user needs for data suggested by STECF (STECF, 2013) to deliver a balanced and cost-effective programme of data collection across recreational and commercial fisheries in each region.

The questions touched upon the request more relevant to RCM Baltic are number 2, 3, and 4 and brief conclusions on each of these are summarized below.

2. What recreational fishery data (biological, economic & fisheries activity) are needed to support the scientific advice?
ICES consider it important that the data to be collected are defined on a case-by-case basis. The first step in defining needs for recreational fishery data should be to document what data are available, not just those required under existing regulations, so that the relative removals and existing data gaps are identified and feed into any decisions around data collection at a regional level. The species covered, type of data to collected, frequency of data collection, spatio-temporal resolution and target precision of recreational fishery catch estimates should be established on a regional basis with expert advice from ICES. With regards to data

collected under the DCF, ICES supports the process for evaluating end-user needs for data suggested by STECF (STECF, 2013) to deliver a balanced and cost-effective programme of data collection across recreational and commercial fisheries. The core recreational fishery data needed assessing stock status to support advice on fishing opportunities are estimates of total removals (catches minus surviving released fish). If data are to be included in an analytical length- or age-based stock assessment, information on size or age compositions of catches is usually required. Recreational fishery survey data can also provide indices of relative abundance (as catch per unit of effort) for monitoring stock trends.

If an end-user needs data to help establish and evaluate the outcome of management measures (e.g. fish size limits, bag and/or gear limits), recreational fishery surveys would need to be designed to provide the size compositions for retained and released fish, and the numbers of fish retained and released per individual fishing trip.

The recreational fishery data needed for developing fisheries management plans/strategies will primarily include the catch estimates needed for advice on fishing opportunities, and the data needed for developing and evaluating management measures. When knowledge of the social and economic benefits of recreational fishing to communities is required, a common methodology for recreational and commercial fisheries is needed.

Detailed information on spatial activities of all forms of fishing activities is required to evaluate candidate marine protected areas (MPAs) or any other form of spatial management. Additional, dedicated smaller-scale surveys at higher resolution and intensity would be required depending on the precision of estimates needed.

3. How will these data be used in stock assessment and fishery management advice?
Catch options for recreational fisheries can be computed if a recreational dataseries is included in an assessment together with series of commercial data. If such a dataseries is not included in the assessment model, recent ratios of recreational to commercial catches may be used as a top-up on the forecasted commercial catch to estimate the total catch, as is done presently with discards in several stocks.

To evaluate the impact of changes in size limits for recreational fisheries, it is necessary to estimate how the fishing mortality-at-age (selection pattern) will be altered, and evaluate the impact of this on forecasts or on long-term yield and stock size. This requires information on the size composition of recreational fishery catches and the proportion released at length, and a means of converting from selection-at-length to selection-at-age. The potential effects of bag limits can be evaluated from existing recreational survey data only if numbers of fish by species retained per fisher trip are recorded for each fisher.

4. What spatial and temporal resolution of data is needed to support fisheries management?
The spatial and temporal resolution of recreational fishery surveys should be agreed on a case-by-case basis. For inclusion in stock assessment, annual estimates of recreational catches are preferable unless they are so small that imputations for missing survey years have only a small effect on the quality of assessment results and advice. In terms of spatial coverage, all recreational fisheries (e.g. rod-and-line, handlines, gillnets, pots, spearfishing, hand-picking by scuba divers) of importance for quantifying total recreational removals of the stocks concerned should be included.
ToR 10b. ICES advice on what data are necessary for scientific advice regarding recreational fisheries.

12.3 Comment on list of proposed stocks & biological variables to be included in EU MAP

RCM Baltic 2015 as presented in section 6.3.1. analysed the species ranking list with Annex VII in COM DEC 2010/93/EU where a list of Biological variables with stock sampling specification is presented for each region (see section 6.3.1).

13. Any other busines

While taking into account EU Regulation 665/2008 Article 4.2, RCM Baltic proposes to elect Uwe Krumme, Germany as the chair for 2016.

The RCM Baltic 2015 appreciated the invitation by Germnay to host the meeting in Rostock in 2016. It is suggested that timing of the RCM Baltic depends on the progress of the new DC-MAP.

In order to facilitate the common memory of the group, the following table provides an overview of the venues and chairmanship of this RCM.

Year	Venue	Chair
2004	Gdynia, Poland	Henrik Degel, Denmark
2005	Tallin, Estonia	Maris Plikshs, Latvia
2006	Lysekil, Sweden	Johan Modin, Sweden
2007	Riga, Latvia	Katja Ringdahl, Sweden
2008	Hamburg, Germany	Katja Ringdahl, Sweden
2009	Helsinki, Finland	Jukka Pönni, Finland
2010	Vilnius, Lithuania	Jukka Pönni, Finland
2011	Charlottenlund, Denmark	Jørgen Dalskov, Denmark
2012	Gdynia, Poland	Jørgen Dalskov, Denmark
2013	Tallinn, Estonia	Jørgen Dalskov, Denmark
2014	Uppsala, Sweden	Jørgen Dalskov, Denmark
2015	Riga, Latvia	Jørgen Dalskov, Denmark

13.1 Request from the Commission for the RCM's to consider the impact of the implementation of the landing obligation on the DCF data collection programmes

The Commission has asked all the RCM's to consider the impact of the implementation of the landing obligation on the DCF data collection programmes. This issue has been dealt with at numerous ICES, STECF and RCM meetings and their response can be found in reports RCM NS&EA 2014, RCM NS&EA 2013, RCM Baltic 2013, RCM Baltic 2014, RCM North Atlantic 2014, LM 2013, LM 2014, STECF 12-02, STECF 12-07, STECF 13-01, STECF 13-06, STECF 13-12, STECF 13-23, STECF 14-01, STECF 14-02, STECF 14-06, STECF 14-07.

The Commission is assuming that "under the Landing Obligation, discard data will become available for TAC species and species subject to minimum sizes (Annex III of the Mediterranean Regulation). Therefore, with the gradual phasing-in of the landing obligation, discard data may become less important. Assuming high levels of compliance with the landing obligation, the use of observers on board could then be replaced by harbour sampling for species subject to the landing obligation. Still, gaps in data may arise from the de minimis exemptions. So, there is a need to define fisheries, metiers and species falling under the de minimis exemption".

The RCM Baltic has been asked to address the following questions:

Under the discard ban, will there be a need to collect discard data?

Firstly, the landing obligation only applies to TAC species. Therefore, information on discards of non TAC species will not be available without running at-sea observer programmes and full concurrent discard data is required to answer the requirements of the DCF to provide data for ecosystem impact and MSFD assessments. Secondly, experiences in the Baltic region have shown that, since the landing obligation was implemented 1st January 2015 for cod, salmon and pelagic species, recorded catches of cod below the minimum reference size (BMS), which should be landed, are not reflected in the observed catches of BMS cod. If reliable estimates of catches are to be used when carrying out stock assessment the only solution is to continue the at-sea observer programmes, as recommended by the RCM Baltic 2014 and endorsed by the LM 2014.

Which are the fisheries, metiers and species falling under the de minimis exemption for which observers are still needed?

With the present setup for controlling the compliance of the landing obligation and with the information on the status on the landing pattern of cod in all MS aournd the Baltic, there will probably be no fisheries or species where observers programmes can be discontinued.

Is this depending on the definition of de minimis exemption: per trip, per fishery, per area, per Member State?

The definition of de minimis exemption: per trip, per fishery, per area, per Member State has no impact on whether observer programmes should be continued or discontinued. As explained above, with the present setup for controlling the compliance of the landing obligation, at-sea observers programmes need to be continued in order to get reliable catch estimates to be used for assessing stock status and providing advice for the management of the stocks, ecosystem impact and MSFD indicators.

Is on-board sampling necessary/useful/feasible for TAC species or species subject to minimum sizes (Annex III of the Mediterranean Regulation) and if not, when should it be abandoned/replaced by other type of sampling?

As mentioned above the at-sea observer programme will be needed as not all species will be subject to landing obligation and present setup for controlling the compliance of the landing obligation currently appears to be inadequate for ensuring reliable catch estimates.

Is the data on discards recorded under the Control Regulation biased?

According to the Control Regulation since 2011 it has been mandatory for fishing masters to report all discard more than 50 kg per species per trip in the logbook. Analysis of records of discards in several MS logbooks have shown that discard reporting is biased. These issues are valid for all MS fishing in the North Sea, the Skagerrak, the Kattegat and the eastern Arctic area. This provides clear evidence that discard records are biased. Information for 2015 from the Baltic region indicates that this is still an issues even though the landing obligation has been implemented for that region.

Can this bias be quantified by observer trips?

The DCF observer programme is based on a statistical sound sampling approach where the aim is to quantify the total outtake of a stock in volume and finally in catch at age. The sampling scheme is not designed to quantify bias of the catches by species recorded in the logbooks. Such a quantification needs a complete different sampling programme.

If, under the landing obligation, observers would no longer be on board, can all other data still be reliably collected: non quota species, concurrent sampling, incidental bycatch, do we not miss essential points that are perhaps not specified such as the behaviour of fishermen, do we not get out of touch with the sector?

Without observers onboard it will not be possible to collect information on the diverse nature of non-quota species if they are discarded at sea. Incidental bycatches of marine mammals and seabirds can be estimated by the use of cameras. Assessing changes on behaviour of fishermen requires multiple analysis and information from multiple sources such as detailed information on each fishing event, catch composition – all species, landing pattern by species and detailed information of gear used.

13.2 Eastern Baltic cod – needs for tagging study

Eastern Baltic cod – urgent need for known-age otoliths: RCM Baltic re-emphasized the importance to make progress in the Eastern Baltic cod issue in terms of otoliths with known age.

Another attempt to fund an international mark-recapture study on cod via the EU was not supported, partly due to the complexity of funding procedure. A potential private financier of a tagging study of Eastern Baltic cod had been approached but there is no response yet. Germany has started a tagging program of cod (external tags and internal marking of the otoliths with tetracycline; see http://www.ti.bund.de/de/of/arbeitsbereiche/forschung/lebende-meeresressourcen/altersbestimmung-und-wachstum/markierte-dorsche/) in SD22 in 2014 and is starting another one in SD24 this year. Denmark has plans to tag cod in SD25.

The Baltic MS are encouraged to also initiate national initiatives. If there is not one international cod tagging project, there could be several nationally organized and funded tagging programmes that are interlinked, partly via the RCM and intersessionally by members of the RCM.

A possible source for funding is the EMFF which could provide resources from November 2015. For more information and details on this possible funding source, please contact Jorgen Dalskov.

14. Glossary

AER	Annual Economic Report
AR	Annual Report (of activities carried out by MS under the DCF)
ACOM	Advisory Committee of ICES
ASC	Annual Science Committee
AWP	Annual Work Plan
CE	data exchange format for commercial effort data
CFP	Common Fisheries Policy
CL	data exchange format for commercial landings data
COST	toolbox for quality evaluation of fisheries data
CR	Council Resolution
CRR	ICES Cooperative Research Report
CS	data exchange format for commercial sampling data; calcified structures
CV	Coefficient of Variation
DCF	Data Collection Framework (follow up of DCR)
DC-MAP	Multi Annual Programme for Data Collection (follow up of DCF)
DCR	Data Collection Regulation
EAFM	Ecosystem Approach to Fisheries Management
EC	European Commission
EMFF	European Maritime and Fisheries Fund
EU	European Union
EUROSTAT	Directorate-General of the EC which provides statistical information to the EU
EWG	STECF Expert Working Group
FAO	Food and Agriculture Organisation of the United Nations
FishFrame	RDB software
GFCM	General fisheries Commission for the Mediterranean
IBTSWG	International Bottom Trawl Survey Working Group
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
InterCatch	ICES Database
JDP	Joint Deployment Plan
LM	Liaison Meeting
MFAQ	Most Frequently Asked Questions
MoU	Memorandum of Understanding
MRR	Master Reference Register
MS	Member State
MSFD	Marine Strategy framework Directive

NA	North Atlantic
NAFO	Northwest Atlantic Fisheries Organization
NE	North East
NEAFC	North East Atlantic Fisheries Commission
NP	National Programme (of activities carried out by MS under the DCF)
NS & EA	North Sea and East Arctic
PG	see PGCCDBS
PGCCDBS	Planning Group on Commercial Catches, Discards and Biological Sampling
PGECON	Planning Group on Economic Issues
PGMED	Mediterranean Planning Group for Methodological Development
PSU	primary sampling units
QA	Quality Assurance
QC	Quality Control
RCG	Regional Coordination Group
RCM	Regional Coordination Meeting
RDB	Regional Data Base (of the RCM)
RFMO	Regional Fisheries Management Organisation
SCIP	Specific Control and Inspection Programme
SC-RDB	Steering Committee Regional Data Base
SG	Study Group
SGABC	Study Group on Ageing Issues in Baltic Cod
SGMAB	Study Group on Multispecies Assessment in the Baltic
SGPIDS	Study Group on Practical Implementation of Discard Sampling Plans
STECF	Scientific, Technical and Economic Committee for Fisheries
TAC	Total Allowable Catch
VMS	Vessel Monitoring System, satelite based system to locate vessels
WG	working group
WGBAST	Working Group on Baltic Salmon and Trout Assessment
WGBFAS	Working Group on Baltic Fisheries Assessment
WGBIFS	Baltic International Fish Survey Working Group
WGBIOP	Proposal for new ICES Working group
WGCATCH	Proposal for new ICES Working group on commercial catches
WGEEL	Working Group on eels
WGNEW	Working Group on new MoU species
WGNSSK	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
WGRFS	Working Group on Recreational Fisheries Surveys
WGRS	Working Group on Redfish Surveys
WKACCU	Workshop on Methods to Evaluate and Estimate the Accuracy of Fisheries Data used for Assessment
WKACM-2	Second Workshop on Age Reading of Red Mullet and Striped Red Mullet

WKADS-2	Workshop on age Determination of Atlantic salmon
WKAMDEEP	Workshop on Age Estimation Methods of Deep Water Species
WKARBLUE	Workshop on the Age Reading of Blue whiting
WKARHOM	Workshop on Age Reading of Horse Mackerel, Mediterranean Horse Mackerel and Blue Jack Mackerel
WKAVSG	Workshop on age validation studies of Gadoids
WKBALFLAT	BENCHMARK WORKSHOP
WKBUT	BENCHMARK WORKSHOP
WKCELT	BENCHMARK WORKSHOP
WKDEEP	BENCHMARK WORKSHOP
WKEID	Workshop on Ecosystem Indicators of Discarding
WKESDCF	Workshop on eel and salmon DCF data
WKHAD	Benchmark Workshop on Haddock stocks
WKMATCH 2012-	Workshop for maturity staging chairs
WKMERGE	Workshop on methods for merging métiers for fishery based sampling
WKMIAS	Workshop on Micro increment daily growth in European Anchovy and Sardine
WKMSEL	Workshop on Sexual Maturity Staging of Elasmobranchs
WKMSGAD	Workshop on sexual maturity staging of cod, whiting, haddock, saithe and hake
WKMSTB	Workshop on the Sexual Maturity Staging of Turbot and Brill.
WKNARC	Workshop of National Age Readings Coordinators
WKPELA	BENCHMARK WORKSHOP
WKPICS	Workshop on practical implementation of statistical sound catch sampling programmes
WKPRECISE	Workshop on methods to evaluate and estimate the precision of fisheries data used for assessment
WKSOUTH	BENCHMARK WORKSHOP
WKSPRAT	BENCHMARK WORKSHOP
WoRMS	
WSSD	World Summit on Sustainable Development in Johannesburg
WP	Work Package

15. References

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Commission Regulation (EC) No 1078/2008 of 3 November 2008 laying down detailed rules for the implementation of Council Regulation (EC) No 861/2006 as regards the expenditure incurred by Member States for the collection and management of the basic fisheries data

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STECF 13-12 Review of DC MAP- Part 2 (EWG 13-05) EUR 26095 EN, JRC 83566

STECF-13-23 Landing obligation in EU fisheries (EWG 13-16) EUR 26330 EN, JRC 86112, 115 pp

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16. Summary of recommendations

RCM Baltic 2015. Sampling of species	
RCM Baltic 2015 Recommendation 1	The RCM Baltic recommends that the species list given in Annex VII in COM DEC 2010/93/EU for the Baltic region for the new DC-MAP is revised. Pike (*Esox lucius)* should be deleted and the following; Vendance *(Coregonus albula)*, Smelt *(Osmerus eperlanus)* and Whiting *(Merlangius merlangus)*.
Justification	Analyses of the total landings/catches by species caought in the Baltic shows that several important species in the region are not included Annex VII in COM DEC 2010/93/EU for the Baltic region. Therefore, RCM Baltic 2015 recommends the species list is revised.
Follow-up actions needed	The recommendation is forwarded to the LM and the Commission.
Responsible persons for follow-up actions	The Commission
Time frame (Deadline)	To be included in the new DC-MAP

RCM Baltic 2015. Quality assurance – length at age relationship and weight at age relationship	
RCM Baltic 2015 Recommendation 2	The RCM Baltic recommends that standard report on *length at age relationship* and *weight at age relationship* are developed in the RDB and that any sampling method is taken into account when data are aggregated over time and country.
Justification	The RCM Baltic finds it useful to have stadard table on *length at age relationship* and *weight at age relationship* when analysing data. It would be a useful tool for the stock coordinator when analysing data to be used in the stock assessment prosesses.
Follow-up actions needed	ICES Data Center has to analyse implications both in terms of cost and in terms of technicalities.
Responsible persons for follow-up actions	The RCM Baltic chair to contact the ICES Data Center
Time frame (Deadline)	Medio 2016

Agreement	
Quality assurance – Upload of historical data to RDB FishFrame	
RCM Baltic 2015 Agreement	The RCM agrees on a repetitive data call demanding all MS to ensure that all historical data (including data in salmon and eel) for the period 2009-2014 are uploaded to the RDB hosted by ICES.
Justification	A complete and easily accessible regional data set is crucial for the progress of a statistical sound sampling design in the data collection at a regional level.
Follow-up actions needed	Data call to all MS via NC Uploading of missing data by all MS
Responsible persons for follow-up actions	RCM Baltic chair to send out data call.
Time frame (Deadline)	1st February 2016
LM comments	

Annex 1. Agenda for the RCM Baltic 2015

Regional Co-ordination Meeting for the Baltic
Riga, 24 – 28 August, 2015
Fish Resources Research Department of Institute BIOR
Daugavgrivas str. 8, RIGA

Agenda (draft)

General time schedule:
Monday
14.00 - 18.00 - meeting time
16.00 – 16.30 - Coffee break

Tuesday – Thursday
09.00 – 18.00 - meeting time
10.30 – 11.00 - Coffee break
13.00 - 14.30 - Lunch
16.00 – 16.30 - Coffee break

Friday
09.00 – 13.00 - meeting time
10.30 – 11.00 - Coffee break

Work Plan

Monday, 24th August 2014
14.00 - 14.30: Plenary session:
Welcome, introduction of the participants, organization & house rules, adoption of the agenda and appointment of subgroups & rapporteurs.

14.30- 16.00: Plenary session

ToR 1:
Review progress since 2014 following up the 11th liaison meeting report. **(Introduction Jørgen)** ***(Rapporteur Susanne)***
ToR 2:
Review feedback from end users, and expert groups, to include: WGCATCH 2014 **(Introduction Romas)** , RDB SC **(Introduction Katja),** WKRDB 5 **(Introduction Ruth)**, PGDATA **(Introduction Rie)**, STECF **(Introduction Tiit)**, WKISCON2 (**Introduction Katja**), ICES **(Introduction Ruth)**, WK on transversal variables **(Introduction Katja)**, NC meetings (**Introduction The commission**). ***(All write a piece of the text for the report)***

16.00 - 16.30: Coffee break

16.00 – 18.00: Plenary session:

ToR 2: continued

Agenda point outside the ToR: Presentation of the status of the DC-MAP (Introduction Jørgen)

18.00 End of the day

Tuesday, 25th of August 2014

09.00 - 10.30: Plenary session:

ToR 7: Landing Obligation.

a) Evaluate the impact of the introduction of the landing obligation, and/or preparations for its implementation. **(Introduction Jørgen)** ***(Rapporteur Timo)***

b) The operation of at-sea observer programmes, and role of scientific observers. **(Introduction Maria)** ***(Rapporteur Georgs)***

c) Quality and integrity of catch data collected by the control agencies, i.e. logbook sales notes data. **(Introduction Rie)** ***(Rapporteur Katja)***

d) The generation of catch estimates derived from sampling programme data. **(Introduction Uwe)** ***(Rapporteur Sven)***

e) Experiences of on-shore sampling of landed discards. **(Introduction Irek)** ***(Rapporteur Tomasz)***

f) Review progress from last year's recommendation on landing obligation. **(Introduction Jørgen)** ***(Rapporteur Timo)***

10.30 - 11.00: Coffee break

11.00 – 13.00: Plenary session

ToR 7: continued

ToR 3b: Review progress in data quality screening, harmonisation of national and regional data checking procedures. **(Introduction Maria) (continue in a sub-group)**

ToR 3c: Consider the role of the sampling data format in terms of integration of sampling data collection, recording and the present and future RCM data calls. **(Introduction Katja) (continue in a sub-group)**

13.00 – 14.30: Lunch break

14:30 – 16.00: Plenary session

ToR 9: Discuss the role of metiers in sampling and estimation, as descriptors of fishing, as domains for estimation and their merging in the InterCatch, the RDB and the STECF data base and as an aide to sampling. Define how they are to be used in the future, the extent to which national and regional lists need to be harmonised and how lists are to be stored for use in a regional context. **(Introduction Katja) (continue in a sub-group)**

ToR 3d: Consider the data collection protocols for at-sea and on-shore sampling in the context of regional sampling designs and probability selection methods. **(Introduction Rie)** ***(Rapporteur Uwe)***

ToR 3e: Discuss design-based sampling: state of play of which MS are using it or plan to use it. **(Introduction Irek) (Rapporteur Tomasz)**

ToR 3f: Analyse the RCM data call for the RDB 2014 data (analysis to be done as much as possible prior to the meeting, and the type of analysis e.g. ranking of ports to sample, to be determined beforehand). **(Introduction Sven, Jukka, Maciej)**

16.00 - 16.30: Coffee break

16.30 – 18.00: Sub-group work

Establishing sub-groups

- Sub-group A: Quality control. **Sub-group chair Rie**
- Sub-group B: Sampling design, protocols, use of metiers, Data formats for future data calls. **Sub-group chair Uwe**
- Sub-group D: Data analysis – catch data. **Sub-group chair Susanne**
- Sub-group E: Data analysis – biological information. **Sub-group chair Sven**

Start of sub-group work

18.00 End of the day

Wednesday, 26th of August 2014
9.00 - 10.30: Sub-group work
Continuation of sub-group work

10.30 - 11.00: Coffee break

11.00 - 13.00: Sub-group work
Continuation of sub-group work

13.00 – 14.30: Lunch break

14.30 - 16.00: Plenary session
Presentation of the outcome of the sub-group work.

16.00 - 16.30: Coffee break

14.30 - 16.00: Sub-group work
Finalising the sub-group work.

17.00 End of the day

18:00 Social event

Thursday, 27th of August 2014
09:00 - 10.30: Plenary

ToR 6: Consider future funding mechanisms to continue strengthening regional cooperation. **(Introduction Jørgen)** ***(Rapporteur Andrei)***

ToR 3a: Consider the progress of the "strengthening regional cooperation in data collection" mare/2014/19, and possible implications. **(Introduction Katja)** ***(Rapporteur Maria)***

ToR 4: Review proposal for task sharing and criteria for joint surveys. **(Introduction Jørgen)** ***(Rapporteur Irek)***

ToR 8a: Address any issues relating specifically to national administrations and consider the role of NC within the RCM RCG context. **(Introduction Jørgen)** ***(Rapporteur Heikki)***

10.30 - 11.00: Coffee break

11.00 - 13.00: Plenary

ToR 8b: Harmonisation of control agency data collection, and the cross border sharing of control agency data, for vessels operating and landing outside their flag country. **(Introduction Irek) (*Rapporteur Romas)***

ToR 8c: Harmonisation of catch data recording e.g. metiers. **(Introduction Maria)** ***(Rapporteur Anna)***

ToR 8d: The position of national administrations on populating the Regional Data Base according to the RCM data call with i) Landings and effort data and ii) Sampling data. **(Introduction Jukka)** ***(Rapporteur Timo)***

ToR 8e: Task sharing and task trading mechanisms that might operate within the context of a regional sampling designs. **(Introduction Jørgen)** ***(Rapporteur Uwe)***

13.00 – 14.30: Lunch break

14.30 – 16.00 Plenary session

ToR 3g: Identify the areas and topics where there is a need for intra-institute intersessional work to achieve coordinated sampling, and how such groups can be organised, coordinated, and funded e.g. joint surveys, sampling plans for MSFD variables, data quality scrutiny groups, international sampling frames. **(Introduction Jørgen)** ***(Rapporteur Timo)***

16.00 - 16.30: Coffee break

16.30 – 18.00: Plenary

ToR 10b: Review and comment on ICES advice on what data are necessary for scientific advice regarding recreational fisheries. **(Introduction Jørgen)** ***(Rapporteur Georgs)***

ToR 10c: Review and comment on list of proposed stocks & biological variables to be included in EU MAP. (The Commission will provide background documents/input for this ToR)

18.00 End of the day

Friday, 28th of August 2014
9.00 - 10.30 : Plenary session

ToR 5: Identify any amendments to NP needed in 2016. **(Introduction Jørgen)** ***(Rapporteur Georgs)***

ToR 10a: Propose list of research surveys that should be carried out in the region in 2016. **(Introduction Jørgen)** ***(Rapporteur Andrei)***

10.30 - 11.00: Coffee break

11.00 – 13.00 : Plenary session

- ➔ Report assemblage and finalisation of agreements and recommendations.
- ➔ Election an appointment new chair and place and date of the next RCM/RCG Baltic

Closure of the meeting

Annex 2: Ranking of métiers

Table 1: Total effort subdivision 22-24 based on 2014 data from RDB FishFrame (per 18/08/2015). All métiers ordered by effort in days at sea. Shadowed lines show the métiers cumulating 90% of the total efforts in the fishing ground.

Region	FishingGround	Metier	Year	Germany	Denmark	Estonia	Finland	Lithuania	Latvia	Poland	Sweden	SumEffortDaysAtSea	Percentage	AccuPercentage	In_90
Baltic Sea	27,SD22-24	GNS_DEF_110-156_0_0	2014	26 528	6 506	0	0	0	98	1 582	2 600	37 314	33,63	33,63	Yes
Baltic Sea	27,SD22-24	GNS_FWS_>0_0_0	2014	14 666	59	0	0	0	0	5 244	0	19 969	18,00	51,63	Yes
Baltic Sea	27,SD22-24	MIS_MIS_0_0_0	2014	0	9 977	0	0	0	0	0	0	9 977	8,99	60,62	Yes
Baltic Sea	27,SD22-24	GNS_SPF_32-109_0_0	2014	7 986	70	0	0	0	0	174	328	8 558	7,71	68,33	Yes
Baltic Sea	27,SD22-24	OTB_DEF_>=105_1_120	2014	2 497	4 588	0	0	0	0	931	205	8 221	7,41	75,74	Yes
Baltic Sea	27,SD22-24	GNS_DEF_>=157_0_0	2014	0	3 438	0	0	0	0	17	730	4 185	3,77	79,51	Yes
Baltic Sea	27,SD22-24	FPO_FWS_>0_0_0	2014	5	0	0	0	0	0	3 857	0	3 862	3,48	82,99	Yes
Baltic Sea	27,SD22-24	GTR_DEF_110-156_0_0	2014	2 193	0	0	0	0	0	0	525	2 718	2,45	85,44	Yes
Baltic Sea	27,SD22-24	LLS_CAT_0_0_0	2014	2 075	0	0	0	0	0	25	0	2 100	1,89	87,33	Yes
Baltic Sea	27,SD22-24	OTB_DEF_90-104_0_0	2014	1 016	315	0	0	0	0	0	0	1 331	1,20	88,53	Yes
Baltic Sea	27,SD22-24	LLS_FWS_0_0_0	2014	1 148	0	0	0	0	0	34	0	1 182	1,07	89,60	Yes
Baltic Sea	27,SD22-24	FPN_CAT_>0_0_0	2014	42	624	0	0	0	0	0	449	1 115	1,00	90,60	No
Baltic Sea	27,SD22-24	PTM_SPF_32-104_0_0	2014	679	195	0	0	0	0	0	27	901	0,81	91,41	No
Baltic Sea	27,SD22-24	PTB_DEF_>=105_1_120	2014	828	55	0	0	0	0	0	0	883	0,80	92,21	No
Baltic Sea	27,SD22-24	LLS_DEF_0_0_0	2014	228	388	0	0	0	0	93	124	833	0,75	92,96	No
Baltic Sea	27,SD22-24	FPO_DEF_>0_0_0	2014	633	47	0	0	0	0	7	22	709	0,64	93,60	No
Baltic Sea	27,SD22-24	OTB_FWS_>0_0_0	2014	46	0	0	0	0	0	621	0	667	0,60	94,20	No
Baltic Sea	27,SD22-24	FPN_DEF_>0_0_0	2014	159	493	0	0	0	0	0	0	652	0,59	94,79	No
Baltic Sea	27,SD22-24	FPO_CAT_>0_0_0	2014	455	41	0	0	0	0	38	0	534	0,48	95,27	No
Baltic Sea	27,SD22-24	FYK_CAT_>0_0_0	2014	0	0	0	0	0	0	0	530	530	0,48	95,75	No
Baltic Sea	27,SD22-24	FPN_SPF_>0_0_0	2014	97	285	0	0	0	0	0	0	382	0,34	96,09	No
Baltic Sea	27,SD22-24	FPN_FWS_>0_0_0	2014	349	15	0	0	0	0	8	0	372	0,34	96,43	No
Baltic Sea	27,SD22-24	SDN_DEF_>=105_1_120	2014	0	346	0	0	0	0	0	0	346	0,31	96,74	No
Baltic Sea	27,SD22-24	LLD_ANA_0_0_0	2014	0	307	0	0	0	0	9	0	316	0,28	97,02	No
Baltic Sea	27,SD22-24	PTB_SPF_32-104_0_0	2014	262	15	0	0	0	0	0	0	277	0,25	97,27	No
Baltic Sea	27,SD22-24	OTM_SPF_32-104_0_0	2014	0	97	0	0	0	0	172	0	269	0,24	97,52	No
Baltic Sea	27,SD22-24	GTR_DEF_>=157_0_0	2014	0	0	0	0	0	0	0	243	243	0,22	97,74	No
Baltic Sea	27,SD22-24	PTM_DEF_<16_0_0	2014	0	205	0	0	0	0	0	0	205	0,18	97,92	No
Baltic Sea	27,SD22-24	OTM_DEF_<16_0_0	2014	0	23	0	0	0	0	173	0	196	0,18	98,10	No

Baltic Sea	27,SD22-24	PTB_DEF_90-104_0_0	2014	187	0	0	0	0	0	0	0	187	0,17	98,27	No
Baltic Sea	27,SD22-24	FPO_SPF_>0_0_0	2014	68	0	0	0	0	0	98	0	166	0,15	98,41	No
Baltic Sea	27,SD22-24	PTM_SPF_32-89_0_0	2014	97	67	0	0	0	0	0	0	164	0,15	98,56	No
Baltic Sea	27,SD22-24	GNS_ANA_>=157_0_0	2014	93	0	0	0	0	0	66	0	159	0,14	98,71	No
Baltic Sea	27,SD22-24	PTM_SPF_16-31_0_0	2014	48	102	0	0	0	0	0	0	150	0,14	98,84	No
Baltic Sea	27,SD22-24	OTB_DEF_>=120_0_0	2014	0	0	0	0	0	0	0	137	137	0,12	98,96	No
Baltic Sea	27,SD22-24	LHP_FIF_0_0_0	2014	19	30	0	0	0	0	0	82	131	0,12	99,08	No
Baltic Sea	27,SD22-24	PTB_FWS_>0_0_0	2014	102	0	0	0	0	0	0	0	102	0,09	99,17	No
Baltic Sea	27,SD22-24	GTR_FWS_>0_0_0	2014	8	0	0	0	0	0	92	0	100	0,09	99,26	No
Baltic Sea	27,SD22-24	PTB_SPF_16-31_0_0	2014	85	9	0	0	0	0	0	0	94	0,08	99,35	No
Baltic Sea	27,SD22-24	OTT_DEF_>=105_1_120	2014	0	0	0	0	0	0	0	85	85	0,08	99,43	No
Baltic Sea	27,SD22-24	PTB_SPF_32-89_0_0	2014	82	0	0	0	0	0	0	0	82	0,07	99,50	No
Baltic Sea	27,SD22-24	PTB_DEF_<16_0_0	2014	0	67	0	0	0	0	0	0	67	0,06	99,56	No
Baltic Sea	27,SD22-24	OTM_SPF_16-31_0_0	2014	0	10	0	0	0	0	53	0	63	0,06	99,62	No
Baltic Sea	27,SD22-24	OTB_SPF_16-31_0_0	2014	2	0	0	0	0	0	52	0	54	0,05	99,67	No
Baltic Sea	27,SD22-24	OTB_SPF_32-104_0_0	2014	0	0	0	0	0	0	47	0	47	0,04	99,71	No
Baltic Sea	27,SD22-24	FPN_ANA_>0_0_0	2014	1	41	0	0	0	0	0	0	42	0,04	99,75	No
Baltic Sea	27,SD22-24	GNS_DEF_90-109_0_0	2014	0	16	0	0	0	0	0	21	37	0,03	99,78	No
Baltic Sea	27,SD22-24	OTB_SPF_32-89_0_0	2014	34	0	0	0	0	0	0	0	34	0,03	99,81	No
Baltic Sea	27,SD22-24	SSC_DEF_>=105_1_120	2014	1	31	0	0	0	0	0	0	32	0,03	99,84	No
Baltic Sea	27,SD22-24	OTM_SPF_32-89_0_0	2014	0	24	0	0	0	0	0	0	24	0,02	99,86	No
Baltic Sea	27,SD22-24	GTR_SPF_32-109_0_0	2014	21	0	0	0	0	0	0	0	21	0,02	99,88	No
Baltic Sea	27,SD22-24	GNS_CAT_>0_0_0	2014	0	18	0	0	0	0	0	0	18	0,02	99,91	No
Baltic Sea	27,SD22-24	PTM_DEF_>=105_1_120	2014	18	0	0	0	0	0	0	0	18	0,02	99,91	No
Baltic Sea	27,SD22-24	OTB_DEF_<16_0_0	2014	0	12	0	0	0	0	5	0	17	0,02	99,93	No
Baltic Sea	27,SD22-24	GNS_SPF_110-156_0_0	2014	0	16	0	0	0	0	0	0	16	0,01	99,94	No
Baltic Sea	27,SD22-24	GNS_ANA_110-156_0_0	2014	0	0	0	0	0	0	15	0	15	0,01	99,95	No
Baltic Sea	27,SD22-24	LLS_SPF_0_0_0	2014	12	0	0	0	0	0	0	0	12	0,01	99,97	No
Baltic Sea	27,SD22-24	OTB_CRU_>0_0_0	2014	0	11	0	0	0	0	0	0	11	0,01	99,98	No
Baltic Sea	27,SD22-24	OTT_DEF_>=120_0_0	2014	0	0	0	0	0	0	0	10	10	0,01	99,98	No
Baltic Sea	27,SD22-24	OTM_DEF_>=105_1_120	2014	0	6	0	0	0	0	0	0	6	0,01	100,00	No
Baltic Sea	27,SD22-24	OTB_SPF_>=120_0_0	2014	0	0	0	0	0	0	6	0	6	0,01	100,00	No
Baltic Sea	27,SD22-24	FPO_ANA_>0_0_0	2014	0	0	0	0	0	0	3	0	3	0,00	100,00	No
Baltic Sea	27,SD22-24	PTM_FWS_>0_0_0	2014	2	0	0	0	0	0	0	0	2	0,00	100,00	No

Table 2: Total effort subdivision 22-24 based on NPs 2011-2013. All métiers ordered by **effort in fishing days**. Shadowed lines show the métiers cumulating 90% of the total effort in the fishing ground.

