

*National Data Collection Programme under
Council Regulation (EC) N° 199/2008,
Commission Regulation (EC) N° 655/2008 and
Commission Decision N° 2008/xxx/EC*

National Programme 2009-2010

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**Ministry of Agriculture and Forestry
Finnish Game and Fisheries Research Institute**

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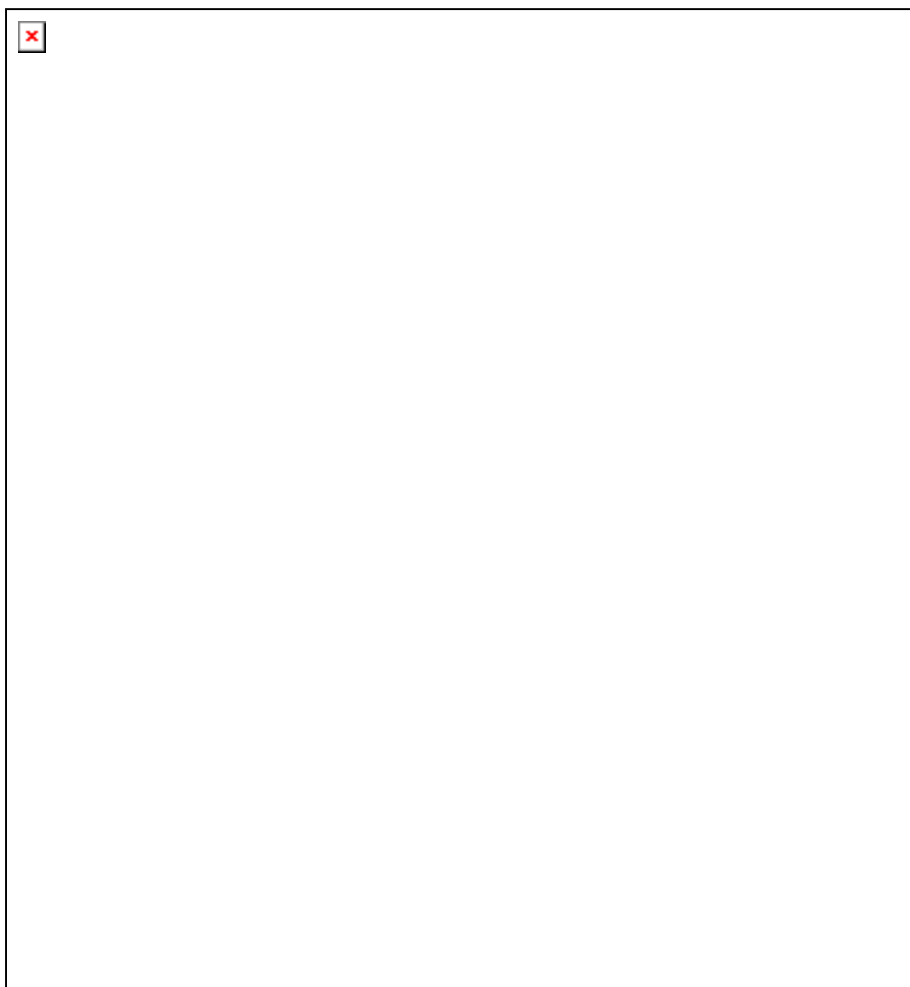


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I General framework

This is the Finnish National Programme proposal for 2009-2010 (NP 2009-2010). The work will be done under DCR: Council Regulation (EC) N° 199/2008, Commission Regulation (EC) N° 655/2008 and Commission Decision N° 2008/xxx/EC.

In comparison to previous programming period, the new DCR deepens and enlarges the data collection obligation, which is likely to increase both the work load and the costs. However, we anticipate that in the long run the regional co-ordination and task-sharing of the data collection might improve the situation. The new elements of the data collection (ecosystem indicators, aquaculture) are not expected to cause any major problems in the implementation of the new DCR.

