

# **ANNUAL REPORT**

## **FOR**

### **THE SWEDISH NATIONAL PROGRAMME FOR**

### **COLLECTION OF FISHERIES DATA 2014**

*Under*

Council Regulation (EC) No 199/2008  
Commission Regulation (EC) No 665/2008  
Commission Decision 2010/93/EU

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## **I General framework**

The Swedish National Programme (NP) 2014-2016 for collection of fisheries data (roll-over of NP 2011-2013 according to Commission Implementing Decision of 30.8.2013) refers to the Community and National Programme defined in Article 3 and 4 of Council Regulation 199/2008, to Article 1 of Commission Regulation 665/2008 and the Annex of Commission Decision 2010/93/EU. The Annual Report (AR) 2013 on the Swedish NP refers to Article 7 of Council Regulation 199/2008, to Article 5 of Commission Regulation 665/2008 and to the Annex of Commission Decision 2010/93/EU. The report year is 2014. If the reference year differs from the report year, it is stated in the sections.

This AR is based on the 2014 version of the Guidance for the Submission of Annual Report on the National Data Collection Programmes (...) (Guidance updated 2015, Version 12.2.2015), and follows the layout and content of the NP 2014-2016 (i.e. roll-over of NP 2011-2013).

No major methodological changes appeared during 2014 and the data collection could be undertaken with only some adjustments which are explained in the report.

List of derogation valid for 2014 see table I.A.1.

Sweden has established bilateral agreements with Belgium, Denmark, Finland, Poland and UK sampling foreign-flag vessels (Table I.A.2). For details see agreements in Annex I.

## **II National data collection organisation**

### **II.A National correspondent and participating institutes**

#### **The National correspondent representing Sweden**

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<https://www.havochvatten.se/en/start.html>

#### **Partners**

Swedish University of Agricultural Sciences (SLU) <http://www.slu.se/en/>,  
Department of Aquatic resources (SLU Aqua) within which the following institutes participate:

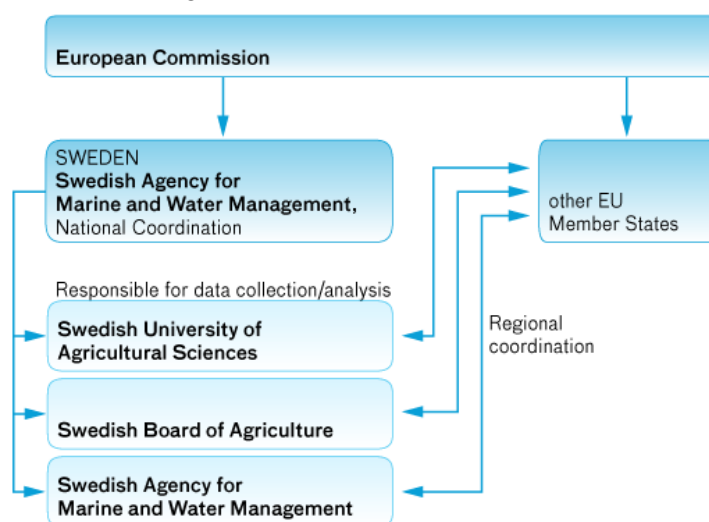
Institute of Marine Research (**IMR**)  
Swedish University of Agricultural Sciences  
Turistgatan 5  
SE-453 30 Lysekil, Sweden  
Tel + 46 18 67 10 00

Institute of Freshwater Research (**IFR**)  
Swedish University of Agricultural Sciences  
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Swedish Board of Agriculture  
Department of Rural Development, Rural Analysis Division  
*and*  
Market Department, Division for Trade and Markets  
SE-551 82 Jönköping, Sweden  
Tel +46 36 15 50 00  
<http://www.jordbruksverket.se/>

The Swedish organization of DCF work:



The Department of Aquatic Resources (SLU Aqua) at the Swedish University of Agricultural Sciences carries out the largest part in the data collection and is responsible for the biological sampling, e.g. surveys (bottom trawling, acoustic, UWTV), sea-sampling onboard commercial vessels, harbour sampling, and biological sampling of recreational fisheries. The Swedish Board of Agriculture assists the Swedish Agency for Marine and Water Management in data collection concerning aquaculture and processing industries. The Swedish Agency for Marine and water Management collects information on landings, fishing efforts, and economic data regarding Sweden's fishing fleet. The Agency also collects some data on recreational fisheries.

A website has been established to inform involved partners, the EU Commission and the public about the Swedish implementation of the EU Data Collection framework in accordance with Commission Regulation (EC) 665/2008 article 8(2):

<http://www.havochvatten.se/en/start/environmental-research/-data-collection-framework.html>

A national coordination meeting with all partners was arranged in December 2014, to which the Commission was invited (see protocol from this meeting in Annex II). In addition, information and important news was communicated by the NC during the year to the responsible partners and to the persons involved in DCF on a regular basis. The main issues dealt with were reporting on the EMFF and ongoing data collection work including information on guidelines and deadlines for reporting to the Commission.

In addition, a permanent group to work on issues related to data management was established.

## **II.B Regional and International co-ordination**

### **II.B.1 Attendance of international meetings**

The international meetings planned for 2014 and relevant for DCF are listed in table II.B.1.

### **II.B.2 Follow-up of regional and international recommendations**

Recommendations and the agreements from the RCMs, Liason meeting and survey planning groups (IBTSWG, WGBIFS, WGNPS, WGRFS) relevant to 2014 and Sweden are listed in table II.B.2 For the 2014 STECF plenary meeting report, no DCF relevant recommendations were found.

Sweden actively participates in the regional Co-ordination Meetings (RCMs) for the Baltic and the North Sea & Eastern Arctic, in survey planning groups as well as different expert working groups (EWGs).

### III Module of evaluation of the fishing sector

#### III.A General description of the fishing sector

In 2014 the Swedish fishing fleet consisted of 1 267 registered vessels, with a combined gross tonnage of 29 thousand GT, a total power of 164 thousand kW and an average age of 33 years. The size of the Swedish fleet decreased between 2008 and 2014; the number of vessels decreased by 16% and GT and kW decreased by 32% and 23%, respectively. The major factors causing the fleet to decrease include entry barriers, bad profitability, scrapping campaigns, introduction of transferable fishing rights and natural wastage due to age.

In 2013, the number of fishing enterprises in the Swedish fleet totalled 1,035, with the vast majority (80%), owning a single vessel. Only 20% of the enterprises owned two to five fishing vessels. Total employment in 2012 was estimated at 1 663 jobs, corresponding to 942 FTEs. The level of employment decreased between 2008 and 2013, with total employed decreasing by 16% and the number of FTEs decreasing by 17% over the period. The major factors causing employment to decrease include of course the decreasing fleet size but also less labour intensive vessels. The table below describes Swedish national fleet structure, activity and production trends: 2008-2014.

<b>Variables</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
All vessels	1507	1471	1415	1359	1322	1299	1267
Inactive vessels	359	339	351	328	303	317	290
Average vessel age (years)	30,9	31,5	31,4	30,6	31,5	32,2	32,8
GT (thousand tonnes)	43,0	41,7	38,6	32,9	29,5	30,5	29,0
Engine power (thousand kW)	211,8	207,9	196,4	178,2	169,1	170,7	163,9
No. Enterprises (N)	1211	1181	1134	1089	1055	1035	---
Total employed (N)	1980	1758	1765	1679	1663	1577	---
FTE (N)	1133	1019	990	974	942	886	---
Average wage per FTE (thousand €)	24,7	24,3	28,3	28,0	33,7	37,6	---
Days at Sea (thousand days)	102,8	96,6	85,1	83,7	78,9	74,2	74,4
Fishing Days (thousands)	102,8	96,6	85,1	83,7	78,9	74,2	74,4
Fuel consumption (million litres)	41,4	62,2	54,1	40,9	47,4	48,5	---
Fuel per tonne landed (litre/tonne)	193,3	312,1	264,8	236,1	347,2	273	---
Landings weight (thousand tonnes)	214,1	199,3	204,4	173,2	136,5	177,6	166,1
Landings value (million €)	122,4	105,0	113,6	125,6	125,0	131,2	111,0

In 2014 the Swedish fleet spent a total of around 74 thousand days at sea. The total numbers of days at sea decreased by around 28% between 2008 and 2014. The major factors causing the decrease include lower quotas and increasing catch per effort. The quantity of fuel consumed in 2013 totalled around 49 million litres, a decrease of around 22% from 2009, driven by fewer days at sea and increased fuel efficiency.

The total volume landed by the Swedish fleet in 2014 was 166 thousand tons of seafood, with a landed value of €111 million euros. The total volume decreased while the value of landings increased over the



period analysed. The landed value by the national fleet has increased over the period 2008-2014, even though the value was low during 2009 and 2010 due to low quotas. The total landed value followed the price statistics; in particular lobster and prawn prices has increased over the period. Landed value was also strongly affected by currency exchange and landings weight (quotas). In terms of landings weight, decreasing quotas (particularly on pelagic species such as herring and sprat) affects the results. The major factors causing the increase in value are prices as quotas have decreased.

No major changes occurred in the fishing sector during 2008-2014. The Swedish management has succeeded to decrease some of the over-capacity (over-capitalisation due to too many licenses for specific fisheries). A funded scrapping campaign during late 2009 and beginning of 2010 and an introduction of an ITQ-system in the pelagic fishery have shown to be successful. Despite some additional vessels entering the fleet after 2011 due to new rules that private fishing-right owners must register their vessels after 2011, the traditional fleet has decreased over the whole period.

The Swedish fleet consists of a majority of small vessels fishing with passive gear and a smaller number of larger vessels mainly using trawls. Most demersal and pelagic trawlers have their home port on the Swedish west coast. Pelagic trawlers on the west coast mostly target herring, sprat and mackerel. Pelagic trawlers operating in the northern part of the Baltic Sea mainly target vendace. Demersal trawlers in the Baltic Sea mostly target cod whereas demersal trawlers on the west coast mostly target Norway lobster and shrimp. Vessels using passive gears are spread along the entire Swedish coastline. Geographically, the activities are concentrated to ICES divisions IIIa and IIIId and to some extent, divisions IVa and IVb.

### **III.B Economic variables**

#### **SUPRA REGION: BALTIC SEA, NORTH SEA AND EASTERN ARCTIC, AND NORTH ATLANTIC**

##### **Capital costs**

Capital costs are calculated according to the PIM methodology documented in the capital valuation report (No FISH/2005/03). Templates available on the DCR website were applied. Based on age of each vessel, the average service life of vessels from the respective segments is estimated by conducting a Kaplan-Meier survival analysis for each segment. A survival analysis is a number of statistical procedures that analyse data in order to find the time until an event occurs, in this case the time until a vessel is retired from commercial fisheries. The average service life will be needed in order to distribute the life of the hull, engine, electronics and other equipment over the service life of the vessel. Age will be collected for all vessels from the Swedish fleet register. Calculations of capital costs are based on the replacement values of the vessels. Replacement values for all vessels are estimated for the whole fleet in SPSS using insurance values collected through a questionnaire from a census sample of the vessel owners. Based on the estimated replacement values for all vessels price per capacity unit were estimated and used as the baseline value in the template connected to the capital valuation report (No FISH/2005/03).

## **Capital value**

Value of physical capital was estimated as the depreciated replacement value of the hull, engine, electronics and other equipment. Depreciation is set to: hull 7 %, engine 25 %, electronics 25 % and other equipment 25 %. A digressive depreciation is used. The replacement value is assumed to consist of hull 60 %, engine 20 %, electronics 10 % and other equipment 10 %. Calculations of capital value are also based on the same data and sources as capital costs and the template related to the PIM methodology in (No FISH/2005/03) is also used to estimate the capital value.

## **Clustering**

In 2008-2014 around 25 segments were clustered into 9 segments according to NP and following the instructions and recommendations by STECF. Out of the 25 segments 4 consisted of inactive vessels. Clustering was done due to confidentiality reasons and for all segments that were clustered data was collected for all vessels. Segments with similar characteristics were clustered, which gear type was used most frequent and which gear type was predominant the previous year was also looked upon when determining which segment to cluster with.

### **III.B.1 Achievements: results and deviation from NP proposal**

No shortfalls and/or deviations exist in relation to what was stated in the NP.

### **III.B.2 Data quality: results and deviation from NP proposal**

As seen in table III.B.1 the final data delivered shows that the Swedish data has improved remarkably last years. Compared to the Annual report 2010, where three out of 18 segments displayed a coverage rate higher than 70 %, in Annual report 2014 all segments regarding the cost survey is well above 70 % (the survey performed by SwAM). Regarding data from financial accounts (register data from Sweden Statistics) all segments except two displays a higher achieved sample rate than 70 % (all seven segments are now over 66 %).

No deviation from NP proposal.

### **III.B.3 Follow-up of regional and international recommendations**

In 2014 the Swedish economists did attend the Planning Group on Economic Issues (PGECON) to deal with a broad range of issues considered relevant for the improvement of the collection of economic data and for the evolution of the DCF. There were no new guidelines or recommendations relevant for improvement of the Swedish DCF.

### **III.B.4 Actions to avoid deviations**

No deviations to be reported and therefore no actions to be taken.

## **III.C Metier-related variables**

## **THE BALTIC SEA**

### **III.C.1 Achievements: results and deviation from NP proposal**

Results of the sampling in 2014, as well as what was planned to be sampled, are presented in tables III.C.3, III.C.4, and III.C.6.

Sweden has updated the information in table III.C.1 in accordance with the instructions in the guidelines. However the basis for the sampling in 2014 is the reference years 2007-2008 as stated in the National Programme. The information in table III.C.1 originates from logbooks and sales slips. For vessels not carrying logbooks the information is based on monthly fishing journals. These journals are mandatory in Sweden and include, on a monthly basis, information on landings and effort.

Sweden has participated in the ICES methodological expert groups dealing with “statistically sound sampling” and has gradually changed the sampling schemes towards this approach. During 2014 most demersal fisheries were sampled in accordance with these methodologies. Some fisheries, e.g. pelagic fisheries and salmon fisheries are however still sampled on a metier basis. For these fisheries it is indicated in table III.C.1 which metiers that have been merged. The rationale behind the merging is that the merged metiers have similar catch composition (e.g. pair trawlers have been merged with single trawlers).

Sweden has not been able to reach the planned targets for some of the sampling frames and metiers. One main reason for inconsistencies between planned no of trips to be sampled and what is achieved is that it is the time lag between the reference years in the NP and the sampling year. The activities in some fisheries have been considerably reduced during this time resulting in fewer samples. Another main reason for difficulties to reach the targets is that all vessels are not willing to carry observers. These problems become more obvious in a “statistically sound sampling scheme” where vessels to be sampled are truly chosen in a random way.

Deviations from aim on a sampling frame / metier basis are expressed below.

#### Bottom trawlers targeting cod, and subdivision 25-29, 32

The trawl fisheries in western (subdivision 22-24) and eastern (subdivision 25-32) were sampled to a lesser extent compared to what was planned (14 sampled trips out of 24 planned). The main reason for this is that the bottom trawl fishery for cod more or less collapsed during the second part of 2013 and did not recover in 2014. Catches were low and the caught fish was in bad condition resulting in low prices. Many vessels stayed in port and Sweden did not catch their quota. It was thereby difficult to fulfil the sampling target during the second part of the year.

#### Trawl fisheries targeting small pelagic fish (PTM SPF 32 104 0 0), subdivision 22-24

#### Trawl fisheries targeting small pelagic fish (PTM SPF 16 31 0 0), subdivision 25-29, 32

The assumption for the planned number of trips is that the fishery is conducted all year around in the main subdivisions (24, 25, 27, 28 and 29). The assumption is expressed in the NP. The fishery has however been very limited (or non-existent) in some of the subdivisions in some quarters implying that the planned no of trips to be sampled was not achieved.

#### Pound nets targeting catadromous species (FPN CAT 0 0 0)

The pound net fishery in subdivision 24 was not sampled (0 trips out of 2 planned). Eel landings from this area were reduced sharply in recent years to less than 1500 kg in 2012 and no fisherman could be recruited for sampling.