The figures are from the report of the RCM Baltic 2010 and they have not been updated.

Métier LVL6	DNK	GER	POL	SWE	Total	%	Cum%
GNS_DEF_110-156_0_0	7020	12032	2496	4418	25966	31,6289	31,6289
OTB_DEF_>=105_1_110	6732	1509	1713	683	10636	12,9554	44,5843
GNS_FWS_>0_0_0		4983	4957		9940	12,1073	56,6916
GNS_SPF_32-109_0_0	17	8695	285	234	9230	11,2425	67,9341
FPO_FWS_>0_0_0		3	5493		5496	6,6944	74,6285
GTR_DEF_110-156_0_0	2467	1231		526	4224	5,1451	79,7736
GNS_DEF_>=157_0_0	1984			542	2526	3,0763	82,8499
FWR_FWS_>0_0_0		1136			1136	1,3832	84,2330
FPN_CAT_>0_0_0	374			706	1080	1,3155	85,5486
GTR_DEF_>=157_0_0	895			173	1068	1,3009	86,8495
FYK_CAT_>0_0_0				895	895	1,0896	87,9391
FPO_CAT_>0_0_0		727	50		777	0,9463	88,8854
LLS_DEF_0_0_0	367	54	238	86	745	0,9070	89,7923
OTB_DEF_>=90_0_0	489	197			686	0,8355	90,6278
SDN_DEF_>=105_1_110	607	5			612	0,7459	91,3736
PTB_DEF_>=105_1_110	102	511			612	0,7456	92,1192
FPN_DEF_>0_0_0	460			30	490	0,5963	92,7155
OTM_SPF_16-89_0_0			481		481	0,5853	93,3008
PTM_SPF_32-104_0_0	37	257		168	462	0,5628	93,8635
OTB_FWS_>0_0_0		15	439		453	0,5518	94,4153
PTB_SPF_32-104_0_0	95	292	14		401	0,4885	94,9038
OTB_SPF_32-104_0_0	18	208	61		287	0,3496	95,2534
FPN_SPF_>0_0_0	236	23		7	265	0,3222	95,5756
FPO_SPF_>0_0_0		68	150		218	0,2660	95,8416
LHP_FIF_0_0_0	37			178	214	0,2607	96,1023
FWR_SPF_>0_0_0		195			195	0,2375	96,3398
LLS_CAT_0_0_0	41	124	31		195	0,2369	96,5767
FWR_CAT_>0_0_0		190			190	0,2315	96,8082
PTM_SPF_16-31_0_0	142			18	159	0,1937	97,0019
PTB_SPF_16-31_0_0	141	17			158	0,1929	97,1948
PTB_SPF_32-89_0_0	67	87			154	0,1878	97,3826
GTR_FWS_>0_0_0		13	127		140	0,1702	97,5527
MIS_SPF_0_0_0		133			133	0,1618	97,7145
PTM_SPF_32-89_0_0	102	7	22		131	0,1598	97,8743
SSC_DEF_>=105_1_110	108	19			127	0,1543	98,0287
OTB_CRU_>0_0_0	119	1			120	0,1461	98,1748
SSC_FWS_>0_0_0			112		112	0,1358	98,3106
LLS_FWS_0_0_0		59	51		110	0,1334	98,4440
GNS_ANA_>=157_0_0		26	81		107	0,1301	98,5740
MIS_DEF_0_0_0		106			106	0,1288	98,7028
GNS_DEF_90-109_0_0	87			1	88	0,1066	98,8094
FWR_DEF_>0_0_0		77			77	0,0938	98,9032
PTM_DEF_>=105_1_110		68			68	0,0827	98,9859
TBB_DEF_>=105_1_110		68			68	0,0827	99,0686
LLD_ANA_0_0_0	53		4	11	68	0,0822	99,1508
OTB_SPF_32-89_0_0	25	42			67	0,0818	99,2326
MIS_CAT_0_0_0		50			50	0,0613	99,2939
PTB_DEF_>=90_0_0		42			42	0,0509	99,3448

FPO_DEF_>0_0_0		25	11	4	40	0,0489	99,3937
GTR_SPF_32-109_0_0		39			39	0,0472	99,4409
OTT_DEF_>=105_1_110				38	38	0,0463	99,4872
GNS_SPF_110-156_0_0	33				33	0,0402	99,5274
GNS_CAT_>0_0_0	33				33	0,0396	99,5670
LLD_CAT_0_0_0		31			31	0,0381	99,6051
TBB_CRU_0_0_0		27			27	0,0334	99,6385
OFG_SPF_0_0_0		27			27	0,0323	99,6708
OTM_SPF_16-31_0_0	26			1	26	0,0317	99,7025
FPN_ANA_>0_0_0	20				20	0,0244	99,7268
LLS_SPF_0_0_0		20			20	0,0238	99,7506
OTB_SPF_16-31_0_0	10	8		1	19	0,0236	99,7742
FPO_ANA_>0_0_0		0	19		19	0,0225	99,7967
OTM_SPF_32-104_0_0	12	2		4	18	0,0217	99,8184
FWR_ANA_>0_0_0		16			16	0,0197	99,8382
PTB_DEF_<16_0_0	15				15	0,0183	99,8564
LLD_FWS_0_0_0		15			15	0,0182	99,8747
OTM_DEF_>=105_1_110	10	0	4	1	15	0,0181	99,8928
OTB_DEF_<16_0_0	14				14	0,0171	99,9099
GTR_CRU_110-156_0_0				14	14	0,0164	99,9263
PTB_FWS_>0_0_0		8			8	0,0097	99,9360
FPN_FWS_>0_0_0	8				8	0,0091	99,9451
GND_SPF_32-109_0_0		7			7	0,0088	99,9539
LLD_DEF_0_0_0		7			7	0,0087	99,9626
FPO_CRU_>0_0_0				7	7	0,0079	99,9705
PTB_SPF_0_0_0		3			3	0,0042	99,9747
LLD_SPF_0_0_0		3			3	0,0038	99,9786
LHP_DEF_0_0_0		3			3	0,0033	99,9819
OTB_SPF_16-104_0_0		2			2	0,0029	99,9848
PVG_DEF_0_0_0		2			2	0,0024	99,9872
OFG_CAT_0_0_0		2			2	0,0022	99,9894
OFG_DEF_0_0_0		2			2	0,0022	99,9916
PVG_ANA_0_0_0		1			1	0,0017	99,9933
OFG_FWS_0_0_0		1			1	0,0015	99,9948
FWR_CRU_>0_0_0		1			1	0,0010	99,9957
GND_DEF_110-156_0_0		1			1	0,0007	99,9964
OTB_CAT_0_0_0		1			1	0,0007	99,9971
GTR_DEF_90-109_0_0				1	1	0,0006	99,9977
OTT_CRU_90-104_0_0				1	1	0,0006	99,9983
OTT_DEF_90-104_0_0				1	1	0,0006	99,9989
GTR_CAT_>0_0_0		0			0	0,0005	99,9995
LHP_SPF_0_0_0		0			0	0,0005	99,9999
LHP_CAT_0_0_0		0			0	0,0001	100,0000
GNS_CRU_>0_0_0		0			0	0,0000	100,0000
TBB_SPF_16-104_0_0		0			0	0,0000	100,0000

Table 3: Total landings subdivision 22-24 based on 2014 data from RDB FishFrame (per 18/08/2015). All métiers ordered by **amount of landings in tonnes.** Shadowed lines show the métiers cumulating 90% of the total landings in the fishing ground.

Region	FishingGround	Metier	Year	Germany	Denmark	Estonia	Finland	Lithuania	Latvia	Poland	Sweden	SumLandingCatchWeight	Percentage	AccuPercentage	In_90
Baltic Sea	27,SD22-24	OTB_DEF_>=105_1_120	2014	2 654	6 168	0	0	0	0	1 595	382	10 799	19,88	19,88	Yes
Baltic Sea	27,SD22-24	PTM_SPF_32-104_0_0	2014	4 974	2 311	0	0	0	0	0	1 116	8 400	15,46	35,34	Yes
Baltic Sea	27,SD22-24	GNS_DEF_110-156_0_0	2014	1 564	1 503	0	0	0	41	808	717	4 634	8,53	43,87	Yes
Baltic Sea	27,SD22-24	GNS_SPF_32-109_0_0	2014	3 609	5	0	0	0	0	319	318	4 251	7,82	51,69	Yes
Baltic Sea	27,SD22-24	OTM_SPF_32-104_0_0	2014	0	1 067	0	0	0	0	2 383	0	3 450	6,35	58,04	Yes
Baltic Sea	27,SD22-24	GNS_FWS_>0_0_0	2014	1 489	21	0	0	0	0	968	0	2 479	4,56	62,61	Yes
Baltic Sea	27,SD22-24	PTM_SPF_16-31_0_0	2014	243	2 177	0	0	0	0	0	0	2 420	4,45	67,06	Yes
Baltic Sea	27,SD22-24	OTM_DEF_<16_0_0	2014	0	249	0	0	0	0	1 750	0	1 999	3,68	70,74	Yes
Baltic Sea	27,SD22-24	GNS_DEF_>=157_0_0	2014	0	1 286	0	0	0	0	4	281	1 572	2,89	73,63	Yes
Baltic Sea	27,SD22-24	PTM_DEF_<16_0_0	2014	0	1 411	0	0	0	0	0	0	1 411	2,60	76,23	Yes
Baltic Sea	27,SD22-24	FPO_FWS_>0_0_0	2014	2	0	0	0	0	0	1 381	0	1 382	2,54	78,77	Yes
Baltic Sea	27,SD22-24	OTB_DEF_90-104_0_0	2014	1 107	149	0	0	0	0	0	0	1 256	2,31	81,09	Yes
Baltic Sea	27,SD22-24	MIS_MIS_0_0_0	2014	0	1 185	0	0	0	0	0	0	1 185	2,18	83,27	Yes
Baltic Sea	27,SD22-24	PTM_SPF_32-89_0_0	2014	444	523	0	0	0	0	0	0	967	1,78	85,05	Yes
Baltic Sea	27,SD22-24	PTB_SPF_32-104_0_0	2014	763	59	0	0	0	0	0	0	822	1,51	86,56	Yes
Baltic Sea	27,SD22-24	FPN_SPF_>0_0_0	2014	466	269	0	0	0	0	0	0	735	1,35	87,92	Yes
Baltic Sea	27,SD22-24	OTM_SPF_16-31_0_0	2014	0	91	0	0	0	0	613	0	704	1,30	89,21	Yes
Baltic Sea	27,SD22-24	PTB_SPF_32-89_0_0	2014	681	0	0	0	0	0	0	0	681	1,25	90,47	No
Baltic Sea	27,SD22-24	PTB_DEF_<16_0_0	2014	0	599	0	0	0	0	0	0	599	1,10	91,57	No
Baltic Sea	27,SD22-24	SDN_DEF_>=105_1_120	2014	0	536	0	0	0	0	0	0	536	0,99	92,56	No
Baltic Sea	27,SD22-24	PTB_DEF_>=105_1_120	2014	410	55	0	0	0	0	0	0	466	0,86	93,41	No
Baltic Sea	27,SD22-24	PTB_SPF_16-31_0_0	2014	388	77	0	0	0	0	0	0	465	0,86	94,27	No
Baltic Sea	27,SD22-24	FPO_SPF_>0_0_0	2014	2	0	0	0	0	0	305	0	307	0,57	94,83	No
Baltic Sea	27,SD22-24	OTB_DEF_>=120_0_0	2014	0	0	0	0	0	0	0	254	254	0,47	95,30	No
Baltic Sea	27,SD22-24	PTB_DEF_90-104_0_0	2014	254	0	0	0	0	0	0	0	254	0,47	95,77	No
Baltic Sea	27,SD22-24	GTR_DEF_110-156_0_0	2014	153	0	0	0	0	0	0	86	239	0,44	96,21	No
Baltic Sea	27,SD22-24	OTB_SPF_16-31_0_0	2014	0	0	0	0	0	0	234	0	235	0,43	96,64	No
Baltic Sea	27,SD22-24	LLS_DEF_0_0_0	2014	20	95	0	0	0	0	39	73	226	0,42	97,06	No
Baltic Sea	27,SD22-24	OTB_FWS_>0_0_0	2014	15	0	0	0	0	0	202	0	217	0,40	97,46	No
Baltic Sea	27,SD22-24	OTT_DEF_>=105_1_120	2014	0	0	0	0	0	0	0	195	195	0,36	97,81	No
Baltic Sea	27,SD22-24	FPN_CAT_>0_0_0	2014	2	153	0	0	0	0	0	15	170	0,31	98,13	No
Baltic Sea	27,SD22-24	OTB_DEF_<16_0_0	2014	0	126	0	0	0	0	36	0	162	0,30	98,43	No
Baltic Sea	27,SD22-24	OTM_SPF_32-89_0_0	2014	0	162	0	0	0	0	0	0	162	0,30	98,72	No
Baltic Sea	27,SD22-24	FPN_FWS_>0_0_0	2014	116	0	0	0	0	0	6	0	121	0,22	98,95	No
Baltic Sea	27,SD22-24	OTB_SPF_32-104_0_0	2014	0	0	0	0	0	0	80	0	80	0,15	99,10	No
Baltic Sea	27,SD22-24	FPN_DEF_>0_0_0	2014	3	68	0	0	0	0	0	0	71	0,13	99,23	No
Baltic Sea	27,SD22-24	LLD_ANA_0_0_0	2014	0	69	0	0	0	0	0	0	69	0,13	99,35	No
Baltic Sea	27,SD22-24	LLS_FWS_0_0_0	2014	50	0	0	0	0	0	3	0	53	0,10	99,45	No
Baltic Sea	27,SD22-24	GTR_DEF_>=157_0_0	2014	0	0	0	0	0	0	0	45	45	0,08	99,53	No
Baltic Sea	27,SD22-24	LLS_CAT_0_0_0	2014	34	0	0	0	0	0	1	0	35	0,06	99,60	No
Baltic Sea	27,SD22-24	PTB_FWS_>0_0_0	2014	30	0	0	0	0	0	0	0	30	0,06	99,65	No
Baltic Sea	27,SD22-24	LHP_FIF_0_0_0	2014	0	6	0	0	0	0	0	22	28	0,05	99,70	No
Baltic Sea	27,SD22-24	GNS_ANA_>=157_0_0	2014	23	0	0	0	0	0	5	0	28	0,05	99,76	No
Baltic Sea	27,SD22-24	FYK_CAT_>0_0_0	2014	0	0	0	0	0	0	0	27	27	0,05	99,81	No
Baltic Sea	27,SD22-24	OTT_DEF_>=120_0_0	2014	0	0	0	0	0	0	0	26	26	0,05	99,85	No
Baltic Sea	27,SD22-24	FPO_CAT_>0_0_0	2014	9	8	0	0	0	0	1	0	19	0,03	99,89	No
Baltic Sea	27,SD22-24	FPO_DEF_>0_0_0	2014	7	6	0	0	0	0	0	0	13	0,02	99,91	No
Baltic Sea	27,SD22-24	GTR_FWS_>0_0_0	2014	1	0	0	0	0	0	9	0	10	0,02	99,93	No
Baltic Sea	27,SD22-24	OTM_DEF_>=105_1_120	2014	0	9	0	0	0	0	0	0	9	0,02	99,95	No
Baltic Sea	27,SD22-24	GNS_DEF_90-109_0_0	2014	0	5	0	0	0	0	0	2	7	0,01	99,96	No
Baltic Sea	27,SD22-24	SSC_DEF_>=105_1_120	2014	0	4	0	0	0	0	0	0	4	0,01	99,97	No
Baltic Sea	27,SD22-24	OTB_SPF_32-89_0_0	2014	3	0	0	0	0	0	0	0	3	0,01	99,97	No
Baltic Sea	27,SD22-24	OTB_SPF_>=120_0_0	2014	0	0	0	0	0	0	3	0	3	0,01	99,98	No
Baltic Sea	27,SD22-24	GNS_SPF_110-156_0_0	2014	0	3	0	0	0	0	0	0	3	0,00	99,98	No
Baltic Sea	27,SD22-24	FPN_ANA_>0_0_0	2014	0	2	0	0	0	0	0	0	2	0,00	99,99	No
Baltic Sea	27,SD22-24	GNS_CAT_>0_0_0	2014	0	2	0	0	0	0	0	0	2	0,00	99,99	No
Baltic Sea	27,SD22-24	OTB_CRU_>0_0_0	2014	0	1	0	0	0	0	0	0	1	0,00	99,99	No
Baltic Sea	27,SD22-24	PTM_DEF_>=105_1_120	2014	1	0	0	0	0	0	0	0	1	0,00	99,99	No
Baltic Sea	27,SD22-24	FPO_ANA_>0_0_0	2014	0	0	0	0	0	0	1	0	1	0,00	100,00	No
Baltic Sea	27,SD22-24	GTR_SPF_32-109_0_0	2014	1	0	0	0	0	0	0	0	1	0,00	100,00	No
Baltic Sea	27,SD22-24	LLS_SPF_0_0_0	2014	1	0	0	0	0	0	0	0	1	0,00	100,00	No
Baltic Sea	27,SD22-24	PTM_FWS_>0_0_0	2014	0	0	0	0	0	0	0	0	0	0,00	100,00	No
Baltic Sea	27,SD22-24	GNS_ANA_110-156_0_0	2014	0	0	0	0	0	0	0	0	0	0,00	100,00	No
Baltic Sea	27,SD22-24	LLS_ANA_0_0_0	2014	0	0	0	0	0	0	0	0	0	0,00	100,00	No

Table 4: Total landings subdivision 22-24 based on NPs 2011-2013. All métiers ordered by **amount of landings in tonnes.** Shadowed lines show the métiers cumulating 90% of the total landings in the fishing ground. *The figures are from the report of the RCM Baltic 2010 and they have not been updated.*

Métier LVL6	DNK	GER	POL	SWE	Total	%	Cum%
OTB_DEF_>=105_1_110	7229	4534	2434	1403	15601	17,49965	17,49965
PTM_SPF_32-104_0_0	901	4383		7788	13072	14,66299	32,16264
GNS_SPF_32-109_0_0	12	8187	513	261	8973	10,06538	42,22802
GNS_DEF_110-156_0_0	1775	3001	1870	1251	7897	8,858482	51,0865
PTB_SPF_32-104_0_0	1561	4450	34		6046	6,781989	57,86849
OTM_SPF_16-89_0_0			5648		5648	6,335653	64,20415
PTB_SPF_32-89_0_0	2123	2034			4157	4,663558	68,8677
PTM_SPF_16-31_0_0	2753			805	3558	3,991038	72,85874
PTM_SPF_32-89_0_0	2353	676	54		3084	3,459672	76,31841
OTB_SPF_32-104_0_0	225	2567	33		2825	3,168937	79,48735
PTB_SPF_16-31_0_0	1922	870			2792	3,131474	82,61883
OTM_SPF_32-104_0_0	57	1629		324	2010	2,255232	84,87406
GNS_FWS_>0_0_0		1063	661		1724	1,933907	86,80796
FPO_FWS_>0_0_0		2	1331		1332	1,494468	88,30243
PTB_DEF_>=105_1_110	94	1086			1180	1,324181	89,62661
FPO_SPF_>0_0_0		556	471		1027	1,152234	90,77885
SDN_DEF_>=105_1_110	879	21			900	1,009714	91,78856
GNS_DEF_>=157_0_0	720			178	898	1,007319	92,79588
OTB_SPF_32-89_0_0	469	414			882	0,989918	93,7858
GTR_DEF_110-156_0_0	500	183		73	755	0,847416	94,63321
OTB_DEF_>=90_0_0	155	381			536	0,601264	95,23448
FPN_SPF_>0_0_0	302	131		0	434	0,486456	95,72093
LLS_DEF_0_0_0	132	11	202	56	401	0,450225	96,17116
OTB_SPF_16-31_0_0	158	133		17	308	0,345964	96,51712
GTR_DEF_>=157_0_0	283			23	307	0,343882	96,861
FPN_CAT_>0_0_0	265			41	307	0,343834	97,20484
SSC_DEF_>=105_1_110	117	164			281	0,315558	97,5204
OTM_SPF_16-31_0_0	258			3	261	0,292527	97,81292
PTB_DEF_<16_0_0	208				208	0,233749	98,04667
FWR_SPF_>0_0_0		175			175	0,195799	98,24247

PTM_DEF_>=105_1_110		174			174	0,194926	98,4374
OTB_DEF_<16_0_0	137				137	0,154069	98,59147
OTB_FWS_>0_0_0		6	127		133	0,149089	98,74056
TBB_DEF_>=105_1_110		130			130	0,146312	98,88687
PTB_DEF_>=90_0_0		127			127	0,142101	99,02897
FWR_FWS_>0_0_0		115			115	0,128837	99,1578
PTB_SPF_0_0_0		101			101	0,11364	99,27144
FPN_DEF_>0_0_0	81			2	83	0,093282	99,36473
FPO_CAT_>0_0_0		64	1		65	0,072356	99,43708
SSC_FWS_>0_0_0			62		62	0,069229	99,50631
OTT_DEF_>=105_1_110				61	61	0,068577	99,57489
OFG_SPF_0_0_0		52			52	0,058021	99,63291
LHP_FIF_0_0_0	8			30	37	0,042034	99,67494
OTM_DEF_>=105_1_110	26	7	2	1	36	0,040425	99,71537
FYK_CAT_>0_0_0				32	32	0,035588	99,75096
TBB_CRU_0_0_0		31			31	0,03513	99,78609
OTB_CRU_>0_0_0	30	0			31	0,034283	99,82037
LLS_SPF_0_0_0		20			20	0,022561	99,84293
OTB_SPF_16-104_0_0		15			15	0,016869	99,8598
GTR_FWS_>0_0_0		0	12		13	0,014367	99,87417
GNS_DEF_90-109_0_0	12			0	12	0,013231	99,8874
LLD_ANA_0_0_0	8		1	2	11	0,012277	99,89967
GNS_SPF_110-156_0_0	10				10	0,011547	99,91122
LLS_FWS_0_0_0		5	5		10	0,011006	99,92223
GTR_SPF_32-109_0_0		8			8	0,00847	99,9307
GNS_ANA_>=157_0_0		4	3		7	0,008368	99,93907
MIS_SPF_0_0_0		7			7	0,008216	99,94728
MIS_DEF_0_0_0		7			7	0,007446	99,95473
LLS_CAT_0_0_0	2	3	1		6	0,00644	99,96117
FPO_DEF_>0_0_0		4	2	0	6	0,006318	99,96749
MIS_CAT_0_0_0		5			5	0,005557	99,97304
GNS_CRU_>0_0_0		4			4	0,004983	99,97803
GNS_CAT_>0_0_0	4				4	0,004904	99,98293
FWR_CAT_>0_0_0		4			4	0,004225	99,98716

FWR_DEF_>0_0_0		4		4	0,004077	99,99123
FPO_ANA_>0_0_0		0	2	2	0,001893	99,99313
FPN_ANA_>0_0_0	2			2	0,001693	99,99482
PVG_DEF_0_0_0		1		1	0,001329	99,99615
PTB_FWS_>0_0_0		1		1	0,001243	99,99739
GND_SPF_32-109_0_0		1		1	0,001067	99,99846
LLD_CAT_0_0_0		1		1	0,000797	99,99926
LHP_DEF_0_0_0		1		1	0,000744	100

Table 5: Total value subdivision 22-24 based on 2014 data from RDB FishFrame (per 18/08/2015). All métiers ordered by **value of landings in thousand €.** Shadowed lines show the métiers cumulating 90% of the total values in the fishing ground.

Region	FishingGround	Metier	Year	Germany	Denmark	Estonia	Finland	Lithuania	Latvia	Poland	Sweden	SumLandingValue	Percentage	AccuPercentage	In_90
Baltic Sea	27,SD22-24	OTB_DEF_>=105_1_120	2014	2 694	6 814	0	0	0	0	0	399	9 908	25,83	25,83	Yes
Baltic Sea	27,SD22-24	GNS_DEF_110-156_0_0	2014	2 801	2 448	0	0	0	43	0	851	6 144	16,02	41,85	Yes
Baltic Sea	27,SD22-24	PTM_SPF_32-104_0_0	2014	1 332	1 101	0	0	0	0	0	480	2 914	7,60	49,45	Yes
Baltic Sea	27,SD22-24	GNS_DEF_>=157_0_0	2014	0	2 399	0	0	0	0	0	355	2 755	7,18	56,63	Yes
Baltic Sea	27,SD22-24	MIS_MIS_0_0_0	2014	0	2 739	0	0	0	0	0	0	2 739	7,14	63,77	Yes
Baltic Sea	27,SD22-24	GNS_FWS_>0_0_0	2014	2 335	30	0	0	0	0	0	0	2 365	6,17	69,94	Yes
Baltic Sea	27,SD22-24	GNS_SPF_32-109_0_0	2014	1 809	8	0	0	0	0	0	179	1 996	5,20	75,14	Yes
Baltic Sea	27,SD22-24	OTB_DEF_90-104_0_0	2014	986	237	0	0	0	0	0	0	1 223	3,19	78,33	Yes
Baltic Sea	27,SD22-24	FPN_CAT_>0_0_0	2014	21	1 050	0	0	0	0	0	106	1 176	3,07	81,39	Yes
Baltic Sea	27,SD22-24	SDN_DEF_>=105_1_120	2014	0	753	0	0	0	0	0	0	753	1,96	83,36	Yes
Baltic Sea	27,SD22-24	PTB_DEF_>=105_1_120	2014	678	62	0	0	0	0	0	0	739	1,93	85,28	Yes
Baltic Sea	27,SD22-24	PTM_SPF_16-31_0_0	2014	59	494	0	0	0	0	0	0	554	1,44	86,73	Yes
Baltic Sea	27,SD22-24	OTM_SPF_32-104_0_0	2014	0	486	0	0	0	0	0	0	486	1,27	88,00	Yes
Baltic Sea	27,SD22-24	LLS_CAT_0_0_0	2014	403	0	0	0	0	0	0	0	403	1,05	89,05	Yes
Baltic Sea	27,SD22-24	GTR_DEF_110-156_0_0	2014	229	0	0	0	0	0	0	122	351	0,92	89,96	Yes
Baltic Sea	27,SD22-24	PTM_SPF_32-89_0_0	2014	117	207	0	0	0	0	0	0	325	0,85	90,81	No
Baltic Sea	27,SD22-24	FPN_SPF_>0_0_0	2014	141	180	0	0	0	0	0	0	321	0,84	91,64	No
Baltic Sea	27,SD22-24	OTB_DEF_>=120_0_0	2014	0	0	0	0	0	0	0	294	294	0,77	92,41	No
Baltic Sea	27,SD22-24	LLD_ANA_0_0_0	2014	0	286	0	0	0	0	0	0	286	0,75	93,16	No
Baltic Sea	27,SD22-24	PTB_SPF_32-104_0_0	2014	247	24	0	0	0	0	0	0	271	0,71	93,86	No
Baltic Sea	27,SD22-24	PTM_DEF_<16_0_0	2014	0	266	0	0	0	0	0	0	266	0,69	94,55	No
Baltic Sea	27,SD22-24	LLS_DEF_0_0_0	2014	51	96	0	0	0	0	0	74	222	0,58	95,13	No
Baltic Sea	27,SD22-24	OTT_DEF_>=105_1_120	2014	0	0	0	0	0	0	0	218	218	0,57	95,70	No
Baltic Sea	27,SD22-24	PTB_SPF_32-89_0_0	2014	168	0	0	0	0	0	0	0	168	0,44	96,14	No
Baltic Sea	27,SD22-24	FPO_CAT_>0_0_0	2014	94	57	0	0	0	0	0	0	152	0,40	96,54	No
Baltic Sea	27,SD22-24	FYK_CAT_>0_0_0	2014	0	0	0	0	0	0	0	151	151	0,39	96,93	No
Baltic Sea	27,SD22-24	PTB_SPF_16-31_0_0	2014	98	21	0	0	0	0	0	0	118	0,31	97,54	No
Baltic Sea	27,SD22-24	LLS_FWS_0_0_0	2014	118	0	0	0	0	0	0	0	118	0,31	97,54	No
Baltic Sea	27,SD22-24	PTB_DEF_90-104_0_0	2014	115	0	0	0	0	0	0	0	115	0,30	97,84	No
Baltic Sea	27,SD22-24	PTB_DEF_<16_0_0	2014	0	114	0	0	0	0	0	0	114	0,30	98,14	No
Baltic Sea	27,SD22-24	GNS_ANA_>=157_0_0	2014	112	0	0	0	0	0	0	0	112	0,29	98,43	No
Baltic Sea	27,SD22-24	FPN_FWS_>0_0_0	2014	96	0	0	0	0	0	0	0	96	0,25	98,68	No
Baltic Sea	27,SD22-24	FPN_DEF_>0_0_0	2014	5	64	0	0	0	0	0	0	69	0,18	98,86	No
Baltic Sea	27,SD22-24	OTM_SPF_32-89_0_0	2014	0	64	0	0	0	0	0	0	64	0,17	99,03	No
Baltic Sea	27,SD22-24	GTR_DEF_>=157_0_0	2014	0	0	0	0	0	0	0	56	56	0,15	99,17	No
Baltic Sea	27,SD22-24	PTB_FWS_>0_0_0	2014	46	0	0	0	0	0	0	0	46	0,12	99,29	No
Baltic Sea	27,SD22-24	OTM_DEF_<16_0_0	2014	0	45	0	0	0	0	0	0	45	0,12	99,41	No
Baltic Sea	27,SD22-24	LHP_FIF_0_0_0	2014	0	8	0	0	0	0	0	27	36	0,09	99,51	No
Baltic Sea	27,SD22-24	OTB_DEF_<16_0_0	2014	0	25	0	0	0	0	0	0	25	0,07	99,57	No
Baltic Sea	27,SD22-24	OTB_FWS_>0_0_0	2014	25	0	0	0	0	0	0	0	25	0,06	99,64	No
Baltic Sea	27,SD22-24	FPO_DEF_>0_0_0	2014	13	8	0	0	0	0	0	0	21	0,06	99,69	No
Baltic Sea	27,SD22-24	OTT_DEF_>=120_0_0	2014	0	0	0	0	0	0	0	20	20	0,05	99,74	No
Baltic Sea	27,SD22-24	OTM_SPF_16-31_0_0	2014	0	18	0	0	0	0	0	0	18	0,05	99,79	No
Baltic Sea	27,SD22-24	OTM_DEF_>=105_1_120	2014	0	15	0	0	0	0	0	0	15	0,04	99,83	No
Baltic Sea	27,SD22-24	GNS_DEF_90-109_0_0	2014	0	10	0	0	0	0	0	4	14	0,04	99,87	No
Baltic Sea	27,SD22-24	OTB_CRU_>0_0_0	2014	0	13	0	0	0	0	0	0	13	0,03	99,90	No
Baltic Sea	27,SD22-24	GNS_CAT_>0_0_0	2014	0	10	0	0	0	0	0	0	10	0,03	99,93	No
Baltic Sea	27,SD22-24	GNS_SPF_110-156_0_0	2014	0	6	0	0	0	0	0	0	6	0,02	99,94	No
Baltic Sea	27,SD22-24	FPN_ANA_>0_0_0	2014	0	4	0	0	0	0	0	0	4	0,01	99,95	No
Baltic Sea	27,SD22-24	SSC_DEF_>=105_1_120	2014	0	4	0	0	0	0	0	0	4	0,01	99,97	No
Baltic Sea	27,SD22-24	FPO_FWS_>0_0_0	2014	3	0	0	0	0	0	0	0	3	0,01	99,97	No
Baltic Sea	27,SD22-24	OTB_SPF_32-89_0_0	2014	2	0	0	0	0	0	0	0	2	0,01	99,98	No
Baltic Sea	27,SD22-24	LLS_SPF_0_0_0	2014	2	0	0	0	0	0	0	0	2	0,00	99,98	No
Baltic Sea	27,SD22-24	FPO_SPF_>0_0_0	2014	2	0	0	0	0	0	0	0	2	0,00	99,99	No
Baltic Sea	27,SD22-24	GTR_SPF_32-109_0_0	2014	1	0	0	0	0	0	0	0	1	0,00	99,99	No
Baltic Sea	27,SD22-24	PTM_DEF_>=105_1_120	2014	1	0	0	0	0	0	0	0	1	0,00	99,99	No
Baltic Sea	27,SD22-24	PTM_FWS_>0_0_0	2014	1	0	0	0	0	0	0	0	1	0,00	100,00	No
Baltic Sea	27,SD22-24	GTR_FWS_>0_0_0	2014	1	0	0	0	0	0	0	0	1	0,00	100,00	No
Baltic Sea	27,SD22-24	OTB_SPF_16-31_0_0	2014	0	0	0	0	0	0	0	0	0	0,00	100,00	No
Baltic Sea	27,SD22-24	LLS_ANA_0_0_0	2014	0	0	0	0	0	0	0	0	0	0,00	100,00	No

Table 6: Total value subdivision 22-24 based on NPs 2011-2013. All métiers ordered by **value of landings in €**. Shadowed lines show the métiers cumulating 90% of the total values in the fishing ground. *The figures are from the report of the RCM Baltic 2010 and they have not been updated.*