We want to emphasize that by due time of the NP 2009-2010, the final version of the Commission Decision defining the contents and methodology of multi annual Community Programme was not available (as well as the financial regulation). Since the NP was composed based on a draft version of the Commission Decision, without full knowledge about the amendments in the final text, it could have caused some shortcomings in this NP.

II Organisation of the National Programme

II.A National organisation and co-ordination

National correspondent

The administration of this national data collection programme is in the responsibility of the Ministry of Agriculture and Forestry (MAF), which designates a national correspondent in charge of the implementation of this programme and the DCR.

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Two national co-ordination meetings will be organised yearly at FGFRI by the national correspondent and the contact persons from FGFRI. The main aim of the 1st meeting (in March) will be (a) to plan/ organise in detail the data collection tasks of the year and (b) to organise/ initiate the planning and reporting tasks of the data collection. This meeting will be attended by the FGFRI staff that is involved in implementation of the data collection, representing 11 separate research and aquaculture stations and units of FGFRI, located around Finland. The 2nd meeting, which will convene in the autumn in Helsinki, will have the main emphasis on the general co-ordination of the implementation of the DCR. Participation of the 2nd meeting will consist of the FGFRI personnel responsible for carrying out specific data collection tasks (± 10 persons) and 2-3 participants from MAF.

II.B International co-ordination

Our plan is to participate in the work of ICES-PGCCDBS, including plenary meeting in March (2 participants) and relevant workshops (2 participants per each). In addition, we will take part in ICES-WGBIFS meeting in April (2 participants). The financial form for co-ordination is preliminary due to lack of the list of meetings financed under DCR. We aim to participate yearly in the meetings listed above.

II.C Regional co-ordination

The regional co-ordination will mainly take place within the framework of Regional Coordination Meeting for Baltic Area (RCM Baltic), including one annual meeting (3-4 participants). The elements of regional co-ordination and co-operation are given in the relevant NP Proposal sections.

III Module of evaluation of the fishing sector

III.A General description of the fishing sector

In the beginning of 2008, the Finnish fishing fleet numbered 3163 registered vessels. Most of the vessels (3045) were less than 12 meter (LOA), and they were used in coastal fishing. The overall capacity of the vessels in the beginning of 2008 was 16 000 GT and power 168 000 kW. There has been some reduction in fleet size during the last years. The fleet is divided into four segments: pelagic trawlers (114 vessels), demersal trawlers (1) and vessels with passive gears (38) that use nets and lines. The remaining vessels belong to a segment of small scale coastal fishing vessels under 12 meters.

A big part of the vessels are used seasonally only. One should keep in mind too, that depending on the winter and latitude, the coastal waters in Finland are ice covered over several months, and then fishing vessels are not in use. Regardless that, fishing can be conducted under ice cover. Then fishing vessels can be replaced for instance by snowmobiles.

The total fish catch level in Finland has been 120-160 000 tons in the previous years. In 2007 commercial marine catch was about 118 000 tons. The bulk of the catch consisted of Baltic herring, 89 000 tons, followed by sprat, 25 000 tons. Commercial catch in inland waters was 4 500 tons in 2006. Half of that consisted of vendace. Total catch of recreational fishermen in 2006 was 42 000 tons, of which 10 300 tons was caught in the Baltic Sea and the rest in the inland waters.

III.B Economic variables - Baltic Sea (ICES areas III b-d)

III.B.1 Data acquisition

Data sources

Economic data collection is based on hierarchical multi-stage survey that combines information from different data sources. Main sources are fishery register database KAKE (includes log book data, fishing vessel register), financial database in Statistic Finland (SF) and account survey. In addition a supplementary survey on fishermen carried out to update the registers and enquire additional information concerning the fishing operation and employment (activity survey).

Target frame population

The evaluation of the economic situation in the fishing sector covers all fishing vessels in the fishing vessel register. Each vessel is owned by fishing unit: fishing unit can be a company, fisherman or household. These fishing units comprise the frame target population of economic data collection.