### **III.C.2 Data quality: results and deviation from NP proposal**

Sweden initiated in 2009 a work to improve the designs of the metier sampling programmes taking the outcomes of WKACCU, WKMERGE, WKPICS and SGPIDS into account. This work continued in 2013 and includes identification of proper sampling frames, probability based ways to select primary sampling units and documentation of non-responses. At the same time we are trying to sort out some of the logistical problems that arise from the new more statistically sound sampling designs. The new designs will improve the possibilities to evaluate possible bias and thereby also accuracy.

### **III.C.3 Follow-up of regional and international recommendations**

Relevant regional and international recommendation listed in table II.B.2.

### **III.C.4 Actions to avoid deviations**

Sweden will in forthcoming NPs adjust, where appropriate, the planned number of trips to more recent patterns in the fisheries/fleets. Sweden is working on an improved system to assure that more vessels are accepting to carry observers and participates in the sampling schemes. When planning the sampling of the coastal fisheries, we will in the future take into consideration to plan on shore sampling to a higher extent due to the risk of unpredictable impact of bad weather conditions.

## THE NORTH SEA AND EAST ARCTIC

### III.C.1 Achievements: results and deviation from NP proposal

Results of the sampling in 2014 as well as what was planned to sample are presented in tables III.C.3, III.C.4, and III.C.6

Sweden has updated the information in table III.C.1 in accordance with the instructions in the guidelines. However the basis for the sampling in 2014 is the reference years 2007-2008 as stated in the National Programme. The information in table III.C.1 originates from logbooks and sales slips. For vessels not carrying logbooks the information is based on monthly fishing journals. These journals are mandatory in Sweden and include, on a monthly basis, information on landings and effort.

Sweden has participated in the ICES methodological expert groups dealing with “statistically sound sampling” and has gradually changed the sampling schemes towards this approach. During 2014 most demersal fisheries were sampled in accordance with these methodologies. Some fisheries, e.g. pelagic fisheries are however still sampled on a metier basis. For these fisheries it is indicated in table III.C.1 which metiers that have been merged. The rationale behind the merging is that the merged metiers have similar catch composition (e.g. pair trawlers have been merged with single trawlers).

Sweden has not been able to reach the planned targets for some of the sampling frames and metiers. One main reason for inconsistencies between planned no of trips to be sampled and what is achieved is that it is the time lag between the reference years in the NP and the sampling year. The activities in some fisheries have been considerably reduced during this time resulting in fewer samples. Another main reason for difficulties to reach the targets is that all vessels are not willing to carry observers. These problems become more obvious in a “statistically sound sampling scheme” where vessels to be sampled are truly chosen in a random way.

Further, a large proportion of the Swedish fleet fishing for demersal species and crustaceans are further relatively small (<24 m). Most of them avoid being at sea in bad weather (or do not want to bring observers in bad weather due to safety conditions). This means that after prolonged periods of bad weather Sweden sometimes is lagging behind in sampling of all fisheries and need to prioritise trips in the end of the quarter.

Deviations from aim on a sampling frame/metier basis are expressed below.

Trawl fisheries targeting demersal fish and crustacean (OTB MCD 90-119 0 0) IIIaN

Trawl fisheries targeting crustaceans (OTB CRU 35-69 0 0), IIIa, IV

Trawl fisheries targeting demersal fish and crustacean (OTB MCD 90-119 0 0), IIIa

In recent years there has been a considerable decline in these fisheries (less than half of the trips compared to the reference year). It was not possible to reach the sampling targets for these fisheries primarily due to the pronounced decline in activity but also due to problems with unwillingness to take observers at sea. Non response rates were high (75-80%) in particular for trawlers targeting demersal fish and crustaceans in area IIIaN.

Trawl fisheries targeting small pelagic fish (PTM SPF 32-69 0 0), IIIa

Purse seine fisheries targeting small pelagic fish (PS SPF 16-31 0 0), IIIa

In the trawl fishery 52 out of planned 96 trips were sampled by buying unsorted samples of landings in the harbours/markets. The overall number of conducted trips by the fleet has further decreased considerably compared to the reference years. The purse seine fishery which is targeting the same species (sprat and herring) has in relative terms (not the same decrease in fishing trips compared with the reference years) become more important. This fishery are thereby sampled in excess (43 trips instead of 12) compared to the plan.

Fyke net fisheries targeting catadromous species (FYK CAT 0 0 0)

Expected total number of trips to be sampled by MS is supposed to be NA and not 10 in tables III.C.3 and III.C.4 and this has been corrected. The reason for the change in NP is that the minimum landing size for eel was increased, which indirectly led to the closure of this fishery, hence, not possible to sample. Increased minimum landing size was one of the actions taken in the Swedish Eel Management Plan set up according to Council Regulation (EC) No 1100/2007 establishing measures for the recovery of the stock of European eel.

### **III.C.2 Data quality: results and deviation from NP proposal**

Sweden initiated in 2009 a work to improve the designs of the metier sampling programmes taking the outcomes of WKACCU, WKMERGE, WKPICS and SGPIDS into account. This work continued in 2013 and includes identification of proper sampling frames, probability based ways to select primary sampling units and documentation of non-responses. At the same time we are trying to sort out some of the logistical problems that arise from the new more statistically sound sampling designs. The new designs will improve the possibilities to evaluate possible bias and thereby also accuracy.

### **III.C.3 Follow-up of regional and international recommendations**

Relevant regional and international recommendations are listed in table II.B.2.

### **III.C.4 Actions to avoid deviations**

Sweden will in forthcoming NPs adjust, where appropriate, the planned number of trips to more recent patterns in the fisheries/fleets. Sweden is working on an improved system to assure that more vessels are accepting to carry observers and participates in the sampling schemes. When planning the sampling of the coastal fisheries, we will in the future take into consideration to plan on shore sampling to a higher extent due to the risk of unpredictable impact of bad weather conditions.

## **III.D Recreational fisheries**

## **THE BALTIC SEA**

### **III.D.1 Achievements: results and deviation from NP proposal**

According to the Data Collection Frame Work, DCF 2010/93/EU, member states shall evaluate the quarterly weight of the recreational catches of cod, salmon, eel and sharks for the Baltic Sea. For

Sweden, salmon and cod are reported while recreational fishery for eel is not allowed according to regulation (FIFS 2004:36) and therefore no data has been collected.

The only species of sharks in the Baltic to be considered here is dogfish and it is rarely in the Baltic Sea. The SwAM has banned all recreational fisheries after dogfish since 1 April 2011 (FIFS 2004:36). This means that dogfish is now completely protected in Swedish waters and no sampling for data is therefore planned or conducted.

#### *National mail screening surveys*

A new periodically national mail screening survey has been carried on since 2013 regarding recreational fisheries. The new survey is performed periodically three times a year. The data will be collected according to created recreational metiers. Data from this new survey has so far only been available regarding 2013, and will for 2014 not be available before June 2015. From 2015 and onwards the results is planned to be available half a year after each period.

#### *Salmon*

Within Swedish recreational fisheries, salmon is caught through angling, brood stock and traditional fishing in rivers, with trap nets along the coast and in offshore troll fishing. Catches from coastal trap net fishing and offshore troll fishing are estimated according to surveys performed every fourth year. In 2014, catches were estimated based on the last surveys performed in 2011. The trap net survey maps the number of trap nets along the coast (Anon 2011) while the last trolling survey was an inventory of the fishery, indicating a high fishing pressure (Persson et al. 2013). Collection of river catches is carried out annually in accordance with routines described in Anon 2003. Here, census is used where persons responsible for e.g. brood stock fisheries are collecting the data. Summarized data of catches are delivered to ICES WGBAST.

#### *Cod*

The monitoring of cod catches made on Swedish tour boats operating in the Sound between Denmark and Sweden started in 2011 and is an ongoing annual survey since then. The Sound was chosen for this monitoring study as it was, and still is, considered the only area with significant Swedish recreational tour boat fishing for cod. The captains report the number of fishing trips (usually 1-2 per day) and cod catch from each fishing trip during the entire year. In 2014, ten out of the thirteen Swedish tour boats that operated in the Sound reported their catches. The table gives the number of fishing trips and catches of cod in kg as reported by the captains. The three boats not reporting catches were given the monthly mean of number of trips and monthly catch of the 10 reporting boats. No independent controls of weights (nor length measurements) were carried out on board the boats. The Swedish tour boats caught 188 ton cod that should be compared to the 565 ton caught by the commercial boats. The tour boat catch made up 25 % of total catch (tour boat catch + commercial catch). It should be noted that a large fishing for cod occurs from private recreational boats. That fishing is not being monitored but it might be of significance.

Summary of seasonal and annual cod catches in kg from 13 out of 13 Swedish tour boats operating in the Sound in 2014.

	No. trips	Total catch	Mean catch/trip	Commercial catch	% tour catch of total catch
Jan-March	221	18417	83		
Apr-June	453	60106	133		
July-Sept	717	88674	124		
Oct-Dec	259	20873	81		
<b>TOTAL</b>	<b>1650</b>	<b>188070</b>	<b>114</b>	<b>564818</b>	<b>25</b>

### III.D.2 Data quality: results and deviation from NP proposal

#### *National mail screening surveys*

A new periodically national mail screening survey was planned during late 2012, and started in 2013, and has been going on since then. The design of the survey has been changed compared to earlier surveys in order to get a better coverage of active recreational fishermen and metier based data.

#### *Salmon*

There are no deviations from NP proposal.

#### *Cod*

The goal is to include all tour boats in the survey. That was not achieved in 2014 (three boats missing). The captains are not obliged to report catches but they appear to be increasingly positive to reporting and IMR arrange annual meetings for captains and crew where survey results and data quality are discussed. Missing boat catches can easily be estimated from the mean catch of participating boats. Control weight- and length estimates by IMR are only included in the survey if the catch is at least 30 kg. In 2013, 9 out of 10 weight controls were accepted. In 2013, the mean of the 9 captains' estimate/control weights was 1.25 (25 % overestimate; min: 1.02; max: 1.77; St. dev.: 0.23). This was much higher than in 2012 (2 % overestimate, 12 controls). One reason for this result might be that the high catches in 2013 made estimations more difficult. Nevertheless, estimations can never be completely correct, which is why we have controls. The number of accepted controls compared to the number of fishing trips (9/1461) was low and should be increased. Presenting the captains' estimates, the number of missing boats and the control data allows for future corrections when these data are to be used. This is important since recreational fishing data for the western Baltic cod stock comes from different kind of surveys made in Germany, Denmark and Sweden allowing for, e.g. the WGRFS and the relevant ICES stock assessment group (WGBFAS) to combine and correct data as they wish. All cod survey data are stored at IMR.

### III.D.3 Follow-up of regional and international recommendations

Relevant recommendations are listed in table II.B.2.



### **III.D.4 Actions to avoid deviations**

#### *National mail screening surveys*

No deviations from the NP proposal.

#### *Salmon*

There is an overall need for annual fishery surveys. Also, closer collaboration with organisations that are managing recreational fisheries on salmon is needed. Quality assurance work and development of recreational fisheries surveys started in 2013 and continued in 2014 with focus on database development.

#### *Cod*

At some point a large independent control of weight of cod catches on the tour boats should be carried out (including length estimates and controls) throughout the year. The recreational fishing for cod from private boats in the Sound should be investigated as it may be large.

## **THE NORTH SEA AND EAST ARCTIC**

### **III.D.1 Achievements: results and deviation from NP proposal**

For the North Sea only cod are to be reported while recreational fishery for eel and sharks is not allowed according to regulation (FIFS 2004:36) in Sweden and therefore no data has been collected.

SwAM has banned all recreational fisheries after several species of sharks since 1 April 2011. The TAC in the North Sea, Skagerrak and Kattegat is 0 tonnes for 2011, 2012, 2013, and 2014, and captured sharks will quickly be put back in undamaged condition. This means that sharks is now completely protected species in Swedish waters and no sampling or collection of data is therefore planned.

#### *National mail screening surveys*

A new periodically national mail screening survey was planned during late 2012, and started in 2013, and has been going on since then. The design of the survey has been changed compared to earlier surveys in order to get a better coverage of active recreational fishermen and metier based data.

#### *Cod*

Two tour boats operated in the Kattegat during 2014. They are doing mixed fishing and cod catches are negligible.

### **III.D.2 Data quality: results and deviation from NP proposal**

There is no data to be reported and no deviation from NP proposal.

### **III.D.3 Follow-up of regional and international recommendations**

Relevant recommendations are listed in table II.B.2.

### III.D.4 Actions to avoid deviations

No deviations to be reported and therefore no actions to be taken.

## III.E Stock-related variables

### General Remarks

To get catch-in-numbers (CANUM) and weight-in-catch (WECA) by age group, sampling of the landings is undertaken. Simple random sampling was used for pelagic stocks, cod, eel and flounder. The simple random sampling means that a fixed number of individuals were sampled randomly within market size category (if sorted) /unit (unit =area, quarter and gear) independent of landing size. All individuals in a sample were analysed according to length, weight and age. Sampling strategy on surveys and on board fishing vessels differs from market sampling and was performed as follows: all individuals (or a sub sample) were length measured and a fixed number per length class was sampled for age, sex, maturity and weight. For stocks sampled on surveys and on board fishing vessels, the length can be given an age by using an Age-Length-Key. Samples of herring and sprat were collected by Denmark according to the bilateral agreements and number of individuals collected is included in table III.E.3.

### Reasons for over- and undersampling:

International survey manuals give guidelines on number of individuals / length class to be sampled for age, sex and maturity. These were followed and the actual sampled number is therefore dependent on the amount of catch. The indications of the planned minimum numbers of individuals to be measured for the different variables are based on experiences with the Swedish sampling scheme and survey catches from 2008. Also, for sea sampling, number of trips and not number of individuals are the basis for planning. Therefore, percent achievement can vary and look like it is over- or undersampled. In the cases for oversampling e.g. *Gadus morhua* in sea sampling in the Baltic, *Trisopterus esmarki* and *Pollachius virens* in IIIa.is done without any additional costs. However, minor additional costs occur in the home laboratory in form of additional staff time for age reading.

For some stocks, the planned sample sizes have not been achieved. In surveys this is seen for some stocks, e.g. *Clupea harrengus* in sd 25-29 +32, *Sprattus sprattus* in sd 22-32 and *Gadus morhua* sd22-24. This is due to the general rule to collect stock-related variables for a certain number of individuals per length class and area. If only very few length classes occur during the survey, this rule can lead to undersampling compared to planned numbers. Undersampling of *Clupea harrengus*, *Sprattus sprattus* and *Platichthys flesus* in the Baltic was seen for the market sampling due to low fishing in some quarters, and missing out of sampling occasions.

## THE BALTIC SEA

### III.E.1 Achievements: results and deviation from NP proposal

All stocks sampled during 2014 for biological variables, age, length, weight, sex, sexual maturity and /or fecundity are listed in table III.E.3. The variables are collected from different sources like survey, market or sea sampling and different sampling strategies have been used. For most stocks, the sampling sources are listed separately in order to keep track on the contribution of the different

sources to the total. General reasons for over- and undersampling are explained above under “General remarks”. Oversampling did not cause significant additional costs.

Sweden is obliged to sample nine stocks in the Baltic Sea. Sweden also samples *Anguilla anguilla* in Inland freshwater and *Salmo salar* from rivers.

*Anguilla anguilla* (freshwater): The species was sampled according to plan.

*Anguilla anguilla* sd 22-24: The fishing activity with pound nets has decreased in sd 24 and therefore the stock sampling of the pound net fisheries was not possible to fulfil.

*Anguilla anguilla* sd 25-29, 32: Fewer age samples than planned were collected due to the length homogeneity of the catches and that is a consequence of the stratified sampling method applied.

*Clupea harengus* sd 22-24: Fishing for herring in the area is conducted mainly in quarter 1 and 4, and the planned number should therefore be adjusted to  $(600 \times 2 = 1200)$ , which increase the percent achievement to 115 % accordingly (58% in table).

*Clupea harengus* sd 25-29, 32: Number of herring sampled for weight, sex and maturity in surveys was 84 % of planned numbers. Sampling is done according to the manual and the number of individuals sampled depends on the amount caught during the planned hauls and number of length groups. See also section General remarks. Samples collected at market reached 85 % of the planned numbers. Most of the fishing is conducted during quarter one in all subdivisions (25, 26, 27, 28 and 29). While in quarter 2 and 3 the fishing sampling levels could not be fulfilled due to lower intensity in the fishery.