Métier LVL6	DNK	GER	POL	SWE	Total	%	Cum%
OTB_DEF_>=105_1_110	10544177	5437099	1930144	2110407	20021827	31,39311	31,39311
GNS_DEF_110-156_0_0	3283292	4112410	1701088	1947849	11044639	17,31738	48,71049
GNS_SPF_32-109_0_0	6021,08	3224027	165319,4	63536,08	3458904	5,423368	54,13386
PTM_SPF_32-104_0_0	308262,8	1099705		1771220	3179188	4,98479	59,11865
GNS_DEF_>=157_0_0	1638606			1100581	2739188	4,294893	63,41354
GNS_FWS_>0_0_0		1593832	740628,7		2334461	3,660304	67,07384
PTB_DEF_>=105_1_110	146131,2	1592497			1738629	2,726073	69,79992
FPO_FWS_>0_0_0		2256,125	1648114		1650370	2,587689	72,3876
GTR_DEF_110-156_0_0	1230630	217575,8		164277,4	1612484	2,528284	74,91589
SDN_DEF_>=105_1_110	1484857	33922,41			1518780	2,381362	77,29725
FPN_CAT_>0_0_0	1217855			256356,6	1474212	2,311482	79,60873
OTM_SPF_16-89_0_0			1392850		1392850	2,183911	81,79264
PTB_SPF_32-104_0_0	421391,6	928500,2	14482,35		1364374	2,139263	83,93191
PTB_SPF_32-89_0_0	663552,6	466847,9			1130401	1,772405	85,70431
PTM_SPF_32-89_0_0	677109,5	372208	17128,25		1066446	1,672128	87,37644
OTB_DEF_>=90_0_0	549262,8	371125,3			920388,1	1,443117	88,81956
GTR_DEF_>=157_0_0	635156,8			73529,78	708686,5	1,111181	89,93074
OTB_SPF_32-104_0_0	70352,46	557747	28644,54		656744	1,029738	90,96047
PTM_SPF_16-31_0_0	444308,5			141193,6	585502,1	0,918035	91,87851
LLS_DEF_0_0_0	181525,7	18313,14	244350,4	84122,4	528311,6	0,828363	92,70687
SSC_DEF_>=105_1_110	192741,5	322889,7			515631,2	0,808481	93,51535
OTM_SPF_32-104_0_0	28552,54	327924,8		76111,19	432588,6	0,678275	94,19363
PTB_SPF_16-31_0_0	299399,8	126666			426065,9	0,668048	94,86168
FPO_CAT_>0_0_0		376783,1	4529,408		381312,5	0,597877	95,45955
FPO_SPF_>0_0_0		128635,2	150675,8		279311	0,437944	95,8975
OTB_SPF_32-89_0_0	159239,3	92735,66			251975	0,395083	96,29258
OTB_FWS_>0_0_0		11027,46	231674,2		242701,6	0,380543	96,67312
FPN_SPF_>0_0_0	186298,1	32364,02		9,229405	218671,4	0,342864	97,01599
PTM_DEF_>=105_1_110		217706,9			217706,9	0,341352	97,35734
TBB_DEF_>=105_1_110		202658,8			202658,8	0,317758	97,6751
FYK_CAT_>0_0_0				163962,5	163962,5	0,257084	97,93218
OTB_CRU_>0_0_0	151512,3	353,9			151866,2	0,238118	98,1703
PTB_DEF_>=90_0_0		115243,9			115243,9	0,180696	98,35099
FPN_DEF_>0_0_0	96986,74			8240,231	105227	0,16499	98,51598
OTT_DEF_>=105_1_110				92634,5	92634,5	0,145246	98,66123
TBB_CRU_0_0_0		88592,94			88592,94	0,138909	98,80014
OTB_SPF_16-31_0_0	23654,18	39490,28		2553,523	65697,98	0,103011	98,90315
FWR_FWS_>0_0_0		64638,78			64638,78	0,10135	99,0045
IF_0_0_0	16184,65			44941,47	61126,12	0,095842	99,10034
GNS_DEF_90-109_0_0	55139,84			119,8208	55259,66	0,086644	99,18699
FWR_SPF_>0_0_0		47419,2			47419,2	0,074351	99,26134
LLD_ANA_0_0_0	34782,26		3225,117	6982,299	44989,68	0,070541	99,33188
OTM_SPF_16-31_0_0	35118,46			530,05	35648,51	0,055895	99,38777
OTM_DEF_>=105_1_110	24295,13	7514,1	2278,718	1422,871	35510,82	0,055679	99,44345
GNS_SPF_110-156_0_0	32734,06				32734,06	0,051325	99,49478
LLS_FWS_0_0_0		8033,64	24558,06		32591,7	0,051102	99,54588
SSC_FWS_>0_0_0			32519,34		32519,34	0,050989	99,59687
MIS_CAT_0_0_0		28813,77			28813,77	0,045178	99,64205
LLS_CAT_0_0_0	9319,771	11220,35	6253,122		26793,24	0,04201	99,68406

GNS_ANA_>=157_0_0		16321,83	8767,885		25089,72	0,039339	99,7234
PTB_SPF_0_0_0		20216,92			20216,92	0,031699	99,75509
GNS_CAT_>0_0_0	20153,13				20153,13	0,031599	99,78669
PTB_DEF_<16_0_0	16938,19				16938,19	0,026558	99,81325
GTR_FWS_>0_0_0		2305,55	13531,41		15836,96	0,024831	99,83808
GNS_CRU_>0_0_0		13799			13799	0,021636	99,85972
OFG_SPF_0_0_0		12800			12800	0,02007	99,87979
OTB_DEF_<16_0_0	12011,21				12011,21	0,018833	99,89862
MIS_DEF_0_0_0		10747,01			10747,01	0,016851	99,91547
FPO_DEF_>0_0_0		4862,535	3334,943	48,72866	8246,207	0,01293	99,9284
LLS_SPF_0_0_0		7746,99			7746,99	0,012147	99,94055
FWR_CAT_>0_0_0		6590,555			6590,555	0,010334	99,95088
FPO_ANA_>0_0_0		402,5	5226,271		5628,771	0,008826	99,95971
OTB_SPF_16-104_0_0		4227,145			4227,145	0,006628	99,96634
FPN_ANA_>0_0_0	3826,565				3826,565	0,006	99,97234
PTB_FWS_>0_0_0		3279,575			3279,575	0,005142	99,97748
GTR_SPF_32-109_0_0		2643,775			2643,775	0,004145	99,98162
PVG_DEF_0_0_0		2251,565			2251,565	0,00353	99,98515
LLD_CAT_0_0_0		1774,25			1774,25	0,002782	99,98794
GTR_CAT_>0_0_0		1411,025			1411,025	0,002212	99,99015
LLD_FWS_0_0_0		950,075			950,075	0,00149	99,99164
OTT_CRU_90-104_0_0				911,6127	911,6127	0,001429	99,99307
FPN_FWS_>0_0_0	835,4993				835,4993	0,00131	99,99438
GTR_CRU_110-156_0_0				786,1778	786,1778	0,001233	99,99561
LLD_DEF_0_0_0		539,715			539,715	0,000846	99,99646
LHP_DEF_0_0_0		472,275			472,275	0,000741	99,9972
MIS_SPF_0_0_0		413,005			413,005	0,000648	99,99784
FPO_CRU_>0_0_0				401,7123	401,7123	0,00063	99,99847
GND_SPF_32-109_0_0		229,6			229,6	0,00036	99,99883
GND_DEF_110-156_0_0		176,82			176,82	0,000277	99,99911
TBB_SPF_16-104_0_0		140			140	0,00022	99,99933
OTT_DEF_90-104_0_0				136,2323	136,2323	0,000214	99,99954
OFG_DEF_0_0_0		85			85	0,000133	99,99968
OTB_CAT_0_0_0		69,95			69,95	0,00011	99,99979
OFG_CAT_0_0_0		55			55	8,62E-05	99,99987
GTR_DEF_90-109_0_0				37,44399	37,44399	5,87E-05	99,99993
LLD_SPF_0_0_0		22,6			22,6	3,54E-05	99,99997
OFG_FWS_0_0_0		20,7			20,7	3,25E-05	100

Table 7: Total effort subdivision 25-32 based on 2014 data from RDB FishFrame (per 18/08/2015). All métiers ordered by **effort in days at sea**. Shadowed lines show the métiers cumulating 90% of the total efforts in the fishing ground.

Region	FishingGround	Metier	Year	Germany	Denmark	Estonia	Finland	Lithuania	Latvia	Poland	Sweden	SumEffortDaysAtSea	Percentage	AccuPercentage	In_90
Baltic Sea	27,SD25-32	GNS_FWS_>0_0_0	2014	0	0	0	81 863	2 743	1 986	6 014	9 697	102 303	37,15	37,15	Yes
Baltic Sea	27,SD25-32	GNS_DEF_110-156_0_0	2014	0	378	0	0	137	4 091	24 742	5 575	34 923	12,68	49,83	Yes
Baltic Sea	27,SD25-32	FYK_FWS_>0_0_0	2014	0	0	0	26 110	0	872	0	242	27 224	9,88	59,71	Yes
Baltic Sea	27,SD25-32	FYK_ANA_>0_0_0	2014	0	0	0	16 550	0	0	0	259	16 809	6,10	65,81	Yes
Baltic Sea	27,SD25-32	OTB_DEF_>=105_1_120	2014	544	3 252	0	79	0	1 128	9 629	870	15 502	5,63	71,44	Yes
Baltic Sea	27,SD25-32	OTM_SPF_16-31_0_0	2014	115	183	0	0	0	5 261	3 716	186	9 461	3,44	74,88	Yes
Baltic Sea	27,SD25-32	OTM_SPF_16-104_0_0	2014	114	139	2 891	4 853	261	0	107	933	9 298	3,38	78,25	Yes
Baltic Sea	27,SD25-32	FYK_SPF_>0_0_0	2014	0	0	0	6 955	0	0	0	447	7 402	2,69	80,94	Yes
Baltic Sea	27,SD25-32	GNS_SPF_16-109_0_0	2014	0	0	0	3 260	0	1 730	0	2 169	7 159	2,60	83,54	Yes
Baltic Sea	27,SD25-32	FPO_FWS_>0_0_0	2014	0	0	0	1 753	0	1 179	2 019	928	5 879	2,13	85,68	Yes
Baltic Sea	27,SD25-32	GNS_SPF_32-109_0_0	2014	0	0	0	0	1 335	0	2 497	678	4 510	1,64	87,31	Yes
Baltic Sea	27,SD25-32	FPN_CAT_>0_0_0	2014	0	0	0	0	0	0	0	4 140	4 140	1,50	88,82	Yes
Baltic Sea	27,SD25-32	FYK_CAT_>0_0_0	2014	0	0	0	0	0	0	0	2 855	2 855	1,04	89,85	Yes
Baltic Sea	27,SD25-32	FPO_ANA_>0_0_0	2014	0	0	0	0	0	0	13	2 719	2 732	0,99	90,85	No
Baltic Sea	27,SD25-32	GNS_ANA_>=157_0_0	2014	0	0	0	0	0	71	2 281	13	2 365	0,86	91,70	No
Baltic Sea	27,SD25-32	OTM_SPF_32-104_0_0	2014	1	69	0	0	0	0	2 101	137	2 308	0,84	92,54	No
Baltic Sea	27,SD25-32	LLS_DEF_0_0_0	2014	0	58	0	0	70	29	1 219	702	2 078	0,75	93,30	No
Baltic Sea	27,SD25-32	GNS_DEF_>=157_0_0	2014	0	71	0	0	419	0	748	440	1 678	0,61	93,91	No
Baltic Sea	27,SD25-32	OTB_DEF_>=120_0_0	2014	0	0	0	0	972	0	0	519	1 491	0,54	94,45	No
Baltic Sea	27,SD25-32	FPO_CAT_>0_0_0	2014	0	0	0	0	0	0	508	855	1 363	0,49	94,94	No
Baltic Sea	27,SD25-32	LLS_FWS_0_0_0	2014	0	0	0	1 325	0	0	32	0	1 357	0,49	95,43	No
Baltic Sea	27,SD25-32	FPN_SPF_>0_0_0	2014	0	0	0	0	0	1 304	0	21	1 325	0,48	95,92	No
Baltic Sea	27,SD25-32	PTM_SPF_16-31_0_0	2014	0	147	0	0	314	0	574	231	1 266	0,46	96,38	No
Baltic Sea	27,SD25-32	LLD_ANA_0_0_0	2014	0	291	0	49	0	5	749	0	1 094	0,40	96,77	No
Baltic Sea	27,SD25-32	GNS_SPF_110-156_0_0	2014	0	0	0	0	950	0	14	0	964	0,35	97,12	No
Baltic Sea	27,SD25-32	FPO_SPF_>0_0_0	2014	0	0	0	0	0	0	954	5	959	0,35	97,47	No
Baltic Sea	27,SD25-32	MIS_MIS_0_0_0	2014	0	949	0	0	0	0	0	0	949	0,34	97,82	No
Baltic Sea	27,SD25-32	PTB_FWS_>0_0_0	2014	0	0	0	0	0	0	0	543	543	0,20	98,01	No
Baltic Sea	27,SD25-32	OTB_SPF_16-31_0_0	2014	0	0	0	0	0	0	21	478	499	0,18	98,19	No
Baltic Sea	27,SD25-32	OTB_SPF_16-104_0_0	2014	0	0	0	0	0	0	0	411	411	0,15	98,34	No
Baltic Sea	27,SD25-32	OTT_DEF_>=105_1_120	2014	0	0	0	0	0	0	0	357	357	0,13	98,60	No
Baltic Sea	27,SD25-32	PTM_SPF_16-104_0_0	2014	0	22	0	0	0	0	0	335	357	0,13	98,60	No
Baltic Sea	27,SD25-32	FPO_DEF_>0_0_0	2014	0	0	0	0	0	0	283	56	339	0,12	98,73	No
Baltic Sea	27,SD25-32	OTB_SPF_32-104_0_0	2014	0	0	0	0	0	0	111	216	327	0,12	98,84	No
Baltic Sea	27,SD25-32	PTM_SPF_32-104_0_0	2014	0	98	0	0	0	0	163	42	303	0,11	98,95	No
Baltic Sea	27,SD25-32	GNS_ANA_110-156_0_0	2014	0	0	0	0	0	0	201	89	290	0,11	99,06	No
Baltic Sea	27,SD25-32	LLS_CAT_0_0_0	2014	0	0	0	0	0	0	265	22	287	0,10	99,16	No
Baltic Sea	27,SD25-32	OTM_DEF_<16_0_0	2014	0	1	0	0	0	0	262	0	263	0,10	99,26	No
Baltic Sea	27,SD25-32	PTB_SPF_16-31_0_0	2014	0	0	0	0	0	0	252	0	252	0,09	99,35	No
Baltic Sea	27,SD25-32	PTB_SPF_32-104_0_0	2014	0	0	0	0	0	0	226	16	242	0,09	99,44	No
Baltic Sea	27,SD25-32	GTR_DEF_110-156_0_0	2014	0	0	0	0	0	0	0	177	177	0,06	99,50	No
Baltic Sea	27,SD25-32	GNS_DEF_>=220_0_0	2014	0	0	0	0	0	168	0	0	168	0,06	99,56	No
Baltic Sea	27,SD25-32	OTM_DEF_>=105_1_110	2014	0	0	163	0	0	0	0	0	163	0,06	99,62	No
Baltic Sea	27,SD25-32	SDN_DEF_>=105_1_110	2014	0	0	0	0	0	158	0	0	158	0,06	99,68	No
Baltic Sea	27,SD25-32	FPN_FWS_>0_0_0	2014	0	0	0	0	0	0	0	115	115	0,04	99,72	No
Baltic Sea	27,SD25-32	OTT_DEF_>=120_0_0	2014	0	0	0	0	0	0	0	111	111	0,04	99,76	No
Baltic Sea	27,SD25-32	PS_SPF_16-31_0_0	2014	0	0	0	0	0	0	0	82	82	0,03	99,79	No
Baltic Sea	27,SD25-32	OTM_FWS_>0_0_0	2014	0	0	0	78	0	0	0	0	78	0,03	99,82	No
Baltic Sea	27,SD25-32	FPN_ANA_>0_0_0	2014	0	0	0	0	0	0	0	75	75	0,03	99,85	No
Baltic Sea	27,SD25-32	SSC_FWS_>0_0_0	2014	0	0	0	69	0	0	0	0	69	0,03	99,87	No
Baltic Sea	27,SD25-32	PTM_FWS_>0_0_0	2014	0	0	0	65	0	0	0	0	65	0,02	99,90	No
Baltic Sea	27,SD25-32	OTM_DEF_>=105_1_120	2014	6	0	0	37	0	0	19	0	62	0,02	99,92	No
Baltic Sea	27,SD25-32	GTR_DEF_>=157_0_0	2014	0	0	0	0	0	0	0	50	50	0,02	99,94	No
Baltic Sea	27,SD25-32	LHP_FIF_0_0_0	2014	0	0	0	0	0	0	0	40	40	0,01	99,95	No
Baltic Sea	27,SD25-32	OTB_DEF_<16_0_0	2014	0	1	0	0	0	0	20	0	21	0,01	99,96	No
Baltic Sea	27,SD25-32	OTB_FWS_>0_0_0	2014	0	0	0	0	0	0	4	16	20	0,01	99,97	No
Baltic Sea	27,SD25-32	LLS_ANA_0_0_0	2014	0	0	0	0	0	0	15	0	15	0,01	99,97	No
Baltic Sea	27,SD25-32	OTB_SPF_>=120_0_0	2014	0	0	0	0	0	0	14	0	14	0,01	99,98	No
Baltic Sea	27,SD25-32	LLS_SPF_0_0_0	2014	0	0	0	0	0	0	13	0	13	0,00	99,99	No
Baltic Sea	27,SD25-32	SB_FIF_>0_0_0	2014	0	0	0	0	0	0	11	2	13	0,00	99,99	No
Baltic Sea	27,SD25-32	GNS_CAT_>0_0_0	2014	0	0	0	0	0	0	12	0	12	0,00	99,99	No
Baltic Sea	27,SD25-32	PTB_SPF_16-104_0_0	2014	0	0	0	0	0	0	0	10	10	0,00	99,99	No
Baltic Sea	27,SD25-32	PTB_DEF_>=105_1_120	2014	0	1	0	0	0	0	6	0	7	0,00	100,00	No
Baltic Sea	27,SD25-32	SSC_DEF_>=105_1_120	2014	6	0	0	0	0	0	0	0	6	0,00	100,00	No
Baltic Sea	27,SD25-32	OTM_DEF_>=120_0_0	2014	0	0	0	0	1	0	0	0	1	0,00	100,00	No
Baltic Sea	27,SD25-32	GNS_SPF_>=157_0_0	2014	0	0	0	0	0	0	1	0	1	0,00	100,00	No

Table 8: Total effort subdivision 25-32 based on NPs 2011-2013. All métiers ordered by **effort in fishing days**. Shadowed lines show the métiers cumulating 90% of the total effort in the fishing ground.

The figures are from the report of the RCM Baltic 2010 and they have not been updated.

Métier LVL6	DNK	EST	FIN	GER	LTU	LVA	POL	SWE		Total	%	Cum%
GNS_FWS_>0_0_0		0		91209		238	2268	5956	11129	110799	29,87188	29,87188
FYK_FWS_>0_0_0		45895		16510			2558		686	65649	17,69935	47,57124
GNS_DEF_110-156_0_0	1943	369			12	1285	7322	20731	9209	40871	11,01894	58,59018
FYK_ANA_>0_0_0				22002					716	22718	6,12479	64,71496
OTB_DEF_>=105_1_110	2600	301			249	2615	1171	7654	2412	17001	4,583448	69,29841
OTM_SPF_16-31_0_0	317				0	429	9857		71	10673	2,87745	72,17586
FPO_FWS_>0_0_0				2682			3636	1727	1817	9862	2,658769	74,83463
OTM_SPF_16-104_0_0		6851		2333	1				63	9248	2,493184	77,32782
FYK_SPF_>0_0_0				8692					127	8819	2,377754	79,70557
GNS_SPF_16-109_0_0				3982					4649	8630	2,32678	82,03235
FYK_CAT_>0_0_0						4800			3730	8530	2,299728	84,33208
FPO_ANA_>0_0_0									7156	7156	1,929291	86,26137
FPN_SPF_>0_0_0		3724					2920		20	6664	1,796511	88,05788
LLS_DEF_0_0_0	363					372	110	3261	1901	6006	1,619246	89,67712
FPN_CAT_>0_0_0									5545	5545	1,494823	91,17195
OTM_SPF_16-89_0_0								4844		4844	1,30583	92,47778
PTM_SPF_16-104_0_0	872			1563	76		32		546	3089	0,832827	93,3106
FPO_CAT_>0_0_0						1980		674	320	2974	0,801804	94,11241
GNS_ANA_>=157_0_0					6			2549		2554	0,688638	94,80105
GNS_SPF_16-109_0_0							2347			2347	0,632762	95,43381
PTM_SPF_16-31_0_0	800				95	827			609	2330	0,628293	96,0621
GNS_SPF_32-109_0_0								1565	700	2265	0,61052	96,67262
OTM_DEF_>=105_1_110	13				1	1237	323	477	131	2181	0,588035	97,26066
LLS_FWS_0_0_0				1274				53	8	1335	0,359824	97,62048
GNS_DEF_>=157_0_0	356								740	1096	0,295352	97,91583
OTB_SPF_16-31_0_0	67				0		70		885	1022	0,275603	98,19144
OTB_SPF_16-104_0_0					0				863	863	0,232561	98,424
LLD_ANA_0_0_0	227			169				228	127	749	0,201983	98,62598
FPO_SPF_>0_0_0								565		565	0,152192	98,77817

GND_ANA_>0_0_0		538						538	0,145081	98,92325
PTB_FWS_0_0_0							514	514	0,138577	99,06183
PTB_SPF_32-104_0_0	130					278	59	466	0,125681	99,18751
FPN_FWS_>0_0_0							345	345	0,092879	99,28039
OTB_SPF_32-104_0_0	11		0			302	3	316	0,085155	99,36554
FPO_DEF_>0_0_0						263	23	286	0,076972	99,44252
LLS_CAT_0_0_0						227	55	282	0,075894	99,51841
SDN_DEF_>=90_0_0					269			269	0,072524	99,59093
GTR_DEF_110-156_0_0	44						143	187	0,050416	99,64135
PTB_SPF_16-31_0_0	106		43					148	0,039969	99,68132
PTM_SPF_32-104_0_0	12						120	132	0,035588	99,71691
FPN_ANA_>0_0_0							127	127	0,034105	99,75101
LHP_FIF_0_0_0	19						104	123	0,033027	99,78404
GTR_DEF_>=157_0_0	105						1	106	0,028443	99,81248
GTR_FWS_>0_0_0							93	93	0,025073	99,83755
PTM_FWS_>0_0_0		68						68	0,018343	99,8559
PTB_SPF_16-104_0_0			39				20	59	0,015934	99,87183
GND_FWS_>0_0_0		58						58	0,01565	99,88748
PTB_DEF_>=105_1_110	14		40					54	0,014505	99,90199
FPN_DEF_>0_0_0							43	43	0,011593	99,91358
SB_FIF_0_0_0							39	39	0,010515	99,92409
OTM_SPF_32-104_0_0							34	34	0,009032	99,93312
OTT_DEF_>=105_1_110							33	33	0,008897	99,94202
PTB_DEF_>105_1_110						32		32	0,008627	99,95065
LLS_SPF_0_0_0						29	1	29	0,007819	99,95847
SDN_SPF_32-89_0_0						27		27	0,007145	99,96561
PTM_DEF_>=105_1_110			24					24	0,006578	99,97219
BTF_DEF_>105_1_110						20		20	0,005257	99,97745
PTB_SPF_16-104_0_0					17			17	0,004583	99,98203
PTM_SPF_32-89_0_0						15		15	0,004044	99,98607
OTM_SPF_32-89_0_0				13				13	0,003505	99,98958
PS_SPF_32-104_0_0							12	12	0,003235	99,99282
PVG_ANA_0_0_0			11					11	0,002831	99,99565
OTB_FWS_>=105_1_110						6		6	0,001618	99,99726

SSC_DEF_>=105_1_110	4		4	0,000984	99,99825
GTR_ANA_>=157_0_0		3	3	0,000809	99,99906
GTR_SPF_32-109_0_0		2	2	0,000404	99,99946
GTR_CAT_>0_0_0		1	1	0,00027	99,99973
LLS_ANA_0_0_0		1	1	0,00027	100

Table 9: Total landings subdivision 25-32 based on 2014 data from RDB FishFrame (per 18/08/2015). All métiers ordered by **amount of landings in tonnes**. Shadowed lines show the métiers cumulating 90% of the total landings in the fishing ground.

Region	FishingGround	Metier	Year	Germany	Denmark	Estonia	Finland	Lithuania	Latvia	Poland	Sweden	SumLandingCatchWeight	Percentage	AccuPercentage	In_90
Baltic Sea	27,SD25-32	OTM_SPF_16-104_0_0	2014	4 803	7 261	44 099	133 518	3 046	0	2 160	24 862	219 748	41,24	41,24	Yes
Baltic Sea	27,SD25-32	OTM_SPF_16-31_0_0	2014	6 396	5 787	0	0	0	51 689	52 338	11 073	127 284	23,88	65,12	Yes
Baltic Sea	27,SD25-32	PTM_SPF_16-31_0_0	2014	0	5 551	0	0	8 704	0	3 891	17 779	35 926	6,74	71,86	Yes
Baltic Sea	27,SD25-32	OTB_DEF_>=105_1_120	2014	883	7 069	0	370	0	2 995	16 412	1 555	29 284	5,50	77,36	Yes
Baltic Sea	27,SD25-32	PTM_SPF_16-104_0_0	2014	0	542	0	0	0	0	0	24 103	24 644	4,62	81,98	Yes
Baltic Sea	27,SD25-32	OTM_SPF_32-104_0_0	2014	60	649	0	0	0	0	19 232	2 301	22 243	4,17	86,15	Yes
Baltic Sea	27,SD25-32	FPN_SPF_>0_0_0	2014	0	0	7 370	0	0	3 837	0	1	11 208	2,10	88,26	Yes
Baltic Sea	27,SD25-32	FYK_SPF_>0_0_0	2014	0	0	0	8 502	0	0	0	28	8 530	1,60	89,86	Yes
Baltic Sea	27,SD25-32	MIS_MIS_0_0_0	2014	0	6 544	0	0	0	0	0	0	6 544	1,23	91,09	No
Baltic Sea	27,SD25-32	GNS_DEF_110-156_0_0	2014	0	72	0	0	101	798	4 933	605	6 509	1,22	92,31	No
Baltic Sea	27,SD25-32	OTB_SPF_16-104_0_0	2014	0	0	0	0	0	0	0	5 088	5 088	0,95	93,26	No
Baltic Sea	27,SD25-32	GNS_FWS_>0_0_0	2014	0	0	1 237	2 204	268	110	449	296	4 564	0,86	94,12	No
Baltic Sea	27,SD25-32	OTB_SPF_16-31_0_0	2014	0	0	0	0	0	0	63	4 455	4 518	0,85	94,97	No
Baltic Sea	27,SD25-32	FYK_FWS_>0_0_0	2014	0	0	1 623	2 367	0	42	0	3	4 035	0,76	95,72	No
Baltic Sea	27,SD25-32	PTM_SPF_32-104_0_0	2014	0	1 317	0	0	0	0	490	1 625	3 433	0,64	96,37	No
Baltic Sea	27,SD25-32	OTB_DEF_>=120_0_0	2014	0	0	0	0	1 535	0	0	954	2 489	0,47	96,83	No
Baltic Sea	27,SD25-32	FPO_SPF_>0_0_0	2014	0	0	0	0	0	0	2 388	0	2 388	0,45	97,28	No
Baltic Sea	27,SD25-32	OTM_DEF_<16_0_0	2014	0	2	0	0	0	0	2 016	0	2 018	0,38	97,66	No
Baltic Sea	27,SD25-32	PTB_FWS_>0_0_0	2014	0	0	0	0	0	0	0	1 831	1 831	0,34	98,00	No
Baltic Sea	27,SD25-32	OTB_SPF_32-104_0_0	2014	0	0	0	0	0	0	200	1 187	1 386	0,26	98,26	No
Baltic Sea	27,SD25-32	GNS_SPF_32-109_0_0	2014	0	0	0	0	73	0	1 234	39	1 346	0,25	98,52	No
Baltic Sea	27,SD25-32	GNS_SPF_16-109_0_0	2014	0	0	0	255	0	223	0	671	1 149	0,22	98,73	No
Baltic Sea	27,SD25-32	PTB_SPF_16-31_0_0	2014	0	0	0	0	0	0	944	0	944	0,18	98,91	No
Baltic Sea	27,SD25-32	FYK_ANA_>0_0_0	2014	0	0	0	780	0	0	0	10	789	0,15	99,06	No
Baltic Sea	27,SD25-32	OTT_DEF_>=105_1_120	2014	0	0	0	0	0	0	0	787	787	0,15	99,21	No
Baltic Sea	27,SD25-32	LLS_DEF_0_0_0	2014	0	7	0	0	7	1	513	161	689	0,13	99,34	No
Baltic Sea	27,SD25-32	PTB_SPF_32-104_0_0	2014	0	0	0	0	0	0	561	1	562	0,11	99,44	No
Baltic Sea	27,SD25-32	PS_SPF_16-31_0_0	2014	0	0	0	0	0	0	0	488	488	0,09	99,53	No
Baltic Sea	27,SD25-32	GNS_DEF_>=157_0_0	2014	0	28	0	0	11	8	274	26	347	0,07	99,60	No
Baltic Sea	27,SD25-32	FPO_FWS_>0_0_0	2014	0	0	0	21	0	73	211	19	325	0,06	99,66	No
Baltic Sea	27,SD25-32	OTM_DEF_>=105_1_110	2014	0	0	266	0	0	0	0	0	266	0,05	99,71	No
Baltic Sea	27,SD25-32	OTT_DEF_>=120_0_0	2014	0	0	0	0	0	0	0	265	265	0,05	99,76	No
Baltic Sea	27,SD25-32	FPO_ANA_>0_0_0	2014	0	0	0	0	0	0	1	211	211	0,04	99,80	No
Baltic Sea	27,SD25-32	OTB_SPF_>=120_0_0	2014	0	0	0	0	0	0	184	0	184	0,03	99,83	No
Baltic Sea	27,SD25-32	FPN_CAT_>0_0_0	2014	0	0	0	0	0	0	0	139	139	0,03	99,86	No
Baltic Sea	27,SD25-32	PTM_FWS_>0_0_0	2014	0	0	0	126	0	0	0	0	126	0,02	99,88	No
Baltic Sea	27,SD25-32	LLD_ANA_0_0_0	2014	0	49	0	1	0	0	40	0	90	0,02	99,90	No
Baltic Sea	27,SD25-32	GNS_ANA_>=157_0_0	2014	0	0	0	0	0	5	72	0	78	0,01	99,91	No
Baltic Sea	27,SD25-32	SDN_DEF_>=105_1_110	2014	0	0	0	0	0	72	0	0	72	0,01	99,93	No
Baltic Sea	27,SD25-32	OTM_FWS_>0_0_0	2014	0	0	0	57	0	0	0	0	57	0,01	99,94	No
Baltic Sea	27,SD25-32	FYK_CAT_>0_0_0	2014	0	0	0	0	0	0	0	43	43	0,01	99,95	No
Baltic Sea	27,SD25-32	OTM_DEF_>=105_1_120	2014	7	0	0	4	0	0	25	0	36	0,01	99,95	No
Baltic Sea	27,SD25-32	SDN_DEF_>=105_1_120	2014	0	0	34	0	0	0	0	0	34	0,01	99,96	No
Baltic Sea	27,SD25-32	GNS_SPF_110-156_0_0	2014	0	0	0	0	22	0	4	0	26	0,00	99,96	No
Baltic Sea	27,SD25-32	OTB_DEF_<16_0_0	2014	0	2	0	0	0	0	23	0	25	0,00	99,97	No
Baltic Sea	27,SD25-32	PTB_SPF_16-104_0_0	2014	0	0	0	0	0	0	0	24	24	0,00	99,97	No
Baltic Sea	27,SD25-32	FPO_CAT_>0_0_0	2014	0	0	0	0	0	0	9	15	24	0,00	99,98	No
Baltic Sea	27,SD25-32	GTR_DEF_110-156_0_0	2014	0	0	0	0	0	0	0	18	18	0,00	99,98	No
Baltic Sea	27,SD25-32	SB_FIF_>0_0_0	2014	0	0	0	0	0	0	4	11	15	0,00	99,98	No
Baltic Sea	27,SD25-32	OTM_DEF_>=120_0_0	2014	0	0	0	0	14	0	0	0	14	0,00	99,99	No
Baltic Sea	27,SD25-32	SSC_FWS_>0_0_0	2014	0	0	0	11	0	0	0	0	11	0,00	99,99	No
Baltic Sea	27,SD25-32	LLS_FWS_0_0_0	2014	0	0	1	10	0	0	1	0	11	0,00	99,99	No
Baltic Sea	27,SD25-32	OTB_FWS_>0_0_0	2014	0	0	0	0	0	0	1	10	11	0,00	99,99	No
Baltic Sea	27,SD25-32	FPO_DEF_>0_0_0	2014	0	0	0	0	0	0	7	3	10	0,00	99,99	No
Baltic Sea	27,SD25-32	GNS_ANA_110-156_0_0	2014	0	0	0	0	0	0	6	1	7	0,00	100,00	No
Baltic Sea	27,SD25-32	GNS_DEF_>=220_0_0	2014	0	0	0	0	0	5	0	0	5	0,00	100,00	No
Baltic Sea	27,SD25-32	FPN_FWS_>0_0_0	2014	0	0	0	0	0	0	0	4	4	0,00	100,00	No
Baltic Sea	27,SD25-32	FPN_ANA_>0_0_0	2014	0	0	0	0	0	0	0	3	3	0,00	100,00	No
Baltic Sea	27,SD25-32	LLS_CAT_0_0_0	2014	0	0	0	0	0	0	2	0	2	0,00	100,00	No
Baltic Sea	27,SD25-32	LHP_FIF_0_0_0	2014	0	0	0	0	0	0	0	2	2	0,00	100,00	No
Baltic Sea	27,SD25-32	LLS_ANA_0_0_0	2014	0	0	0	0	0	0	1	0	1	0,00	100,00	No
Baltic Sea	27,SD25-32	PTB_DEF_>=105_1_120	2014	0	0	0	0	0	0	1	0	1	0,00	100,00	No
Baltic Sea	27,SD25-32	GTR_DEF_>=157_0_0	2014	0	0	0	0	0	0	0	1	1	0,00	100,00	No
Baltic Sea	27,SD25-32	LLS_SPF_0_0_0	2014	0	0	0	0	0	0	1	0	1	0,00	100,00	No
Baltic Sea	27,SD25-32	SSC_DEF_>=105_1_120	2014	1	0	0	0	0	0	0	0	1	0,00	100,00	No
Baltic Sea	27,SD25-32	GNS_SPF_>=157_0_0	2014	0	0	0	0	0	0	1	0	1	0,00	100,00	No
Baltic Sea	27,SD25-32	GNS_CAT_>0_0_0	2014	0	0	0	0	0	0	0	0	0	0,00	100,00	No

Table 10: Total landings subdivision 25-32 based on NPs 2011-2013. All métiers ordered by **amount of landings in tonnes**. Shadowed lines show the métiers cumulating 90% of the total amount of landings in the fishing ground. *The figures are from the report of the RCM Baltic 2010 and they have not been updated.*

Métier LVL6	DNK	EST	FIN	GER	LTU	LVA	POL	SWE	Total	%	Cum%
OTM_SPF_16-104_0_0		70622	71133	327				3684	145766	23,45397	23,45397
PTM_SPF_16-104_0_0	21018		26237	6972		177		52526	106930	17,20527	40,65924
OTM_SPF_16-31_0_0	4901			68	6120	79782		3617	94488	15,20324	55,86248
PTM_SPF_16-31_0_0	15540			6424	17063			52320	91346	14,69774	70,56021
OTM_SPF_16-89_0_0							68271		68271	10,98498	81,54519
OTB_DEF_>=105_1_110	6739	567		1718	1940	2148	8525	5988	27625	4,444881	85,99007
PTB_SPF_16-31_0_0	1667			10085					11752	1,890914	87,88099
GNS_DEF_110-156_0_0	811	301		26	223	2129	5401	1872	10763	1,731794	89,61278
FPN_SPF_>0_0_0		8288				1839		0	10127	1,629523	91,2423
OTB_SPF_16-31_0_0	1017			4		140		8650	9810	1,578492	92,8208
PTB_SPF_16-104_0_0				7655		56		47	7758	1,248219	94,06901
OTB_SPF_16-104_0_0				5				6498	6503	1,046296	95,11531
PTM_SPF_32-104_0_0	247							5887	6134	0,987	96,10231
FYK_SPF_>0_0_0			5077					2	5079	0,81717	96,91948
GNS_FWS_>0_0_0		907	1848		1	29	423	232	3440	0,55344	97,47292
OTM_DEF_>=105_1_110	92			7	920	451	722	695	2887	0,464467	97,93739
LLS_DEF_0_0_0	114				56	2	1291	661	2124	0,341812	98,2792
FYK_FWS_>0_0_0		1327	516			15		6	1864	0,299893	98,57909
PTB_SPF_32-104_0_0	1179						379	6	1564	0,251611	98,8307
GNS_SPF_16-109_0_0			233			108		856	1197	0,192604	99,02331
OTB_SPF_32-104_0_0	67			3			952	17	1039	0,167157	99,19047
FPO_SPF_>0_0_0							866		866	0,139373	99,32984
PTB_FWS_0_0_0								865	865	0,139187	99,46903
FYK_ANA_>0_0_0			514					12	526	0,08471	99,55374
FPO_FWS_>0_0_0			46			150	144	18	359	0,057709	99,61144
PTB_DEF_>=105_1_110	60			250			6		316	0,050916	99,66236
FPN_CAT_>0_0_0								215	215	0,034639	99,697
OTM_SPF_32-104_0_0								207	207	0,033252	99,73025
GNS_DEF_>=157_0_0	121							74	194	0,031275	99,76153
FPO_ANA_>0_0_0								194	194	0,031182	99,79271

GNS_SPF_32-109_0_0						168	13	180	0,029001	99,82171
LLD_ANA_0_0_0	33	35				48	59	175	0,028099	99,84981
PTM_FWS_>0_0_0		136						136	0,021858	99,87167
PTM_DEF_>=105_1_110			100					100	0,016069	99,88774
GND_ANA_>0_0_0		81						81	0,013076	99,90081
SSC_DEF_>=105_1_110			76					76	0,012307	99,91312
GNS_ANA_>=157_0_0			0			75		75	0,012134	99,92525
SDN_DEF_>=90_0_0					71			71	0,011424	99,93668
OTT_DEF_>=105_1_110							63	63	0,010167	99,94684
PS_SPF_32-104_0_0							62	62	0,010001	99,95684
GTR_DEF_>=157_0_0	49						0	49	0,007914	99,96476
FYK_CAT_>0_0_0				10			34	44	0,007071	99,97183
OTM_SPF_32-89_0_0				35				35	0,005553	99,97738
SB_FIF_0_0_0							31	31	0,004978	99,98236
PTM_SPF_32-89_0_0						23		23	0,003716	99,98608
FPN_FWS_>0_0_0							15	15	0,0024	99,98848
LHP_FIF_0_0_0	3						11	13	0,00212	99,9906
FPO_CAT_>0_0_0				4		5	4	13	0,002106	99,9927
LLS_FWS_0_0_0		8				2	0	10	0,001645	99,99435
GTR_DEF_110-156_0_0	5						4	9	0,001442	99,99579
FPO_DEF_>0_0_0						8	1	8	0,00132	99,99711
OTB_FWS_>=105_1_110						4		4	0,000662	99,99777
LLS_CAT_0_0_0						4	0	4	0,000641	99,99841
FPN_ANA_>0_0_0							2	2	0,000375	99,99879
FPN_DEF_>0_0_0							2	2	0,000301	99,99909
LLS_SPF_0_0_0						2	0	2	0,000263	99,99935
GTR_FWS_>0_0_0							2	2	0,000243	99,99959
SDN_SPF_32-89_0_0						1		1	0,000166	99,99976
BTF_DEF_>105_1_110						1		1	0,000121	99,99988
PVG_ANA_0_0_0			1					1	0,00012	100

Table 11: Total value subdivision 25-32 based on 2014 data from RDB FishFrame (per 18/08/2015). All métiers ordered by **value of landings in thousand €.** Shadowed lines show the métiers cumulating 90% of the total values in the fishing ground.