Log book data is linked to vessels (exception for coastal fishing) to divide them into active or inactive vessels.

All fishing units are segmented according to regulation with auxiliary information in fishing vessel register and log book data. The frame population is further stratified according to fishing method and activity to construct an efficient sampling design.

Sampling and data collection

Economic data collection is conducted with hierarchical multi-stage survey. Information on catches by species, value of landings by species, effort data and vessel capacity information is collected by vessel. This data is collected exhaustively for all vessels. Economic data is collected by fishing unit: company or fisherman (including family members). Economic parameters will be collected by strata based on fishing method and activity. These parameters are then disaggregated by vessels to follow the segmentation in the regulation.

Fishing firms with income over a threshold level of € 9 337 are considered commercially active in national statistics. The threshold level (€ 9 337) is obtained from Statistics Finland (SF) for an enterprise to be considered active during the year. The threshold, as well as the definition of enterprise, is based on EU regulation concerning statistical units (EEC 1993/696) and on regulation concerning Business Registers (EEC 1993/2186). For the firms in the Business register there are financial statements collected by Statistics Finland. This group of vessels produce 95 % of total catch of Finnish fishing fleet. The coverage of the financial statements for this group is good.

Financial data gives a reliable estimate for profitability of these vessels, but the disaggregation of cost items does not follow that in regulation. Therefore the cost and earnings data will be collected by account survey on fishing firms. Account data will be surveyed by stratified survey to detect the cost structure of fishing firms by fleet segments. This questionnaire includes all variables in the regulation. Thus account

data will give the cost structure of the fleet segments. Targeted sampling size for account survey is 60-80.

The account data will be combined by strata with financial statement data collected by Statistics Finland. Primary sources of financial statements data in Statistics Finland are direct inquiries and business taxation material supplemented by Business Register data. Data is based on corporate balance sheet and profit and loss account data. Statistics Finland will check for the validity of the data. Cost and earnings data will be linked and combined to data on landings, effort and capacity data in FGFRI.

Account survey will be conducted also for units earning less than the threshold level of 9 337 € in SF. Sample size of this stratum will be 100-200 fishing units.

Estimation

Cost and earnings estimates will be done by design-based and model assisted regression and ratio estimation. First the total revenue is estimated with regression using the total value of catches. Then total costs are estimated for total population per segments from total revenue. The cost variables are estimated as ratio estimates from the total costs.

Capital value and costs will be collected by account survey and from balance sheets in financial statements. PIM method will be attempted to utilise in estimation of capital value and costs according to the guidelines by STECF.

Employment will be estimated based on activity survey and log book information. Employment will be presented in engaged persons and FTE. FTE will be estimated according to the STECF guidelines. Opportunity costs for unpaid labour will be estimated based on these employment estimators.

Fuel consumption

Fuel costs will be estimated based on account survey. Fuel consumption will be estimated based on the costs by fleet segments.

Fish prices

The price data on fish subject to quota (Baltic herring, sprat, salmon, and cod) are calculated from the purchasing notifications submitted by the first hand purchasers of fish to the Regional Employment and Economic Development Centres. The price data are checked with the book keeping of 20 fish wholesalers in coastal areas. The prices on other fish species are calculated from that data. The prices are calculated by species, size-class, degree of processing, and by month.

Reference year

The reference year of economic data collection is the preceding year. Preliminary financial statements data will be available on the 4th quarter after the reference year. Therefore information of the economic situation of fishing sector will be provided not earlier than one year after the reference year investigated.

III.B.2 Data quality

Capacity and landings and effort data covers all vessels. Financial statements are collected for all firms in Business register. However, there is under-coverage in the Business Register (compared to target frame population) that has to be estimated. This register survey gives good coverage in number of firms and share of production. Assuming randomness in under-coverage the conditional variation of the total costs for the active vessels (over the threshold) is expected to be less than 10% (relative standard error of the mean). The estimation for total costs for account survey is expected to yield conditional variation around 10% for the active part. The variation of separated cost variables is higher than that.