*Clupea harengus* sd 30-31: The species was sampled according to plan. However, additional 1386 individuals were collected during BIAS by Finland and the age reading was divided between Sweden and Finland.

*Gadus morhua* sd 22-24: Number collected in market sampling was according to plan but the number sampled at sea was above planned number but with no additional cost involved. The number of samples collected during surveys reached 71 %.

*Gadus morhua* sd 25-32: Number collected in market and sea sampling as well as in surveys was according to plan.

*Salmo salar* sd 22-31/32: In the commercial fisheries, the number of salmon sampled was lower than planned. SwAM closed all salmon fisheries early in the fishing season, in order to follow EC TAC. Thus it was not possible to perform the sampling in the trap net fisheries (FPO\_ANA\_0\_0\_0) in sd 30-31 as planned. Also, individual catches of the pre-selected fishermen that take part in the sampling were low.

In sd 25-29: no samples were collected from the long line fisheries (LLD\_ANA\_0\_0\_0) since it has been closed for Swedish vessels in order to protect the wild Baltic salmon populations. This decision to close the Swedish off-shore fisheries was made by SwAM on a national level. Therefore, the earlier planned cooperation between Sweden, Denmark and Finland regarding this sampling is no longer relevant.

*Salmo salar, River monitoring of wild salmon and sea trout stocks*

In 2014, the sampling in the ICES defined salmon index rivers continued according to established data collection procedures with one exception. A temporary change in the sampling design was made by moving the activities in the index river Sävarån to the river Rickleån. This change was endorsed by ICES WGBAST. The reasons were mainly to improve data collection from an additional similar river (in size and location, i.e. assessment unit) since the new data would give higher value than an additional year of data collection in the river Sävarån. In addition to the index river monitoring, sampling is also performed in a number of additional rivers.

A summary of the Swedish salmon index river sampling in 2014 is found in the table below:

River name	Type	Smolt count	Adult count	Electrofishing
Torneälven	Index river	*	*	Yes
Ume/Vindelälven,	Index river	Smolt trap (fyke net) operated	Fish ladder with counter, camera and smolt leader used	Yes
Rickleån	Replacement for regular index river Sävarån	Smolt trap (smolt wheel) operated	Fish ladder (counter) used	Yes
Mörrumsån	Index river	Smolt trap (smolt wheel) operated	Fish ladder (counter with camera) used	Yes

\* Data collection performed by Finland

The achieved information on abundance of smolt (smolt count in the table above) and the achieved information on number of ascending individuals (adult count) were higher than planned. However, it is not possible to beforehand plan a number that should be sampled when using these two sampling methods.

In the recreational fishery, the achieved sampling was lower than planned. This can be explained by the increasing trend of catch and release (C&R). For example, in the River Mörrumsån the proportion of released fish increased with around 36% during the period 2007-2013. Since it is not according to good animal welfare to sample C&R individuals for age (i.e. scale sampling), this has not been practised. This sampling on alive fish is especially critical if water temperatures are high, which they were in 2014

Sampling of fecundity was performed on 60 females (30 salmon and 30 sea trout) and was below planned numbers which was caused by a misunderstanding of the staff performing the sampling. To sum up the aim, all sampling is seen as an important part of the new multi annual salmon management plan (COM (2011)0470 – C7 0220/2011 – 2011/0206(COD)) that is expected to replace the Salmon Action Plan (1997-2010).

*Sprattus sprattus* IIIb-d: Fishing was conducted in quarter one and four. The sampling possibilities were affected by the fishing pattern and planned numbers could not be fulfilled (72% of planned).

### **III.E.2 Data quality: results and deviation from NP proposal**

The deviations in sampling described in section above explain the differences between planned and achieved sampling.

### **III.E.3 Follow-up of regional and international recommendations**

Relevant recommendations are listed in table II.B.2.

### **III.E.4 Actions to avoid deviations**

*Clupea harengus* sd 22-24 and sd 25-29+32. The same fishing pattern, e.g. low or no landings in quarter 2 and 3 and the change in how and when fish are landed was similar to the year before. The agreement signed between SLU Aqua and SwAM where SwAM collect the samples and sending them to SLU Aqua for biological analyses is running. Landings that take place during night time and in ports not having staff involved in the sampling are landings that we still miss out, which causes less sampling occasions than planned.

*Salmo salar*. Even though, one additional fisherman was recruited in 2014 to collect age samples and in total, there were four fishermen that participated; this was not enough to reach planned numbers. Another possibility would be to grant exemptions from the closure for the fishermen taking part in the sampling.

To increase the number of biological samples within the recreational fisheries, sampling intensity during appropriate environmental conditions must improve through different management measures. For example, sampling could become better organized at local fishing organisations' landing stations. Regarding fecundity, it is not necessary to sample fecundity every year, but it should be planned for every third and fifth year instead (ICES 2012a).

## **THE NORTH SEA AND EAST ARCTIC**

### **III.E.1 Achievements: results and deviation from NP proposal**

All stocks sampled during 2014 for biological variables, age, length, weight, sex and sexual maturity are listed in table III.E.3. The variables are collected from different sources like survey, market or sea sampling and different sampling strategies have been used. For most stocks, the sampling sources are listed separately in order to keep track on the contribution of the different sources to the total. General reasons for over- and undersampling are explained above under "General remarks". Oversampling did not cause significant additional costs.

Sweden is obliged to sample twelve stocks in the North Sea region.

*Anguilla anguilla* IIIa: The species was sampled according to plan.

*Clupea harengus* IIIa: The species was sampled according to plan.

*Gadus morhua* IIIaN: The species was sampled according to plan.

*Gadus morhua* IIIaS: The species was slightly oversampled during surveys (167 %) but undersampled at market and in sea sampling compared to the planned numbers. Sampling was performed in all quarters but since the landing was only 21 tonnes in 2014 there was very low fishing activity, and therefore number of sampling occasions in the sea sampling was limited. Planned sampling level was simply not possible to reach.

*Glyptocephalus cynoglossus* IIIa: Individuals are sampled in sea sampling at market and in surveys. Since the landings of this species were only 273 tonnes the planned number of 1500 individuals is quite extensive (500 individuals per fishing quarter). The planned numbers were set to achieve a good biological sample for biological parameters as the basis for stock assessment of this stock in WGNEW and WGNSSK. Due to the low landings the number of samples could not be fulfilled.

*Melanogrammus aeglefinus* IIIa: This species was sampled during surveys only and the levels reached are dependent on the catch in planned hauls.

*Nephrops norvegicus* FU3 and FU4: In recent years there has been a considerable decline in these fisheries (less than half of the trips compared to the reference year). It was not possible to reach the sampling targets for these fisheries primarily due to the pronounced decline in activity but also due to problems with unwillingness to take observers at sea. *Pandalus borealis* IIIa: This species was sampled according to plan, for length, sex and maturity. Not enough weights when sampling 40 individuals of each maturity stage / sample, which was the conducted sampling setup

*Pleuronectes platessa* IIIa: This species was sampled according to plan in the sea sampling. In surveys the stock was under-sampled compared to the plan. The sampling is following the manual and the number of individuals depends on the amount caught. The planned number is based on historical data from 2008.

*Sprattus sprattus* IIIa: The species was sampled according to plan.

*Trisopterus esmarki* IIIa: The species is oversampled compared to planned numbers. The species is only sampled at surveys and the sampling is following the manual. The number of individuals depends on the amount caught. The planned number is based on historical data from 2008.

*Pollachius virens* IIIa: The species is over-sampled compared to planned numbers. The species is only sampled at surveys and the sampling is following the manual. The number of individuals depends on the amount caught. The planned number is based on historical data from 2008.

### **III.E.2 Data quality: results and deviation from NP proposal**

The deviations in sampling described in section above explain the differences between planned and achieved sampling.

### **III.E.3 Follow-up of regional and international recommendations**

Relevant recommendations are listed in table II.B.2.

### **III.E.4 Actions to avoid deviations**

*Gadus morhua* in IIIa: For species landed in very small amount the planned number is sometimes very hard to reach. The only action to be taken is to change sampling design and having the accurate numbers in table.

Norway lobster (*Nephrops norvegicus*) IIIaN

Sweden had, during 2014, problems with high non-response rates, particularly in Skagerrak (IIIaN). Sweden will during 2015 continue to work on an action plan to improve the situation.

### **III.F Transversal variables**

#### **III.F.1 Capacity**

##### **III.F.1.1 Achievements: results and deviation from NP proposal**

No shortfalls and/or deviations exist in relation to what was stated in the NP.

##### **III.F.1.2 Data quality: results and deviation from NP proposal**

No shortfalls and/or deviations exist in relation to what was stated in the NP.

Capacity data was collected exhaustively in the fleet register (Database Fartyg 2). All transversal data is reported unclustered, and census with full coverage.

##### **III.F.1.3 Actions to avoid deviations**

No deviations to be reported and therefore no actions to be taken.

#### **III.F.2 Effort**

##### **III.F.2.1 Achievements: results and deviation from NP proposal**

No shortfalls and/or deviations exist in relation to what was stated in the NP.

Data was acquired as defined in Appendix VIII of the Commission decision 2010/93/EC. All spatial data used to calculate time in area for vessels reporting in logbook, was based on best information from VMS, AIS (where applicable), Effort reports, logbook and inspection information (sighting etc.). The spatial data was stored trip by trip with information for each record on vessel, position (long./lat.), and time and data source. Information on activity and gear onboard was linked to each trip.

Vessel not obliged to keep logbook reported their effort information in the monthly coastal journal. Data on gear capacity and activity was collected as well as information on days at sea/fishing days. For simplicity reason calendar day was used instead of 24-hour periods for the calculation of activities of vessels under 8m/10m without logbook.

Effort calculation related to static gear did not include time in port since it was almost impossible to calculate with any precision. In small scale fisheries different vessels could be used for setting gears and collecting gears or collecting catch from gears. It is also possible that gears belonging to two different vessels (on territorial waters) is set by only one of the vessels and later collected by each

vessel. In order to have conformity with management effort calculations, fishing days for static gears was calculated in accordance with management provisions for calculating effort for static gears. Thus, calculating of fishing days included time when a vessel was out of port with gears on board or in sea, without just being transiting.

The table below describes effort data collected and reported 2008-2014.

Variable	Data sources and methodologies
Days at sea	Spatial data sources (described above) and coastal journals for vessels without logbook
Hours fished.	Effort data in logbook (haul by haul records) information
kW * Fishing Days	Fleet register and logbook/coastal journal
GT * Fishing days	Fleet register and logbook/coastal journal
Number of trips	Logbook/Coastal journal (gear information)
Number of rigs	Logbook/Coastal journal (gear information)
Number of fishing Operations	Logbook/Coastal journal
Number of nets, Length	Logbook/Coastal journal
Number of hooks, Number of lines	Logbook/Coastal journal
Numbers of pots, traps	Logbook/Coastal journal
Soaking time	Logbook/Coastal journal

### III.F.2.2 Data quality: results and deviation from NP proposal

No shortfalls and/or deviations exist in relation to what was stated in the NP.

Effort data derived from the same datasets used to monitor quotas and effort limitations. Comprehensive validations were made during the database entry process (logbook, landing declarations, sales notes, Coastal journals, effort reports). Spatial data from logbook, VMS, effort reports, sightings etc. were compiled trip by trip. The trip information was crosschecked in order to verify catch and effort area information in the logbook and to calculate time in different effort areas. Cross-checking of effort information in the monthly coastal journals was not made on a trip by trip basis and not on a regular basis.

### III.F.2.3 Follow-up of regional and international recommendations

No relevant recommendations have been made about the collection of effort data.

### III.F.2.4 Actions to avoid deviations

No deviations to be reported and therefore no actions to be taken.



### III.F.3 Landings

#### III.F.3.1 Achievements: results and deviation from NP proposal

No shortfalls and/or deviations exist in relation to what was stated in the NP.

Data was acquired as defined in Appendix VIII of the Commission decision 2010/93/EC. The table below describes landing data collected and reported 2008-2014.

Variable	Data sources and methodologies
Value of landings total and per commercial species	Logbook/Landing declaration, Coastal Journal and sales notes. Since all quantity in a landing does not necessarily end up in a sales note, an average price for the species landed was used instead of the corresponding sales note. For monthly coastal journals an average for the month was used. The average prices were based on species, landing location and landing date.
Live weight of landings total and per species	Logbook/Landing declaration and Coastal Journal. National conversion factors (same as for quota calculation) were used to calculate live weight from product weight.
Prices by commercial species	Sales notes
Conversion factor per species	National conversion factors (same as for quota calculation) were used to calculate live weight from product weight (only for AR).

#### III.F.3.2 Data quality: results and deviation from NP proposal

No shortfalls and/or deviations exist in relation to what was stated in the NP.

Landing data derive from the same datasets used to monitor quotas. Comprehensive validations were made during the database entry process (logbook, landing declarations, sales notes, Coastal journals, effort reports). Catch, landing and sales data as well as spatial data from logbook, VMS, effort reports, etc. was compiled trip by trip. The trip information was crosschecked in order to verify catch and catch area information in the logbook. Crosschecking of information in the monthly coastal journals was not made on a trip by trip basis and not on a regular basis.

#### III.F.3.3 Follow-up of regional and international recommendations

No related recommendations have been made about the collection of landings data.

#### III.F.3.4 Actions to avoid deviations

No deviations to be reported and therefore no actions to be taken.

### **III.G Research surveys at sea**

#### **III.G.1 Achievements: results and deviation from NP proposal**

During 2014, Sweden has as planned undertaken six surveys in the Baltic Sea, Kattegat and Skagerrak. The Danish R/V DANA was chartered for five Swedish surveys during the year and complemented with R/V Hålabben in the Sound. For the UWTV survey a smaller Vessel Asterix was used.

Sweden also participated as planned in the joint survey in area IIa. Details for this survey will be presented by Denmark.

A description of the different surveys undertaken in 2014 follows below, and a summary of the surveys and the number of days the vessel is used are presented in table III.G.1.

#### **The Baltic International Trawl Survey (BITS) first and fourth quarter**

The main aim of the survey is to estimate cod recruitment indices and cod abundance in the different Sub-Divisions in the Baltic. The survey has also the purpose to follow the development of flounder and other flatfish populations. The BITS survey is coordinated by the ICES Baltic International Fish Survey Working Group (WGBIFS).

All Swedish survey data are stored in “Fish sample database” (SLU) and sent to ICES DATRAS database for international data storage. The present surveys provide data to the ICES Baltic Fisheries Assessment Working Group (WGBFAS) and ICES Baltic International Fish Survey Group (WGBIFS).

#### **BITS first quarter**

The survey was conducted in the Baltic by chartering the R/V Dana between the 12 of February to 24 of February using the TV3 demersal trawl according to the BITS manual (ICES, 2013). In the Sound, the survey was conducted by Hålabben during 11-12 of February using a down scaled TV3 930 trawl, to 30 % of original size, 50 hauls were planned with R/V Dana while 45 hauls were conducted and 41 were valid (including five fictitious hauls which were not trawled because the oxygen concentration close to the bottom was <1.5 ml/l) two hauls were conducted with Hålabben in the Sound. During the survey with Dana, acoustic data were continuously recorded. For the Baltic Sea, the fish hauls were randomized from the Tow Database and the hauls were completed within eleven fishing days at sea (13-23 February)). The two fish hauls in the Sound are stationary and were completed in two days at sea (Figure 1).

In the Baltic Sea, 9 263 individuals of cod (out of 55 033 individuals in total) were measured and otoliths were sampled from 792 individuals. From the catch of flounder (a total of 10 028), otoliths were sampled from 953 individuals. Overall, 25 fish species were caught during the survey and the catch was dominated by herring, cod, sprat and flounder, in terms of weight. In the Sound, 197 individuals of cod were sampled and 65 individuals of plaice were measured and otoliths were sampled. In total 23 species were caught.