Region	FishingGround	Metier	Year	Germany	Denmark	Estonia	Finland	Lithuania	Latvia	Poland	Sweden	SumLandingValue	Percentage	AccuPercentage	In_90
Baltic Sea	27,SD25-32	OTM_SPF_16-104_0_0	2014	1 075	1 633	9 108	28 265	774	0	0	5 143	45 997	34,92	34,92	Yes
Baltic Sea	27,SD25-32	OTM_SPF_16-31_0_0	2014	1 555	1 450	0	0	0	16 639	0	2 620	22 264	16,90	51,82	Yes
Baltic Sea	27,SD25-32	OTB_DEF_>=105_1_120	2014	680	5 604	0	430	0	1 936	0	1 464	10 114	7,68	59,50	Yes
Baltic Sea	27,SD25-32	GNS_FWS_>0_0_0	2014	0	0	1 672	5 868	276	98	0	836	8 750	6,64	66,14	Yes
Baltic Sea	27,SD25-32	PTM_SPF_16-31_0_0	2014	0	1 329	0	0	2 058	0	0	4 346	7 733	5,87	72,01	Yes
Baltic Sea	27,SD25-32	PTM_SPF_16-104_0_0	2014	0	125	0	0	0	0	0	5 106	5 231	3,97	75,98	Yes
Baltic Sea	27,SD25-32	PTB_FWS_>0_0_0	2014	0	0	0	0	0	0	0	5 216	5 216	3,96	79,94	Yes
Baltic Sea	27,SD25-32	FYK_FWS_>0_0_0	2014	0	0	1 862	1 776	0	27	0	5	3 670	2,79	82,73	Yes
Baltic Sea	27,SD25-32	FPN_SPF_>0_0_0	2014	0	0	1 499	0	0	1 040	0	1	2 540	1,93	84,66	Yes
Baltic Sea	27,SD25-32	OTB_DEF_>=120_0_0	2014	0	0	0	0	1 229	0	0	898	2 128	1,62	86,27	Yes
Baltic Sea	27,SD25-32	FYK_SPF_>0_0_0	2014	0	0	0	2 003	0	0	0	77	2 080	1,58	87,85	Yes
Baltic Sea	27,SD25-32	OTB_SPF_16-104_0_0	2014	0	0	0	0	0	0	0	1 971	1 971	1,50	89,35	Yes
Baltic Sea	27,SD25-32	MIS_MIS_0_0_0	2014	0	1 741	0	0	0	0	0	0	1 741	1,32	90,67	No
Baltic Sea	27,SD25-32	GNS_DEF_110-156_0_0	2014	0	56	0	0	111	831	0	700	1 697	1,29	91,96	No
Baltic Sea	27,SD25-32	FYK_ANA_>0_0_0	2014	0	0	0	1 635	0	0	0	25	1 660	1,26	93,22	No
Baltic Sea	27,SD25-32	PTM_SPF_32-104_0_0	2014	0	503	0	0	0	0	0	609	1 112	0,84	94,06	No
Baltic Sea	27,SD25-32	OTB_SPF_16-31_0_0	2014	0	0	0	0	0	0	0	1 100	1 100	0,83	94,90	No
Baltic Sea	27,SD25-32	FPN_CAT_>0_0_0	2014	0	0	0	0	0	0	0	839	839	0,64	95,53	No
Baltic Sea	27,SD25-32	OTT_DEF_>=105_1_120	2014	0	0	0	0	0	0	0	799	799	0,61	96,14	No
Baltic Sea	27,SD25-32	GNS_SPF_16-109_0_0	2014	0	0	0	63	0	62	0	642	768	0,58	96,72	No
Baltic Sea	27,SD25-32	OTM_SPF_32-104_0_0	2014	14	212	0	0	0	0	0	526	752	0,57	97,29	No
Baltic Sea	27,SD25-32	OTB_SPF_32-104_0_0	2014	0	0	0	0	0	0	0	649	649	0,49	97,79	No
Baltic Sea	27,SD25-32	FPO_ANA_>0_0_0	2014	0	0	0	0	0	0	0	577	577	0,44	98,23	No
Baltic Sea	27,SD25-32	FYK_CAT_>0_0_0	2014	0	0	0	0	0	0	0	286	286	0,22	98,44	No
Baltic Sea	27,SD25-32	OTM_DEF_>=105_1_110	2014	0	0	276	0	0	0	0	0	276	0,21	98,65	No
Baltic Sea	27,SD25-32	OTT_DEF_>=120_0_0	2014	0	0	0	0	0	0	0	240	240	0,18	98,83	No
Baltic Sea	27,SD25-32	LLD_ANA_0_0_0	2014	0	229	0	6	0	2	0	0	237	0,18	99,01	No
Baltic Sea	27,SD25-32	PTM_FWS_>0_0_0	2014	0	0	0	182	0	0	0	0	182	0,14	99,15	No
Baltic Sea	27,SD25-32	LLS_DEF_0_0_0	2014	0	7	0	0	8	1	0	158	174	0,13	99,28	No
Baltic Sea	27,SD25-32	PS_SPF_16-31_0_0	2014	0	0	0	0	0	0	0	157	157	0,12	99,40	No
Baltic Sea	27,SD25-32	OTM_FWS_>0_0_0	2014	0	0	0	125	0	0	0	0	125	0,09	99,50	No
Baltic Sea	27,SD25-32	FPO_FWS_>0_0_0	2014	0	0	0	30	0	37	0	42	109	0,08	99,58	No
Baltic Sea	27,SD25-32	GNS_DEF_>=157_0_0	2014	0	8	0	0	19	13	0	69	108	0,08	99,66	No
Baltic Sea	27,SD25-32	FPO_CAT_>0_0_0	2014	0	0	0	0	0	0	0	95	95	0,07	99,74	No
Baltic Sea	27,SD25-32	GNS_SPF_32-109_0_0	2014	0	0	0	0	71	0	0	12	83	0,06	99,80	No
Baltic Sea	27,SD25-32	GTR_DEF_110-156_0_0	2014	0	0	0	0	0	0	0	38	38	0,03	99,83	No
Baltic Sea	27,SD25-32	OTB_FWS_>0_0_0	2014	0	0	0	0	0	0	0	31	31	0,02	99,85	No
Baltic Sea	27,SD25-32	PTB_SPF_16-104_0_0	2014	0	0	0	0	0	0	0	26	26	0,02	99,87	No
Baltic Sea	27,SD25-32	SDN_DEF_>=105_1_120	2014	0	0	25	0	0	0	0	0	25	0,02	99,89	No
Baltic Sea	27,SD25-32	SDN_DEF_>=105_1_110	2014	0	0	0	0	0	22	0	0	22	0,02	99,91	No
Baltic Sea	27,SD25-32	LLS_FWS_0_0_0	2014	0	0	1	17	0	0	0	0	18	0,01	99,92	No
Baltic Sea	27,SD25-32	GNS_SPF_110-156_0_0	2014	0	0	0	0	18	0	0	0	18	0,01	99,93	No
Baltic Sea	27,SD25-32	FPN_FWS_>0_0_0	2014	0	0	0	0	0	0	0	16	16	0,01	99,94	No
Baltic Sea	27,SD25-32	SSC_FWS_>0_0_0	2014	0	0	0	15	0	0	0	0	15	0,01	99,96	No
Baltic Sea	27,SD25-32	OTM_DEF_>=105_1_120	2014	7	0	0	4	0	0	0	0	11	0,01	99,96	No
Baltic Sea	27,SD25-32	OTM_DEF_>=120_0_0	2014	0	0	0	0	11	0	0	0	11	0,01	99,97	No
Baltic Sea	27,SD25-32	FPN_ANA_>0_0_0	2014	0	0	0	0	0	0	0	9	9	0,01	99,98	No
Baltic Sea	27,SD25-32	SB_FIF_>0_0_0	2014	0	0	0	0	0	0	0	5	5	0,00	99,99	No
Baltic Sea	27,SD25-32	GNS_ANA_>=157_0_0	2014	0	0	0	0	0	3	0	1	5	0,00	99,99	No
Baltic Sea	27,SD25-32	GNS_ANA_110-156_0_0	2014	0	0	0	0	0	0	0	4	4	0,00	99,99	No
Baltic Sea	27,SD25-32	FPO_DEF_>0_0_0	2014	0	0	0	0	0	0	0	3	3	0,00	99,99	No
Baltic Sea	27,SD25-32	LHP_FIF_0_0_0	2014	0	0	0	0	0	0	0	2	2	0,00	99,99	No
Baltic Sea	27,SD25-32	OTM_DEF_<16_0_0	2014	0	1	0	0	0	0	0	0	1	0,00	99,99	No
Baltic Sea	27,SD25-32	OTB_DEF_<16_0_0	2014	0	1	0	0	0	0	0	0	1	0,00	99,99	No
Baltic Sea	27,SD25-32	GTR_DEF_>=157_0_0	2014	0	0	0	0	0	0	0	1	1	0,00	99,99	No
Baltic Sea	27,SD25-32	SSC_DEF_>=105_1_120	2014	1	0	0	0	0	0	0	0	1	0,00	100,00	No
Baltic Sea	27,SD25-32	LLS_CAT_0_0_0	2014	0	0	0	0	0	0	0	1	1	0,00	100,00	No
Baltic Sea	27,SD25-32	PTB_SPF_32-104_0_0	2014	0	0	0	0	0	0	0	0	0	0,00	100,00	No
Baltic Sea	27,SD25-32	FPO_SPF_>0_0_0	2014	0	0	0	0	0	0	0	0	0	0,00	100,00	No
Baltic Sea	27,SD25-32	PTB_DEF_>=105_1_120	2014	0	0	0	0	0	0	0	0	0	0,00	100,00	No

Table 12: Total value subdivision 25-32 based on NPs 2011-2013. All métiers ordered by **value of landings in €**. Shadowed lines show the métiers cumulating 90% of the total values in the fishing ground. *The figures are from the report of the RCM Baltic 2010 and they have not been updated.*

Métier LVL6	DNK	EST	FIN	GER	LTU	LVA	POL	SWE	Total	%	Cum %
OTB_DEF_>=105_1_110	7791887	382639		2034052	2358694	2353134	7249108	9014508	31184023	17,7065	17,7065
OTM_SPF_16-104_0_0		11467990	10446273	54904				681208	22650374	12,861	30,5676
PTM_SPF_16-104_0_0	3058594		3584747	1064469		31342		9222676	16961827	9,631	40,1986
PTB_FWS_0_0_0								16869438	16869438	9,5786	49,7772
PTM_SPF_16-31_0_0	2207658			1081735	2694300			8950165	14933858	8,4795	58,2567
OTM_SPF_16-31_0_0	682817			11609	827010	12566117		624850	14712403	8,3538	66,6105
OTM_SPF_16-89_0_0							12725270		12725270	7,2255	73,836
GNS_DEF_110-156_0_0	1021333	199728		29885	324200	2882742	5006143	2777940	12241972	6,9511	80,7871
GNS_FWS_>0_0_0		1195478	4263549		942	19313	676646	1042154	7198082	4,0871	84,8742
OTM_DEF_>=105_1_110	86065			8672	1326926	631088	934195	1054986	4041933	2,295	87,1693
LLS_DEF_0_0_0	152220				82550	3901	1627602	996659	2862932	1,6256	88,7949
PTB_SPF_16-31_0_0	210854			1554125					1764980	1,0022	89,797
OTB_SPF_16-31_0_0	172493			454		20999		1500782	1694728	0,9623	90,7593
FPN_SPF_>0_0_0		1275065				332272		302	1607639	0,9128	91,6721
OTB_SPF_16-104_0_0				800				1371013	1371813	0,7789	92,4511
FYK_ANA_>0_0_0			1303164					42289	1345453	0,764	93,215
FYK_FWS_>0_0_0		862171	452286			7780		13816	1336053	0,7586	93,9736
PTM_SPF_32-104_0_0	95014							1240635	1335649	0,7584	94,732
FPN_CAT_>0_0_0								1325678	1325678	0,7527	95,4848
PTB_SPF_16-104_0_0				1164364		10190		11207	1185761	0,6733	96,158

FYK_SPF_>0_0_0			825260					37769	863029	0,49	96,6481
LLD_ANA_0_0_0	153090		139650				241823	213809	748371	0,4249	97,073
FPO_ANA_>0_0_0								640151	640151	0,3635	97,4365
PTB_SPF_32-104_0_0	386530						114370	1468	502368	0,2852	97,7217
FPO_FWS_>0_0_0			49293			116577	213585	40762	420218	0,2386	97,9603
FYK_CAT_>0_0_0					163722			217547	381269	0,2165	98,1768
PTB_DEF_>=105_1_110	81876			281246					363122	0,2062	98,383
GNS_ANA_>=157_0_0				0			354835		354835	0,2015	98,5845
GNS_DEF_>=157_0_0	170717							142693	313411	0,178	98,7625
GNS_SPF_16-109_0_0			36932			24661		230547	292140	0,1659	98,9283
FPN_FWS_>0_0_0								262223	262223	0,1489	99,0772
GND_ANA_>0_0_0			257326						257326	0,1461	99,2233
OTB_SPF_32-104_0_0	20893			707			207371	2630	231601	0,1315	99,3548
FPO_SPF_>0_0_0							213585		213585	0,1213	99,4761
FPO_CAT_>0_0_0					65489		46984	20469	132942	0,0755	99,5516
SSC_DEF_>=105_1_110				126094					126094	0,0716	99,6232
PTM_DEF_>=105_1_110				120662					120662	0,0685	99,6917
OTT_DEF_>=105_1_110								95983	95983	0,0545	99,7462
GNS_SPF_32-109_0_0							78066	3099	81165	0,0461	99,7923
SB_FIF_0_0_0								59040	59040	0,0335	99,8258
GTR_DEF_>=157_0_0	56371							157	56529	0,0321	99,8579
PTM_FWS_>0_0_0			36431						36431	0,0207	99,8786
OTM_SPF_32-104_0_0								35267	35267	0,02	99,8986

LLS_CAT_0_0_0							28746	1258	30004	0,017	99,9157
SDN_DEF_>=90_0_0						21775			21775	0,0124	99,928
LHP_FIF_0_0_0	5102							16086	21188	0,012	99,9401
LLS_FWS_0_0_0			9560				9478	121	19159	0,0109	99,9509
PS_SPF_32-104_0_0								15326	15326	0,0087	99,9596
OTM_SPF_32-89_0_0					12809				12809	0,0073	99,9669
FPO_DEF_>0_0_0							9830	977	10807	0,0061	99,973
GTR_DEF_110-156_0_0	4597							5250	9847	0,0056	99,9786
FPN_ANA_>0_0_0								8199	8199	0,0047	99,9833
PTM_SPF_32-89_0_0							6749		6749	0,0038	99,9871
OTB_FWS_>=105_1_110							6012		6012	0,0034	99,9905
PTB_DEF_>105_1_110							5650		5650	0,0032	99,9937
FPN_DEF_>0_0_0								3425	3425	0,0019	99,9957
LLS_SPF_0_0_0							2877	28	2905	0,0016	99,9973
GTR_FWS_>0_0_0								2482	2482	0,0014	99,9988
PVG_ANA_0_0_0				797					797	0,0005	99,9992
GND_FWS_>0_0_0			780						780	0,0004	99,9996
GTR_CAT_>0_0_0								202	202	0,0001	99,9998
BTF_DEF_>105_1_110							198		198	0,0001	99,9999
LLS_ANA_0_0_0								102	102	0,0001	99,9999
GTR_ANA_>=157_0_0								54	54	0	100
SDN_SPF_32-89_0_0							49		49	0	100
GTR_SPF_32-109_0_0								18	18	0	100

Table 13: The métiers selected by the two ranking methods, fishing ground 22-24 – data from FishFrame (per 23/08/2015)

Métier LVL6	FF - selected, Days at sea	NP - selected, Days at sea	FF - selected, Landing weight	NP - selected, Landing weight	FF - selected, Landing value	NP - selected, Landing value
OTB_DEF_>=105_1_120	YES	YES	YES	YES	YES	YES
PTM_SPF_32-104_0_0			YES	YES	YES	YES
GNS_DEF_110-156_0_0	YES	YES	YES	YES	YES	YES
GNS_SPF_32-109_0_0	YES	YES	YES	YES	YES	YES
GNS_FWS_>0_0_0	YES	YES	YES	YES	YES	YES
GNS_DEF_>=157_0_0	YES	YES	YES	YES	YES	YES
OTB_DEF_90-104_0_0	YES	YES	YES		YES	YES
MIS_MIS_0_0_0	YES		YES		YES	
FPO_FWS_>0_0_0	YES	YES	YES	YES		YES
LLS_DEF_0_0_0	YES				YES	YES
GTR_DEF_110-156_0_0	YES	YES		YES		YES
LLS_CAT_0_0_0	YES					
PTM_SPF_16-31_0_0			YES	YES	YES	YES
PTM_DEF_<16_0_0			YES		YES	
OTM_SPF_32-104_0_0			YES	YES	YES	YES
PTM_SPF_32-89_0_0			YES	YES	YES	YES
OTM_SPF_16-31_0_0		YES	YES	YES	YES	YES
FYK_SPF_>0_0_0					YES	
PTB_SPF_32-104_0_0			YES	YES		YES
PTB_SPF_16-31_0_0				YES		
PTB_SPF_32-89_0_0				YES		YES
PTB_DEF_<16_0_0						
OTM_SPF_16-104_0_0						
FPN_CAT_>0_0_0		YES			YES	YES
PTB_DEF_>=105_1_120				YES	YES	YES
SDN_DEF_>=105_1_120		YES		YES	YES	YES
OTM_DEF_>=105_1_120					YES	
OTT_DEF_>=105_1_120					YES	
OTM_SPF_32-89_0_0		YES		YES		YES
No_logbook6						
FYK_CAT_>0_0_0		YES				
No_Matrix6						
FPN_SPF_>0_0_0				YES		
FPO_SPF_>0_0_0						
OTB_FWS_>0_0_0						
PTB_DEF_90-104_0_0						
OTB_SPF_32-104_0_0				YES		YES
OTB_DEF_>=120_0_0						YES
FPN_FWS_>0_0_0						

LLD_ANA_0_0_0						
GNS_ANA_>=157_0_0						
FPN_DEF_>0_0_0		YES				
OTB_SPF_16-31_0_0						
LLS_FWS_0_0_0						
OTM_DEF_<16_0_0						
FPO_ANA_>0_0_0						
FPO_CAT_>0_0_0		YES				YES
PTB_FWS_>0_0_0						
LHP_FIF_0_0_0						
FPO_DEF_>0_0_0						
GTR_DEF_>=157_0_0		YES				YES

Table 14: The métiers selected by the two ranking methods, fishing ground 25-32 - data from RDB FishFrame (per 23/08/2015).

Métier LVL6	FF - selected, Days at sea	NP - selected, Days at sea	FF - selected, Landing weight	NP - selected, Landing weight	FF - selected, Landing value	NP - selected, Landing value
OTB_DEF_>=105_1_120	YES	YES	YES	YES	YES	YES
OTM_SPF_16-104_0_0	YES	YES	YES	YES	YES	YES
OTM_SPF_16-31_0_0	YES	YES	YES	YES	YES	YES
GNS_DEF_110-156_0_0	YES	YES		YES		YES
GNS_FWS_>0_0_0	YES	YES			YES	YES
FYK_FWS_>0_0_0	YES	YES			YES	YES
FYK_ANA_>0_0_0	YES	YES				YES
FYK_SPF_>0_0_0	YES	YES	YES		YES	
FPO_FWS_>0_0_0	YES	YES				
GNS_SPF_16-109_0_0	YES	YES		YES		
FPN_CAT_>0_0_0	YES					YES
FPO_ANA_>0_0_0	YES	YES				YES
FYK_CAT_>0_0_0	YES	YES				
PTM_SPF_16-31_0_0		YES	YES	YES	YES	YES
PTM_SPF_16-104_0_0		YES	YES	YES	YES	YES
FPN_SPF_>0_0_0		YES	YES	YES		YES
OTM_SPF_32-104_0_0			YES			
PTM_SPF_<16_0_0						
MIS_MIS_0_0_0						
OTT_DEF_>=105_1_120						
PTB_FWS_>0_0_0				YES	YES	YES
OTB_SPF_16-104_0_0		YES		YES	YES	
OTM_SPF_32-89_0_0		YES		YES		YES
GNS_SPF_32-109_0_0		YES				
GTR_DEF_110-156_0_0						
LLS_DEF_0_0_0		YES				YES
OTM_DEF_>=105_1_120		YES				YES

GNS_DEF_>=157_0_0		YES				
GNS_ANA_>=157_0_0		YES				
LLS_FWS_0_0_0						
LLS_CAT_0_0_0						
LLD_ANA_0_0_0						
PTM_SPF_32-104_0_0				YES		YES
FPO_SPF_>0_0_0						
OTB_DEF_90-104_0_0						
OTB_FWS_>0_0_0						
PTB_DEF_>=105_1_120		YES				
FPO_DEF_>0_0_0						
FPO_CAT_>0_0_0		YES				
PTB_SPF_32-104_0_0						
OTM_DEF_>=105_1_110						
FPN_FWS_>0_0_0						
FPN_DEF_>0_0_0						
OTB_SPF_16-31_0_0		YES		YES	YES	YES
OTB_DEF_>=120_0_0					YES	
OTB_SPF_32-104_0_0						
SDN_DEF_>=105_1_120						
FPO_FIF_>0_0_0						
LHP_FIF_0_0_0						
GTR_DEF_>=157_0_0						
PTB_DEF_90-104_0_0						

Table 15: Rankings Comparison for 2012-2014. Top 10 Métiers in 2012-2014- Effort (days at sea) in SD 22-24 - data from RDB FishFrame (per 18/08/2015).

Top 10 métiers	Days at sea			Position in ranking		
2012-2014	2012	2013	2014	2012	2013	2014
GNS_DEF_110-156_0_0	39 567	38 010	37 314	1	1	1
GNS_FWS_>0_0_0	17 774	17 357	19 969	2	2	2
MIS_MIS_0_0_0	9 656	10 050	9 977	4	3	3
OTB_DEF_>=105_1_120	10 102	8 731	8 221	3	5	5
GNS_SPF_32-109_0_0	9 503	8 740	8 558	5	4	4
GTR_DEF_110-156_0_0	8 940	3 158	2 718	6	8	8
FPO_FWS_>0_0_0	3 580	4 067	3 862	7	6	7
GNS_DEF_>=157_0_0	3 444	3 764	4 185	8	7	6
LLS_CAT_0_0_0	2 128	1 969	2 100	9	9	9
LLS_DEF_0_0_0	1 442	1 525	833	10	10	15

Table 16: Rankings Comparison for 2012-2014. Top 10 Métiers in 2012-2014 – Effort (days at sea) in SD 25-32 - - data from RDB FishFrame (per 18/08/2015).

Top 10 métiers	Days at sea			Position in ranking		
2012-2014	2012	2013	2014	2012	2013	2014
GNS_FWS_>0_0_0	108 944	111 139	102 303	1	1	1
GNS_DEF_110-156_0_0	35 084	34 129	34 923	2	2	2
FYK_FWS_>0_0_0	21 453	24 979	27 224	4	3	3
OTB_DEF_>=105_1_120	23 835	18 432	15 502	3	4	5
FYK_ANA_>0_0_0	19 562	17 580	16 809	5	5	4
OTM_SPF_16-104_0_0	11 674	12 949	9 298	6	6	7
OTM_SPF_16-31_0_0	10 243	10 590	9 461	7	7	6
FYK_SPF_>0_0_0	7 590	8 120	7 402	8	8	8
GNS_SPF_16-109_0_0	7 181	7 318	7 159	9	9	9
FPO_FWS_>0_0_0	4 415	4 657	5 879	10	10	10

Table 17: Rankings Comparison for 2012-2014. Top 10 Métiers in 2012-2014 - Landings (tonnes) in SD 22-24 - data from RDB FishFrame (per 18/08/2015).

Top 10 métiers	Landing weight (tonnes)			Position in ranking		
2012-2014	2012	2013	2014	2012	2013	2014
OTB_DEF_>=105_1_120	13 122	11 222	10 799	1	2	1
PTM_SPF_32-104_0_0	9 020	12 326	8 400	2	1	2
GNS_SPF_32-109_0_0	5 393	5 831	4 251	4	4	4
GNS_DEF_110-156_0_0	5 543	5 176	4 634	3	5	3
PTM_SPF_16-31_0_0	5 280	6 616	2 420	5	3	7
OTM_SPF_32-104_0_0	3 002	3 896	3 450	7	6	5
OTM_SPF_16-104_0_0	4 213	3 190	**NA**	6	7	**NA**
GNS_FWS_>0_0_0	1 882	2 244	2 479	9	8	6
OTM_SPF_16-31_0_0	2 935	811	704	8	21	17
PTM_DEF_<16_0_0	1 046	1 862	1 411	16	9	10

Table 18: Rankings Comparison for 2012-2014. Top 10 Métiers in 2012-2014– Landings (tonnes) in SD 25-32 - data from RDB FishFrame (per 18/08/2015).

Top 10 métiers	Landing weight (tonnes)			Position in ranking		
2012-2014	2012	2013	2014	2012	2013	2014
OTM_SPF_16-104_0_0	176 539	202 545	219 748	1	1	1
OTM_SPF_16-31_0_0	119 630	140 376	127 284	2	2	2
OTB_DEF_>=105_1_120	37 654	30 990	29 284	4	3	4
PTM_SPF_16-104_0_0	40 895	30 581	24 644	3	4	5
PTM_SPF_16-31_0_0	23 473	27 852	35 926	5	5	3
OTM_SPF_32-104_0_0	19 060	16 534	22 243	6	6	6
FPN_SPF_>0_0_0	8 729	9 798	11 208	8	7	7
GNS_DEF_110-156_0_0	9 318	7 537	6 509	7	9	10
FYK_SPF_>0_0_0	7 188	6 015	8 530	9	11	8
MIS_MIS_0_0_0	6 405	6 182	6 544	10	10	9

Table 19: Rankings Comparison for 2012-2014. Top 10 Métiers in 2012-2014 - Value (thousand €) in SD 22-24 - data from RDB FishFrame (per 18/08/2015).

op 10 méties	Landing value (k €)			Position in ranking		
2012-201	2012	2013	2014	2012	2013	2014
OTB_DEF_>=105_1_120	13 898	10 776	9 908	1	1	1
GNS_DEF_110-156_0_0	996	6 514	6 144	2	2	2
PTM_SPF_32-104_0_0	3 632	4 857	2 914	3	3	3
MIS_MIS_0_0_0	3 059	144	2 739	4	4	
S_DEF_>=57_0_0	2 640	2 583	2 755	5	6	4
GNS_SPF_32-109_0_0	2 515	2 832	1 996	6	5	7
GNS_FWS_>0_0_0	2 207	2 267	2 365	7	7	6
FPN_CAT_>0_0_0	2 045	1 711	1 176	8	9	9
PTM_SPF_16-31_0_0	1 339	2 031	554	9	8	12
OTB_DEF_90-104_0_0	792	936	1 223	12	10	8

Table 20: Rankings Comparison for 2012-2014. Top 10 Métiers in 2012-2014- Value (thousand €) in SD 25-32 in thousand € - data fron

Top 10 métiers	Landing value (k €)			Position in ranking		
2012-2014	2012	2013	2014	2012	2013	2014
OTM_SPF_16-104_0_0	35 68	5 855	45 997	1	1	1
OTM_SPF_16-30_0	16 854	19 725	22 264	3	2	2
OTB_DEF_>=105_1_120	23 965	12 751	10 114	2	3	3
PTM_SPF_16-104_0_0	10 959	9 015	5 231	4	4	6
GNS_FWS_>0_0_0	7 199	8 041	8 750	5	5	4
PTM_SPF_16-31_0_0	3 398	6 936	7 733	8	6	5
PTB_FWS_>0_0_0	6 764	5 505	5 216	6	7	7
FYK_FWS_>0_0_0	2 204	3 488	3 670	10	8	8
FPN_SPF_>0_0_0	1 975	2 295	2 540	12	9	9
OTT_DEF_>=105_1_120	3 807	2 058	799	7	11	19

Annex 3: Updated métier list for the Baltic region per 28/08/2015

Metiers marked with red should not be used in the Baltic region according to the metier description in the FF lookup tables. Next to the table there is information on which MSs are using it and a suggestion which metier should be used instead. Metiers marked with yellow were considered to be modified (merged). Next to the table there is a suggestion of the new (merged) metier codes and applicable areas.

Métier	Applicable in (according to FF lookup tables)		
FPN_ANA_>0_0_0	22-32		
FPN_CAT_>0_0_0	22-32		
FPN_DEF_>0_0_0	22-32		
FPN_FWS_>0_0_0	22-32		
FPN_SPF_>0_0_0	22-32		
FPO_ANA_>0_0_0	22-32		
FPO_CAT_>0_0_0	22-32		
FPO_DEF_>0_0_0	22-32		
FPO_FWS_>0_0_0	22-32		
FPO_SPF_>0_0_0	22-32		
FYK_ANA_>0_0_0	22-32		
FYK_CAT_>0_0_0	22-32		
FYK_FWS_>0_0_0	22-32		
FYK_SPF_>0_0_0	22-32		
GNS_ANA_>=157_0_0	22-32		
GNS_ANA_110-156_0_0			
GNS_CAT_>0_0_0	22-32		
GNS_DEF_>=157_0_0	22-32		
GNS_DEF_>=220_0_0	I,II,IIIa,V,VI,VII	Latvia	GNS_DEF_>=157_0_0
GNS_DEF_110-156_0_0	22-32		
GNS_DEF_90-109_0_0	22-23		
GNS_FWS_>0_0_0	22-32		
GNS_SPF_>=157_0_0	22-32		
GNS_SPF_110-156_0_0	22-32		
GNS_SPF_16-109_0_0	28-32	GNS_SPF_16-109_0_0	22-32
GNS_SPF_32-109_0_0	22-27		
GTR_DEF_>=157_0_0	22-32		
GTR_DEF_110-156_0_0	22-32		
GTR_FWS_>0_0_0	22-32		
GTR_SPF_32-109_0_0	22-27		
LHP_FIF_0_0_0	22-32		
LLD_ANA_0_0_0	22-32 BEFORE 2008		
LLS_ANA_0_0_0	22-32		
LLS_CAT_0_0_0	22-32		
LLS_DEF_0_0_0	22-32		
LLS_FWS_0_0_0	22-32		
LLS_SPF_0_0_0	22-32		
MIS_MIS_0_0_0			

OTB_CRU_>0_0_0	22-32		
OTB_DEF_<16_0_0	22+ 24-32		
OTB_DEF_>=105_1_120	22-32		
OTB_DEF_>=120_0_0	I,II,IIIa,IVa,IVb,IVc,VIId	Lithuania, Sweden	OTB_DEF_>=105_1_120
OTB_DEF_90-104_0_0	22-23		
OTB_FWS_>0_0_0	22-32		
OTB_SPF_>=120_0_0			
OTB_SPF_16-104_0_0	28-32	OTB_SPF_16-31_0_0	22+ 24-32
OTB_SPF_16-31_0_0	22+ 24-27		
OTB_SPF_32-104_0_0	24-27	OTB_SPF_32-104_0_0	22+ 24-32
OTB_SPF_32-89_0_0	22		
OTM_DEF_<16_0_0	22-32		
OTM_DEF_>=105_1_110	22-32		
OTM_DEF_>=105_1_120	22-32		
OTM_DEF_>=120_0_0	I,II	Lithuania	OTM_DEF_>=105_1_120
OTM_FWS_>0_0_0			
OTM_SPF_16-104_0_0	28-32	OTM_SPF_16-31_0_0	22-32
OTM_SPF_16-31_0_0	22-27		
OTM_SPF_32-104_0_0	24-27	OTM_SPF_32-104_0_0	22-32
OTM_SPF_32-89_0_0	22-23		
OTT_DEF_>=105_1_120	22-32		
OTT_DEF_>=120_0_0	IIa,IIIa,IVa,IVb,Ivc,V,VI,VII	Sweden	OTT_DEF_>=105_1_120
PS_SPF_16-31_0_0	22-27		
PTB_DEF_<16_0_0	22-32		
PTB_DEF_>=105_1_120	22-32		
PTB_DEF_90-104_0_0	22-23		
PTB_FWS_>0_0_0	22-32		
PTB_SPF_16-104_0_0	28-32	PTB_SPF_16-31_0_0	22-32
PTB_SPF_16-31_0_0	22-27		
PTB_SPF_32-104_0_0	24-27	PTB_SPF_32-104_0_0	22-32
PTB_SPF_32-89_0_0	22-23		
PTM_DEF_<16_0_0	22-32		
PTM_DEF_>=105_1_120	22-32		
PTM_FWS_>0_0_0	22-32		
PTM_SPF_16-104_0_0	28-32	PTM_SPF_16-31_0_0	22-32
PTM_SPF_16-31_0_0	22-27		
PTM_SPF_32-104_0_0	24-27	PTM_SPF_32-104_0_0	22-32
PTM_SPF_32-89_0_0	22-23		
SB_FIF_>0_0_0	22-32		
SDN_DEF_>=105_1_110	22-32		
SDN_DEF_>=105_1_120	22-32		
SSC_DEF_>=105_1_120	22-32		
SSC_FWS_>0_0_0			

Annex 4: Ranking of species

Table 1: Total landings (tonnes) for the species in the Baltic region in 2014. Data from RDB FishFrame (per 27/08/2015).