For low-active coastal vessels (activity less than the threshold) planned account survey is expected to give conditional variation for the total costs around 20% (relative standard error of the mean). The variation of separated cost variables will be higher. This would yield an estimated conditional variation (relative standard error of the mean) of total costs to be 15% for total active coastal fleet for planned survey.

III.B.3 Regional coordination

RCM recommendations will be applied if applicable.

III.B.4 Derogations and non-conformities

The estimates of total cost structure is expected to be reasonable, but the reliability estimates of separate cost items depends on the success of the account survey. All cost items will be inquired in the questionnaire but the reliable estimates cannot be guaranteed.

Fuel consumption will be estimated based on fuel costs. Offshore vessels use same fuel type (light fuel oil) and fuel consumption can be estimated. Coastal vessels use different kind of engines with different fuel types. Therefore any reliable estimates of fuel consumption cannot be produced for this segment.

FTE is calculated using days and thus harmonised FTE cannot be estimated.

III.C Biological - metier-related variables - Baltic Sea (ICES areas III b-d)

III.C.1 Selection of metiers to sample

The selection of metiers to sample was carried out following the ranking system described in Commission Decision 2008/XXX/EC, Chapter III B.B1.3.(1)(b). The information used for ranking was obtained from logbooks (census), coastal fishery reports (census), price data [purchase notifications (TAC regulated species); price data from 20 wholesalers (all species)], and vessel register data (census).

All metiers where trips have been allocated for samplings are given in Standard table III.C.1.

III.C.2 Data acquisition

We have allocated our sampling effort between the relevant metiers recognising (i) that the sampling unit will be the fishing trip and that sampling effort should be proportional to the relative effort and variability of the metiers and (ii) the requirement that the minimum number of fishing trips to be sampled shall never be less than 1 fishing trip per month during the fishing season for fishing trips of less than 2 weeks and 1 fishing trip per quarter otherwise, as required in the Commission Decision 2008/XXX/EC, section III.B.B1.3.(1)(e).

Standard table III.C.2 specifies which metiers have been merged into sampling strata and how these sampling strata are labelled in following tables.

Standard table III.C.3 to summarises the sampling strategies and sampling effort that have been adopted for metier-related variables and Standard table III.C.4 shows the national length measurement targets and requirements.

The allocation of sampling effort (sample numbers; shore-based/ at-sea sampling), justifications for the choice of sampling scheme, the reasoning for merging metiers, and the descriptions of non-concurrent sampling strategies are given in the chapters III.C.2.1-III.C.2.9 below.

III.C.2.1 Metier GNS_FWS_all_0_0

Region; Fishing ground	Baltic Sea; SD 25-32
Sampling strategy	Concurrent-at-port
Sampling scheme 1/2/3 (value of 'x%')	1 (NA)
Planned no. trips to be sampled per year	54
Planned no. of length measurements per species (CV/ other) per year	Common whitefish 1150 (other); Pike 450 (other); Perch 1860 (other) Pike-perch 2790 (other)
Remarks	Divided into two national metiers – see chapter III.C.3

Sampling scheme 1, comprehensive sampling of all species is selected for this metier due to the wide diversity of the species in the catch and due to operational conditions. Often several of the species to be measured occur simultaneously in the catch. The most suitable way to get samples is to buy the whole catch of the fishing trip from the fishermen, as the willingness of fishermen to start sorting their catch is questionable. By purchasing the whole catch it will be possible to measure the fish which otherwise had been discarded. The need for possible at-sea sampling can be decided after some experiences on the suitability of the port sampling.

Number of sampled fishing trips is based on the minimum sampling rule of 1 sample per month per each national metier during the fishing season. However, during the peak seasons for each national metier the number of sampled trips is increased according to the ratios in catches when compared to the basic level.