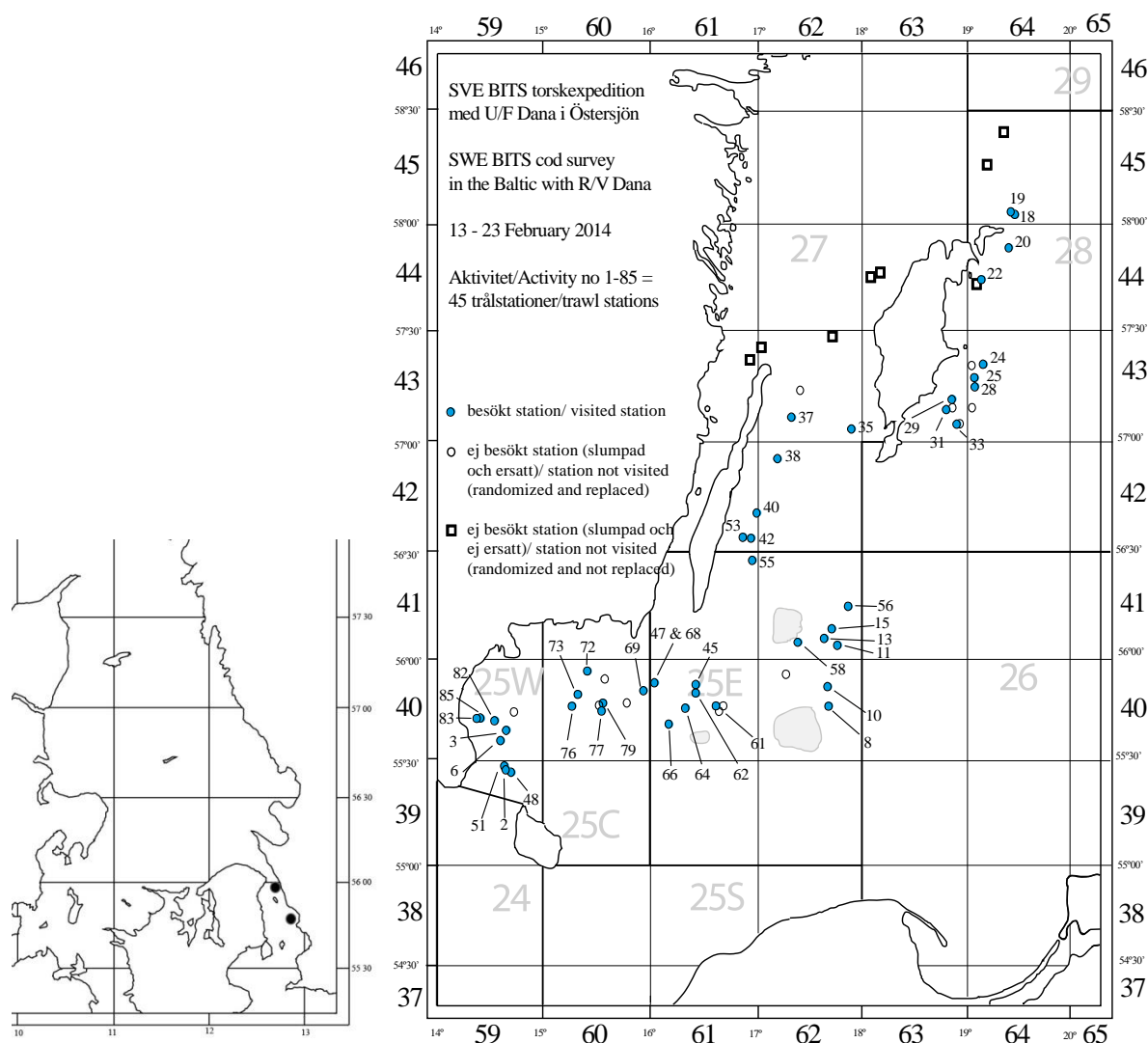


Figure 1. BITS first quarter survey in 2014. Trawl stations conducted by R/V DANA is shown in the map to the right and in the map to the left the trawl stations conducted by Hålabben are illustrated.

### BITS fourth quarter

The survey was conducted in the Baltic by chartering R/V Dana between the 13 of November to 22 of November using the TV3 demersal trawl according to the BITS manual (ICES 2013). In the Sound, the survey was conducted by Hålabben during 25-26 of August using a down scaled TV3 930 trawl, to 30 % of original size. 30 hauls were planned with R/V DANA and 29 hauls were conducted while 26 hauls were valid (including eight fictitious hauls which were not trawled due to oxygen concentration close to the bottom was  $<1.5$  ml/l) and covered parts of sd 23, 25, 26, 27 and 28 this year. Three hauls were planned at two stations and conducted in the Sound (Figure 2). During the survey with Dana, acoustic data were continuously recorded. For the Baltic Sea, the fish hauls were randomized from the Tow Database and these hauls were completed within eight days at sea (14 -21 November) (Figure 2).

In the Baltic Sea, 3 977 individuals of cod (from a total of 16 484) were length measured and otoliths from 641 individuals were sampled. From the catch of flounder (a total of 3 467), 777 otoliths were sampled. Overall, 25 fish species were caught during the survey and the catch was dominated by herring, cod, flounder and sprat, in terms of weight. In the Sound, 145 individuals of cod and 96 individuals of plaice were sampled. In total 27 species were caught.

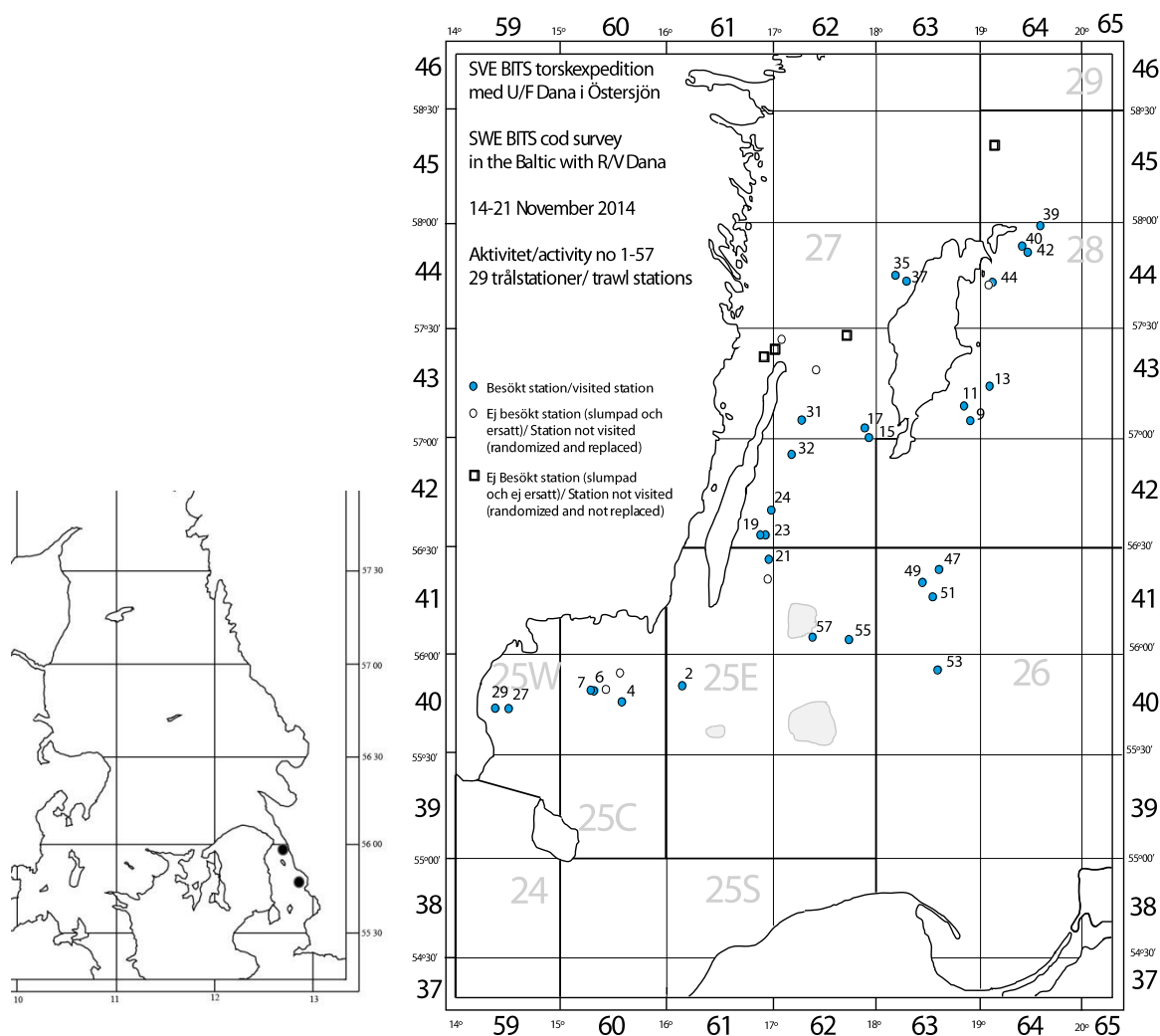


Figure 2. BITS q4 survey in 2014. Trawl stations conducted by R/V DANA is shown in the map to the right. The map to the left the two trawl stations (three hauls) conducted by Hålabben are illustrated.

### BIAS Baltic International Acoustic Survey

The main objective of the survey is to assess clupeoid resources in the Baltic Sea.

The R/V Dana cruise started 30 September from Hirtshals with transit to Gullmarsfjorden for calibration and boarding of the scientific crew. The cruise ended the 14 of October in Hirtshals after in total one fishing days at sea. All trawl hauls were made using the Fotö pelagic trawl with 6 mm mesh bar in the codend. In total 48 trawl hauls were carried out and the cruise covered ICES subdivision 27 and parts of 25, 26, 28 and 29 (Figure 3). Sweden follows the recommendations given by WGBIFS that states that the maximum sampling effort should preferably be used and therefore produces an age

key by taking otoliths from each ICES rectangle covered by the survey. Sampling of otoliths, weight and maturity was performed on 2259 herring and 1155 sprat.

The surveys in September/October are coordinated within the frame of the Baltic International Acoustic Surveys (BIAS). Data are stored in “Fish sample database” at SLU and sent for international data storage to the IBAS database that is maintained by WGBIFS. The present survey provides data to the ICES Assessment Working Group (WGBFAS).

The squares that were allocated to Sweden can be seen in green (sd 25-29, Figure 4). The area is around 20 382 square nautical miles and was covered by approximately 1423 nautical miles of acoustic data collection and 48 hauls. The Swedish BIAS survey achieved 106% of the number of needed acoustical data and 100% of the hauls that should have been made in the Swedish area of 25 to 29.

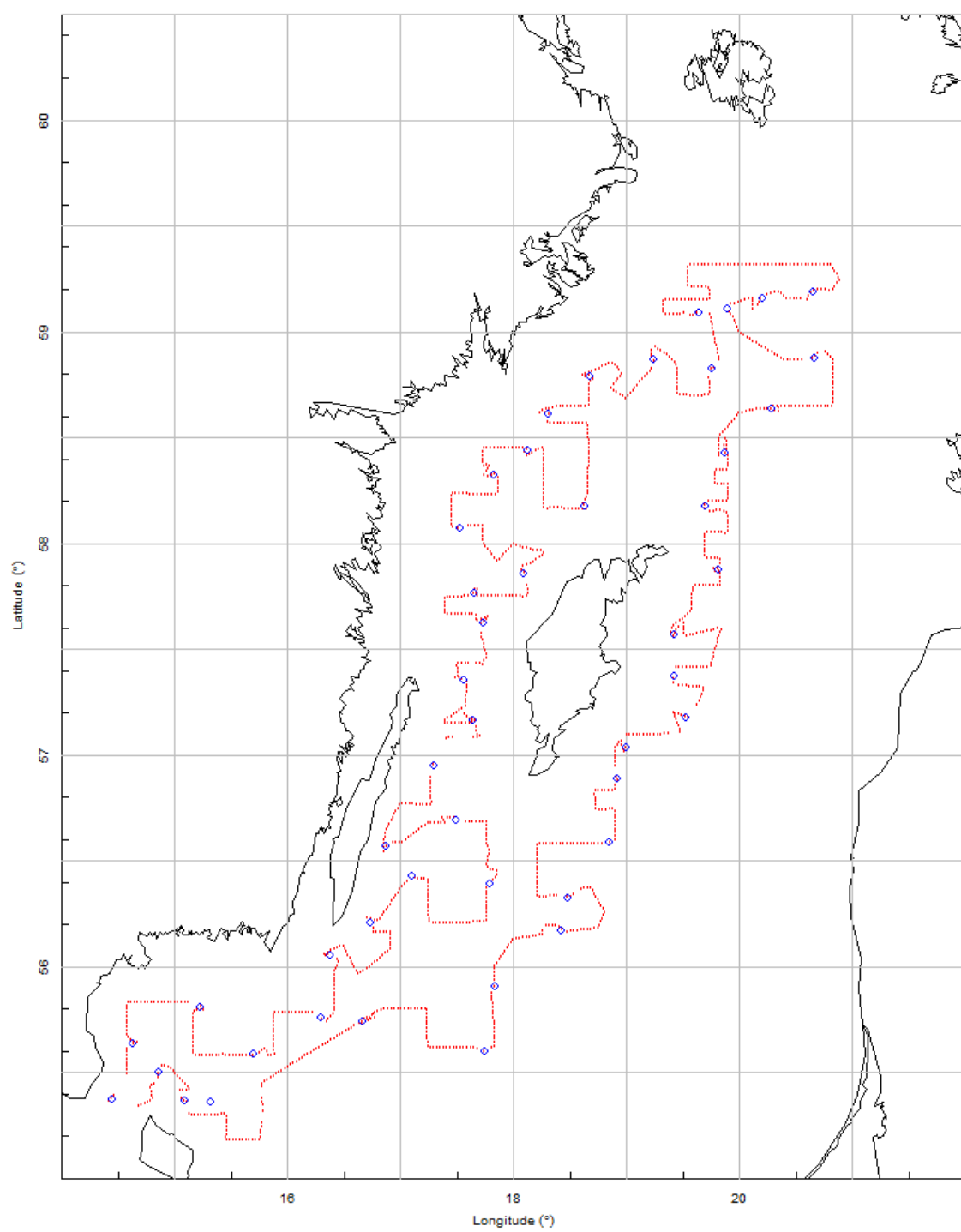


Figure 3. Survey grid and trawl positions of R/V Dana during BIAS survey 2014.