Species (Scientific name)	Species	Official Landing Catch Weight (t)	%	Cum %
Clupea harengus	Atlantic herring	276 054	47,01	47,01
Sprattus sprattus	European sprat	221 799	37,77	84,78
Gadus morhua	Atlantic cod	38 809	6,61	91,39
Platichthys flesus	European flounder	19 578	3,33	94,72
Ammodytes sp.	Sandeels	5 986	1,02	95,74
Perca fluviatilis	European perch	4 232	0,72	96,46
Osmerus eperlanus	European smelt	2 593	0,44	96,90
Rutilus rutilus	Roach	2 248	0,38	97,29
Coregonus albula	Vendace	2 108	0,36	97,64
Abramis brama	Freshwater bream	2 084	0,35	98,00
Pleuronectes platessa	European plaice	2 020	0,34	98,34
Osteichthyes	Bony fishes	1 458	0,25	98,59
Limanda limanda	Common dab	1 237	0,21	98,80
Sander lucioperca	Pike-perch	1 187	0,20	99,00
Coregonus lavaretus	European whitefish	855	0,15	99,15
Merlangius merlangus	Whiting	752	0,13	99,28
Anguilla anguilla	European eel	579	0,10	99,38
Salmo salar	Atlantic salmon	578	0,10	99,47
Esox lucius	Northern pike	447	0,08	99,55
Belone belone	Garfish	401	0,07	99,62
Cyclopterus lumpus	Lumpfish(=Lumpsucker)	319	0,05	99,67
Trachurus trachurus	Atlantic horse mackerel	277	0,05	99,72
Scophthalmus maximus	Turbot	254	0,04	99,76
Salmo trutta	Brown trout	212	0,04	99,80
Vimba vimba	Vimba bream	145	0,02	99,82
Pollachius virens	Saithe(=Pollock)	135	0,02	99,85
Neogobius melanostomus	Round goby	131	0,02	99,87
Carassius gibelio	Prussian carp	88	0,01	99,88
Myoxocephalus scorpius	Bullhead	78	0,01	99,90
Pelecus cultratus	Sichel	74	0,01	99,91
Lota lota	Burbot	64	0,01	99,92
Zoarces viviparus	Eelpout	49	0,01	99,93
Solea solea	Common sole	48	0,01	99,94
Engraulis encrasicolus	European anchovy	46	0,01	99,95
Leuciscus idus	Orfe(=Ide)	44	0,01	99,95
Gymnocephalus cernuus	Ruffe	37	0,01	99,96
Carassius carassius	Crucian carp	33	0,01	99,97
Blicca bjoerkna	White bream	32	0,01	99,97

Scophthalmus rhombus	Brill	28	0,00	99,98
Palaemon adspersus	Baltic prawn	26	0,00	99,98
Abramis bjoerkna	White bream	20	0,00	99,98
Scomber scombrus	Atlantic mackerel	16	0,00	99,99
Tinca tinca	Tench	16	0,00	99,99
Gasterosteidae sp.	Sticklebacks	12	0,00	99,99
Gobiidae sp.	true gobies	8	0,00	99,99
Oncorhynchus mykiss	Rainbow trout	7	0,00	99,99
Microstomus kitt	Lemon sole	5	0,00	99,99
Hippoglossoides platessoides	Amer. plaice(Long rough dab)	4	0,00	99,99
Aspius aspius	Asp	4	0,00	100,00
Scardinius erythrophthalmus	Rudd	3	0,00	100,00
Carcinus maenas	Green crab	3	0,00	100,00
Homarus gammarus	European lobster	3	0,00	100,00
Melanogrammus aeglefinus	Haddock	2	0,00	100,00
Mugilidae	Mullets	2	0,00	100,00
Silurus glanis	Sheatfish	2	0,00	100,00
Molva molva	Ling	2	0,00	100,00
Nephrops norvegicus	Norway lobster	1	0,00	100,00
Cottidae	Bullheads/sculpins	1	0,00	100,00
Cyprinus carpio	European carp	1	0,00	100,00
Myoxocephalus quadricornis	Fourhorn sculpin	1	0,00	100,00
Anarhichas sp.	Wolffish	1	0,00	100,00
Mugil cephalus	Flathead grey mullet	1	0,00	100,00
Cancer pagurus	Edible crab	1	0,00	100,00
Chelon labrosus	Thicklip grey mullet	1	0,00	100,00
Gasterosteus aculeatus	Three-spined stickleback	0	0,00	100,00
Lycodes vahlii	Vahl's eelpout	0	0,00	100,00
Anarhichas lupus	Wolf-fish	0	0,00	100,00
Lampetra fluviatilis	River lamprey	0	0,00	100,00
Pollachius pollachius	Pollack	0	0,00	100,00
Merluccius merluccius	European hake	0	0,00	100,00
Glyptocephalus cynoglossus	Witch flounder	0	0,00	100,00
Alosa fallax	Twaite shad	0	0,00	100,00
Alburnus alburnus	bleak	0	0,00	100,00
Pandalus borealis	Northern prawn	0	0,00	100,00
Chelidonichthys lucerna	Tub gurnard	0	0,00	100,00
Lophius piscatorius	Anglerfish	0	0,00	100,00
Triglopsis quadricornis	Fourhorn sculpin	0	0,00	100,00
Ammodytes tobianus	Small sandeel	0	0,00	100,00
Trachinus draco	Greater weever	0	0,00	100,00
Hippoglossus hippoglossus	Atlantic halibut	0	0,00	100,00
Eutrigla gurnardus	Grey gurnard	0	0,00	100,00
Labrus bergylta	Ballan wrasse	0	0,00	100,00

Leuciscus leuciscus	Common Dace	0	0,00	100,00
Rajidae	rays and skates	0	0,00	100,00
Thymallus thymallus	Grayling	0	0,00	100,00
Dicentrarchus labrax	European seabass	0	0,00	100,00
Acipenser sturio	Sturgeon	0	0,00	100,00
Mullus surmuletus	Striped red mullet	0	0,00	100,00
Reinhardtius hippoglossoides	Greenland halibut	0	0,00	100,00
Cephalopoda sp.	Octopus and squids	0	0,00	100,00
Brosme brosme	Tusk(=Cusk)	0	0,00	100,00
Total		587 242	100,00	

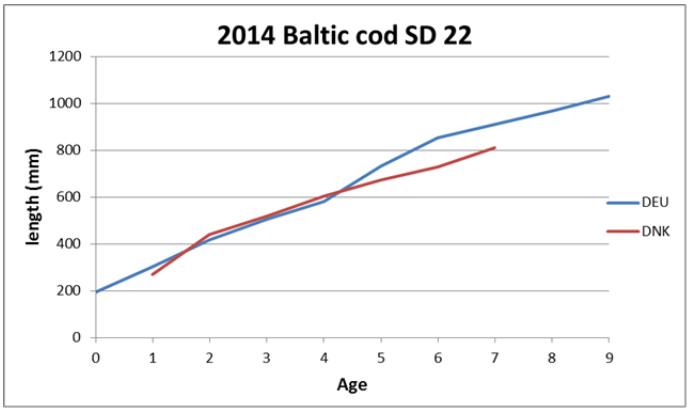
Table 2: Total value (thousand €) for the species in the Baltic region in 2014. Data from RDB FishFrame (per 27/08/2015). Note that not all countries have uploaded landings values or the true values of the landings.

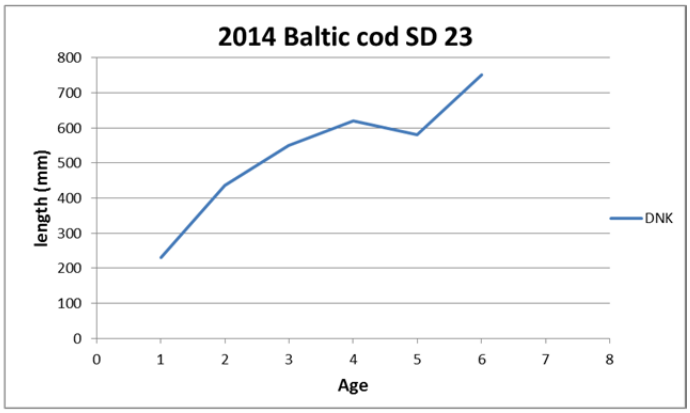
Species (Scientific name)	Species	Official Landing Value (thousand €)	%	Cum %
Clupea harengus	Atlantic herring	59 375	34,91	34,91
Sprattus sprattus	European sprat	40 545	23,84	58,75
Gadus morhua	Atlantic cod	31 494	18,52	77,27
Coregonus albula	Vendace	6 099	3,59	80,85
Perca fluviatilis	European perch	4 986	2,93	83,78
Anguilla anguilla	European eel	4 263	2,51	86,29
Sander lucioperca	Pike-perch	4 195	2,47	88,76
Platichthys flesus	European flounder	3 443	2,02	90,78
Coregonus lavaretus	European whitefish	3 146	1,85	92,63
Salmo salar	Atlantic salmon	2 115	1,24	93,88
Pleuronectes platessa	European plaice	1 758	1,03	94,91
Scophthalmus maximus	Turbot	1 064	0,63	95,53
Osmerus eperlanus	European smelt	969	0,57	96,10
Limanda limanda	Common dab	861	0,51	96,61
Abramis brama	Freshwater bream	709	0,42	97,03
Esox lucius	Northern pike	657	0,39	97,41
Solea solea	Common sole	573	0,34	97,75
Rutilus rutilus	Roach	547	0,32	98,07
Merlangius merlangus	Whiting	455	0,27	98,34
Ammodytes sp.	Sandeels	452	0,27	98,61
Salmo trutta	Brown trout	411	0,24	98,85
Cyclopterus lumpus	Lumpfish(=Lumpsucker)	399	0,23	99,08
Belone belone	Garfish	332	0,20	99,28
Lota lota	Burbot	207	0,12	99,40
Palaemon adspersus	Baltic prawn	197	0,12	99,51
Scophthalmus rhombus	Brill	161	0,09	99,61
Pollachius virens	Saithe(=Pollock)	114	0,07	99,68
Vimba vimba	Vimba bream	97	0,06	99,73
Trachurus trachurus	Atlantic horse mackerel	63	0,04	99,77
Homarus gammarus	European lobster	49	0,03	99,80
Zoarces viviparus	Eelpout	44	0,03	99,83
Osteichthyes	Bony fishes	43	0,03	99,85
Neogobius melanostomus	Round goby	35	0,02	99,87
Scomber scombrus	Atlantic mackerel	32	0,02	99,89
Myoxocephalus scorpius	Bullhead	22	0,01	99,90
Microstomus kitt	Lemon sole	18	0,01	99,91
Leuciscus idus	Orfe(=Ide)	18	0,01	99,92
Oncorhynchus mykiss	Rainbow trout	16	0,01	99,93
Mugilidae	Mullets	15	0,01	99,94

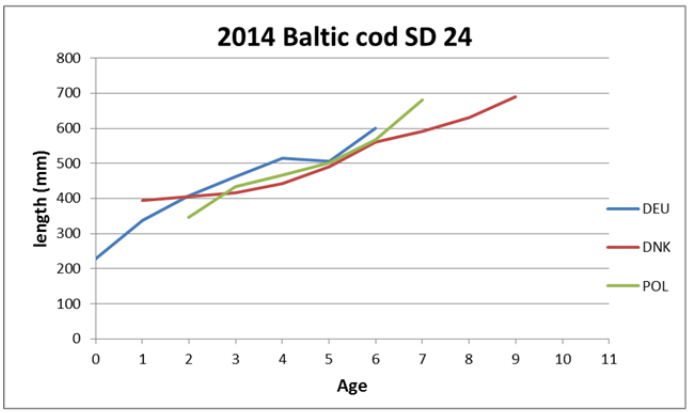
Carassius gibelio	Prussian carp	15	0,01	99,95
Nephrops norvegicus	Norway lobster	13	0,01	99,96
Engraulis encrasicolus	European anchovy	11	0,01	99,97
Tinca tinca	Tench	10	0,01	99,97
Gymnocephalus cernuus	Ruffe	5	0,00	99,97
Blicca bjoerkna	White bream	5	0,00	99,98
Lycodes vahlii	Vahl's eelpout	3	0,00	99,98
Mugil cephalus	Flathead grey mullet	3	0,00	99,98
Molva molva	Ling	3	0,00	99,98
Hippoglossoides platessoides	Amer. plaice(=Long rough dab)	3	0,00	99,98
Carassius carassius	Crucian carp	3	0,00	99,99
Carcinus maenas	Green crab	3	0,00	99,99
Melanogrammus aeglefinus	Haddock	2	0,00	99,99
Anarhichas sp.	Wolffish	2	0,00	99,99
Gasterosteidae sp.	Sticklebacks	2	0,00	99,99
Gobiidae sp.	true gobies	2	0,00	99,99
Anarhichas lupus	Wolf-fish	2	0,00	99,99
Chelon labrosus	Thicklip grey mullet	2	0,00	100,00
Lampetra fluviatilis	River lamprey	1	0,00	100,00
Cancer pagurus	Edible crab	1	0,00	100,00
Cyprinus carpio	European carp	1	0,00	100,00
Glyptocephalus cynoglossus	Witch flounder	1	0,00	100,00
Pollachius pollachius	Pollack	1	0,00	100,00
Pandalus borealis	Northern prawn	1	0,00	100,00
Scardinius erythrophthalmus	Rudd	0	0,00	100,00
Cottidae	Bullheads/sculpins	0	0,00	100,00
Lophius piscatorius	Anglerfish	0	0,00	100,00
Merluccius merluccius	European hake	0	0,00	100,00
Hippoglossus hippoglossus	Atlantic halibut	0	0,00	100,00
Alosa fallax	Twaite shad	0	0,00	100,00
Alburnus alburnus	bleak	0	0,00	100,00
Gasterosteus aculeatus	Three-spined stickleback	0	0,00	100,00
Chelidonichthys lucerna	Tub gurnard	0	0,00	100,00
Trachinus draco	Greater weever	0	0,00	100,00
Ammodytes tobianus	Small sandeel	0	0,00	100,00
Ammodytes sp.	Ammodytes	0	0,00	100,00
Aspius aspius	Asp	0	0,00	100,00
Eutrigla gurnardus	Grey gurnard	0	0,00	100,00
Dicentrarchus labrax	European seabass	0	0,00	100,00
Reinhardtius hippoglossoides	Greenland halibut	0	0,00	100,00
Thymallus thymallus	Grayling	0	0,00	100,00
Triglopsis quadricornis	Fourhorn sculpin	0	0,00	100,00
Mullus surmuletus	Striped red mullet	0	0,00	100,00
Labrus bergylta	Ballan wrasse	0	0,00	100,00

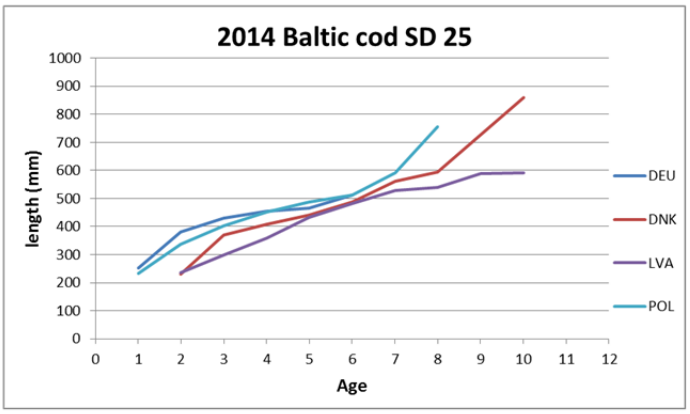
Rajidae	rays and skates	0	0,00	100,00
Acipenser sturio	Sturgeon	0	0,00	100,00
Leuciscus leuciscus	Common Dace	0	0,00	100,00
Cephalopoda sp.	Octopus and squids	0	0,00	100,00
Brosme brosme	Tusk(=Cusk)	0	0,00	100,00
Myoxocephalus quadricornis	Fourhorn sculpin	0	0,00	100,00
Pelecus cultratus	Sichel	0	0,00	100,00
Abramis bjoerkna	White bream	0	0,00	100,00
Silurus glanis	Sheatfish	0	0,00	100,00
Total		170 078	100,00	

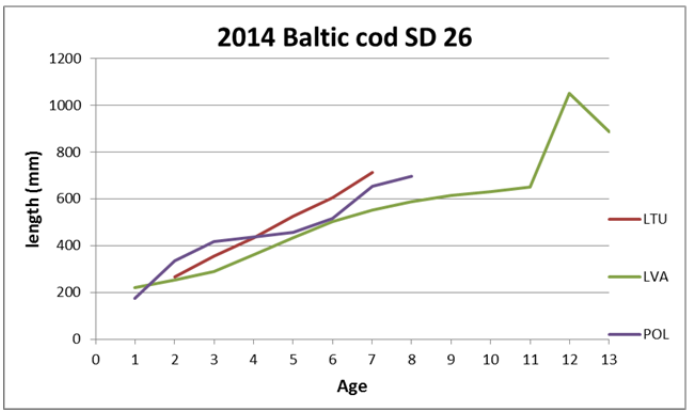
Annex 5: Age Length relationship for cod, herring and sprat



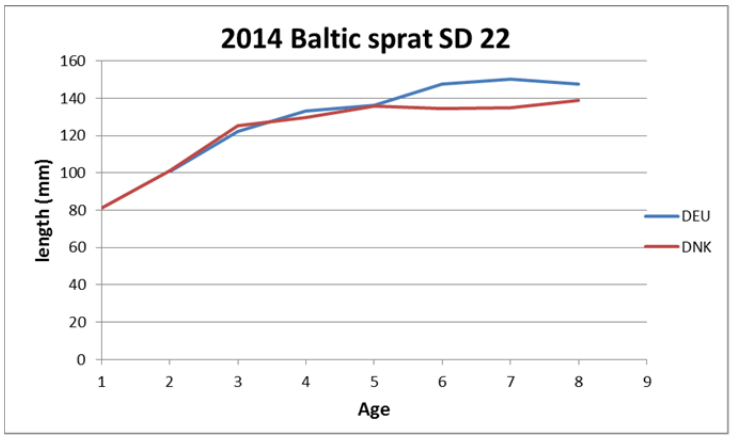


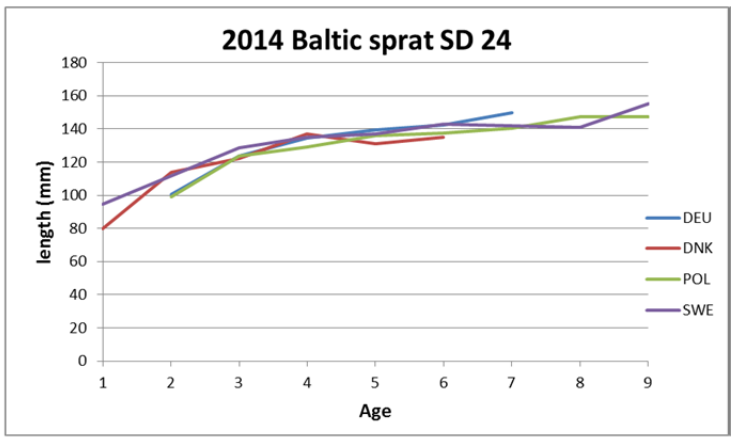


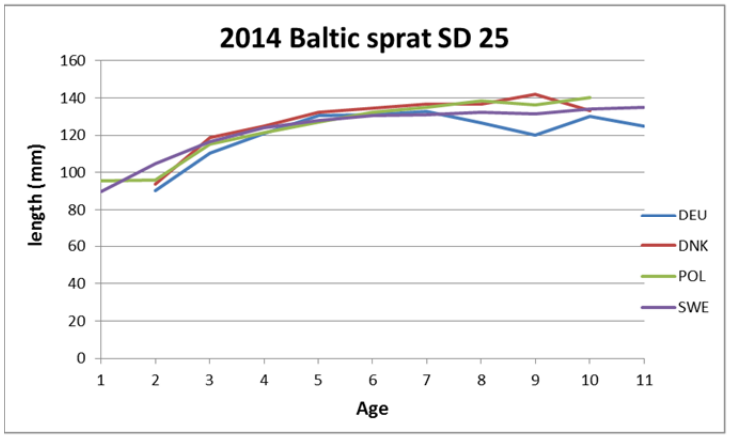


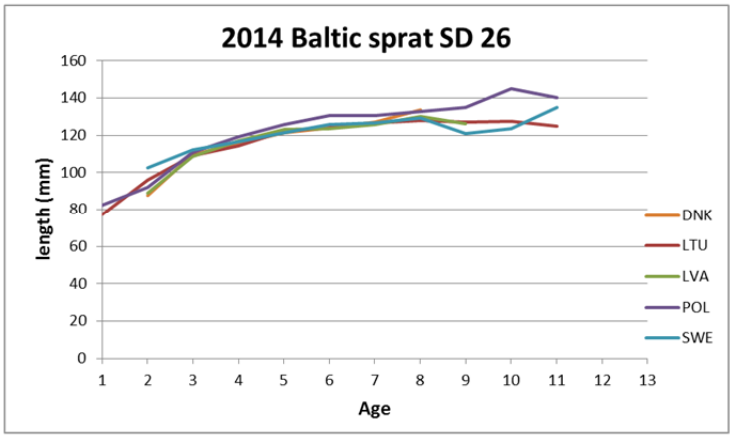


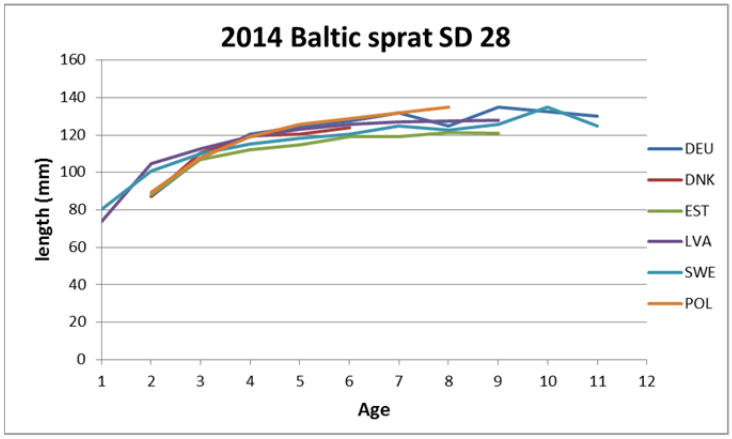
* Swedish stock-related sampling data of cod were preliminary, missing a scaling in the age-length and age-weight relation, hence they were incompatible with the other national data and removed from the compilation

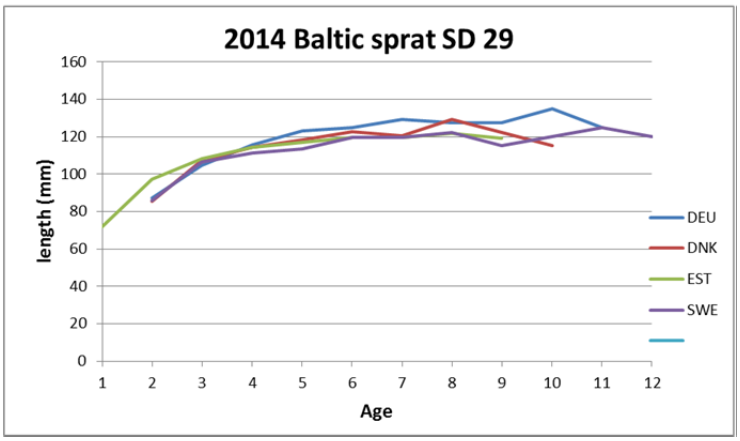

2014 Baltic sprat SD 22
length (mm)
Age
DEU
DNK

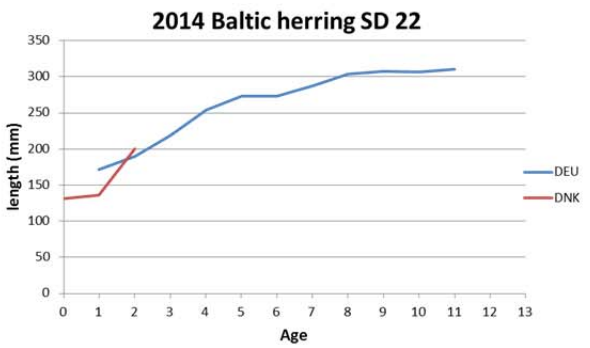

2014 Baltic sprat SD 24
length (mm)
Age
DEU
DNK
POL
SWE

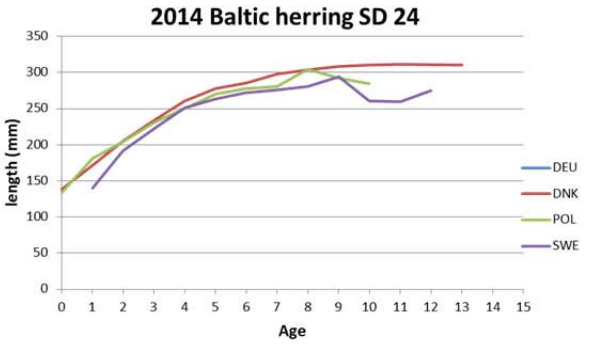

2014 Baltic sprat SD 25
length (mm)
Age
DEU
DNK
POL
SWE

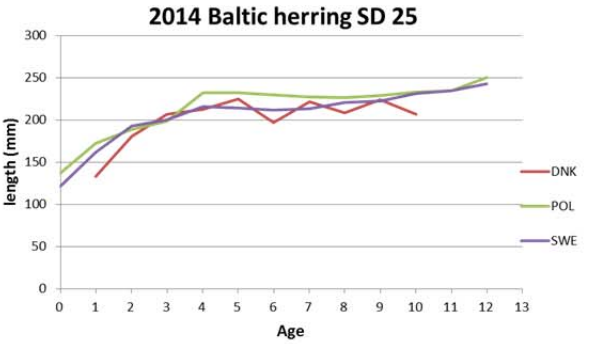

2014 Baltic sprat SD 26
length (mm)
Age
DNK
LTU
LVA
POL
SWE

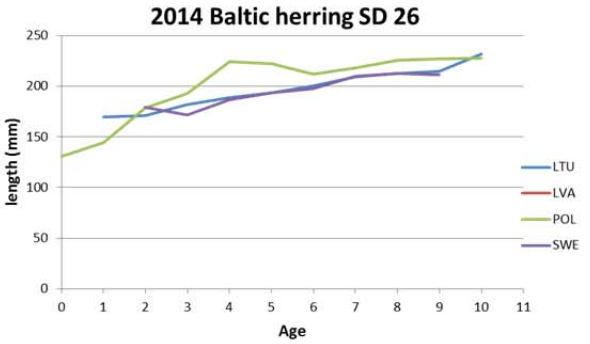

2014 Baltic sprat SD 28
length (mm)
Age
DEU
DNK
EST
LVA
SWE
POL

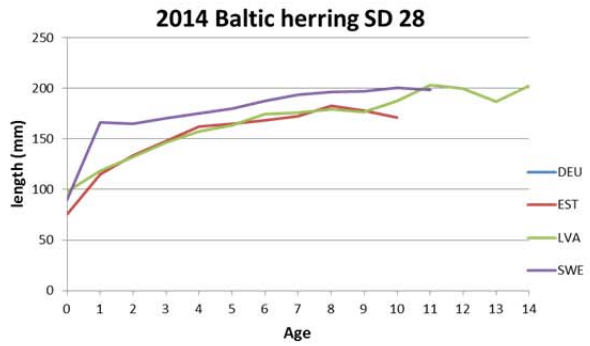

2014 Baltic sprat SD 29
length (mm)
Age
DEU
DNK
EST
SWE

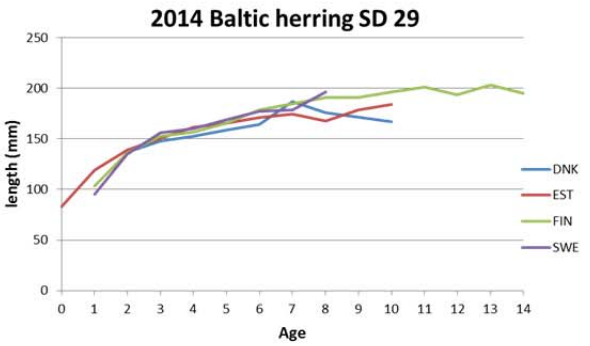

2014 Baltic herring SD 22
length (mm)
Age
DEU
DNK

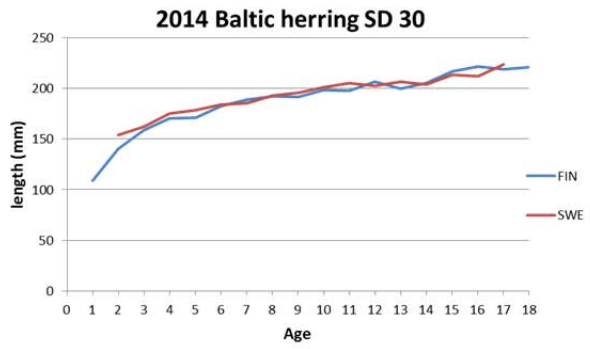

2014 Baltic herring SD 24
length (mm)
Age
DEU
DNK
POL
SWE

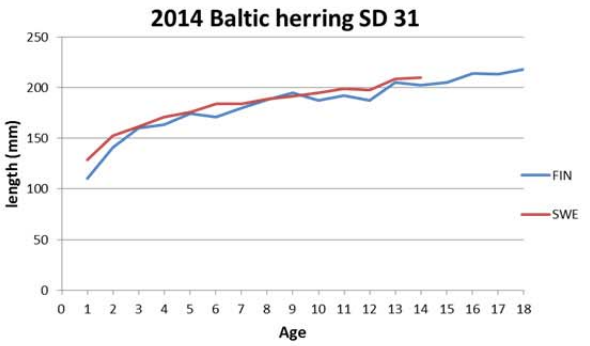

2014 Baltic herring SD 25
length (mm)
Age
DNK
POL
SWE

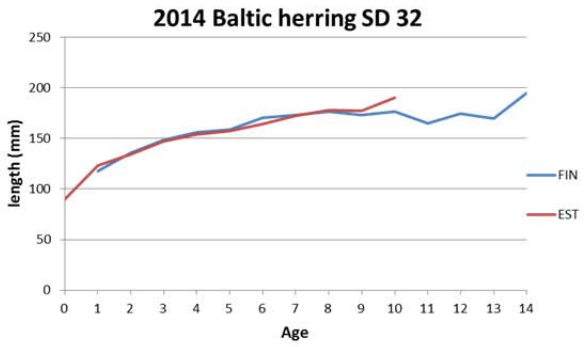

2014 Baltic herring SD 26
length (mm)
Age
LTU
LVA
POL
SWE


2014 Baltic herring SD 28
length (mm)
Age
DEU
EST
LVA
SWE

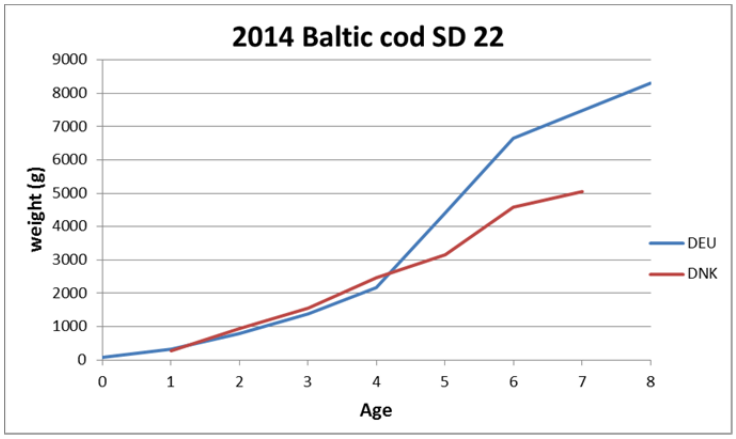

2014 Baltic herring SD 29
length (mm)
Age
DNK
EST
FIN
SWE

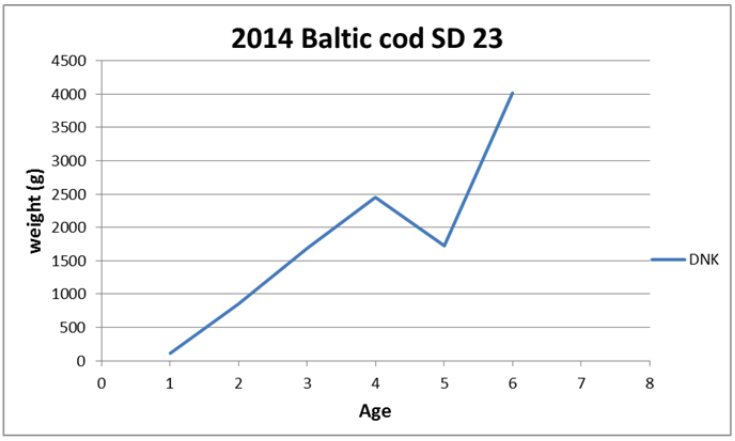

2014 Baltic herring SD 30
length (mm)
Age
FIN
SWE

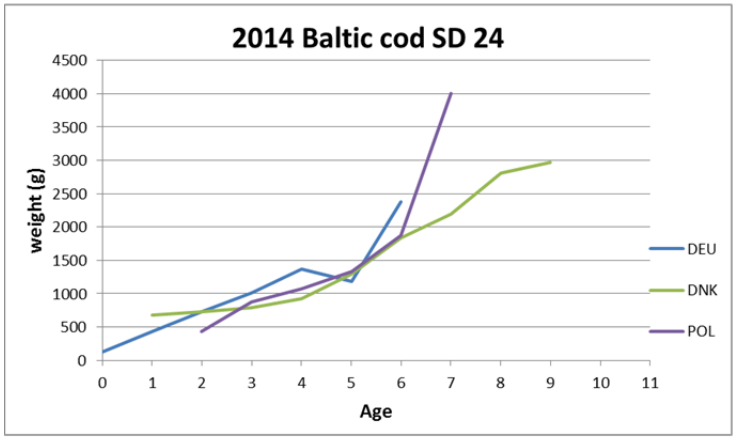

2014 Baltic herring SD 31
length (mm)
Age
FIN
SWE

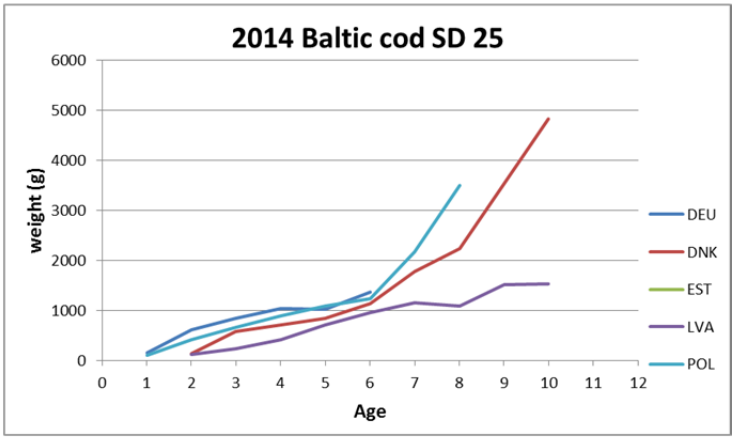

2014 Baltic herring SD 32
length (mm)
Age
FIN
EST

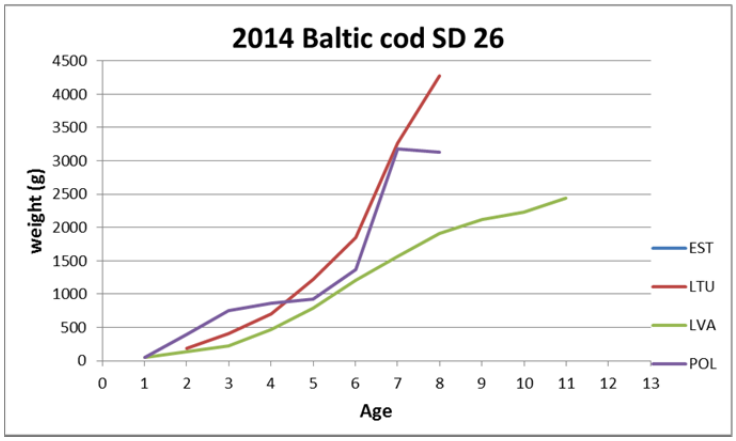
Annex 6: Age weight relationship for cod, herring and sprat