The targeted number of sampled fishing trips will be as follows:

Metier	Fishing season (peak months)	No of samples
GNS_percif	1-12 (4-6, 9-10)	31
GNS_coreg	1-12 (5-11)	23

The number of length measures in each sample is based on the rule of 3-5 times the average number of length-classes (1 cm) in each metier except for pike. Pike is a by-catch in GNS_percif -metier and the number that are possible to sample in one fishing trip are less than calculated by the basic rule. The number of pike to be measured in each sample is set to 50 individuals, which is a maximum number to be reached in practice. If this number is not reached in a sample, specially trained fishermen are asked to collect pike measurements for a longer period. The number of length-classes, the number of individual length measurements per sampled fishing trip and the total number of individual measurements in these two metiers are given below:

Species	No of length-classes	No per sample	Ind. length measurements
Pike	50	50	450
Pikeperch	30	90	2790
Perch	15	60	1860
Whitefish	10	50	1150

Discards data are available in the logbooks/landings declarations [landings (net catch) + discards = catch (gross catch)]. These data can be reported yearly on quarterly basis. There is a number of low-value species (mainly cyprinids), which are discarded by gillnet fishery. The amount, species composition and length distributions of the discarded low-value species are monitored by port sampling (by purchasing the whole catch of the fishing trip from the fishermen) and if needed, by at-sea sampling. Some pike-perch and sea-trout, which are below minimum landing size, are discarded from the gillnet catches as well. Discards of small sea-trout and pike-perch are monitored either by port sampling or by at-sea sampling.

III.C.2.2 Metier FYK_ANA_all_0_0

Region; Fishing ground	Baltic Sea; SD 25-32
Sampling strategy	Concurrent-at-sea [Self sampling]
Sampling scheme 1/2/3 (value of 'x%')	2 (10%)
Planned no. trips to be sampled per year	130
Planned no. of length measurements per species (CV/ other) per year	Salmon 1900 (other); Sea trout 500 (other)
Remarks	Provides data for DNA-analysis (see chapter III.C.2.6)

The metier FYK_ANA_0_0 is the major salmon fishery in Finland and the only metier targeting salmon among those selected by the ranking system. The metier consists of coastal trapnet fishery in two management units of salmon, SD22-30 and SD32. The metier targets on spawn migrating salmon mainly in June-July. Also some sea trout are caught as a by-catch in this fishery.

In period 2009-2013 it is expected that coastal salmon fisheries (metier FYK_ANA_0_0) will have even more dominant contribution to the commercial catches, since the driftnet fishery has been banned from year 2008. There will be only few Finnish vessels operating in the Main Basin long-line fishery in 2009-2013, and their catches will be landed mainly to Sweden and Denmark, excluding the requirement for biological sampling of this fishery from the Finnish NP.

The coastal salmon catches are landed in several fishing harbours and private docks, which prevent us to organise harbour sampling. Therefore the sampling will be organised by the means of self sampling carried out at the sea by the selected fishermen.

The catches of this metier consists on salmon, common whitefish and to some extent sea trout. Whitefish sampling is carried out at the selected ports (see metier FYK_FWS_0_0). Duration of fishing season for salmon is about two months per fishing site and in the whole region in occurs from early May to early August. In the fishing season the migration time of each age group and each salmon stock differs significantly, and therefore in order to capture the catch composition over the whole fishing season the sampling need be performed in short intervals. By-catches of sea trout are low, which justifies sampling scheme 2 focusing mainly on salmon.

For this metier it is inappropriate to compute the sample sizes based on the CVs of length per age because such parameter is not used in stock assessment (no need for age-length keys). Only age and stock composition data has been used.