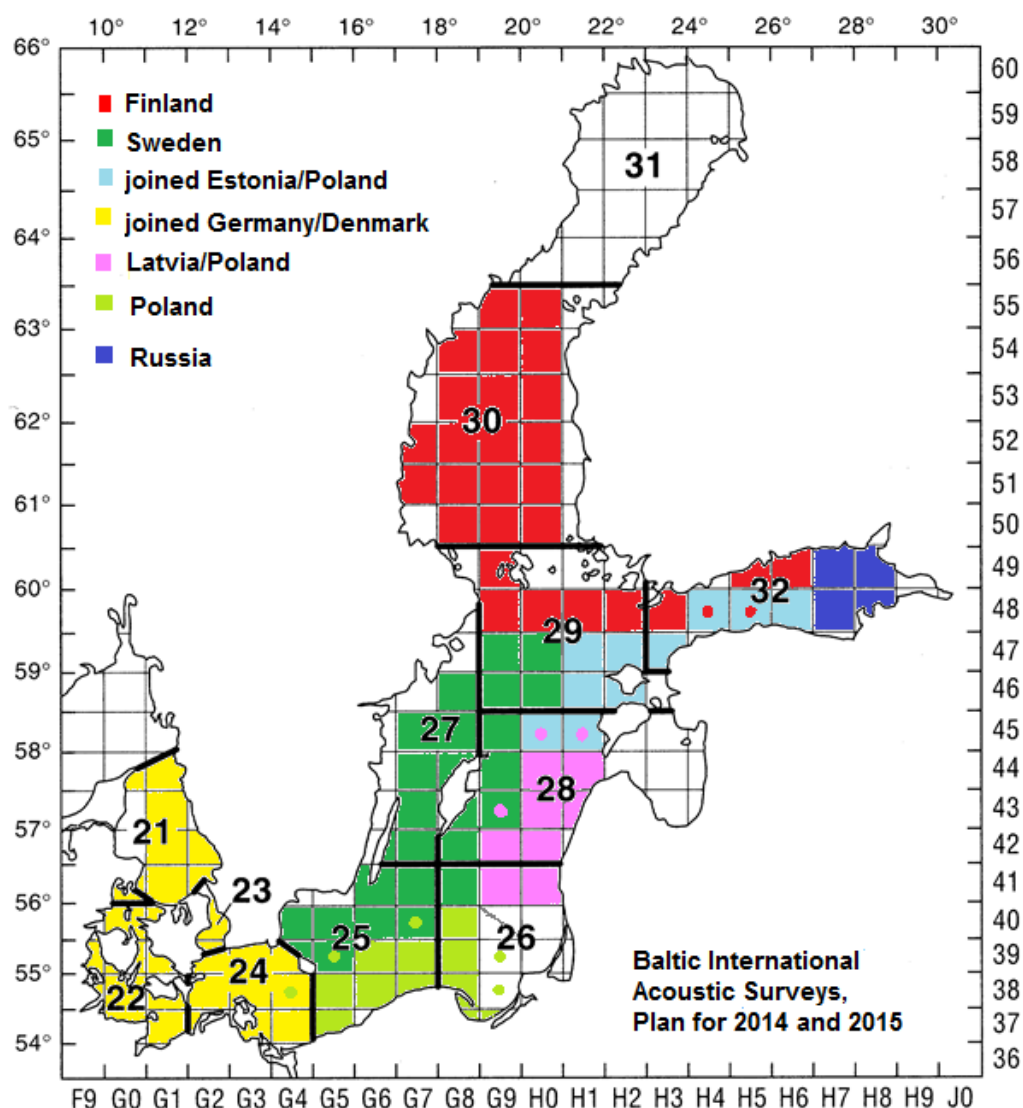


Figure 4. Survey plan map for BIAS survey 2014 (WGBIFS).

### The International Bottom Trawl Survey (IBTS) first and third quarter

The main aim of the survey is to estimate abundance of commercial (cod, haddock, whiting, Norway pout, herring, sprat, saithe and mackerel) and non-commercial fish. Moreover, the otoliths of the commercial species are collected and subsequently analysed in order to assess abundance by age class, in particular for the recruiting year classes in the North Sea, Skagerrak and Kattegat. The IBTS survey is coordinated by the ICES International Bottom Trawl Survey Working Group.

All survey data are stored in "Fish sample database" (SLU) and sent to DATRAS, i.e. the ICES database, for international data storage. This survey currently provides data to the ICES Assessment working groups WGBFAS, HAWG and WGNSSK.

### IBTS first quarter

The survey was conducted in the Skagerrak/Kattegat area (Figure 5) by chartering the R/V Dana between the 8-22 of January using the GOV demersal trawl according to the IBTS manual (ICES SISP 1-IBTS VIII). In total, 48 hauls were towed during the 14 days at sea. Out of the 48 hauls 43 were valid hauls. The weather was poor throughout most of the survey. Larvae trawling with the Midwater

ring net also called the MIK trawl resulted in 57 valid hauls and catches consisting of 398 herring larvae, seven eel larva and several other species (Figure 6).

Biological sampling, comprising length, weight, sex, maturity and age was carried out on the target species in accordance with the IBTS manual. In total 4791 otoliths were collected from 11 species. In all, 69 fish species were caught during the survey.

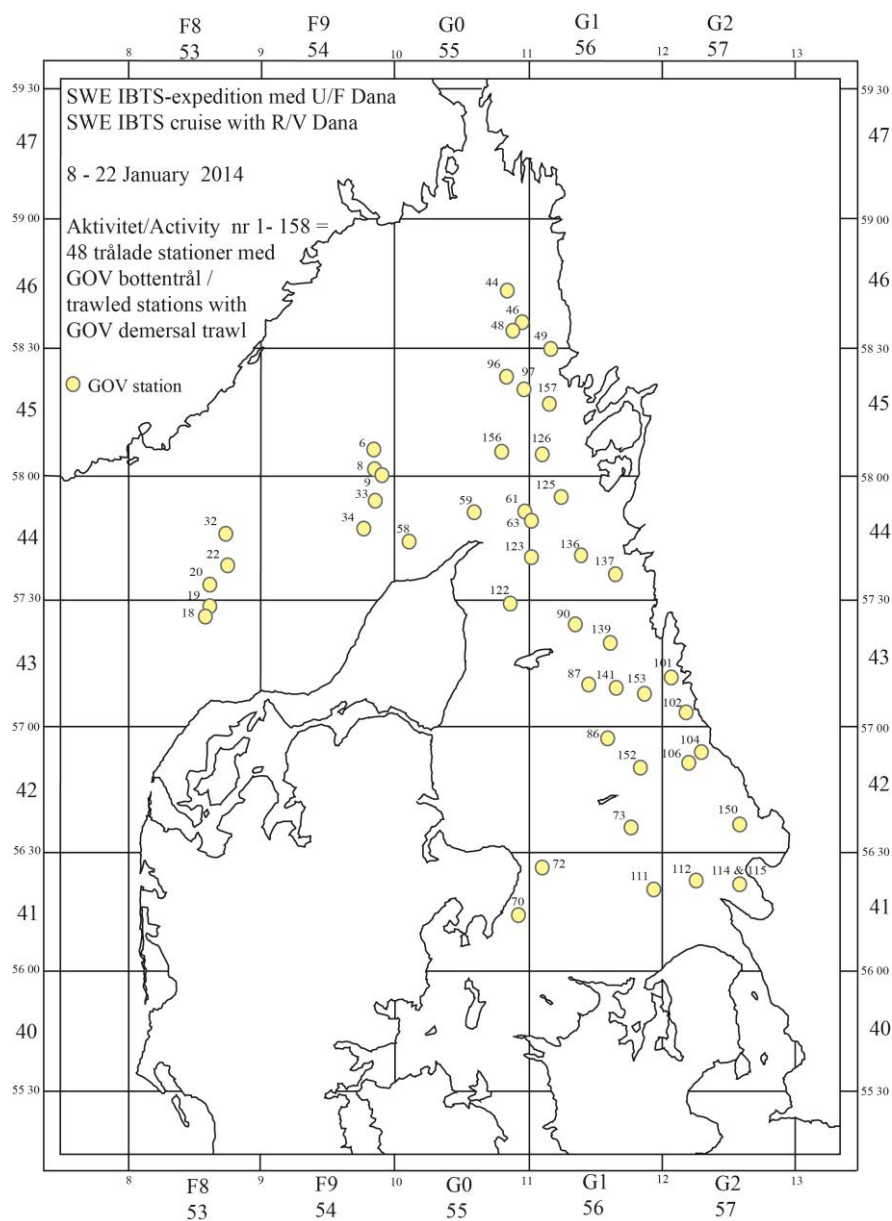


Figure 5. Hauls with GOV demersal trawl IBTS first quarter survey 2014.



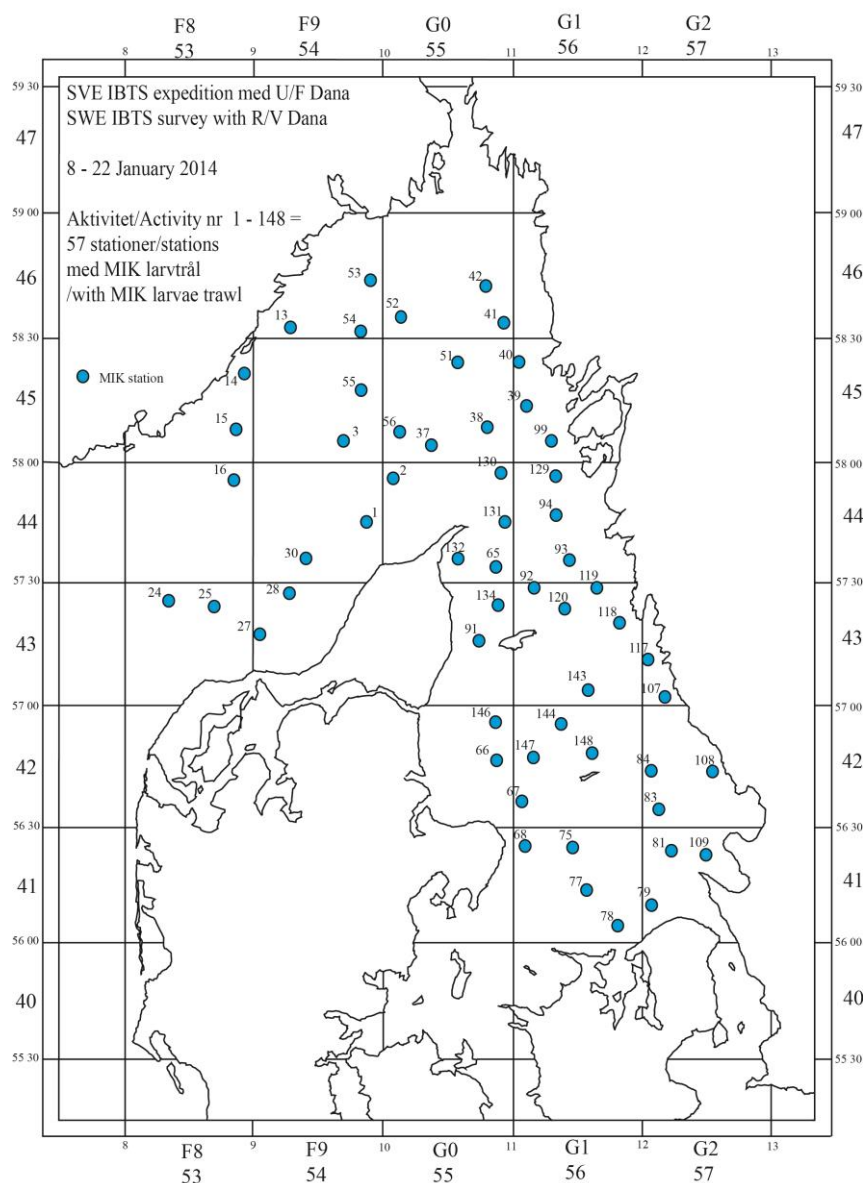


Figure 6. Hauls with MIK larvae trawl during IBTS first quarter survey 2014.

### IBTS third quarter

The survey was conducted in the Skagerrak/Kattegat area by chartering the R/V Dana during the period of 19-29 of August using the GOV demersal trawl in accordance with the IBTS manual (ICES SISP 1-IBTS VIII) (Figure 7). All planned hauls could be realized within eleven days at sea resulting in 45 valid hauls. The biological sampling, comprising length, weight, sex, maturity and age was carried out on the target species in accordance with the IBTS manual. In total 4 862 otoliths for age analysis were collected from 11 species. Overall 66 fish species were caught.

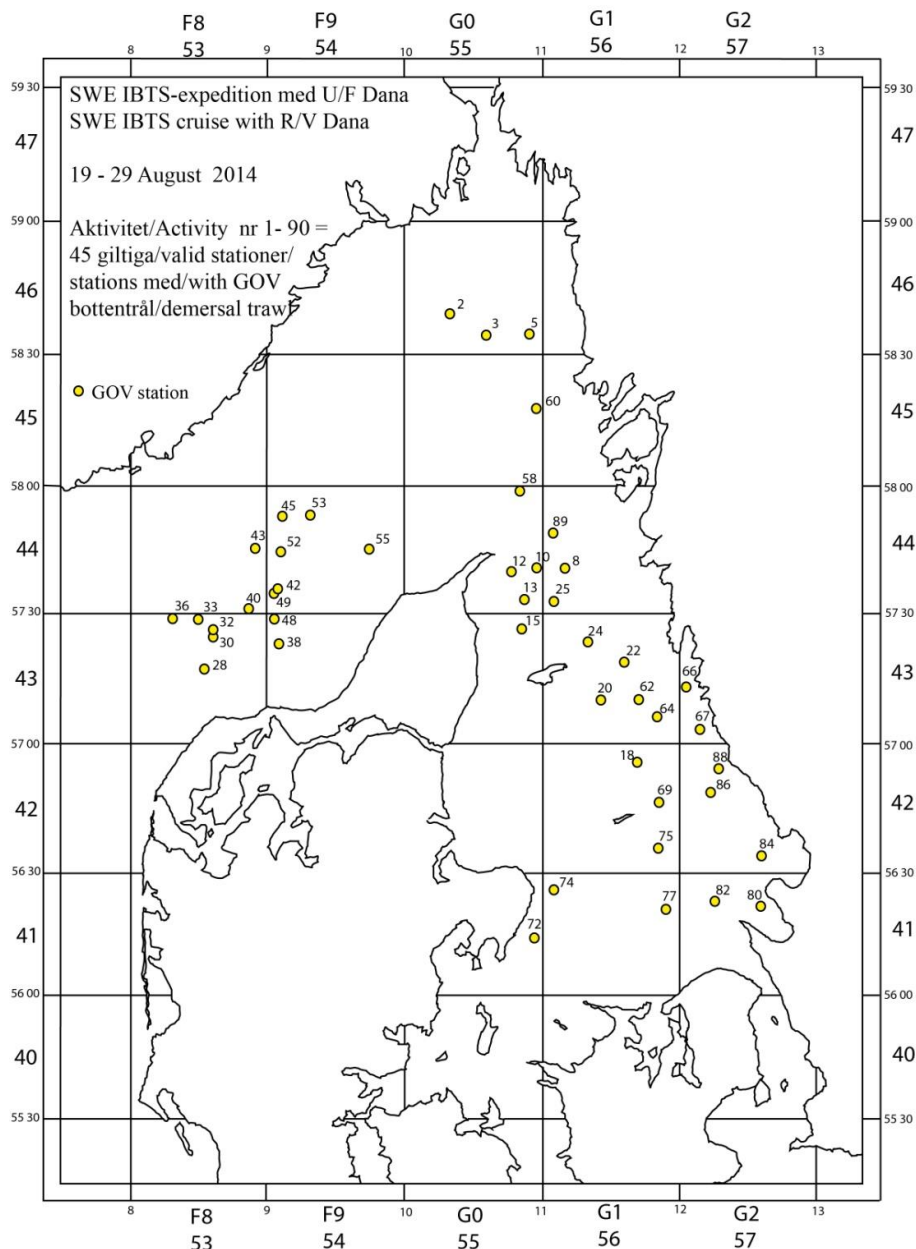


Figure 7. Hauls with GOV demersal trawl IBTS third quarter survey 2014.

#### **Underwater TV (UWTV) survey on *Nephrops* grounds**

Uncertainty over landings figures and concern over some of the analytical assumptions upon which analytical assessments are based, has led to investigations into alternative approaches for providing *Nephrops* advice.

*Nephrops* stocks are limited to bottoms with suitable silty clay sediment where they live in burrows. This mud-burrowing species is protected from trawling while inside its burrow. Burrow emergence is known to vary with environmental (ambient light intensity) and biological (moult cycle, female reproductive condition) factors. Trawl surveys are therefore not ideal for *Nephrops*, and underwater TV (UWTV) has been developed as a means of estimating stock size from burrow densities.

The Marine laboratory in Aberdeen developed a fishery independent UWTV survey in early 1990's in order to estimate stock size from burrow densities. UWTV consists of a video camera mounted on a sledge that is towed slowly (0.5-0.8 knot) on the bottom by a vessel. *Nephrops* burrows are counted and converted into densities using information on the width of the view of the camera and length of the tow. Mean weight from biological samplings are used to estimate stock biomass.

ICES Advisory Committee for Fisheries Management (ACFM) recommend that UWTV surveys should be used to provide biomass estimates for mud-burrowing animals like *Nephrops*.

The Swedish and Danish *Nephrops* fishery has got an increasing economic importance in recent years and it was agreed that Denmark and Sweden start a joint UWTV survey at around 90 stations on *Nephrops* grounds in the Skagerrak and Kattegat.

#### **The UWTV survey during 2014**

The 2014 UWTV survey started with equipment of a hydraulic controlled cable drum on aft deck and a hydraulic controlled ramp in the stern of the R/V Asterix. Subarea 3, 4 and 6 was this year covered by Sweden according to an agreement with Denmark. Subarea 1, 2 and 5 (and new 7) was covered by Denmark.