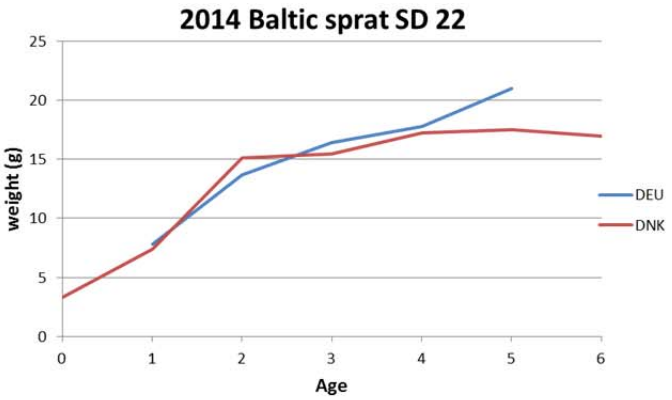


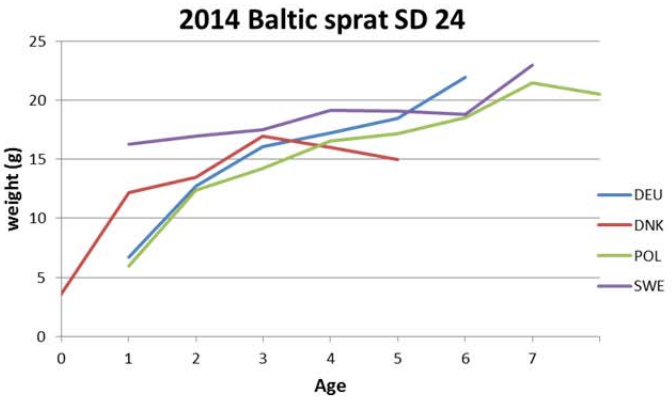


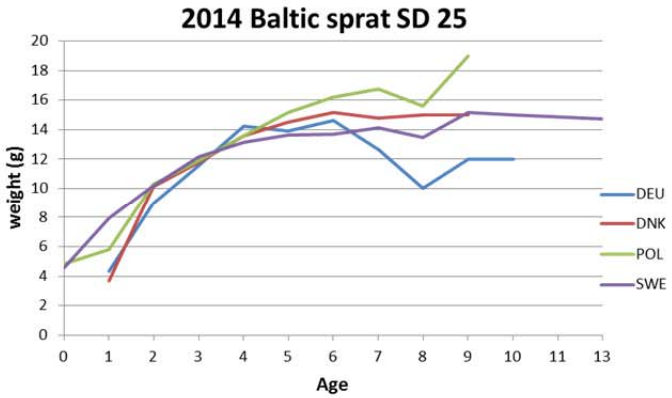


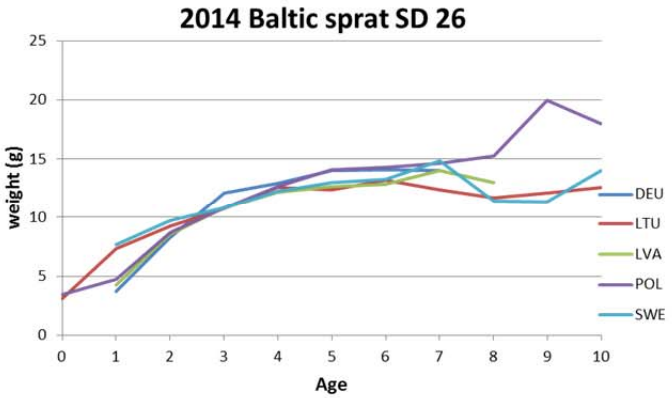


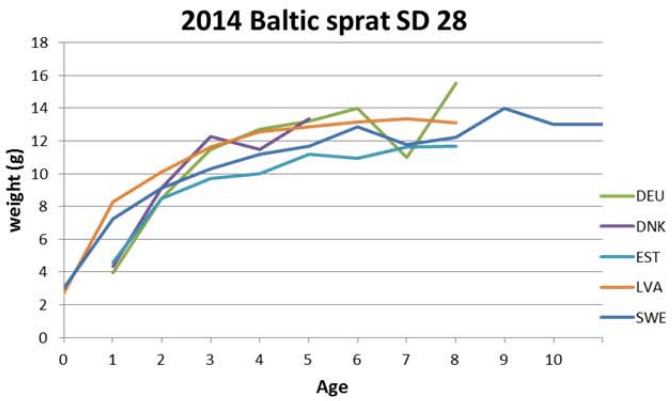
* Swedish stock-related sampling data of cod were preliminary, missing a scaling in the age-length and age-weight relation, hence they were incompatible with the other national data and removed from the compilation.

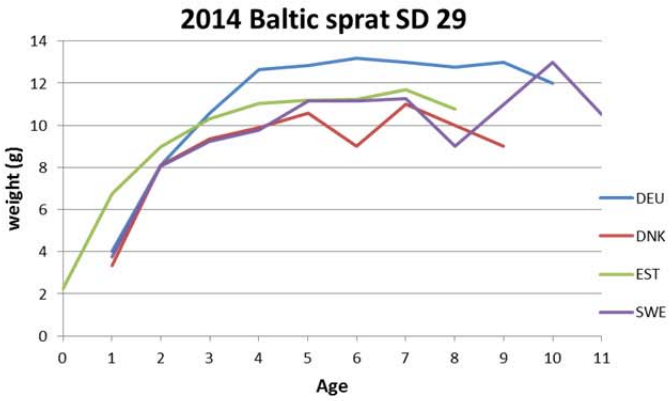

2014 Baltic sprat SD 22
weight (g)
Age
DEU
DNK

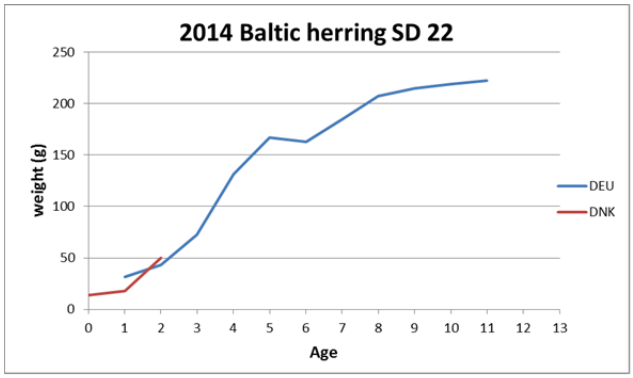

2014 Baltic sprat SD 24
weight (g)
Age
DEU
DNK
POL
SWE

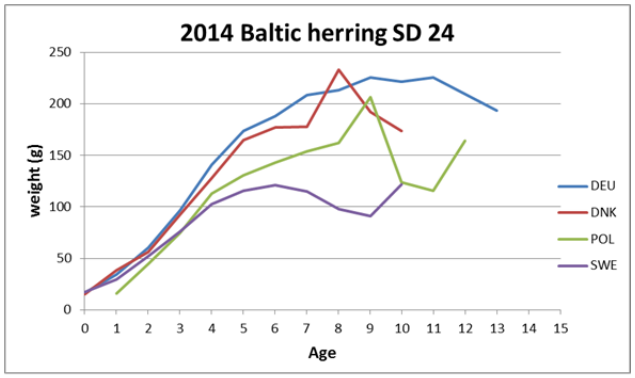

2014 Baltic sprat SD 25
weight (g)
Age
DEU
DNK
POL
SWE

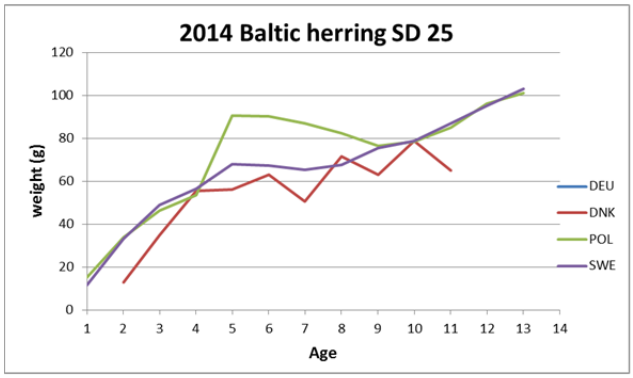

2014 Baltic sprat SD 26
weight (g)
Age
DEU
LTU
LVA
POL
SWE

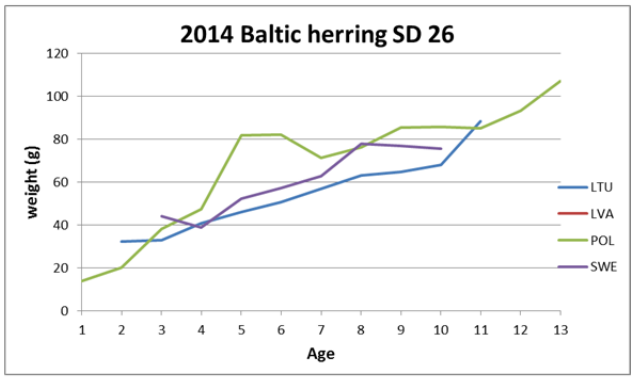

2014 Baltic sprat SD 28
weight (g)
Age
DEU
DNK
EST
LVA
SWE

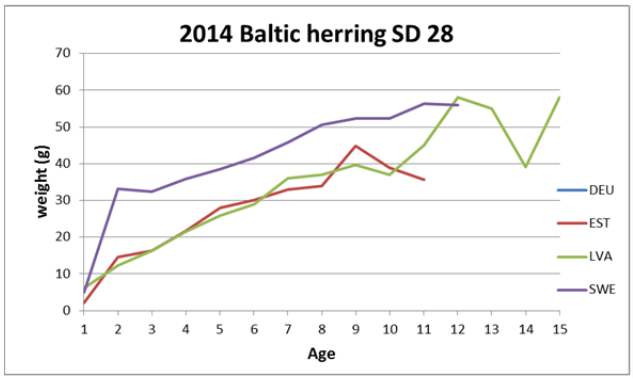

2014 Baltic sprat SD 29
weight (g)
Age
DEU
DNK
EST
SWE

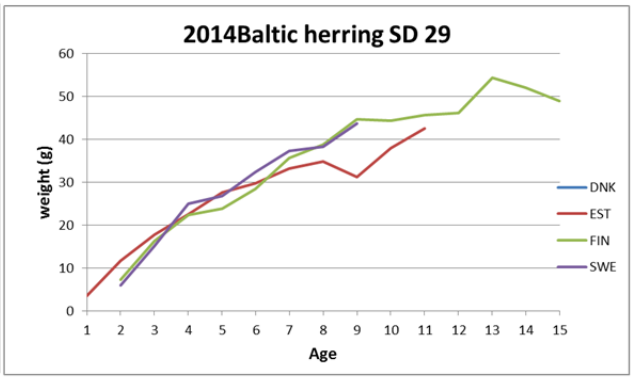

2014 Baltic herring SD 22
weight (g)
Age
DEU
DNK

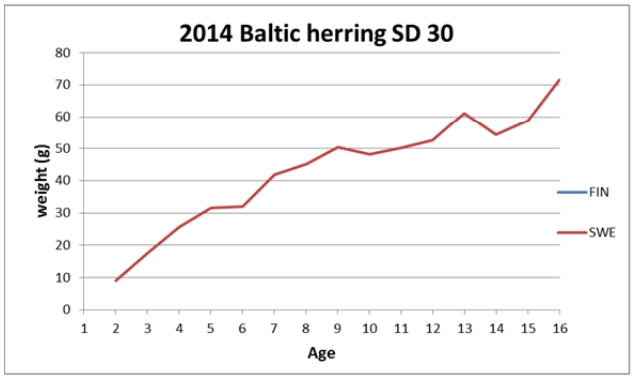

2014 Baltic herring SD 24
weight (g)
Age
DEU
DNK
POL
SWE

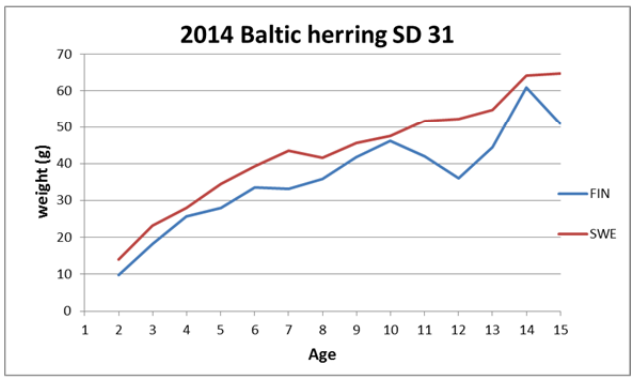

2014 Baltic herring SD 25
weight (g)
Age
DEU
DNK
POL
SWE

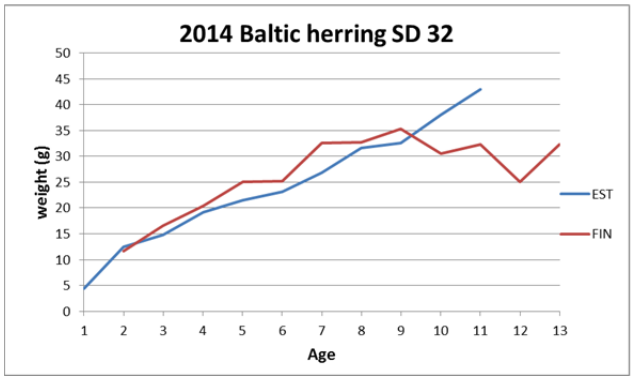

2014 Baltic herring SD 26
weight (g)
Age
LTU
LVA
POL
SWE


2014 Baltic herring SD 28
weight (g)
Age
DEU
EST
LVA
SWE


2014Baltic herring SD 29
weight (g)
Age
DNK
EST
FIN
SWE


2014 Baltic herring SD 30
weight (g)
Age
FIN
SWE


2014 Baltic herring SD 31
weight (g)
Age
FIN
SWE


2014 Baltic herring SD 32
weight (g)
Age
EST
FIN

Annex 7: Harbours accounting for 95% of the landings by stock in the Baltic Sea area

STOCK	Harbour	kg	%	Cumulative %
Baltic Sprat	DKSKA	31135700	14 %	14 %
Baltic Sprat	PLHEL	25396728	11 %	25 %
Baltic Sprat	DKGRE	20387859	9 %	35 %
Baltic Sprat	LVVNT	18588652	8 %	43 %
Baltic Sprat	SEVVK	17263517	8 %	51 %
Baltic Sprat	DKNEX	13757671	6 %	57 %
Baltic Sprat	LVLPX	11931903	5 %	62 %
Baltic Sprat	EEDIR	10643200	5 %	67 %
Baltic Sprat	PLWLA	8871644	4 %	71 %
Baltic Sprat	PLKOL	7943177	4 %	75 %
Baltic Sprat	EEMDR	5765224	3 %	77 %
Baltic Sprat	EEVEE	5709053	3 %	80 %
Baltic Sprat	PLUST	4615862	2 %	82 %
Baltic Sprat	FIKNA	3804745	2 %	84 %
Baltic Sprat	SERNH	2623787	1 %	85 %
Baltic Sprat	SESIM	2590653	1 %	86 %
Baltic Sprat	EEMRS	2558400	1 %	87 %
Baltic Sprat	DKTHN	2459479	1 %	88 %
Baltic Sprat	SENOT	2038971	1 %	89 %
Baltic Sprat	DKRNN	1938068	1 %	90 %
Baltic Sprat	EELHT	1804273	1 %	91 %
Baltic Sprat	EEPLA	1676547	1 %	92 %
Baltic Sprat	SENOD	1353104	1 %	92 %
Baltic Sprat	EESMA	1276921	1 %	93 %
Baltic Sprat	SEHEL	1243001	1 %	93 %
Baltic Sprat	EEPLS	1125092	1 %	94 %
Baltic Sprat	FIUKI	1006338	0 %	94 %
Baltic Sprat	DKKOG	892085	0 %	95 %
Baltic Sprat	LVPAV	879919	0 %	95 %

STOCK	Harbour	kg	%	Cumulative %
Central Baltic Herring	DKSKA	14099578	10 %	10 %
Central Baltic Herring	SEVVK	9665307	7 %	17 %
Central Baltic Herring	FIKNA	8390329	6 %	23 %
Central Baltic Herring	PLKOL	7545010	5 %	28 %
Central Baltic Herring	LVROJ	6725073	5 %	33 %
Central Baltic Herring	FITUO	5708808	4 %	37 %
Central Baltic Herring	PLWLA	5505390	4 %	41 %
Central Baltic Herring	DKGRE	5468766	4 %	44 %
Central Baltic Herring	EEDIR	4341186	3 %	47 %
Central Baltic Herring	PLUST	3971083	3 %	50 %
Central Baltic Herring	LV999	3940088	3 %	53 %
Central Baltic Herring	FIKLD	3831555	3 %	56 %
Central Baltic Herring	SESIM	3822819	3 %	58 %
Central Baltic Herring	PLHEL	3725644	3 %	61 %
Central Baltic Herring	LVMRX	3414700	2 %	63 %
Central Baltic Herring	FILPN	2933001	2 %	65 %
Central Baltic Herring	LVSAL	2677677	2 %	67 %
Central Baltic Herring	SERNH	2639290	2 %	69 %
Central Baltic Herring	LVSKU	2512349	2 %	71 %
Central Baltic Herring	EEMDR	2469643	2 %	73 %
Central Baltic Herring	LVVNT	2412984	2 %	74 %
Central Baltic Herring	EEVEE	2045607	1 %	76 %
Central Baltic Herring	EEVIR	1895735	1 %	77 %
Central Baltic Herring	SENOT	1868589	1 %	78 %
Central Baltic Herring	SENOD	1626706	1 %	80 %
Central Baltic Herring	EELIN	1576593	1 %	81 %
Central Baltic Herring	LVRIX	1543140	1 %	82 %
Central Baltic Herring	PLPAA	1295705	1 %	83 %
Central Baltic Herring	EELIU	1294886	1 %	84 %
Central Baltic Herring	EERMS	1275567	1 %	85 %
Central Baltic Herring	DKNEX	1259523	1 %	85 %
Central Baltic Herring	LVLPX	1227542	1 %	86 %
Central Baltic Herring	EEPLA	1193651	1 %	87 %
Central Baltic Herring	EEVOI	1176186	1 %	88 %
Central Baltic Herring	SEHEL	961150	1 %	89 %
Central Baltic Herring	EETOI	934886	1 %	89 %
Central Baltic Herring	EEMRS	914341	1 %	90 %
Central Baltic Herring	FIINK	838527	1 %	91 %
Central Baltic Herring	SEBYX	740037	1 %	91 %
Central Baltic Herring	SEKKT	624283	0 %	91 %
Central Baltic Herring	EEPRN	616903	0 %	92 %
Central Baltic Herring	EEPLS	553091	0 %	92 %
Central Baltic Herring	PLDAR	523271	0 %	93 %
Central Baltic Herring	FISRK	515480	0 %	93 %
Central Baltic Herring	EELHT	504096	0 %	93 %
Central Baltic Herring	EEMNT	476831	0 %	94 %
Central Baltic Herring	EEMUN	462739	0 %	94 %
Central Baltic Herring	EERHK	461529	0 %	94 %
Central Baltic Herring	LTKLJ	398059	0 %	95 %
Central Baltic Herring	EENJD	383578	0 %	95 %
Central Baltic Herring	PLDZN	383062	0 %	95 %

STOCK	Harbour	kg	%	Cumulative %
Gulf of Riga Herring	LVROJ	6647153	22 %	22 %
Gulf of Riga Herring	LV999	3818300	12 %	34 %
Gulf of Riga Herring	LVMRX	3397500	11 %	45 %
Gulf of Riga Herring	LVSKU	2512349	8 %	54 %
Gulf of Riga Herring	LVSAL	1821977	6 %	60 %
Gulf of Riga Herring	EEVIR	1794030	6 %	65 %
Gulf of Riga Herring	EELIN	1576593	5 %	71 %
Gulf of Riga Herring	LVRIX	1543140	5 %	76 %
Gulf of Riga Herring	EELIU	1294886	4 %	80 %
Gulf of Riga Herring	EERMS	1275567	4 %	84 %
Gulf of Riga Herring	EEVOI	1176186	4 %	88 %
Gulf of Riga Herring	LVSAL	855700	3 %	91 %
Gulf of Riga Herring	EEPRN	616903	2 %	93 %
Gulf of Riga Herring	EEMUN	462739	2 %	94 %
Gulf of Riga Herring	EEMNT	398731	1 %	96 %

STOCK	Harbour	kg	%	Cumulative %
Bothnian Sea Herring	SENOT	46253170	42 %	42 %
Bothnian Sea Herring	FIUKI	20832096	19 %	61 %
Bothnian Sea Herring	FIKAS	15097599	14 %	74 %
Bothnian Sea Herring	FIREP	10703523	10 %	84 %
Bothnian Sea Herring	FIRAU	4225401	4 %	88 %
Bothnian Sea Herring	FITUO	2887499	3 %	90 %
Bothnian Sea Herring	SEVVK	2263001	2 %	92 %
Bothnian Sea Herring	FIKLB	1849695	2 %	94 %
Bothnian Sea Herring	FILPN	1390961	1 %	95 %

STOCK	Harbour	kg	%	Cumulative %
Bothnian Bay Herring	FIKON	3110592	64 %	64 %
Bothnian Bay Herring	FIKVN	463765	10 %	74 %
Bothnian Bay Herring	FIOUL	314568	6 %	80 %
Bothnian Bay Herring	FIHAO	305062	6 %	86 %
Bothnian Bay Herring	FIUKP	226008	5 %	91 %
Bothnian Bay Herring	SESRO	92676	2 %	93 %
Bothnian Bay Herring	FIKOK	87709	2 %	95 %

STOCK	Harbour	kg	%	Cumulative %
Eastern Cod	PLWLA	3243858	13 %	13 %
Eastern Cod	DKNEX	3109028	12 %	25 %
Eastern Cod	PLDAR	3042093	12 %	37 %
Eastern Cod	PLKOL	2692331	11 %	47 %
Eastern Cod	PLUST	2195798	9 %	56 %
Eastern Cod	SEKKT	1934995	8 %	64 %
Eastern Cod	SESIM	1257294	5 %	69 %
Eastern Cod	LVLPX	1042857	4 %	73 %
Eastern Cod	LTKLJ	1002934	4 %	77 %
Eastern Cod	PLLEA	893408	4 %	80 %
Eastern Cod	PLJAT	709782	3 %	83 %
Eastern Cod	PLHEL	566050	2 %	85 %
Eastern Cod	DKTEJ	416315	2 %	87 %
Eastern Cod	SEESO	312398	1 %	88 %
Eastern Cod	FIHEL	305419	1 %	89 %
Eastern Cod	SENOD	232436	1 %	90 %
Eastern Cod	PLSWI	166634	1 %	91 %
Eastern Cod	LV999	163285	1 %	91 %
Eastern Cod	PLMEZ	158547	1 %	92 %
Eastern Cod	PLDZN	156430	1 %	93 %
Eastern Cod	DESAS	151855	1 %	93 %
Eastern Cod	PLCPY	145534	1 %	94 %
Eastern Cod	SESLE	105244	0 %	94 %
Eastern Cod	DEHHF	98375	0 %	95 %
Eastern Cod	PLJAL	93119	0 %	95 %

STOCK	Harbour	kg	%	Cumulative %
Western Cod	DKRNN	919387	7 %	7 %
Western Cod	DKKLH	822824	6 %	13 %
Western Cod	SEYST	628898	5 %	18 %
Western Cod	DEHHF	598459	4 %	22 %
Western Cod	DKBAG	584413	4 %	27 %
Western Cod	SESIM	581387	4 %	31 %
Western Cod	DEBSK	520709	4 %	35 %
Western Cod	DESAS	516151	4 %	39 %
Western Cod	DKKOG	493680	4 %	43 %
Western Cod	PLDAR	335652	3 %	45 %
Western Cod	PLKOL	302260	2 %	47 %
Western Cod	DKSBK	281891	2 %	49 %
Western Cod	DKNEX	266001	2 %	51 %
Western Cod	PLDZN	260711	2 %	53 %
Western Cod	SESLE	256967	2 %	55 %
Western Cod	DKSPB	232115	2 %	57 %
Western Cod	DKLNG	225403	2 %	59 %
Western Cod	DKGLE	212199	2 %	60 %
Western Cod	DEKAP	210370	2 %	62 %
Western Cod	PLMEZ	208750	2 %	63 %
Western Cod	DKRQD	207000	2 %	65 %
Western Cod	DKHSL	203702	2 %	67 %
Western Cod	DEMAO	182776	1 %	68 %
Western Cod	SELOM	179024	1 %	69 %
Western Cod	DKGED	173163	1 %	71 %
Western Cod	DETRV	172980	1 %	72 %
Western Cod	DE64Z	167128	1 %	73 %
Western Cod	DKVBK	166871	1 %	74 %
Western Cod	DKKTD	165473	1 %	76 %
Western Cod	DKSOB	148096	1 %	77 %
Western Cod	DKHES	147197	1 %	78 %
Western Cod	SEKKT	147054	1 %	79 %
Western Cod	SEBOU	145963	1 %	80 %
Western Cod	SETRG	133108	1 %	81 %
Western Cod	DKDRA	128593	1 %	82 %
Western Cod	DKSKU	106897	1 %	83 %
Western Cod	DKSLT	105501	1 %	84 %
Western Cod	DKNBG	105377	1 %	84 %
Western Cod	DEFRJ	96807	1 %	85 %
Western Cod	DKFAB	96244	1 %	86 %
Western Cod	DKAGO	95289	1 %	87 %
Western Cod	SELIM	91003	1 %	87 %
Western Cod	DESH2	83210	1 %	88 %
Western Cod	DEECK	82845	1 %	88 %
Western Cod	DEHED	81361	1 %	89 %
Western Cod	DKMRS	79204	1 %	90 %
Western Cod	DKOMO	78657	1 %	90 %
Western Cod	DKKRZ	57554	0 %	91 %
Western Cod	DKKRR	56542	0 %	91 %
Western Cod	PLSWI	54331	0 %	92 %
Western Cod	DKHAN	52216	0 %	92 %
Western Cod	DEBH7	51665	0 %	92 %
Western Cod	DETMD	48141	0 %	93 %
Western Cod	DKSGD	45846	0 %	93 %
Western Cod	DEWAR	43954	0 %	93 %
Western Cod	DKMOM	43331	0 %	94 %
Western Cod	DEGLY	40796	0 %	94 %
Western Cod	DKKTP	35868	0 %	94 %
Western Cod	DELPA	34487	0 %	94 %
Western Cod	DELAB	33818	0 %	95 %
Western Cod	DKROD	30611	0 %	95 %

STOCK	Harbour	kg	%	Cumulative %
FLE 22-23	DEHHF	172047	14 %	14 %
FLE 22-23	DKKTD	99570	8 %	23 %
FLE 22-23	DEKAP	90620	8 %	30 %
FLE 22-23	DKBAG	82673	7 %	37 %
FLE 22-23	DETRV	72244	6 %	43 %
FLE 22-23	DEBSK	64476	5 %	49 %
FLE 22-23	DKKRR	60132	5 %	54 %
FLE 22-23	DKSOB	50797	4 %	58 %
FLE 22-23	DKFAB	44732	4 %	62 %
FLE 22-23	DEECK	34947	3 %	65 %
FLE 22-23	DKLUN	33375	3 %	67 %
FLE 22-23	DEHED	30892	3 %	70 %
FLE 22-23	DKSPB	26936	2 %	72 %
FLE 22-23	DE64Z	23447	2 %	74 %
FLE 22-23	DKVBK	19503	2 %	76 %
FLE 22-23	DEMAO	16999	1 %	77 %
FLE 22-23	DKAGO	15670	1 %	79 %
FLE 22-23	DKDRA	10802	1 %	80 %
FLE 22-23	DKSKU	9957	1 %	80 %
FLE 22-23	DELAB	9030	1 %	81 %
FLE 22-23	DEWAR	8691	1 %	82 %
FLE 22-23	DKSKB	8394	1 %	83 %
FLE 22-23	DKLNG	8247	1 %	83 %
FLE 22-23	DKSLT	8017	1 %	84 %
FLE 22-23	SELOM	7468	1 %	85 %
FLE 22-23	DELGY	7143	1 %	85 %
FLE 22-23	DKGLE	7092	1 %	86 %
FLE 22-23	DKOMO	6928	1 %	86 %
FLE 22-23	DELPA	6606	1 %	87 %
FLE 22-23	DKODN	6493	1 %	87 %
FLE 22-23	DKRNS	6047	1 %	88 %
FLE 22-23	DKKAL	5966	0 %	88 %
FLE 22-23	DETAZ	5922	0 %	89 %
FLE 22-23	DKSGD	5342	0 %	89 %
FLE 22-23	DERRE	5173	0 %	90 %
FLE 22-23	DESTD	4858	0 %	90 %
FLE 22-23	DKNBG	4789	0 %	91 %
FLE 22-23	DKROD	4700	0 %	91 %
FLE 22-23	DKMRS	4694	0 %	91 %
FLE 22-23	SEMMA	4417	0 %	92 %
FLE 22-23	DETMD	4371	0 %	92 %
FLE 22-23	DKARD	4343	0 %	93 %
FLE 22-23	DKSVE	4253	0 %	93 %
FLE 22-23	DEWEJ	4166	0 %	93 %
FLE 22-23	DKKRZ	3944	0 %	94 %
FLE 22-23	DEWIS	3936	0 %	94 %
FLE 22-23	SELIM	3488	0 %	94 %
FLE 22-23	DKBGK	3373	0 %	94 %
FLE 22-23	DKSEO	3230	0 %	95 %
FLE 22-23	DESAS	3079	0 %	95 %

STOCK	Harbour	kg	%	Cumulative %
FLE 24-25	PLSWI	1533225	10 %	53 %
FLE 24-25	PLUST	1262895	9 %	61 %
FLE 24-25	PLDZN	1016848	7 %	68 %
FLE 24-25	PLLEA	845445	6 %	74 %
FLE 24-25	PLDAR	734083	5 %	79 %
FLE 24-25	PLWLA	480049	3 %	82 %
FLE 24-25	PLMEZ	477020	3 %	86 %
FLE 24-25	LVLPX	259431	2 %	87 %
FLE 24-25	DESAS	242990	2 %	89 %
FLE 24-25	DEHHF	237747	2 %	91 %
FLE 24-25	DEFRJ	214696	1 %	92 %
FLE 24-25	PLCPY	192287	1 %	93 %
FLE 24-25	SESIM	141305	1 %	94 %
FLE 24-25	DKKOG	92352	1 %	95 %

STOCK	Harbour	kg	%	Cumulative %
FLE 26+28	LVLPX	773124	22 %	22 %
FLE 26+28	LVVNT	726320	20 %	42 %
FLE 26+28	LTKLJ	518004	15 %	57 %
FLE 26+28	PLWLA	225463	6 %	63 %
FLE 26+28	PLHEL	197813	6 %	68 %
FLE 26+28	PLJAT	190521	5 %	74 %
FLE 26+28	LV999	188537	5 %	79 %
FLE 26+28	PLPII	83988	2 %	81 %
FLE 26+28	PLKTR	68598	2 %	83 %
FLE 26+28	PLKM2	64624	2 %	85 %
FLE 26+28	PLDEK	58580	2 %	87 %
FLE 26+28	PLSOP	41080	1 %	88 %
FLE 26+28	PLJAN	35093	1 %	89 %
FLE 26+28	PLSBN	34896	1 %	90 %
FLE 26+28	PLGKZ	31600	1 %	91 %
FLE 26+28	PLORW	31335	1 %	92 %
FLE 26+28	PLMEC	27774	1 %	92 %
FLE 26+28	PLOKY	23853	1 %	93 %
FLE 26+28	PLKUZ	22420	1 %	94 %
FLE 26+28	LVPAV	18527	1 %	94 %
FLE 26+28	PLSWR	16537	0 %	95 %
FLE 26+28	SEHEK	14171	0 %	95 %