The 2014 TV survey was conducted during the period 3/6 – 24/6 using the Swedish sledge on the Swedish UWTV vessel and resulted in 86 valid in subarea 3, 4 and 6 (see table below). Eight stations were not sampled due to rocky bottoms, too much creels or other obstacles. Eight out of total 15 days were not used due to bad weather/visibility conditions or reparations of equipment and the survey was carried out on only seven days at sea.

<b>Subarea</b>	<b>Area (km<sup>2</sup>)</b>	<b>Number of planned sledge hauls</b>	<b>Number of valid sledge hauls</b>
1	3 079		
2	1 905		
3	2 462	49	47
4	676	13	13
5	670		
6	1 289	32	26
<b>IIIa</b>	<b>10 081</b>	<b>94</b>	<b>86</b>

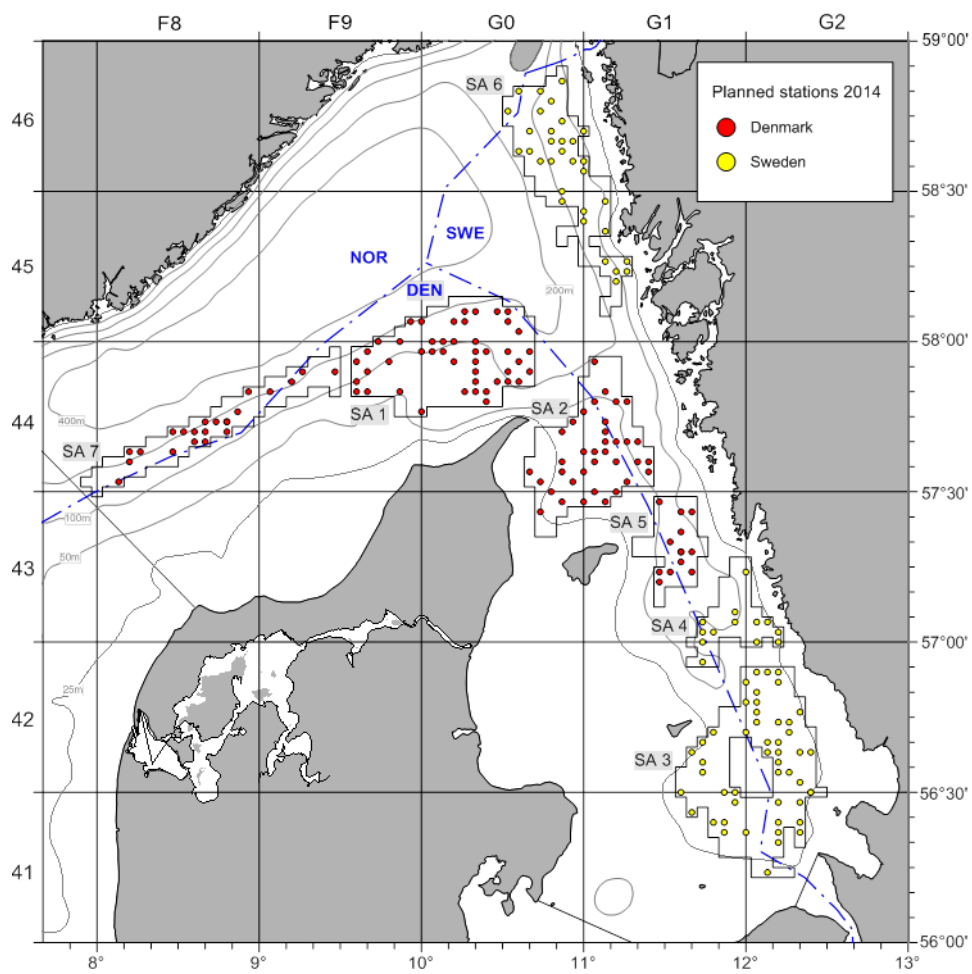


Figure 8. Planned sledge stations for Denmark and Sweden for the survey in 2014.

The distribution of the *Nephrops* stock in IIIa (Skagerrak and Kattegat) was estimated from Danish and Swedish VMS data from *Nephrops* trawler (>15 m) with landings consisting of at least 50% *Nephrops*. The *Nephrops* grounds in IIIa have been divided into six sub areas (SA) as shown in the map below (Figure 9).

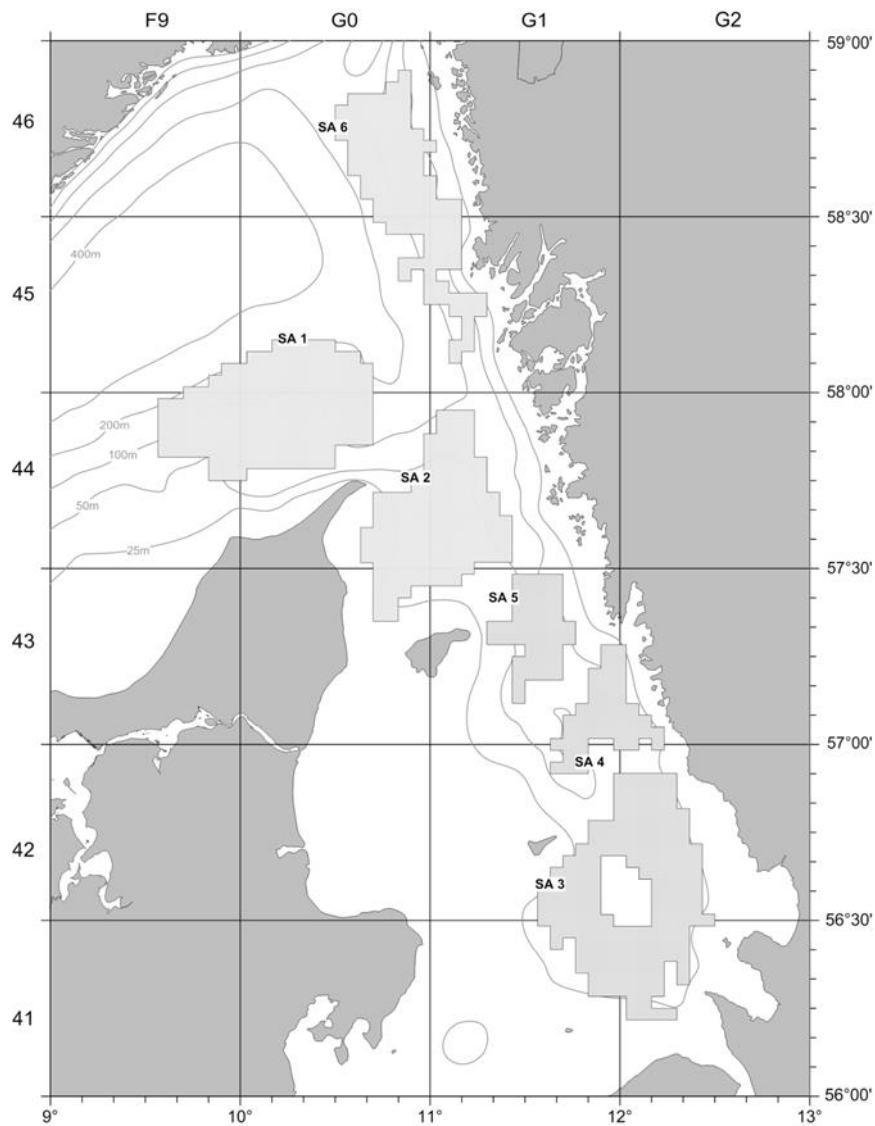


Figure 9. The defined sub areas of the *Nephrops* stock in IIIa.

### **III.G.2 Data quality: results and deviation from NP proposal**

Generally, the surveys are following the international manuals set up for the different surveys. These manuals therefore represent the state of the art for what it concerns the quality in the data collection and are annually updated during WGBIFS and IBTSWG, where Sweden actively participates.

Due to the access prohibition to foreign vessels in some areas by the Swedish Armed Forces, Sweden could not visit seven stations (out of the 50 planned) in BITS q1 survey and four stations (out of 30) in the BITS q4 survey. However, two replacement hauls for BITS q1 and three replacement hauls for BITS q4 survey were included, and therefore 45 and 29 hauls could be conducted in the two surveys, respectively. This will likely not negatively affect the stock assessment for the Eastern Baltic cod stock. However, the Swedish environmental monitoring and research could be negatively affected.

The quality of the *Nephrops* burrow counting is checked through exchange of *Nephrops* ground footage between countries and circulation of reference footage with different visibility, *Nephrops* density and burrowing species complexes. All institutes conducting UWTV-surveys are asked to use Linns CCC on station basis to check counter consistency.

### **III.G.3 Follow-up of regional and international recommendations**

Relevant recommendations are listed in table II.B.2.

### **III.G.4 Actions to avoid deviations**

Discussions with the Swedish Armed Forces have been held at different levels to allow Sweden to complete all allocated trawl stations during the forthcoming surveys. Hence, the outcome is that the number of stations with restrictions has increased during 2014. We would like to inform that the Swedish Government has decided that Sweden will allocate funds to build its own research vessel, which is planned to be operational from 2018.

## **IV Module of the evaluation of the economic situation of the aquaculture and processing industry**

### **IV.A Collection of economic data concerning the aquaculture**

#### **IV.A.1 Achievements: results and deviation from NP proposal**

Economic data for the reference year 2012 was collected and compiled by Statistics Sweden in cooperation with the Swedish Board of Agriculture and SwAM in 2014. Two sources of information were used:

- (i) Income tax declarations (census data).
- (ii) Questionnaire sent to every aquaculture farm unit (census data).

The two parts were implemented and compiled by Statistics Sweden in 2014. The aquaculture population is presented in table IV.A.2.

#### *Reported segments- confidentiality*

The planned segmentation, as presented in the NP 2008 and 2009, was made before the declaration of the Council Regulation (EC) No 199/2008 of 25 February 2008 and the Commission Decision of 6 November 2008. Therefore the final segmentation presented in the Technical Report 2010 and after is different from the one proposed in the NP 2009 - 2010. Moreover, due to confidentiality reasons some of the segments had to be merged into clusters. For example, the segment for salmon had to be merged with trout because the numbers of enterprises in the salmon segment were too few to be presented separately. In a similar way, mussels and oysters had to be merged due to confidentiality reasons.<sup>1</sup>

#### **IV.A.2 Data quality: results and deviation from NP proposal**

The questionnaire is sent out to all aquaculture farm units and farm units are clustered into enterprises. For each enterprise, the value of sales from the questionnaire is compared to income as reported in the income tax declarations. Enterprises that have more than 75 per cent of their income from aquaculture (income from tax declarations/sales value from questionnaire) are considered to have their *primary activity* in aquaculture. By comparing the value of sales from questionnaire, which covers all aquaculture activity in Sweden, with income in tax declarations for the enterprises with aquaculture as their primary activity we obtain a figure, used to scale-up relevant variables. Using this method, variables can be assumed representative of all aquaculture activity in Sweden and comprise the same allocation between variables as for enterprises with aquaculture as their primary activity.

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<sup>1</sup> The segment other shellfish (crayfish) as proposed in the National program was not included for reference year 2008 and 2009 but added for reference year 2010 and following years. For 2008 and 2009 it was not possible to give any reliable estimation on crayfish due to a non-updated register on crayfish farms.

### *Possible shortfalls*

Data on enterprises in table IV.A.3, for reference year 2012, is estimated using the EU recommended cost allocation key. The likelihood of variability in cost allocations was, however, judged as relatively small considering the time span and presumed to have minor effects on the quality of data. To ensure high quality of data a non-probability questionnaire based on a representative sample will be made to create a cost allocation key on an every 3-year basis and then merged within the new program period. The improvements in the methodology also imply that separate cost allocation keys will be estimated for crayfish enterprises.

### **IV.A.3 Follow-up of regional and international recommendations**

No related recommendations have been made on the collection of economic data on the aquaculture sector.

### **IV.A.4 Actions to avoid deviations**

- The methods used to collect the data for the reference year 2008 to 2012 are consistent and ensure full comparability.
- Usage of recommended EU cost allocation key.
- A questionnaire to create a cost allocation key will be sent out 2015 and merged with the annual questionnaire in the new program period to ensure good quality of data. This does not affect consistency or comparability of data.
- A population has been established by Statistics Sweden that accounts for yearly changes of new enterprises entering aquaculture production and others ending their production, causing natural changes in the population.
- Crayfish producers are not part of the population of 2008. The Swedish Board of Agriculture and SwAM were able to include crayfish farming for the reference years 2009 to 2012. Crayfish enterprises are also included in 2012 and forthcoming data collection.

## **IV.B Collection of data concerning the processing industry**

### **IV.B.1 Achievements: results and deviation from NP proposal**

The planned sampling scheme and the results are presented in table IV.B.1 and results for individual variables are presented in table IV.B.2.

Data was collected and processed by Statistics Sweden through the SRU register which is maintained by Statistics Sweden and consists of income tax declarations in Sweden. Part of the data was also collected from the Statistical Business Register which is a central register consisting of information on all registered enterprises in Sweden. It is also maintained by Statistics Sweden. Data on two variables (energy costs and subsidies) were collected from answers from a questionnaire sent out by Statistics Sweden based on PPS-selection in the Statistical Business Register. The questionnaire is used as a base for estimating an allocation key for variables not included in the financial accounts. The questionnaire was sent to 13 companies out of which 11 responded. The frame population has 223 companies and Statistics Sweden ensures representativeness in terms of company size and structure and decides on the appropriate sampling method and sample size for the questionnaire. The total sum



of costs and total sum of income is unaffected according to Statistics Sweden. The data still holds for calculations such as gross value added and return on investment.

All data is collected, estimated and checked by Statistics Sweden which ensures the consistency of the final data.

The achieved sample rate is 100 % for variables collected through company/financial accounts by Statistics Sweden and 5 % for subsidies collected by questionnaires by Statistics Sweden.

#### **IV.B.2 Data quality: results and deviation from NP proposal**

No shortfalls or deviations exist in relation to what was stated in the NP.

All data is collected, estimated and checked by Statistics Sweden which ensures the consistency of the final data. The achieved sample rate and respond rate is 100 % for variables collected through financial accounts by Statistics Sweden. For subsidies obtained from questionnaires the corresponding achieved sample rate is 6 % and the response rate 85 %. Comprehensive validations were made during the compilation of the data and figures were cross checked with other data sources by Statistics Sweden, when possible.

A possible shortfall is that although data is collected, processed and ensured by Statistics Sweden, some variables are not available through financial accounts. The variables affected by this possible shortfall are subsidies and energy costs. The reason for this is that those variables were solely collected through questionnaires and there is a certain range of uncertainty of these variables and it is also difficult to control if they are correct.

#### **IV.B.3 Follow-up of regional and international recommendations**

No related recommendations have been made on the collection of economic data on the processing industry.

#### **IV.B.4 Actions to avoid deviations**

All data is collected, estimated and checked by Statistics Sweden which ensures the consistency of the final data. Moreover, in data collection from 2009 and onward the fish processing industry is a separate stratum, implying that the questionnaire to estimate subsidies and energy costs in 2012 has been sent out to 13 enterprises. The response rate was 85 %.

There are some shortfalls when it comes to subsidies, but it is not a good solution to obtain subsidies from the administrative records. The reason is that we are using Statistic Sweden's standardized method to obtain the financial information for the processing industry and we do not see that we have any option to change this method. If the method was changed, the time series would be broken and we would lose comparability over the years.

## **V Module of evaluation of the effects of the fishing sector on the marine ecosystem**

### **V.1 Achievements: results and deviation from NP proposal**

In 2014 the data requirements for the indicators 1-4 proposed in the Commission Decision 2010/93/EC Appendix XIII was realized through the annual surveys. The data was collected in area IIIa in the first and third quarters and in area IIId in the first and fourth quarters 2014. The data collection was fishery independent and was carried out by the research vessel DANA using standard gear, thereby fulfilling the required precision level. The surveys are described in section III.G.1. Data on species, length frequencies and abundance was collected from all hauls including individual parameters such as age, length, sex and maturity from the target species of the survey following the sampling levels established in the manuals for the respective survey.