STOCK	Harbour	kg	%	Cumulative %
FLE 27+29-32	EEVEE	19015	10 %	10 %
FLE 27+29-32	EENVA	11779	6 %	16 %
FLE 27+29-32	EEVSE	8900	5 %	21 %
FLE 27+29-32	EEKRG	7808	4 %	25 %
FLE 27+29-32	SESDV	6232	3 %	29 %
FLE 27+29-32	SEBOM	5570	3 %	32 %
FLE 27+29-32	EESPH	5299	3 %	35 %
FLE 27+29-32	SEVVK	5297	3 %	37 %
FLE 27+29-32	EEDIR	3997	2 %	40 %
FLE 27+29-32	EELSL	3992	2 %	42 %
FLE 27+29-32	EETME	3538	2 %	44 %
FLE 27+29-32	EESEB	3501	2 %	45 %
FLE 27+29-32	SEBYX	3181	2 %	47 %
FLE 27+29-32	EEMAD	2472	1 %	49 %
FLE 27+29-32	SELTT	2430	1 %	50 %
FLE 27+29-32	EEVRN	2381	1 %	51 %
FLE 27+29-32	EEKTT	2112	1 %	52 %
FLE 27+29-32	EEPLK	2107	1 %	53 %
FLE 27+29-32	EEUNV	2080	1 %	54 %
FLE 27+29-32	EEPLN	2038	1 %	56 %
FLE 27+29-32	EEKKE	1990	1 %	57 %
FLE 27+29-32	EEPNL	1970	1 %	58 %
FLE 27+29-32	EEKAK	1917	1 %	59 %
FLE 27+29-32	EELPR	1903	1 %	60 %
FLE 27+29-32	EEMRM	1663	1 %	61 %
FLE 27+29-32	EEKKN	1645	1 %	61 %
FLE 27+29-32	EEMDS	1623	1 %	62 %
FLE 27+29-32	EEPRP	1482	1 %	63 %
FLE 27+29-32	EEHDI	1454	1 %	64 %
FLE 27+29-32	EETSI	1450	1 %	65 %
FLE 27+29-32	SEKLR	1443	1 %	65 %
FLE 27+29-32	EEMLK	1390	1 %	66 %
FLE 27+29-32	EEHRA	1366	1 %	67 %
FLE 27+29-32	EEKAL	1314	1 %	68 %
FLE 27+29-32	EESRU	1302	1 %	68 %
FLE 27+29-32	EELUT	1295	1 %	69 %
FLE 27+29-32	EELLM	1251	1 %	70 %
FLE 27+29-32	EEELB	1232	1 %	70 %
FLE 27+29-32	EEKBU	1131	1 %	71 %
FLE 27+29-32	SEBDQ	1086	1 %	72 %
FLE 27+29-32	EETIL	1071	1 %	72 %
FLE 27+29-32	DKGRE	1046	1 %	73 %
FLE 27+29-32	EEONN	1001	1 %	73 %

FLE 27+29-32	EEVJS	997	1 %	74 %
FLE 27+29-32	EESRL	994	1 %	74 %
FLE 27+29-32	EEKES	956	1 %	75 %
FLE 27+29-32	EESAM	935	1 %	75 %
FLE 27+29-32	EEJUM	852	0 %	76 %
FLE 27+29-32	EEHIR	840	0 %	76 %
FLE 27+29-32	EEHKS	837	0 %	77 %
FLE 27+29-32	FIMHQ	835	0 %	77 %
FLE 27+29-32	EEPIR	821	0 %	78 %
FLE 27+29-32	EEORJ	799	0 %	78 %
FLE 27+29-32	EETYD	794	0 %	78 %
FLE 27+29-32	EERSA	783	0 %	79 %
FLE 27+29-32	FITAI	775	0 %	79 %
FLE 27+29-32	EETNP	747	0 %	80 %
FLE 27+29-32	EEKYT	742	0 %	80 %
FLE 27+29-32	EEKDP	736	0 %	80 %
FLE 27+29-32	SEGR3	717	0 %	81 %
FLE 27+29-32	EEKRS	704	0 %	81 %
FLE 27+29-32	EEERU	703	0 %	82 %
FLE 27+29-32	EELMS	702	0 %	82 %
FLE 27+29-32	EELHT	693	0 %	82 %
FLE 27+29-32	EETHK	683	0 %	83 %
FLE 27+29-32	EERGD	653	0 %	83 %
FLE 27+29-32	EEVHP	644	0 %	83 %
FLE 27+29-32	EEVRK	641	0 %	84 %
FLE 27+29-32	EEMKR	614	0 %	84 %
FLE 27+29-32	DKHAN	606	0 %	84 %
FLE 27+29-32	SESYE	605	0 %	85 %
FLE 27+29-32	DKSKA	595	0 %	85 %
FLE 27+29-32	FIKOV	588	0 %	85 %
FLE 27+29-32	EEKSM	563	0 %	86 %
FLE 27+29-32	EESPE	557	0 %	86 %
FLE 27+29-32	EEKSP	550	0 %	86 %
FLE 27+29-32	EEALI	544	0 %	87 %
FLE 27+29-32	EEKYD	544	0 %	87 %
FLE 27+29-32	EEMMA	543	0 %	87 %
FLE 27+29-32	EETOP	528	0 %	87 %
FLE 27+29-32	EEMDR	522	0 %	88 %
FLE 27+29-32	EEABU	520	0 %	88 %
FLE 27+29-32	EEKAB	477	0 %	88 %
FLE 27+29-32	EERON	464	0 %	88 %
FLE 27+29-32	EETYC	448	0 %	89 %
FLE 27+29-32	DKTHN	441	0 %	89 %
FLE 27+29-32	EELDJ	435	0 %	89 %
FLE 27+29-32	EETMA	430	0 %	89 %

FLE 27+29-32	EEKYY	427	0 %	90 %
FLE 27+29-32	EEHYA	404	0 %	90 %
FLE 27+29-32	EESUS	393	0 %	90 %
FLE 27+29-32	EERAG	372	0 %	90 %
FLE 27+29-32	EETLS	363	0 %	90 %
FLE 27+29-32	EEVRG	358	0 %	91 %
FLE 27+29-32	EEIHS	355	0 %	91 %
FLE 27+29-32	EEKJO	345	0 %	91 %
FLE 27+29-32	EEHII	343	0 %	91 %
FLE 27+29-32	EEANE	340	0 %	91 %
FLE 27+29-32	EEPAO	333	0 %	92 %
FLE 27+29-32	EESUP	331	0 %	92 %
FLE 27+29-32	EENEE	328	0 %	92 %
FLE 27+29-32	EERST	324	0 %	92 %
FLE 27+29-32	EEVAU	321	0 %	92 %
FLE 27+29-32	FIPRV	311	0 %	92 %
FLE 27+29-32	SETMM	299	0 %	93 %
FLE 27+29-32	EEUUD	292	0 %	93 %
FLE 27+29-32	EEKLA	286	0 %	93 %
FLE 27+29-32	EESKV	281	0 %	93 %
FLE 27+29-32	SELOF	278	0 %	93 %
FLE 27+29-32	EESLK	274	0 %	93 %
FLE 27+29-32	EEVYC	271	0 %	93 %
FLE 27+29-32	FIKTK	267	0 %	94 %
FLE 27+29-32	EELBN	251	0 %	94 %
FLE 27+29-32	EEPLS	241	0 %	94 %
FLE 27+29-32	EELKY	228	0 %	94 %
FLE 27+29-32	EEKOV	227	0 %	94 %
FLE 27+29-32	SEKRS	227	0 %	94 %
FLE 27+29-32	EELEP	210	0 %	94 %
FLE 27+29-32	EEKYC	206	0 %	94 %
FLE 27+29-32	SE999	206	0 %	95 %
FLE 27+29-32	EEMKL	199	0 %	95 %
FLE 27+29-32	EEPOK	198	0 %	95 %
FLE 27+29-32	SEBLI	198	0 %	95 %
FLE 27+29-32	EEUSK	197	0 %	95 %

STOCK	Harbour	kg	%	Cumulative %
Dab 22-32	DEHHF	245335	20 %	20 %
Dab 22-32	DEKAP	209295	17 %	37 %
Dab 22-32	DKBAG	131527	11 %	47 %
Dab 22-32	DEBSK	107740	9 %	56 %
Dab 22-32	DEHED	104923	8 %	65 %
Dab 22-32	DEMAO	73926	6 %	71 %
Dab 22-32	DKSOB	46382	4 %	74 %
Dab 22-32	DKSBK	26895	2 %	76 %
Dab 22-32	DETRV	26046	2 %	79 %
Dab 22-32	DKSPB	23424	2 %	80 %
Dab 22-32	DEECK	20336	2 %	82 %
Dab 22-32	DKKTD	19044	2 %	84 %
Dab 22-32	DKROD	17154	1 %	85 %
Dab 22-32	DKFAB	14703	1 %	86 %
Dab 22-32	DKKLH	14375	1 %	87 %
Dab 22-32	DE64Z	12407	1 %	88 %
Dab 22-32	DKLNG	10663	1 %	89 %
Dab 22-32	DKGED	10206	1 %	90 %
Dab 22-32	DEWAR	9052	1 %	91 %
Dab 22-32	DKNBG	8375	1 %	91 %
Dab 22-32	DELAB	7024	1 %	92 %
Dab 22-32	DKLUN	6406	1 %	93 %
Dab 22-32	DKKRR	5375	0 %	93 %
Dab 22-32	DKKAL	5306	0 %	93 %
Dab 22-32	DKSGD	5192	0 %	94 %
Dab 22-32	DESAS	5105	0 %	94 %
Dab 22-32	DKOMO	4815	0 %	95 %
Dab 22-32	DKKRZ	4668	0 %	95 %

STOCK	Harbour	kg	%	Cumulative %
Brill 22-32	DKLNG	4134	15 %	15 %
Brill 22-32	DKBAG	2828	10 %	25 %
Brill 22-32	DKSLT	2375	9 %	34 %
Brill 22-32	DKMRS	2018	7 %	41 %
Brill 22-32	DKNBG	1966	7 %	48 %
Brill 22-32	DKSPB	1764	6 %	54 %
Brill 22-32	DKMOM	1251	4 %	59 %
Brill 22-32	DKKTD	1249	4 %	63 %
Brill 22-32	DEHHF	1119	4 %	67 %
Brill 22-32	DKOMO	1114	4 %	71 %
Brill 22-32	DKGLE	1101	4 %	75 %
Brill 22-32	DKFAB	953	3 %	78 %
Brill 22-32	DKVBK	949	3 %	82 %
Brill 22-32	DKHLS	938	3 %	85 %
Brill 22-32	DEBSK	405	1 %	87 %
Brill 22-32	DKAGO	391	1 %	88 %
Brill 22-32	DKSOB	281	1 %	89 %
Brill 22-32	DKKRR	271	1 %	90 %
Brill 22-32	DEKU3	257	1 %	91 %
Brill 22-32	SEHOG	221	1 %	92 %
Brill 22-32	DKRQD	212	1 %	93 %
Brill 22-32	DKKRZ	188	1 %	93 %
Brill 22-32	DKLUN	174	1 %	94 %
Brill 22-32	DKKLH	149	1 %	94 %
Brill 22-32	DEMAO	145	1 %	95 %
Brill 22-32	DKSKU	133	0 %	95 %

STOCK	Harbour	kg	%	Cumulative %
Turbot 22-32	PLWLA	3243858	13 %	13 %
Turbot 22-32	DKNEX	3109028	12 %	25 %
Turbot 22-32	PLDAR	3042093	12 %	37 %
Turbot 22-32	PLKOL	2692331	11 %	47 %
Turbot 22-32	PLUST	2195798	9 %	56 %
Turbot 22-32	SEKKT	1934995	8 %	64 %
Turbot 22-32	SESIM	1257294	5 %	69 %
Turbot 22-32	LVLPX	1042857	4 %	73 %
Turbot 22-32	LTKLJ	1002934	4 %	77 %
Turbot 22-32	PLLEA	893408	4 %	80 %
Turbot 22-32	PLJAT	709782	3 %	83 %
Turbot 22-32	PLHEL	566050	2 %	85 %
Turbot 22-32	DKTEJ	416315	2 %	87 %
Turbot 22-32	SEESO	312398	1 %	88 %
Turbot 22-32	FIHEL	305419	1 %	89 %
Turbot 22-32	SENOD	232436	1 %	90 %
Turbot 22-32	PLSWI	166634	1 %	91 %
Turbot 22-32	LV999	163285	1 %	91 %
Turbot 22-32	PLMEZ	158547	1 %	92 %
Turbot 22-32	PLDZN	156430	1 %	93 %
Turbot 22-32	DESAS	151855	1 %	93 %
Turbot 22-32	PLCPY	145534	1 %	94 %
Turbot 22-32	SESLE	105244	0 %	94 %
Turbot 22-32	DEHHF	98375	0 %	95 %
Turbot 22-32	PLJAL	93119	0 %	95 %

STOCK	Harbour	kg	%	Cumulative %
PLE (21), 22-23	DKBAG	292679	20 %	20 %
PLE (21), 22-23	DKSOB	152423	10 %	30 %
PLE (21), 22-23	DKSPB	114413	8 %	37 %
PLE (21), 22-23	DEKAP	99845	7 %	44 %
PLE (21), 22-23	DKKTD	83904	6 %	50 %
PLE (21), 22-23	DKLNG	77730	5 %	55 %
PLE (21), 22-23	DKFAB	73998	5 %	60 %
PLE (21), 22-23	DEHHF	63266	4 %	64 %
PLE (21), 22-23	DKMRS	47990	3 %	67 %
PLE (21), 22-23	DEMAO	44147	3 %	70 %
PLE (21), 22-23	DKOMO	39517	3 %	73 %
PLE (21), 22-23	DKAGO	32305	2 %	75 %
PLE (21), 22-23	SELOM	30772	2 %	77 %
PLE (21), 22-23	DKNBG	29453	2 %	79 %
PLE (21), 22-23	DEECK	29243	2 %	81 %
PLE (21), 22-23	DKVBK	28068	2 %	83 %
PLE (21), 22-23	DEBSK	26735	2 %	85 %
PLE (21), 22-23	DKKRR	21289	1 %	86 %
PLE (21), 22-23	DEHED	21005	1 %	88 %
PLE (21), 22-23	DKLUN	18568	1 %	89 %
PLE (21), 22-23	DKARD	18387	1 %	90 %
PLE (21), 22-23	DKSGD	15043	1 %	91 %
PLE (21), 22-23	DETRV	14042	1 %	92 %
PLE (21), 22-23	DKMOM	13880	1 %	93 %
PLE (21), 22-23	DKSLT	11988	1 %	94 %
PLE (21), 22-23	DE64Z	8198	1 %	94 %
PLE (21), 22-23	DKKRZ	7937	1 %	95 %
PLE (21), 22-23	DKGLE	6194	0 %	95 %

STOCK	Harbour	kg	%	Cumulative %
PLE 24-25	DKRNN	120840	23 %	23 %
PLE 24-25	DKTEJ	62841	12 %	35 %
PLE 24-25	PLKOL	51398	10 %	45 %
PLE 24-25	DKKOG	48169	9 %	55 %
PLE 24-25	PLSWI	43467	8 %	63 %
PLE 24-25	SESIM	30840	6 %	69 %
PLE 24-25	DKKLH	24801	5 %	74 %
PLE 24-25	DESAS	18874	4 %	77 %
PLE 24-25	DEHHF	15138	3 %	80 %
PLE 24-25	DKNEX	9144	2 %	82 %
PLE 24-25	DKRQD	8405	2 %	84 %
PLE 24-25	SEYST	8265	2 %	85 %
PLE 24-25	PLMEZ	6120	1 %	86 %
PLE 24-25	PLUST	6110	1 %	88 %
PLE 24-25	DEFRJ	5900	1 %	89 %
PLE 24-25	SESLE	5797	1 %	90 %
PLE 24-25	PLLEA	5730	1 %	91 %
PLE 24-25	DKARS	5495	1 %	92 %
PLE 24-25	PLDAR	5096	1 %	93 %
PLE 24-25	PLDZN	4425	1 %	94 %
PLE 24-25	DESH2	3723	1 %	94 %
PLE 24-25	DEVT2	3595	1 %	95 %

STOCK	Harbour	kg	%	Cumulative %
Sole 22-24	DKKTD	7604	16 %	16 %
Sole 22-24	DKSPB	6816	14 %	30 %
Sole 22-24	DKLNG	5592	12 %	42 %
Sole 22-24	DKOMO	3991	8 %	50 %
Sole 22-24	DKGLE	3910	8 %	59 %
Sole 22-24	DKBAG	2825	6 %	64 %
Sole 22-24	DKSEO	2694	6 %	70 %
Sole 22-24	DKKRR	2382	5 %	75 %
Sole 22-24	DKNBG	2232	5 %	80 %
Sole 22-24	DKHLS	1932	4 %	84 %
Sole 22-24	DKODN	1912	4 %	88 %
Sole 22-24	DKSLT	1769	4 %	92 %
Sole 22-24	DKAGO	644	1 %	93 %
Sole 22-24	DKSNE	560	1 %	94 %
Sole 22-24	DKKAL	475	1 %	95 %

Harbours accounting for 95% of the Eastern Cod landings in the Baltic Sea in 2012-2014.

STOCK	2012				2013				2014			
	Harbour	kg	%	Cumulative %	Harbour	kg	%	Cumulative %	Harbour	kg	%	Cumulative %
Eastern Cod	DKNEX	5076914	11 %	11 %	PLWLA	4124745	15 %	**15 %**	PLWLA	3243858	13 %	13 %
Eastern Cod	PLWLA	4820755	11 %	22 %	DKNEX	2751709	10 %	**24 %**	DKNEX	3109028	12 %	25 %
Eastern Cod	SEKKT	4622639	10 %	32 %	PLKOL	2666905	9 %	**34 %**	PLDAR	3042093	12 %	37 %
Eastern Cod	PLDAR	4485395	10 %	42 %	PLDAR	2433960	9 %	**42 %**	PLKOL	2692331	11 %	47 %
Eastern Cod	SESIM	4461692	10 %	52 %	SEKKT	2331714	8 %	**51 %**	PLUST	2195798	9 %	56 %
Eastern Cod	PLKOL	3113280	7 %	59 %	SESIM	2247362	8 %	**59 %**	SEKKT	1934995	8 %	64 %
Eastern Cod	PLUST	2758780	6 %	65 %	PLUST	1916061	7 %	**65 %**	SESIM	1257294	5 %	69 %
Eastern Cod	LVLPX	1981764	4 %	69 %	LVLPX	1367519	5 %	**70 %**	LVLPX	1042857	4 %	73 %
Eastern Cod	PLHEL	1718319	4 %	73 %	LTKLJ	1278427	5 %	**75 %**	LTKLJ	1002934	4 %	77 %
Eastern Cod	PL999	1072849	2 %	75 %	PLHEL	1127695	4 %	**79 %**	PLLEA	893408	4 %	80 %
Eastern Cod	PLLEB	980085	2 %	77 %	PLJAS	1096406	4 %	**83 %**	PLJAT	709782	3 %	83 %
Eastern Cod	DEU-0602	827904	2 %	79 %	PLLEB	778570	3 %	**85 %**	PLHEL	566050	2 %	85 %
Eastern Cod	SEKAA	675260	1 %	81 %	UNK	388537	1 %	**87 %**	DKTEJ	416315	2 %	87 %
Eastern Cod	POL-3703	626920	1 %	82 %	SEESO	313031	1 %	**88 %**	SEESO	312398	1 %	88 %
Eastern Cod	LTKLJ	604564	1 %	83 %	DKTEJ	246166	1 %	**89 %**	FIHEL	305419	1 %	89 %
Eastern Cod	SEYST	588595	1 %	85 %	PLSWI	230866	1 %	**89 %**	SENOD	232436	1 %	90 %
Eastern Cod	DKTEJ	581609	1 %	86 %	PLMZZ	218473	1 %	**90 %**	PLSWI	166634	1 %	91 %
Eastern Cod	PLJAS	573955	1 %	87 %	SENOD	169920	1 %	**91 %**	LV999	163285	1 %	91 %
Eastern Cod	DKRNN	463604	1 %	88 %	DKRNN	165511	1 %	**91 %**	PLMEZ	158547	1 %	92 %
Eastern Cod	SEESO	428711	1 %	89 %	SESLE	154193	1 %	**92 %**	PLDZN	156430	1 %	93 %
Eastern Cod	SESLE	397141	1 %	90 %	DKARS	145690	1 %	**92 %**	DESAS	151855	1 %	93 %
Eastern Cod	DEU-0207	354332	1 %	91 %	PLDZI	140240	0 %	**93 %**	PLCPY	145534	1 %	94 %
Eastern Cod	LVVNT	281660	1 %	91 %	PLCPY	135900	0 %	**93 %**	SESLE	105244	0 %	94 %
Eastern Cod	SE999	279794	1 %	92 %	DKLID	135093	0 %	**94 %**	DEHHF	98375	0 %	95 %
Eastern Cod	DKARS	249421	1 %	93 %	LVVNT	124941	0 %	**94 %**	PLJAL	93119	0 %	95 %
Eastern Cod	PLMRZ	220523	0 %	93 %	LV999	92304	0 %	**95 %**	SEKAA	90332	0 %	95 %
Eastern Cod	SENOD	211080	0 %	94 %	-	-	-	-	-	-	-	-
Eastern Cod	PLSWI	175508	0 %	94 %	-	-	-	-	-	-	-	-
Eastern Cod	DKLID	171428	0 %	94 %	-	-	-	-	-	-	-	-
Eastern Cod	DKKOG	153042	0 %	95 %	-	-	-	-	-	-	-	-
Eastern Cod	DEU-0674	143747	0 %	95 %	-	-	-	-	-	-	-	-
Eastern Cod	PLDZI	138205	0 %	95 %	-	-	-	-	-	-	-	-

Harbours accounting for 95% of the landings of demersal in the Baltic area in 2013

Stock	Harbour	kg	%	Cumulative %
Eastern Cod	PLWLA	4124745	15%	15%
Eastern Cod	DKNEX	2751709	10%	24%
Eastern Cod	PLKOL	2666905	9%	34%
Eastern Cod	PLDAR	2433960	9%	42%
Eastern Cod	SEKKT	2331714	8%	51%
Eastern Cod	SESIM	2247362	8%	59%
Eastern Cod	PLUST	1916061	7%	65%
Eastern Cod	LVLPX	1367519	5%	70%
Eastern Cod	LTKLJ	1278427	5%	75%
Eastern Cod	PLHEL	1127695	4%	79%
Eastern Cod	PLJAS	1096406	4%	83%
Eastern Cod	PLLEB	778570	3%	85%
Eastern Cod	UNK	388537	1%	87%
Eastern Cod	SEESO	313031	1%	88%
Eastern Cod	DKTEJ	246166	1%	89%
Eastern Cod	PLSWI	230866	1%	89%
Eastern Cod	PLMZZ	218473	1%	90%
Eastern Cod	SENOD	169920	1%	91%
Eastern Cod	DKRNN	165511	1%	91%
Eastern Cod	SESLE	154193	1%	92%
Eastern Cod	DKARS	145690	1%	92%
Eastern Cod	PLDZI	140240	0%	93%
Eastern Cod	PLCPY	135900	0%	93%
Eastern Cod	DKLID	135093	0%	94%
Eastern Cod	LVVNT	124941	0%	94%
Eastern Cod	LV999	92304	0%	95%

Stock	Harbour	kg	%	Cumulative %
Fle 22-23	DEHHF	264701	18%	18%
Fle 22-23	DKKTD	105410	7%	25%
Fle 22-23	DETRV	84115	6%	31%
Fle 22-23	DEBSK	83378	6%	37%
Fle 22-23	DKBAG	80070	5%	42%
Fle 22-23	DKSOB	68405	5%	47%
Fle 22-23	DKLUN	63504	4%	51%
Fle 22-23	DKKRR	56568	4%	55%
Fle 22-23	DEKAP	54086	4%	58%
Fle 22-23	DKFAB	43873	3%	61%
Fle 22-23	DEMAO	41246	3%	64%
Fle 22-23	DEECK	34697	2%	67%
Fle 22-23	DENDC	32968	2%	69%
Fle 22-23	DKROD	23098	2%	70%
Fle 22-23	DKVBK	22273	2%	72%
Fle 22-23	DEHED	21313	1%	73%
Fle 22-23	DKSGD	19435	1%	75%
Fle 22-23	DKSPB	19258	1%	76%
Fle 22-23	DKSKU	18530	1%	77%
Fle 22-23	NULL	17484	1%	79%
Fle 22-23	DKAGO	16367	1%	80%
Fle 22-23	DKKAL	15626	1%	81%
Fle 22-23	DKLNG	13633	1%	82%
Fle 22-23	DKSKB	12283	1%	82%
Fle 22-23	DKRNS	11961	1%	83%
Fle 22-23	DKSLT	11865	1%	84%
Fle 22-23	DKNBG	10550	1%	85%
Fle 22-23	DKMRS	9712	1%	85%
Fle 22-23	DETAZ	9499	1%	86%
Fle 22-23	DETMD	9379	1%	87%
Fle 22-23	DEWIS	9095	1%	87%
Fle 22-23	DKODN	8964	1%	88%
Fle 22-23	DKGLE	8879	1%	89%
Fle 22-23	DELAB	8438	1%	89%
Fle 22-23	DEWAR	8317	1%	90%
Fle 22-23	DKDRA	8264	1%	90%
Fle 22-23	DELGY	8158	1%	91%
Fle 22-23	DKOMO	7218	0%	91%
Fle 22-23	DERRE	6802	0%	92%
Fle 22-23	DKARD	6560	0%	92%
Fle 22-23	DEWEJ	6368	0%	93%
Fle 22-23	DKKRZ	6315	0%	93%
Fle 22-23	SELOM	4914	0%	93%
Fle 22-23	DKSVE	4834	0%	94%
Fle 22-23	SEMMA	4625	0%	94%
Fle 22-23	DELPP	4058	0%	94%
Fle 22-23	DKSEO	3816	0%	95%

Stock	Harbour	kg	%	Cumulative %
Western Cod	DKRNN	1073351	8%	8%
Western Cod	DEHHF	836994	6%	14%
Western Cod	SESIM	681884	5%	20%
Western Cod	SEYST	650773	5%	25%
Western Cod	DKBAG	582541	4%	29%
Western Cod	DEBSK	582138	4%	33%
Western Cod	DKKOG	497014	4%	37%
Western Cod	DKNEX	447414	3%	40%
Western Cod	NULL	446388	3%	44%
Western Cod	DKKLH	375644	3%	47%
Western Cod	DKHSL	318291	2%	49%
Western Cod	SESLE	302537	2%	51%
Western Cod	DESAS	301144	2%	54%
Western Cod	DKLNG	294472	2%	56%
Western Cod	DKGED	255671	2%	58%
Western Cod	PLDZI	220465	2%	59%
Western Cod	DKSOB	215949	2%	61%
Western Cod	DETRV	212844	2%	63%
Western Cod	DKSBK	200489	2%	64%
Western Cod	DKSPB	192189	1%	66%
Western Cod	DKKTD	190291	1%	67%
Western Cod	PLSWI	180968	1%	69%
Western Cod	PLDAR	178931	1%	70%
Western Cod	DENDC	169985	1%	71%
Western Cod	DKRQD	164485	1%	72%
Western Cod	PLMZZ	156160	1%	74%
Western Cod	PLKOL	154746	1%	75%
Western Cod	DEKAP	149078	1%	76%
Western Cod	DKHES	138208	1%	77%
Western Cod	DKSKU	126709	1%	78%
Western Cod	DKFAB	126653	1%	79%
Western Cod	SETRG	116573	1%	80%
Western Cod	DEMAO	113008	1%	81%
Western Cod	SELOM	109384	1%	81%
Western Cod	DKGLE	108933	1%	82%
Western Cod	DKVBK	107466	1%	83%
Western Cod	DKNBG	107350	1%	84%
Western Cod	DKSLT	102565	1%	85%
Western Cod	SEBOU	93394	1%	85%
Western Cod	DEFR2	89492	1%	86%
Western Cod	DKMRS	81160	1%	87%
Western Cod	DKAGO	74950	1%	87%
Western Cod	DKOMO	69780	1%	88%
Western Cod	DEGLY	68223	1%	88%
Western Cod	DEECK	64601	0%	89%
Western Cod	SELIM	63400	0%	89%
Western Cod	DETMD	61954	0%	90%
Western Cod	DEWAR	61623	0%	90%
Western Cod	DKSGD	61599	0%	91%
Western Cod	DESH2	61336	0%	91%
Western Cod	DKDRA	60160	0%	92%
Western Cod	SEKKT	54402	0%	92%
Western Cod	DKKRZ	52708	0%	92%
Western Cod	DKROD	51394	0%	93%
Western Cod	DEHED	50132	0%	93%
Western Cod	DEBH7	49890	0%	93%
Western Cod	DKMOM	36735	0%	94%
Western Cod	DEKUH	36240	0%	94%
Western Cod	PLUST	34348	0%	94%
Western Cod	DKTEJ	31634	0%	95%

Stock	Harbour	kg	%	Cumulative %
Fle 27+29-32	EEVEE	46872	20%	20%
Fle 27+29-32	EENVA	10865	5%	24%
Fle 27+29-32	EEKRG	10234	4%	29%
Fle 27+29-32	EEUNV	9585	4%	33%
Fle 27+29-32	EESPH	8967	4%	37%
Fle 27+29-32	SEBOM	5831	2%	39%
Fle 27+29-32	SESDV	5667	2%	42%
Fle 27+29-32	EEVRN	5365	2%	44%
Fle 27+29-32	SEVVK	5277	2%	46%
Fle 27+29-32	SEBYX	5098	2%	48%
Fle 27+29-32	EEPLK	5083	2%	50%
Fle 27+29-32	EESEB	4453	2%	52%
Fle 27+29-32	EELSL	3625	2%	54%
Fle 27+29-32	EEDIR	3582	2%	55%
Fle 27+29-32	EEMAD	3362	1%	57%
Fle 27+29-32	EELPR	2917	1%	58%
Fle 27+29-32	EEKAK	2831	1%	59%
Fle 27+29-32	EEKKN	2561	1%	60%
Fle 27+29-32	PLHEL	2300	1%	61%
Fle 27+29-32	EEVSE	2215	1%	62%
Fle 27+29-32	EEMRM	2180	1%	63%
Fle 27+29-32	EETME	2142	1%	64%
Fle 27+29-32	EETOP	2071	1%	65%
Fle 27+29-32	EEKAL	2010	1%	66%
Fle 27+29-32	EEPNL	1991	1%	67%
Fle 27+29-32	EEKES	1866	1%	67%
Fle 27+29-32	SEKLR	1831	1%	68%
Fle 27+29-32	EEKTT	1782	1%	69%
Fle 27+29-32	EELLM	1740	1%	70%
Fle 27+29-32	FIunk	1680	1%	70%
Fle 27+29-32	EESRU	1661	1%	71%
Fle 27+29-32	EESRL	1658	1%	72%
Fle 27+29-32	EEKKE	1598	1%	72%
Fle 27+29-32	EEMDS	1558	1%	73%
Fle 27+29-32	EEPIR	1537	1%	74%
Fle 27+29-32	EETYD	1507	1%	74%
Fle 27+29-32	EEPRP	1462	1%	75%
Fle 27+29-32	EETMA	1413	1%	76%
Fle 27+29-32	EEVJS	1378	1%	76%
Fle 27+29-32	EEMKR	1353	1%	77%
Fle 27+29-32	EETIL	1322	1%	77%
Fle 27+29-32	EEERU	1212	1%	78%
Fle 27+29-32	EEONN	1204	1%	78%
Fle 27+29-32	EEELB	1184	1%	79%
Fle 27+29-32	EELDJ	1153	0%	79%
Fle 27+29-32	SEBDQ	1147	0%	80%
Fle 27+29-32	EEHRA	1136	0%	80%
Fle 27+29-32	SELTT	1117	0%	81%
Fle 27+29-32	EEHDI	1090	0%	81%
Fle 27+29-32	SESLI	1060	0%	82%
Fle 27+29-32	EEHIR	1039	0%	82%
Fle 27+29-32	EETSI	1025	0%	83%
Fle 27+29-32	SEGR3	949	0%	83%
Fle 27+29-32	EEVHP	927	0%	83%
Fle 27+29-32	EEKAB	852	0%	84%
Fle 27+29-32	EESPE	850	0%	84%
Fle 27+29-32	EESAM	822	0%	84%
Fle 27+29-32	EERON	776	0%	85%
Fle 27+29-32	EEMMA	762	0%	85%
Fle 27+29-32	EEKBU	744	0%	85%
Fle 27+29-32	EENOL	716	0%	86%
Fle 27+29-32	EEPSK	715	0%	86%
Fle 27+29-32	EERGD	712	0%	86%
Fle 27+29-32	EEVRG	697	0%	87%
Fle 27+29-32	EEKYT	682	0%	87%
Fle 27+29-32	EEVAU	630	0%	87%
Fle 27+29-32	EEALI	610	0%	87%
Fle 27+29-32	EEKSM	604	0%	88%
Fle 27+29-32	EEJUM	598	0%	88%
Fle 27+29-32	EEHKS	592	0%	88%
Fle 27+29-32	EEMDR	583	0%	88%
Fle 27+29-32	EETYC	578	0%	89%
Fle 27+29-32	EEKRS	566	0%	89%
Fle 27+29-32	FIUnk	549	0%	89%
Fle 27+29-32	EEABU	531	0%	89%
Fle 27+29-32	EELUT	514	0%	90%
Fle 27+29-32	EESOE	513	0%	90%
Fle 27+29-32	EELHT	493	0%	90%
Fle 27+29-32	EELMS	471	0%	90%
Fle 27+29-32	EEMLK	468	0%	90%
Fle 27+29-32	EEPLS	463	0%	91%
Fle 27+29-32	EEPOK	456	0%	91%
Fle 27+29-32	EERST	436	0%	91%
Fle 27+29-32	EESUS	425	0%	91%
Fle 27+29-32	FIKor	415	0%	91%
Fle 27+29-32	EETHK	401	0%	91%
Fle 27+29-32	EEPAO	397	0%	92%

Stock	Harbour	kg	%	Cumulative %
Fle 24-25	PLKOL	5344708	37%	37%
Fle 24-25	PLSWI	2226303	16%	53%
Fle 24-25	PLDZI	1121083	8%	61%
Fle 24-25	PLUST	904811	6%	67%
Fle 24-25	PLLEB	791805	6%	72%
Fle 24-25	PLMZZ	555759	4%	76%
Fle 24-25	PLDAR	430625	3%	79%
Fle 24-25	DEHHF	411452	3%	82%
Fle 24-25	PLCPY	305534	2%	84%
Fle 24-25	SESIM	302652	2%	86%
Fle 24-25	DEFR2	192844	1%	88%
Fle 24-25	DESAS	154815	1%	89%
Fle 24-25	DKNEX	117085	1%	90%
Fle 24-25	DKRNN	108365	1%	90%
Fle 24-25	LVLPX	104095	1%	91%
Fle 24-25	SEYST	97301	1%	92%
Fle 24-25	PLUNI	93314	1%	93%
Fle 24-25	DKKOG	90258	1%	93%
Fle 24-25	DKLID	90160	1%	94%
Fle 24-25	DKKLH	77898	1%	94%
Fle 24-25	DENMK	66614	0%	95%

Stock	Harbour	kg	%	Cumulative %
Fle 26+28	LVLPX	1049781	26%	26%
Fle 26+28	LTKLJ	687179	17%	42%
Fle 26+28	LVVNT	463495	11%	54%
Fle 26+28	PLWLA	424914	10%	64%
Fle 26+28	PLHEL	238833	6%	70%
Fle 26+28	PLJAS	173791	4%	74%
Fle 26+28	LV999	160186	4%	78%
Fle 26+28	PLKTR	106429	3%	81%
Fle 26+28	PLPII	88831	2%	83%
Fle 26+28	PLDEK	79790	2%	85%
Fle 26+28	PLKMI	75006	2%	86%
Fle 26+28	PLJAN	65657	2%	88%
Fle 26+28	PLSBN	44155	1%	89%
Fle 26+28	PLKUZ	43849	1%	90%
Fle 26+28	PLSOP	38944	1%	91%
Fle 26+28	PLORW	36155	1%	92%
Fle 26+28	PLMEC	33270	1%	93%
Fle 26+28	PLSWR	26225	1%	93%
Fle 26+28	PLGKZ	22696	1%	94%
Fle 26+28	PLLEB	20135	0%	95%