The economic indicator fuel efficiency of fish capture uses the variable cost of fuels as input. The collection is described in section III.B Economic variables. The survey conducted by the SwAM is exhaustive.

SwAM is collecting VMS and logbook information. SLU Aqua has access to the data upon request, but not online access.

In Sweden, VMS positions are reported once every hour for boats of 15m length or longer. Data can be aggregated at metier level 6 for environmental indicators 4, 5 and 6 and processed accordingly. The data is sent to SLU Aqua upon request and is not accessible online.

No shortfalls regarding the data collected.

### **V.2 Actions to avoid deviations**

No action taken since there were no deviations in sampling.

## **VI Module for management and use of the data**

### **VI.1 Achievements: results and deviation from NP proposal**

The transmission of Swedish data to the different ICES working groups, EU expert groups and data calls are listed in table VI.1.

The development of databases during 2014 includes projects for the Fish sample database at SLU Aqua and projects for the data collection of economic data at the SwAM. The Fish sample database at SLU Aqua is used for registration, storage, quality checking and reporting. Outputs from the database together with data from SwAM are processed for delivery of requested data to many of the data calls.

During 2014, the amount of data calls increased and also the amount of requested data within each data call. Unfortunately, all too often wage descriptions of data formats and not very well thought out by end-users. There were also changes in data formats and requests during the data processing or after delivery. This has of course put a large pressure on the data handling process within Sweden and the time spent on data processing increased significantly.

In order to decrease costs for licences and to streamline the databases used within SLU Aqua, the Fish sample database was upgraded from ADF 10 to Trinidad, which is a first step towards having the system in ADF 11. Some development to get better functionality has been launched and the work is following a priority list.

For the data collection of economic data the project to modernize and rebuild the existing systems including data entry and reporting continued. The development phases during 2014 covered:

#### **Fishing sector**

- For the data collection of economic data the project to modernize and rebuild the existing systems including data entry routines and reporting continued.
- The new Fisheries Act in Sweden has also resulted in some rebuilding of the system, which has taken some time to complete.
- Unique reports types have been developed for data calls.
- Yearly manual loading of questionnaires to the data warehouse.
- Due to capacity shortage the development of the data warehouse has not proceeded as planned. The plan for 2015 includes further development of the data warehouse.

#### **Transversal data**

The development of the collection of transversal data has not proceeded as planned during 2014, mainly depending of capacity problem in the business staff. Key persons are involved in many different projects, related to the control reform and the new Common Fisheries Policy (CFP).

## **VI.2 Actions to avoid deviations**

End-users to formulate data calls well thought out before launching it. In order to keep high quality on the datasets it is essential that data format are well described and streamlined with other data calls, but also that data asked for actually are needed.

## **VII. Follow-up of STECF recommendations**

Recommendations and the agreements from the RCMs, Liason meeting and survey planning groups (IBTSWG, WGBIFS, WGNPS, WGRFS) relevant to 2014 and Sweden are listed in table II.B.2 For the 2014 STECF plenary meeting report, no DCF relevant recommendations were found.

## VIII List of acronyms and abbreviations

Acronym/ Abbreviation	Explanation
ACOM	Advisory Committee
BIAS	Baltic International Acoustic Survey
BITS	Baltic International Trawl Survey
COST	Common Open Source Tool (software package for precision calculations)
CPUE	Catch per unit effort
CTD	Conductivity-Temperature-Depth probe
DATRAS	Database for trawl surveys
DCF	Data Collection Framework
DCR	Data Collection Regulation
EMFF	European Marine and Fisheries Fund
EU	European Union
FTE	Full time employment
Funct.	Functional
FYK	Fish traps
GNS	Set nets/Gill nets
gt	Gross Tonnage
HAWG	ICES Herring Assessment Working Group
HELCOM	Helsinki Commission
IBTS	International Bottom Trawl Survey
IBTSWG	ICES International Bottom Trawl Survey Working Group
ICES	International Council for the Exploration of the Sea
ICR	Institute of Coastal Research
IFR	Institute of Freshwater Research
IMR	Institute of Marine Research
JRC	Joint Research Centre
kW	Kilowatt
LOA	Length overall
NA	Not applicable
NIPAG	The joint NAFO/ ICES Pandalus Working Group
NP	National Programme
OTB	Otter trawl bottom
OTM	Otter trawl midwater
PGCCDBS	ICES Planning Group on Commercial Catch, Discards and Biological Sampling
PTB	Two ship trawl bottom
PTM	Two ship trawl midwater
RCM	Regional Co-ordinating meeting
RCM Baltic	Regional Co-ordination Meeting for Baltic Sea
RCM NS & EA	Regional Co-ordination Meeting for North Sea and Eastern Arctic
SERS	Database for electrofishing
SLU	Swedish University of Agricultural Sciences

STECF	Scientific, Technical and Economic Committee for Fisheries
SwAM	Swedish Agency for Marine and Water Management
UK	United Kingdom
VMS	Vessel Monitoring System
WG	Working Group
WGBAST	ICES Baltic Salmon and Trout Assessment Working Group
WGECO	ICES Working Group on Ecosystem Effects of Fishing Activities
WGEEL	ICES Working Group on Eels
WGBFAS	ICES Baltic Fisheries Assessment Working Group
WGBIFS	ICES Baltic International Fish Survey Working Group
WGFAST	ICES Working Group on Fisheries Acoustic Science & Technology
WGNSSK	ICES Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
WKCOST	ICES Workshop on implementation of the Common Open Source Tool (COST)

## IX Comments, suggestions and reflections

In table II.B.2, for transparency, Sweden has included recommendations relevant for Sweden established in 2012, 2013 (if relevant for AR year 2014) and in 2014, even though if some actions will be taken in 2015.

In table III.E.1 in the new set of tables, it is only possible to refer to “share of EU landing %” which causes some problems. To get the figures from EU landings on a stock level is quite a hard task to achieve. The NP is based on share of EU TAC and AR should be as well. Therefore, the table III.E.1 refers to share of EU TAC. Sweden suggests that the table should keep both options. The reference years in this table, in the Swedish NP, are still 2007-2009 since the NP is a roll-over from 2011-2013 and that NP was prepared in 2010.

In table VI.I, a column for economic data on aquaculture is lacking. Sweden suggests that such a column is added, to report the transmission of those data.

## X References

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Report of the 11<sup>th</sup> Liaison meeting, DG MARE, Brussels, Belgium; 8-9 October 2014

# XI Annexes

## Annex I

### Bilateral agreement with Belgium.

Havs  
och Vatten  
myndigheten

Sept 2014      2014-09-19

**Bilateral Agreement between ILVO, Belgium and SwAM, Sweden, for the collection of length and age samples collected in the IBTS survey in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision 2010/93/EC.**

**Agreement:**

This agreement has been established to optimize and exchange the age reading expertise for species collected in the IBTS survey. A list of species are collected during the survey according to the Manual for the International Bottom Trawl Surveys ICES CM 2000/D:07, but for some species only a small amount are caught and there is a need for collaboration and task sharing. No additional sampling costs are involved and costs for analysis will be covered in the National Sampling Programme for 2014-2016.

**Description of sampling:**

Age samples will be collected during the IBTS survey according to the manual (ICES CM 2000/D:07). Sweden will sample otoliths of Sole which will be stored in paperbags (with relevant data as agreed between the responsible readers and needed for the reading) and sent to Belgium for age reading.

**Sampling Intensity:**

**Sole (*Solea solea*)** - Sweden sends the otoliths collected during the IBTS q1 and q3 survey to Belgium for age reading. App 50 -100 individuals per year. Belgium sends the results of the age readings together with the otoliths at the latest in December each year.

**Data responsibility:**

Sweden is responsible for submitting the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework.

**Contact persons:**

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**Signatures:**

For  22/9/14

Els Torreele

National Correspondent

Institute for Agricultural and Fisheries Research

For SwAM 22/9 - 2014



Anna Hasslow

National Correspondent

Swedish Agency for Marine and  
Water Management



## Bilateral agreements with Denmark.

Nov 2014

**Bilateral Agreement between the DTU Aqua, Denmark and Swedish Agency of Marine and Water Management (SwAM), Sweden for the collection of biological samples in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision 2010/93/EU.**

Denmark and Sweden have agreed entering co-operation on collection of fisheries data. This agreement has been established due to common interests in the fisheries in the Skagerrak (Division IIIa North), the Kattegat (Division IIIa South) and in the Baltic Sea. Furthermore, substantial landings by Swedish flagged vessels take place in Denmark and therefore, in order to optimize the quality of the sampling programme, exchange of information and knowledge is necessary. The eventual additional sampling costs will be covered within the National Sampling Programme 2014-2016.

Sampling of the following species has been discussed and agreed:

### Plaice in the Skagerrak and Kattegat

It has been agreed that only Denmark will carry out sampling as the Swedish landings are below the threshold of 10 percent of the total TAC for the areas combined. Age reading calibration between Denmark and Sweden will be carried out on routine basis.

### Cod in the North Sea

It has been agreed that only Denmark will carry out sampling as the Swedish landings are below the threshold of 5 percent of the total TAC.

### Cod in the Baltic sd25-32

About 1 230 tonnes of cod fished by Denmark is landed in Sweden (10 % of total landings) (RCM Baltic 2014). It has been agreed that Denmark will cover the sampling of cod by performing statistically sound sampling scheme. Swedish harbours are not among the most important harbours and therefore it will not be included in the sampling.....

### Haddock in Div. IIIa

It has been agreed that only Denmark will carry out sampling as the Swedish landings are below the threshold of 5 percent of the total TAC.

### Saithe in Div. IIIa

It has been agreed that only Denmark will carry out sampling as the Swedish landings are below the threshold of 5 percent of the total TAC.

### Sole in Div. IIIa

It has been agreed that only Denmark will carry out sampling from the commercial fishery as the Swedish landings are below the threshold of 5 percent of the total TAC.

### Whiting in Div. IIIa

Only Sweden, Denmark and Norway have shares in the TAC. The sum of landings of Swedish and Danish fishermen is below 10 percent of the TAC due to the market situation. Therefore, no sampling is done. On the other hand significant amounts of discard are

obtained in some fisheries in the area. Discard rates of whiting and other relevant species will continue to be sampled.

#### Norway Lobster in the Kattegat and the Skagerrak

Denmark and Sweden will carry out sampling according to the DCF. It has been agreed that only Sweden will carry out sampling for other biological parameters. The Swedish sampling intensity will compensate for the missing Danish sampling.

#### Hake in Div. IIIa

The sampling scheme for hake in the area is included in the North Sea (IV, VI, VII, IIXa, IIXb) sampling scheme. Denmark will sample hake according to the DCF.

Special agreements have been developed for the following species and are described in detail in annex I:

Herring in Div. IIIa

Whitch flounder IIIa

Herring in the Baltic Sea

Sprat in the Baltic Sea

## **ANNEX 1**

In accordance with (Commission Regulation 199/2008, Commission Regulation 665/2008 and Commission Decision (2010/93/EC)) countries that receive foreign landings are responsible to sample those.

### **Agreement: Herring in ICES Division IIIa**

#### **Description of sampling:**

Flag country: **Sweden**

Landings (2013): 4 500 (tons)

In receiving country: **Denmark**

This means that the receiving country will sample this particular species/stock from Trawl fisheries targeting small pelagic fish

#### **Sampling Intensity:**

Based on last year's landings the sampling effort for this species/stock would be:

No samples: **5**

No of age readings per sample: **50**

No of length measurements per sample: **50**

No of individual weight per sample: **50**

**Measurement: 0.5 cm class, 1 g**

If landings decrease or increase the amount of samples will be adjusted accordingly.

#### **Data responsibility:**

Denmark obtains the samples by market sampling from unsorted catches. Denmark will sample length, age and weight information. Otoliths should be stored in paper bags provided by SLU Aqua. The raw-data and the otoliths will be sent to Sweden for the age determination of the otoliths. A subset of app 100 otoliths should be returned to Denmark for cross-checking of the age interpretation. Sweden is responsible for submitting the data to relevant ICES WG and to the EC.

Data will be delivered to Sweden regularly on a quarterly basis during the year of sampling.

#### **Contact persons:**

Receiving country:

Aage Thaarup ([att@aqu.dtu.dk](mailto:att@aqu.dtu.dk) or +45 35 88 32 48)

Flag country:

Marianne Johansson ([marianne.johansson@slu.se](mailto:marianne.johansson@slu.se) or +46 10 478 40 27)

**Agreement: Witch Flounder Division IIIa**

This species is a new species to be covered and should be sampled according to the DCF. It has been agreed that sampling of witch flounder could be a joint effort between Sweden and Denmark. Sweden will sample this species in the amount to sustain a sampling scheme of the species for possible future assessment. Denmark is running a complementary sampling scheme

**Description of sampling:**

Samples will be collected in Denmark and Sweden in order to get a better coverage of the fishery in space and time. Sweden will conduct the age reading of all Danish samples and all the data will then be shared between the countries for raising.

**Sampling Intensity:**

Approximately 600 individuals are collected and sent to Sweden for age reading

**Data responsibility:**

Denmark collect the data from the market sampling /sea sampling and sends the otoliths to Sweden for age reading. Denmark is responsible for submitting the data to relevant ICES WG and to the EC.

Otoliths will be delivered to Sweden regularly and at latest 1 February the year after sampling and Sweden will return with the age readings latest 1 March the year after sampling

**Contact persons:**

Sweden:

**Barbara Bland ([Barbara.bland@slu.se](mailto:Barbara.bland@slu.se) or +46 10 478 4013)**

Denmark:

**Helle Rasmusen ([hr@aqu.dtu.dk](mailto:hr@aqu.dtu.dk)) or +45 35 88 32 08**

**Agreement:** Herring in ICES Division III b-d.

**Description of sampling:**

Flag country: **Sweden**

Landings (2013): 14 088 (tons)

In receiving country: **Denmark**

This means that the receiving country will sample this particular species/stock from

Trawl fisheries targeting small pelagic fish. The Swedish fishery is a mixed sprat and herring fishery and mostly the 2 species are landed together. The Danish sampling is therefore conducted on the mixed landings.

**Sampling Intensity:**

Based on last year's landings the sampling effort for this species/stock would be:

No samples: 14

No of age readings per sample: **50**

No of length measurements per sample: **50**

No of individual weight per sample: **50**

If landings decrease or increase the amount of samples will be adjusted accordingly.

**Measurement:** 0.5 cm class, 1 g

If landings decrease or increase the amount of samples will be adjusted accordingly.

**Data responsibility:**

Denmark obtains the samples by market sampling from unsorted catches, stratified by fishery (see above). Denmark will sample length, age and weight information. Otoliths will be stored in paper bags provided by IMR. The raw-data and the otoliths will be sent to Sweden for the age determination of the otoliths. Sweden is responsible for submitting the data to relevant ICES WG and to the EC.

Data will be delivered to Sweden regularly on a quarterly basis during the year of sampling

**Contact persons:**

Receiving country:

**Frank Ivan Hansen** ([fih@aqua.dtu.dk](mailto:fih@aqua.dtu.dk) or +45 35 88 33 63)

Flag country:

**Carina Jernberg** ([carina.jernberg@slu.se](mailto:carina.jernberg@slu.se) or +46 10 478 40 25)

**Agreement:** Sprat in ICES Division III b-d.

**Description of sampling:**

Flag country: **Sweden**

Landings (2013): 28 766 (tons)

In receiving country: **Denmark**

This means that the receiving country will sample this particular species/stock from

Trawl fisheries targeting small pelagic fish The Swedish fishery is a mixed sprat and herring fishery and mostly the 2 species are landed together. The Danish sampling is therefore conducted on the mixed landings.

**Sampling Intensity:**

Based on last year's landings the sampling effort for this species/stock would be:

No samples: 28

No of age readings per sample: **50**

No of length measurements per sample: **50**

No of individual weight per sample: **50**

**Measurement:** 0.5 cm class, 1 g

If landings decrease or increase the amount of samples will be adjusted accordingly.

**Data responsibility:**

Denmark obtains the samples by market sampling from unsorted catches, stratified by fishery. Denmark will send the frozen samples to Sweden once every quarter. Sweden is responsible for length measurements, weight and age reading. Sweden is responsible for submitting the data to relevant ICES WG and to the EC.