Stock	Harbour	kg	%	Cumulative %
Dab 22-32	DEHHF	291899	22%	22%
Dab 22-32	DEBSK	178220	13%	35%
Dab 22-32	DEKAP	166183	12%	47%
Dab 22-32	DKBAG	154131	11%	58%
Dab 22-32	DEHED	68924	5%	63%
Dab 22-32	DKSOB	52120	4%	67%
Dab 22-32	DEMAO	34283	3%	70%
Dab 22-32	DKSBK	33038	2%	72%
Dab 22-32	DETRV	29364	2%	74%
Dab 22-32	DKROD	27064	2%	76%
Dab 22-32	DKGED	24772	2%	78%
Dab 22-32	DKKTD	22220	2%	80%
Dab 22-32	DEECK	20323	2%	81%
Dab 22-32	DKSPB	18033	1%	83%
Dab 22-32	DENDC	17554	1%	84%
Dab 22-32	DKLNG	16157	1%	85%
Dab 22-32	DKFAB	15397	1%	86%
Dab 22-32	DKKLH	14076	1%	87%
Dab 22-32	DEWAR	12421	1%	88%
Dab 22-32	DKSGD	10868	1%	89%
Dab 22-32	DKNBG	10044	1%	90%
Dab 22-32	DKKRR	9020	1%	91%
Dab 22-32	DELAB	8654	1%	91%
Dab 22-32	DKKRZ	7647	1%	92%
Dab 22-32	DKMRS	7628	1%	92%
Dab 22-32	DKLUN	7388	1%	93%
Dab 22-32	DKSKB	6574	0%	93%
Dab 22-32	DKAGO	6266	0%	94%
Dab 22-32	DKKAL	6024	0%	94%
Dab 22-32	DKSLT	5593	0%	95%

Stock	Harbour	kg	%	Cumulative %
Brill 22-32	DKLNG	6098	20%	20%
Brill 22-32	DKBAG	3469	11%	31%
Brill 22-32	DKMRS	2526	8%	39%

Annex 8: Overviews of length measurements and weight, age, sex and maturity samples

Table 1. No of length measurements, No of weight, age, sex and maturity samples and total landings (in tonnes) per species in SD 25-32 and in SD 22-24 (2014 data from RDB FishFrame 23/08/2015)

	Age	Weight	Sex	Maturity	length	length (HL)	landings
Eastern Baltic	no.	no.	no.	no.	no.	no.	tons
Abramis bjoerkna	1	1	1	1	1	346	3.82
Abramis brama	61	111	3	-	111	1391	1062.49
Alburnus alburnus		2722	9	-	2722	2738	0.15
Anguilla anguilla	605	692	634	609	692	2127	196.18
Alosa fallax	-	-	-	-	-	26	0.20
Ammodytes sp.	-	-	-	-	-	1	1802.99
Ammodytes tobianus	-	-	-	-	-	268	0.04
Aspius aspius	-	1	1	-	1	3	0.07
Belone belone	-	2	2	-	2	3	71.16
Blicca bjoerkna	-	1929	1	-	1929	1929	31.82
Carassius carassius	-	-	-	-	-	44	28.68
Carassius gibelio	-	239	114	-	239	239	87.83
Clupea harengus	26505	31265	23951	6625	31265	85227	257764.44
Clupea harengus-GOR	1911	1911	1898	-	1911	1911	*
Coregonus albula	-	3	2	-	3	380	2108.03
Coregonus lavaretus	1781	2026	2021	1781	2026	2322	828.70
Cottus gobio	-	1		-	1	1	1.08
Cyclopterus lumpus	-	2	1	-	2	165	0.52
Enchelyopus cimbrius		-	-	-	-	3	-
Esox lucius	95	164	157	-	164	294	333.25
Eutrigla gurnardus	-	-	-	-	-	2	-
Gadus morhua	12975	14428	8047	7864	14428	100456	25481.37
Gasterosteus aculeatus	-	12	1	-	12	1456	0.41
Gobio gobio	-	36	4	-	36	36	0.96
Gobius niger	-	4		-	4	4	-
Gymnocephalus cernuus	-	5279	281	-	5279	5571	35.49
Hyperoplus lanceolatus	-	14	2	-	14	147	-
Lampetra fluviatilis	-	101	100	-	101	105	0.32
Leuciscus idus	-	164	133	-	164	231	43.63
Leuciscus leuciscus	-	8	3	-	8	20	0.01
Limanda limanda	1	1	1	1	1	75	2.60
Liparis liparis	-	-	-	-	-	52	-
Lota lota	-	-	-	-	-	33	53.58
Lumpenus lampretaeformis	-	-	-	-	-	1	-
Melanogrammus	-	-	-	-	-	1	0.24

aeglefinus							
Merlangius merlangus	-	-	-	-	-	81	2.49
Merluccius merluccius	-	-	-	-	-	1	0.01
Myoxocephalus quadricornis	-	9	4	-	9	247	0.78
Myoxocephalus scorpius	-	93	88	-	93	498	78.18
Neogobius melanostomus	-	3277	16	-	3277	3541	131.05
Nerophis ophidion	-	12		-	12	24	-
Oncorhynchus mykiss	-	-	-	-	-	6	5.10
Osmerus eperlanus	-	1303	431	-	1303	2456	2592.58
Oxyconger leptognathus	-	-	-	-	-	2	-
Pelecus cultratus	-	-	-	-	-	247	-
Perca fluviatilis	19211	21318	19510	2057	21318	24558	73.80
Platichthys flesus	4969	9108	8554	2777	9108	33195	2962.24
Pleuronectes platessa	278	283	175	174	283	3177	15719.61
Pollachius virens	6	6	6	6	6	183	200.73
Pomatoschistus minutus	-	-	-	-	-	1	31.27
Rutilus rutilus	1	3709	1666	1	3709	4496	1027.73
Salmo salar	2885	2868	2249	238	2894	2403	502.30
Salmo trutta	715	684	531	11	733	460	185.26
Sander lucioperca	835	3077	2342	2017	3102	3130	698.31
Scardinius erythrophthalmus	-	470	10	-	470	513	2.94
Scomber scombrus	-	-	-	-	-	1	0.92
Scophthalmus maximus	105	277	272	110	277	613	63.98
Spinachia spinachia	-	1	-	-	1	1	-
Sprattus sprattus	20121	22089	17578	6906	22092	60270	217266.03
Taurulus bubalis	-	19	17	-	19	20	-
Tinca tinca	-	9	8	-	9	25	7.46
Triglopsis quadricornis	-	-	-	-	-	213	0.04
Vimba vimba	100	189	122	-	189	220	144.90
Zoarces viviparus	-	175	3	-	175	200	47.40

	Age	Weight	Sex	Maturity	length	length (HL)	landings
Western Baltic	no.	no.	no.	no.	no.	no.	tons
Abramis bjoerkna	-	-	-	-	-	2	16.26
Abramis brama	-	-	-	-	-	170	1021.94
Agonus cataphractus	-	-	-	-	-	26	-
Amblyraja radiata	-	-	-	-	-	6	-
Ammodytes marinus	-	789	-	-	789	790	4812.79
Ammodytes marinus	-	-	-	-	-	789	-
Anguilla anguilla	445	449	371	215	449	483	382.91
Aspius aspius	-	-	-	-	-	3	3.82
Belone belone	-	-	-	-	-	6	330.00

Callionymus lyra	-	-	-	-	-	1	-
Callionymus maculatus	-	-	-	-	-	4	-
Carassius carassius	-	-	-	-	-	10	4.74
Carcinus maenas	-	-	-	-	-	171	2.86
Chelidonichthys cuculus	-	-	-	-	-	1	-
Chelidonichthys lucerna	-	-	-	-	-	9	0.06
Chelon labrosus	-	-	-	-	-	1	0.50
Clupea harengus	4673	6053	2536	2720	6053	16004	18289.74
Coregonus lavaretus	-	-	-	-	-	35	26.61
Cyclopterus lumpus	-	-	-	-	-	1197	318.30
Enchelyopus cimbrius	-	-	-	-	-	3	-
Engraulis encrasicolus	-	-	-	-	-	2	45.95
Entelurus aequoreus	-	-	-	-	-	1	-
Esox lucius	-	-	-	-	-	2	113.76
Eutrigla gurnardus	-	-	-	-	-	67	0.01
Gadus morhua	10514	11418	5038	5036	11418	34761	13327.18
Gasterosteus aculeatus	-	1	-	-	1	1	-
Glyptocephalus cynoglossus	-	-	-	-	-	4	0.24
Gobius niger	-	-	-	-	-	1	6.65
Gymnocephalus cernuus	-	-	-	-	-	20	1.40
Hippoglossoides platessoides	-	2	2		2	371	4.36
Hyperoplus lanceolatus	-	1262	-	-	1262	1267	-
Leuciscus cephalus	-	-	-	-	-	3	-
Leuciscus idus	-	-	-	-	-	3	-
Limanda limanda	1983	2258	1513	1515	2258	9660	1234.69
Lota lota	-	-	-	-	-	15	9.97
Lumpenus lumpretaeformis	-	-	-	-	-	2	-
Melanogrammus aeglefinus	1	1	1	1	1	34	2.21
Merlangius merlangus	1	41	1	1	41	1361	749.31
Merluccius merluccius	1	1	1	1	1	23	0.23
Microstomus kitt	-	1	1	-	1	29	4.77
Myoxocephalus scorpius	-	-	-	-	-	155	-
Neogobius melanostomus	-	-	-	-	-	292	-
Nephrops norvegicus	-	-	-	-	-	322	1.32
Oncorhynchus mykiss	-	-	-	-	-	1	1.88
Osmerus eperlanus	-	-	-	-	-	14	-
Osteichthyes	-	-	-	-	-	1	239.77
Perca fluviatilis	213	213	213	213	213	1706	1270.02
Platichthys flesus	3912	4288	3433	3350	4288	15188	3857.96
Pleuronectes platessa	3243	3359	1605	1509	3359	14011	1819.48
Pollachius virens	41	54	41	41	54	1227	103.33

Rutilus rutilus	3	3	3	3	3	1095	1220.48
Salmo salar	187	189	-	-	189	272	75.75
Salmo trutta		1	-	-	1	22	27.11
Sander lucioperca	202	202	202	202	202	301	488.52
Scardinius erythrophthalmus	-	-	-	-	-	1	-
Scomber scombrus	-	-	-	-	-	60	14.99
Scophthalmus maximus	405	516	500	500	516	695	190.32
Scophthalmus rhombus	23	26	26	26	26	92	27.87
Scyliorhinus canicula	-	-	-	-	-	1	-
Solea solea	27	28	25	-	28	128	47.66
Sprattus sprattus	1182	1892	698	720	1892	4110	4533.04
Symphodus melops	-	-	-	-	-	78	-
Syngnathus typhle	-	1	-	-	1	1	-
Taurulus bubalis	-	-	-	-	-	5	-
Trachurus trachurus	-	13	-	-	13	16	276.51
Trisopterus esmarkii	-	-	-	-	-	1	-
Vimba vimba	-	-	-	-	-	5	0.08
Zoarces viviparus	-	-	-	-	-	21	2.07

Table 2. No of length measurements and No of weight, age, sex and maturity samples per species and country in SD 25-32 and SD 22-24 (2014 data from RDB FishFrame 23/08/2015)

Eastern Baltic	Age	Weight	Sex	Maturity	length	length (HL)	landings
	no.	no.	no.	no.	no.	no.	tons
DEU							
Clupea harengus	2	2			2	237	1731.33
Gadus morhua	638	899	899	899	899	3888	676.32
Limanda limanda	1	1	1	1	1	1	2.10
Platichthys flesus	351	400	400	400	400	451	211.81
Pleuronectes platessa	21	23	23	23	23	36	0.36
Sprattus sprattus	969	969			969	5165	9528.43
DNK							
Clupea harengus	174	190			190	190	3316.78
Gadus morhua	1132	2126			2126	9972	5926.79
Gasterosteus aculeatus	6			6		6	-
Platichthys flesus	26	26			26	1847	1350.57
Pleuronectes platessa	106	108			108	679	115.37
Scophthalmus maximus		1			1	8	0.86
Sprattus sprattus	877	2760			2760	1881	24114.11
EST							
Abramis brama		50	3		50	50	12.93
Alburnus alburnus		2722	9		2722	2722	0.15
Anguilla anguilla		7			7	7	1.09
Aspius aspius		1	1		1	1	
Belone belone		2	2		2	2	43.85
Blicca bjoerkna		1929	1		1929	1929	30.45
Carassius gibelio		239	114		239	239	87.83
Clupea harengus	6057	10325	5994		10325	10374	23130.11
Clupea harengus-GOR	1911	1911	1898		1911	1911	*
Coregonus albula		3	2		3	3	
Coregonus lavaretus		243	239		243	243	26.06
Cottus gobio		1			1	1	
Cyclopterus lumpus		2	1		2	2	
Esox lucius	95	162	157		162	162	65.53
Gadus morhua		193	183		193	193	165.17
Gasterosteus aculeatus		6	1		6	6	0.30
Gobio gobio		36	4		36	36	
Gobius niger		4			4	4	
Gymnocephalus cernuus		5279	281		5279	5279	35.31
Hyperoplus lanceolatus		14	2		14	14	

Lampetra fluviatilis		101	100		101	101	0.31
Leuciscus idus		164	133		164	164	12.01
Leuciscus leuciscus		8	3		8	8	
Myoxocephalus quadricornis		9	4		9	9	
Myoxocephalus scorpius		93	88		93	93	
Neogobius melanostomus		3277	16		3277	3277	19.19
Nerophis ophidion		12			12	12	
Osmerus eperlanus		1303	431		1303	1303	234.02
Perca fluviatilis	19086	19259	17451		19259	19259	1566.85
Platichthys flesus	776	4631	4463		4631	4631	313.13
Pleuronectes platessa		1	1		1	1	
Rutilus rutilus		3708	1665		3708	3708	93.36
Salmo salar	42	47	47		47	47	5.28
Salmo trutta	134	147	136		147	147	14.83
Sander lucioperca	48	293	211		293	293	173.31
Scardinius erythrophthalmus		470	10		470	470	2.67
Scophthalmus maximus		166	162		166	166	0.10
Spinachia spinachia		1			1	1	
Sprattus sprattus	6838	6890	6587		6893	15171	28498.28
Taurulus bubalis		19	17		19	19	
Tinca tinca		9	8		9	9	6.88
Vimba vimba	100	189	122		189	189	83.99
Zoarces viviparus		175	3		175	175	0.18
FIN							
Clupea harengus	2702	3126	2616	2493	3126	33240	130414.08
Coregonus lavaretus	1781	1783	1782	1781	1783	1783	656.33
Esox lucius		2			2	2	221.33
Perca fluviatilis		1934	1934	1933	1934	1934	1062.78
Sprattus sprattus						9244	11811.60
Salmo salar	1629	1633	1117	1	1633	1633	249.32
Salmo trutta		5	5	5	5	5	35.14
Sander lucioperca		2022	2015	1907	2022	2022	362.27
LTU							
Clupea harengus	1504	1504	1498	1504	1504	2581	2127.24
Gadus morhua	2401	2401	1580	1581	2401	7702	1185.72
Platichthys flesus	1553	1553	1553	1553	1553	4081	733.54
Pleuronectes platessa	34	34	34	34	34	41	-
Scophthalmus maximus	20	25	25	25	25	188	7.34
Sprattus sprattus	790	790	708	790	790	2071	9679.23
LVA							
Anguilla anguilla		76	25		76	76	0.20
Clupea harengus	7105	7105	5048		7105	12136	23314.67
Gadus morhua	2871	2871	2871	2871	2871	31845	1998.95
Platichthys flesus	1039	1039	1039		1039	8104	1865.65
Pleuronectes platessa						97	-

Salmo salar	506	480	377		506	506	3.82
Salmo trutta	297	248	106		297	309	8.99
Sander lucioperca	604	579			604	605	2.71
Scophthalmus maximus						87	7.16
Sprattus sprattus	3558	3558	3183	3156	3558	7366	30760.84
POL							
Abramis bjoerkna	1	1	1	1	1	1	3.82
Abramis brama	61	61			61	61	145.28
Anguilla anguilla	205	205	205	205	205	213	19.69
Clupea harengus	2631	2631	2631	2628	2631	11352	25895.30
Gadus morhua	2514	2514	2514	2513	2514	18187	11027.28
Perca fluviatilis	125	125	125	124	125	125	174.91
Platichthys flesus	824	824	824	824	824	7086	11032.23
Pleuronectes platessa	117	117	117	117	117	342	65.02
Pollachius virens	6	6	6	6	6	6	-
Rutilus rutilus	1	1	1	1	1	1	131.79
Salmo salar	708	708	708	237	708	720	15.06
Salmo trutta	284	284	284	6	284	296	112.54
Sander lucioperca	183	183	116	110	183	183	143.11
Scophthalmus maximus	85	85	85	85	85	139	22.80
Sprattus sprattus	2967	2967	2967	2960	2967	15139	56938.57
SWE							
Anguilla anguilla	400	404	404	404	404	1214	174.84
Clupea harengus	6330	6382	6164		6382	15117	47834.93
Gadus morhua	3419	3424			3424	28669	4125.00
Limanda limanda						75	0.50
Pleuronectes platessa						2004	19.95
Scophthalmus maximus						24	18.55
Platichthys flesus	400	635	275		635	6992	208.06
Sprattus sprattus	4122	4155	4133		4155	4233	45934.96

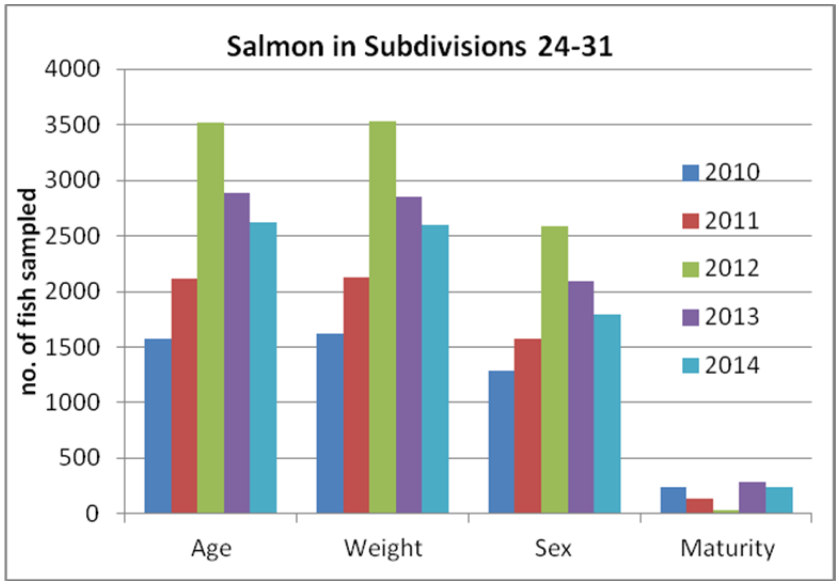
Western Baltic	**Age**	**Weight**	**Sex**	**Maturity**	**length**	**length (HL)**	**landings**
	no.	no.	no.	no.	no.	no.	tons
DEU							
Anguilla anguilla						1	46.69
Clupea harengus	1934	1934		1934	1934	9747	10227.59
Gadus morhua	4221	4537	4537	4535	4537	7744	3243.00
Hippoglossoides platessoides		2	2		2	2	4.36
Limanda limanda	1266	1515	1513	1515	1515	2815	826.81
Microstomus kitt		1	1		1	1	0.03
Platichthys flesus	2558	2839	2837	2838	2839	3545	1340.53
Pleuronectes platessa	1381	1483	1477	1479	1483	1150	376.67
Salmo salar						3	1.25
Salmo trutta						13	14.58

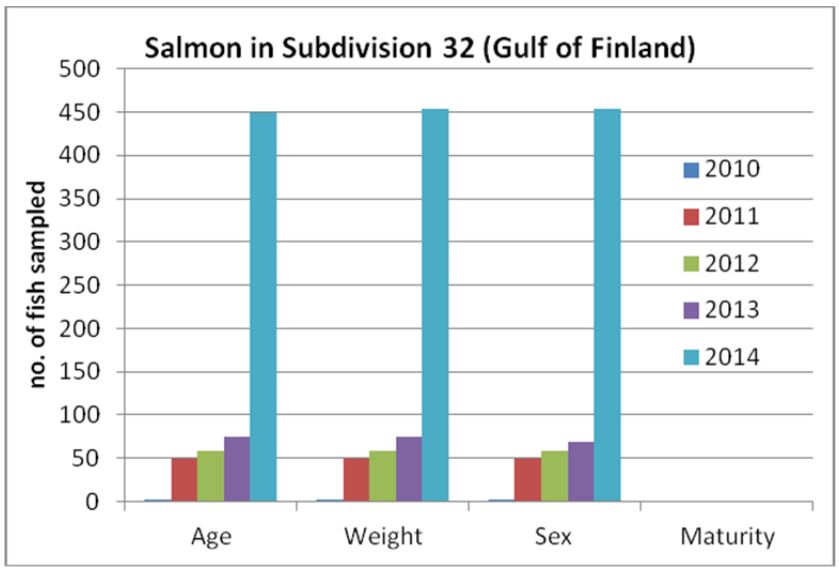
Scophthalmus maximus	318	413	413	413	413	413	65.36
Scophthalmus rhombus	23	26	26	26	26	30	2.12
Sprattus sprattus	205	205		156	205	805	637.40
DNK							
Ammodytes marinus		789			789	789	2397.33
Clupea harengus	574	1952	375		1952	1952	4279.51
Engraulis encrasicolus		2			2	2	
Gadus morhua	2139	2726			2726	9207	7395.18
Gasterosteus aculeatus		1			1	1	
Hyperoplus lanceolatus		1262			1262	1262	
Limanda limanda	717	743			743	6115	407.46
Merlangius merlangus		40			40	40	184.11
Platichthys flesus	842	861	84		861	5455	931.15
Pleuronectes platessa	1832	1846	98		1846	11535	1355.07
Pollachius virens		13			13	13	39.96
Salmo salar	187	189			189	189	74.31
Salmo trutta		1			1	1	9.73
Scophthalmus maximus		16			16	256	114.26
Scophthalmus rhombus						79	24.83
Solea solea	27	28	25		28	28	46.19
Sprattus sprattus	267	975			975	1694	2372.23
Syngnathus typhle		1			1	1	
Trachurus trachurus		13			13	13	
POL							
Anguilla anguilla	236	236	158	2	236	240	19.82
Clupea harengus	787	787	787	786	787	3287	2385.91
Gadus morhua	501	501	501	501	501	3245	854.14
Melanogrammus aeglefinus	1	1	1	1	1	1	-
Merlangius merlangus	1	1	1	1	1	1	4.17
Merluccius merluccius	1	1	1	1	1	1	-
Perca fluviatilis	213	213	213	213	213	213	952.11
Platichthys flesus	512	512	512	512	512	2547	1536.51
Pleuronectes platessa	30	30	30	30	30	78	22.07
Pollachius virens	41	41	41	41	41	41	0.73
Rutilus rutilus	3	3	3	3	3	3	852.60
Sander lucioperca	202	202	202	202	202	202	157.97
Scophthalmus maximus	87	87	87	87	87	**214**	6.98
Sprattus sprattus	564	564	552	564	564	2436	1485.61
SWE							
Anguilla anguilla	209	213	213	213	213	242	34.51
Clupea harengus	1378	1380	1374		1380	1536	1396.73
Gadus morhua	3653	3654			3654	14565	1796.36
Limanda limanda						729	0.42
Platichthys flesus		76			76	3641	46.95

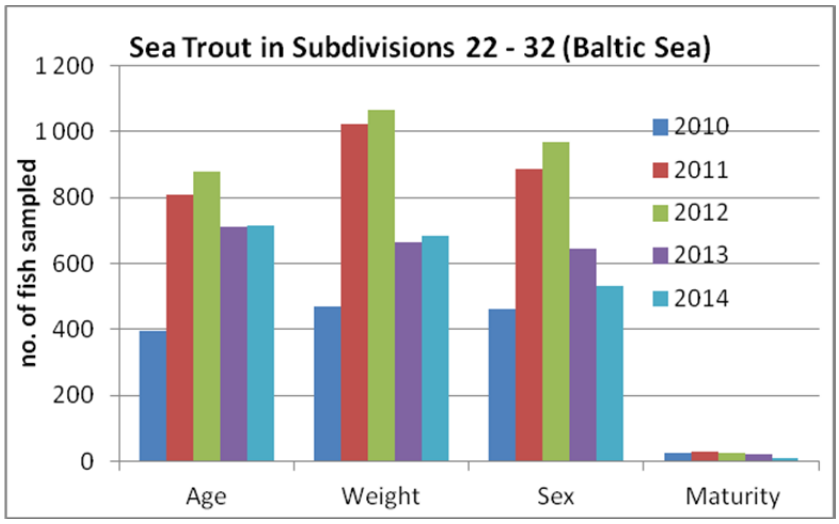
Pleuronectes platessa						1248	65.66
Salmo salar						4	0.05
Salmo trutta						6	0.18
Scophthalmus maximus						15	3.72
Scophthalmus rhombus						9	0.92
Sprattus sprattus	146		148	146	148	150	37.80

Annex 9: Sampling intensity on salmon, sea trout and eel

Remark: Not all MS (e.g. Sweden and Finland) have yet uploaded their historical datasets on the biological sampling of salmon, sea trout and eel.







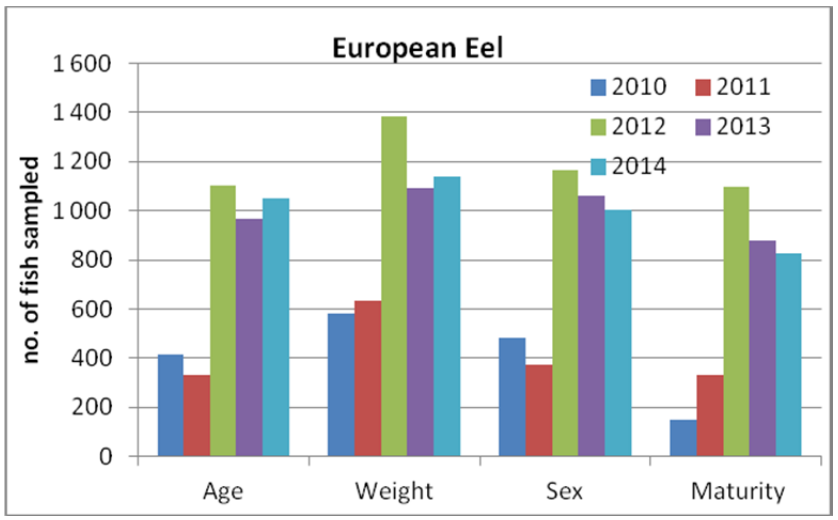


Table 1: Overview of uploaded biological data on Eel (stock **eel-eur**), Salmon (stocks **sal-2431** and **sal-32**) and Sea trout (stock **trt-bal**) per year and member state (in RDB FishFrame per 23/08/2015).

Stock	FlagCountry	Year	Age	Weight	Sex	Maturity	Length
eel-eur	DNK	2009	75	81			81
		2010	89	102			102
		2011		189			189
		2012		203			203
	EST	2011		20			20
		2012		13			13
		2013		15			15
		2014		7			7
	LVA	2009		103	101		103
		2010		155	155		155
		2011		91	41		91
		2012		54	51		54
		2013		107	89		108
		2014		76	25		76

	POL	2009	369	369	369	369	369
		2010	326	326	326	151	326
		2011	332	332	332	332	332
		2012	399	399	399	383	399
		2013	382	382	382	290	382
		2014	441	441	363	207	441
	SWE	2012	703	714	714	714	714
		2013	584	590	590	589	590
		2014	609	617	617	617	617
sal-2431	**DEU**	2013	103				103
	DNK	2010		45			45
		2011	256	256			256
		2012	490	490			490
		2013	271	344			344
		2014	187	189			189
	EST	2012	1	2	2		2
		2013	19	20	20		20
		2014	2	3	3		3
	FIN	2010	862	867	580	1	868
		2011	1203	1207	933		1207
		2012	1815	1824	1382		1824
		2013	1035	1038	657	1	1038
		2014	1219	1223	707	1	1223
	LVA	2010	457	456	457		457
		2011	341	341	317		341
		2012	852	852	845		852
		2013	869	868	836		869
		2014	506	480	377		506
	POL	2010	251	251	251	239	251
		2011	320	320	320	134	320
		2012	363	363	363	28	363
		2013	584	584	584	279	584
		2014	708	708	708	237	708
sal-32	**EST**	2009	3	39	39		39
		2010		1	1		1
		2011		49	49		49
		2012	58	58	58		58
		2013	75	75	69		75
		2014	40	44	44		44
	FIN	2014	410	410	410		410
trt-bal	**DNK**	2014		1			1
	EST	2009		187	137		187
		2010		52	47		52
		2011		190	181		190

		2012		173	158		173
		2013	206	210	197		210
		2014	134	147	136		147
	FIN	2010		24	22	22	24
		2011		27	26	27	27
		2012	20	37	36	16	37
		2013		17	17	17	17
		2014		5	5	5	5
	LVA	2013	236	236	162		237
	POL	2009	607	607	607	20	607
		2010	394	394	394	2	394
		2011	455	455	455	3	455
		2012	621	621	621	8	621
		2013	168	168	168	3	168
		2014	284	284	284	6	284

Annex 10. Reply to questionaires on implementation of the landing obligation in the Baltic

A questionnaire for all MS involved in the discard sampling of Baltic Sea cod fisheries (DK, DE, LT, LV, PL, SE) in order to evaluate the consequences of the landing obligation to data sampling

Do you have any problem in running you at sea observer programme?

- No change
- A number of vessels' owner are cooperating and are always ready to carry observers. Their approach did not change and no problems in observer's placement.
- Sometimes problems to get on board of some >12 m vessels, cod bottom trawlers.
- Presently no problems in running the observer programme.
- Procurement procedure – fishers contractedly committed.
- Did not manage to carry out any observer trips on demersal trawlers in the Baltic in the first quarter. Self-sampling program for fisheries with passive gears, "discards" landed for sampling.

Are the fishermen willing to carry observers onboard?

- Yes. Presently, we have our first observer trip on a trawler in SD25.
- We have a number of vessels' owner cooperating with us and always ready to take our observers.
- Sometimes problems to get on board of some >12 m vessels, cod bottom trawlers.
- Fishermen are still willing to bring observers onboard.
- We don't have problems to send our observers on vessels of the fishing firms with whom we have signed contracts.
- In the first quarter no. A main problem though is to get firm answers from the fishermen. During second quarter, the situation has slightly improved. For passive gears there have been few problems so far.

Do the fishermen change behavior when having an observer onboard?

- No change in fishing place or gear; but sorting practices onboards may change.
- Those vessels' owner willing to take our observers (cooperating with us for years) do not change behavior when having our observers on onboard.
- Not notably.
- It is off course difficult to know 100%, however, most of our observer working in the Baltic have not experienced anyone actually landing the "below reference size cod" but they are still discarded – also with observers onboard.
- With observer on board fishermen are working as usually, no changes in their behavior are observed.
- We do not know, since we have not been able to conduct any trips. Previously in the Baltic fisheries we have not seen observer effects. However, it might the case that the fishermen refuse to take observers instead of changing behavior.

Are the estimates of volume in weight of cod below the MCRS from the observers at the same magnitude as those recorded by the fishermen in the logbooks?

- We have no yet received logbook entries from Q1 2015 but there is informal evidence that the logbook entries underestimate the true amounts of BMS; hence there are unallocated discards taking place (because every ton discarded at sea is a ton of marketable cod that can be caught later in the year).
- No. From our observations it is clear that official records of undersized fish cought in the logbooks is marginal and far away from actual discards (which are still a common practice). Usually it is only one-two boxes of cod below MCRS landed to demonstrate such by catch which does not reflect the reality.
- Seems to be the same.
- Have to check but I could not imagine.
- Comparison of 2 trips (one from gillnetter and one from trawler) were performed - observer data against fishermen's catch data from electronic logbooks. Gillnetter landed cod in foreign harbour. Part of unwanted cod catch was very small – 43.7 kg (approximately 1.3% from the total catch). Fishermen's did not deliver these fishes to the harbour. Reason – no possibilities to land these fish,

fish amount is very small. Fishery inspection is informed about this situation and accepts it. Trawler delivered 280 kg of unwanted cod catch to domestic harbour and unloaded it. According the observer data unvented cod catch was 548 kg (approximately 7% from the total catch).

- It is difficult to answer this question as we have not carried out any trips yet. However, given the length frequency of discard from former years and that the new MCRS are anticipating the discard volume of cod to be in the size range of 15-20% (preliminary figure) to be compared to approx. 2% (preliminary figure) in the logbooks.

Do you estimate that the quality of the landings data to be at the same quality as before the implementation of the landing obligation?

- Landings data: Yes. But the BMS data are certainly minimum estimates.
- Basically YES - as the fishermen's behavior and practice did not change from 1st January 2015, the official records of fish under MCRS reported in logbooks is still marginal as compared to reality, based on trips with our observers onboard.
- Yes for the coastal fleet and trawlers in Baltic Sea, since the landing obligation has been included in national law previously.
- No
- Fishermen don’t land all unwanted cod catches.
- It is still early to judge but figures from the first quarter indicates that fish below MCRS is underestimated.

Do the fishermen land all catches of cod below the MCRS?

- No. They seem to discard cod below MCRS at sea to variable amounts. That is, the reduction of MLS from 38 cm to 35 cm MCRS for cod has led to (1) the landing of all cod =>35 cm, and (2) the landing of BMS cod (<35 cm) BUT at unrealistically low amounts so that we assume that cod <35 cm are still discarded at sea.
- From our observations it is clear that official records of undersized fish caught in the logbooks is marginal and far away from actual discards (which are still a common practice). Usually it is only one-two boxes of cod below MCRS landed to demonstrate such by catch which does not reflect the reality.
- In coastal fishery, there are very small amounts of cod catches which are landed (7 tons in 2014, mostly gill nets). In trawl fishery (158 tons in 2014, with OTB) all catches of cod are landed due to the landing obligation.
- Main part of the landings below MRC is from camera vessels.
- Fishermen don’t land all unwanted cod catches
- Discard volume of cod to be in the size range of 15-20% (preliminary figure) to be compared to approx. 2% (preliminary figure) in the logbooks.

Any other information on the issue?

- The landing obligation improved our opportunities to sample age and length distribution of BMS cod in the ports (more discard length distributions and more age distribution than in previous years). BUT: We know that there is an unknown amount of unallocated discards taking place (BMS cod). In case of the Western Baltic cod (SD2223), this is not too much of a problem because the discard rate is presently <5% and we could use estimates from previous years. But for Eastern Baltic, present discard rates at sea may be about 20% or higher while the reported amount of BMS cod may be <5%.
- There is rumours about agreement among fishermen about the amount of unwanted cod catch which is landed in the harbour. Idea – part of the unwanted cod catch should be more or less similar for all fishermen.
- Control authorities in the different MS are carrying out sea based measurements of the amount of cod below MCRS within ECFA’s last haul project. We do not know if these figures are public so far, but we think that it would be very wise to include them in an analysis of the quality of data from different sources (logbook, control and observers) of cod below MCRS.