Data will be delivered to Sweden regularly on a quarterly basis during the year of sampling

**Contact persons:**

Receiving country:

**Frank Ivan Hansen** ([fih@aqua.dtu.dk](mailto:fih@aqua.dtu.dk) or +45 35 88 33 63)

Flag country:

**Carina Jernberg** ([carina.jernberg@slu.se](mailto:carina.jernberg@slu.se) or +4610 478 40 25)

**Signatures:**

**For DTU Aqua**

  
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Jørgen Dalskov

National Correspondent  
National Institute of Aquatic Resources

Date: 6 November, 2014

**For Swedish Agency for Marine  
and Water management**

  
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Anna Hasslow

National Correspondent  
Swedish Agency for Marine and  
Water management

Nov 2014

**Bilateral Agreement between the DTU Aqua, Denmark and Swedish Agency for Marine and Water management (SwAM), Sweden, for the collection of length and age samples collected in the IBTS survey in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision 2010/93/EC.**

**Agreement:**

This agreement has been established to optimize and exchange the age reading expertise for species collected in the IBTS survey. Both Sweden and Denmark are involved in the survey which is conducted in IIIa twice a year. A list of species are collected during the survey according to the Manual for the International Bottom Trawl Surveys ICES CM 2000/D:07, but for some species only a small amount are caught and there is a need for collaboration and task sharing. No additional sampling costs are involved and costs for analysis will be covered in the National Sampling Programme for 2014-2016. Denmark and Sweden seeks for a balanced share of tasks and the species of interests are described below.

**Description of sampling:**

Age samples will be collected during the IBTS survey according to the manual (ICES CM 2000/D:07) Otoliths will be stored in paperbags and sent to the country in charge for age reading (see below).

**Sampling Intensity:**

**Norway pout** (*Trisopterus esmarki*) – Sweden sends the collected otoliths to Denmark for age reading. App 200-300 individuals per year.

**Whiting** (*Merlangius merlangius*) – Sweden sends the collected otoliths to Denmark for age reading. App 800-1 000 individuals per year.

**Data responsibility:**

Sweden is responsible for submitting the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework.

**Contact persons:**

In Sweden: Barbara Bland ([barbara.bland@slu.se](mailto:barbara.bland@slu.se)) +46 10 478 4013

In Denmark: Helle Rasmussen ([hr@aqu.dtu.dk](mailto:hr@aqu.dtu.dk)) +45 35 88 32 08



**Signatures:**

**For DTU Aqua**

A handwritten signature in blue ink, appearing to read 'Jørgen Dalskov', written over a horizontal dashed line.

Jørgen Dalskov

National Correspondent

National Institute of Aquatic Resources

**For SwAM**

A handwritten signature in blue ink, appearing to read 'Anna Hasslow', written over a horizontal dashed line.

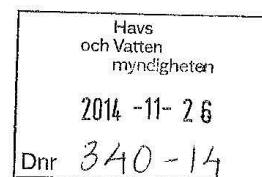
Anna Hasslow

National Correspondent

Swedish Agency for Marine and  
Water Management

Date: 6 November, 2014

## Bilateral agreement with Finland.



**Bilateral Agreement between Finnish Game and Fisheries Research Institute (FGFRI), Finland\* and Swedish Agency of Marine and Water Management, Sweden, for the collection of biological samples and cooperation during Baltic International Acoustic Survey (BIAS) in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision 2010/93/EC.**

\* The Finnish Game and Fisheries Research Institute will merge with MTT Agrifood Research Finland and the Finnish Forest Research Institute on 1 January 2015, to form Natural Resources Institute Finland (Luke).

This agreement has been established between Finland and Sweden to cooperate on the collection of fisheries data regarding the following issues:

1. Herring fished by Finnish flagged vessels (OTM\_SPF\_16-104\_0\_0) are landed in Sweden in such an amount that a bilateral agreement has to be established (RCM Baltic 2014) for NP 2014-2016
2. Sharing of staff within the BIAS survey in the Baltic areas SD30 and 29N for NP 2014-2016
3. Collection of salmon catch samples and genetic analysis for NP 2014-2016

### Agreements:

1. It has been agreed that Swedish University of Agricultural Sciences, Department of Aquatic Resources (SLU-aqua) will sample Finnish landings of herring to Sweden, since considerable share (17 % i.e. 16 800 tonnes in 2013) of the total Finnish landings of herring fished in SD30 is landed in Sweden.
2. It has been agreed that SLU-aqua will send yearly two technicians for fish sampling to the Finnish part of the BIAS survey. Age reading of 50 % of the otoliths sampled during BIAS SD30 will be conducted at SLU-aqua. The associated costs will be covered within the Swedish National Programme for 2014-2016. In case Sweden is not fulfilling the DCF conditions for exemption of the biological sampling on herring in SD30, this agreement will be reviewed and amended in bilateral negotiations.
3. It has been agreed that vessels fishing for salmon, operating in the Baltic Sea and land for first sale into Sweden, will be sampled as part of the Swedish National Programme under the requirements of the EC Data Collection Framework (199/2008). The eventual additional sampling costs will be covered within the Swedish National Sampling Programme for 2014- 2016.

The genetic analysis of 200-300 Swedish salmon samples per year will be carried out as part of the Finnish National Programme under the requirements of the EC Data Collection Framework (199/2008). The costs of genetic analysis will be covered within the Finnish National Programme for 2014- 2016.

### Description of sampling for each agreement:

1. SLU-aqua will lengthmeasure 300 randomly selected individuals per sample, maximum 14 samples per year. Finland is sampling for age and the Finnish ALK will be used.
2. Sampling onboard BIAS will be done according to the BIAS manual.
3. SLU-aqua will deliver the collected salmon samples (part of the scales of each sample and associated data) to FGFRI for genetic analysis.

**Data responsibility for each agreement:**

1. SLU-aqua is responsible for submitting the length distribution data to FGFRI. FGFRI is responsible for incorporating the data in the Finnish dataset and deliver the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework.
2. FGFRI is responsible for submitting the data from BIAS conducted in SD30 to relevant end-user in the requested format.
3. The FGFRI is responsible for delivering the results of genetic analysis to SLU-aqua, to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework.

**Contact persons:**

In FGFRI;

agreement 1: [jukka.ponni@rktl.fi](mailto:jukka.ponni@rktl.fi)

agreement 2: [timo.myllyla@rktl.fi](mailto:timo.myllyla@rktl.fi)

agreement 3: [tapani.pakarinen@rktl.fi](mailto:tapani.pakarinen@rktl.fi)

In SLU-aqua;

agreement 1: [Maria.Hansson@slu.se](mailto:Maria.Hansson@slu.se)

agreement 2: [Niklas.Larson@slu.se](mailto:Niklas.Larson@slu.se)

agreement 3: [Johan.Ostergren@slu.se](mailto:Johan.Ostergren@slu.se)

**Signatures:**

Finnish Game and Fisheries Research Institute



Riitta Rahkonen

Head of Unit, Research and Expert Services

Swedish Agency for Marine and Water Management



Anna Hasslow

National Correspondent Sweden

Date: 14 November, 2014

## Bilateral agreement with Poland.

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**Bilateral Agreement between University of Agricultural Science (SLU), Institute of Marine Research Sweden and National Marine Fisheries Research Institute Poland for the collection of length and age samples in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision 2010/93/EU**

This agreement has been established between Poland and Sweden due to landings of sprat by Polish flagged vessels take place in Sweden in an amount that it has to be dealt with in a form of bilateral agreement (RCM Baltic 2011).

**Agreement:**

While sprat in the Baltic is managed as one single stock and that the stock is well covered concerning biological samples, vessels fishing under the Polish register, which land for first sale into Sweden, will be sampled as part of the Polish National Programme under the requirements of the EC Data Collection Framework (199/2008).

**Description of sampling:**

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

**Data responsibility:**

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

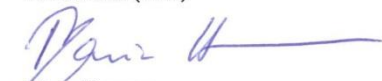
**Contact persons:**

In Sweden (SLU): Maria Hansson: maria.hansson@slu.se

In Poland (NMFRI): Irek Wójcik: iwojcik@mir.gdynia.pl

**Signatures:**

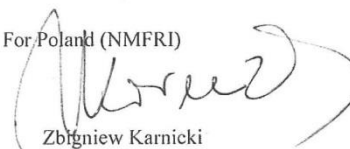
For Sweden (SLU)



Maria Hansson

National Correspondent, Sweden

For Poland (NMFRI)



Zbigniew Karnicki

National Correspondent, Poland

Date: 1 okt 2011

**Amendment to the**  
**Bilateral Agreement between University of Agricultural Science (SLU), Institute**  
**of Marine Research Sweden and National Marine Fisheries Research Institute**  
**Poland for the collection of length and age samples in accordance with EC**  
**Regulation 665/2008, laying down detailed rules for the application of Council**  
**Regulation (EC) 199/2008, and its Commission Decision 2010/93/EU**

The agreement between Sweden and Poland for biological data collection of sprat fisheries in the Baltic (Agreement), as signed on 1<sup>st</sup> of October 2011 is amended as follows:

Parties to the Agreement

Due to the internal change related to the responsibility for Data Collection in Sweden, the Agreement became the agreement between the **Swedish Agency for Marine and Water Management (SwAM)**, Sweden and the National Marine Fisheries Research Institute (NMFRI), Poland.

Term

Due to an extension of the current DCF for further years and the adoption of NP 2011-2013 for period 2014-2016, the Agreement remains in force until 31<sup>st</sup> December 2016 unless revoked before that date if required by the changes to the Council Regulation (EC) 199/2008.

**Signatures:**

For Sweden (SwAM)



Anna Hasslow

National Correspondent, Sweden

For Poland (NMFRI)



Ireneusz Wójcik

on behalf of National Correspondent, Poland

Date: 27 August 2014

## Bilateral agreement with Scotland, United Kingdom.

Havs  
och Vatten  
myndigheten

2014 -03- 3 1

### BILATERAL AGREEMENT

Dnr 340-14

**Bilateral Agreement between**  
**Marine Scotland Science (MSS), Marine Laboratory, Scotland, United Kingdom and the**  
**Swedish Agency for Marine and Water Management (SwAM), Sweden**  
**for the collection of length and age samples in accordance with EC Regulation 665/2008, laying down**  
**detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision**  
**2010/93/EU.**

Mackerel is one stock were the sum of Member States (MS) having a share of quotas/landings less than 10%, altogether exceeds 25%. In Area IV, Sweden has average landings of mackerel of 4475 tonnes (<1% of the EU TAC) and approximately 77% of these landings take place into the UK. In Area IIIa average landings are 160 tonnes, which is below the threshold for sampling. It has been agreed that in some cases it would be perfectly acceptable that sampling by MS for these stocks may not be necessary (RCM NS&EA 2010).

#### **Agreement:**

Mackerel is managed as one stock (II, IIIa, IV, V, VI, VII, VIII, IX) and it has been agreed that the stock is well covered concerning biological sampling by the United Kingdom Marine Scotland National Programme under the requirements of the EC Data Collection Framework (199/2008). This agreement will be on-going during 2014 and 2015 and will be reviewed for the 2016 National Proposals.

#### **Description of Sampling:**

The sampling will be carried out in accordance with the UK (Scotland) National Sampling Programme.

#### **Data Responsibility:**

The United Kingdom will submit all data to the relevant ICES Expert Groups and to the EC under the requirements of its Data Collection Framework. Any Swedish sample data will be sent to Sweden for raising purposes.

#### **Contact Persons:**

In United Kingdom:

Margaret Bell

[m.bell@marlab.ac.uk](mailto:m.bell@marlab.ac.uk)  
[Margaret.bell@scotland.gsi.gov.uk](mailto:Margaret.bell@scotland.gsi.gov.uk)

In Sweden (SwAM)

Anna Hasslow

[anna.hasslow@havochvatten.se](mailto:anna.hasslow@havochvatten.se)

#### **Signatures:**

For United Kingdom (MSS)



Margaret Bell

DCF Manager (Scotland)

For Sweden (SwAM)



Anna Hasslow

Sweden National Correspondent

Date: 1 January 2014

## **Annex II**

### **Protocol from the National Coordination meeting 18/12/2014**

#### **Background**

In accordance with Commission Regulation ((EC) No 665/2008 article 3.2) a National Coordination meeting was held 18/12/2014 at the Swedish Agency for Marine and Water Management, Gothenburg. The European Commission was invited to participate to the meeting.

#### **Meeting participants**

##### **Swedish Agency for Marine and Water Management (SwAM):**

Bertil Håkansson, *Head of Division for Environmental Monitoring*

Torbjörn Attnäs, *Head of IT, Department for Operational Management*

Inger Dahlgren, *Head of Division for Fisheries Policy*

Anna Hasslow, *Analyst, Division for Environmental Monitoring, National Correspondent*

Fredrik Ljunghager, *Analyst, Division for Environmental Monitoring*

Mathias Lööw, *Analyst, Finance and Accounting Division*

Anton Paulrud, *Analyst, Division for Fisheries Policy*

##### **Department of Aquatic Resources at the Swedish University of Agriculture Sciences (SLU Aqua):**

Maria Hansson, *Head of Unit for Data collection and biological analyses*

Katja Ringdahl, *Head of Unit for Environmental and Management Effects*

Anna Akervall, *Department Economist*

##### **Swedish Board of Agriculture:**

Camilla Burman, *Fisheries Policy Analyst, Division for Trade and Markets*

Madelene Wetterskog, *Analyst, Rural Analysis Unit*

Simon Löfgren, *EMFF Coordinator, Coordination Unit*

Anna-Karin Berglund, *EMFF Coordinator, Coordination Unit*

#### **Introduction, aim of the group**

Presentations of meeting participants and information of the aim of the meeting.

#### **Reviewing notes from last meeting**

Nothing to add.

#### **Financial audit DCF 2011-2013**

The Data Collection financial audit was carried out on 2-5 December 2014 at The Swedish Agency for Marine and Water Management in Gothenburg, Sweden. Two auditors and one observer visited the agency. We are now in an intensive phase of answering following questions. Involved in this work is SwAM and SLU Aqua.

#### **Claims for reimbursement 2013**

Year 2013 is approved but the balance payment will wait until the audit process is done.

#### **Applications EMFF 2014**

All five applications have been received and registered. Some additions must be made and Anna Hasslow will send information to all concerned applicants. Registration of the applications in the digital system *Kundakten* of the Swedish Board of Agriculture will not be possible until 2015.

#### **Information regarding applications EMFF 2015**

SwAM will send information regarding applications regarding Data Collection for 2015 to all five applicants in the beginning of 2015.

#### **Information from the European Commission regarding financial corrections**

There have been some questions regarding which articles regarding financial corrections in the Commission Regulation (EC) No 665/2008 that are applicable in the EMFF. Sweden has sent some questions to the Commission regarding this issue. Any refund claims can only be addressed to activities financed via the EMFF. In other words, no refund claims can be addressed to activities financed via 100 % national funding. The Commission will deliver a Delegated Act regarding financial corrections.

#### **Annual Report 2014**

AR 2014 will be sent to the Commission at the 31 May 2014 at the latest. Anna Hasslow will distribute AR 2013 so that updates can be made within this version. Anna will also find out details about any simplifications for AR 2014.

#### **At sea Data Collection, suggestions for changes**

Katja Ringdahl presents the problem in Data Collection at sea. SwAM will continue to work with this during 2015.

#### **Strengthening regional cooperation in the area of fisheries data collection**

SLU Aqua participates in a project regarding method development, ecosystem analyses and quality of data, etc. Deadline for Grant application is February 15, 2015.

#### **Feasibility study (data storage, transmission and dissemination)**

Sweden will advocate suggestion 4. Anna Hasslow compiles the comments by SLU Aqua, SwAM and the Swedish Board of Agriculture, and will send our answer to the Commission.

#### **Short summary of 2014**

- National Correspondent, January 1, 2014
- Annual Report 2013
- EMFF, SwAM as Intermediate body
- Financial audit
- Meeting list – remains to be done

#### **Next meeting**

Next meeting is planned to April 15, 2015.