The catch sampling presented here has been designed to give good data on catch composition in terms of spatial and temporal coverage in the metier concerned (see Chapter III.C.2.6). Number of trips is calculated as follows: 3 fishermen/area * 3 areas * 7 weeks * 2 samples/week. In each trip about 15 individual scale samples are taken (catch consists on 4 age groups). The mean daily catch per fisherman was 15 salmon (1-80 salmon, 95 % interval) in year 2008. In total 1400 salmon need to be sampled from the coastal fisheries in subdivisions 29-31 in order to obtain catch composition data of spawn migrating salmon entering the Gulf of Bothnia and

Bothnian Bay. In addition 500 salmon will be sampled from the Gulf of Finland fishery. Similar sampling design has been performed in the Finnish NPs 2002-2008.

For sea trout the length measurements and other biological parameters are obtained by concurrent sampling along the salmon. In total about 500 individual (scale) samples are anticipated from this metier in subdivisions 29-32.

III.C.2.3 Metier FYK_FWS_all_0_0

Region; Fishing ground	Baltic Sea; SD 25-32
Sampling strategy	Concurrent-at-port
Sampling scheme 1/2/3 (value of 'x%')	1 (NA)
Planned no. trips to be sampled per year	20
Planned no. of length measurements per species (CV/ other) per year	Common whitefish 600 (other); Perch 720 (other) Pike-perch 1080 (other)
Remarks	Divided into two national metiers – see chapter III.C.3

Number of sampled fishing trips is based on the minimum sampling rule of 1 sample per month per each national metier during the fishing season. However, during the peak seasons for each national metier the number of sampled trips is increased according to the ratios in catches when compared to the basic level.

The targeted number of sampled fishing trips will be as follows:

Metier	Fishing season (peak months)	No of samples
FYK_percif	4-7 (5-6)	12
FYK_coreg	5-10 (6-9)	8

The number of length measures in each sample is based on the rule of 3-5 times the average number of length-classes (1 cm) in each metier. The number of length-classes, the number of individual length measurements per sampled fishing trip and the total number of individual measurements in these two metiers are given below:

Species	No of length-classes	No per sample	Ind. length measurements
Pikeperch	30	90	1080
Perch	15	60	720
Whitefish	15	75	600

Discards data are available in the logbooks/landings declarations [landings (net catch) + discards = catch (gross catch)]. These data can be reported yearly on quarterly basis. There is a number of low-value species (mainly cyprinids), which are discarded from trap net catches. The amount, species composition and length distributions of those

discarded species of low-value are monitored in port sampling (by purchasing the whole catch of the fishing trip from the fishermen) and if needed, by at-sea monitoring. Some pike-perch and sea-trout, which are below minimum landing size, are discarded from the trap-nets as well. Discards of small sea-trout and pike-perch are monitored either by port sampling or by at-sea sampling.

III.C.2.4 Metier FYK_SPS_all_0_0

Region; Fishing ground	Baltic Sea; SD 25-32
Sampling strategy	Concurrent-at-port
Sampling scheme 1/2/3 (value of 'x%')	1 (NA)
Planned no. trips to be sampled per year	20
Planned no. of length measurements per species (CV/ other) per year	Herring 4500 (other)
Remarks	

The spawning fishery of herring in Finland is conducted along coast in SD's 29-32 by trap nets (Metier FYK_SPS_all_0_0) during second and third year-quarters. The start and duration of spawning in spring are dependent on e.g. latitude.

The catches are usually sampled in the landing sites and not on sea because the boats used in this fishery are usually too small to carry extra persons on board.

The bycatches in this fishery are low and therefore establishment of sampling scheme 1 for the metier is not expected to increase the workload although all the species found in the catch/sample are measured.

Planned total number of trips is 20 according to minimum rule of 1 trip/month/season and sub-division (or stock). According to the rule of 5 specimen measured/ length-class, the total number of length measurements is 4500 at most.

III.C.2.5 Metier OTM_SPF_16-31_0_0

Region; Fishing ground	Baltic Sea; SD 25-32
Sampling strategy	Concurrent-at-port
Sampling scheme 1/2/3 (value of 'x%')	1 (NA)
Planned no. trips to be sampled per year	90
Planned no. of length measurements per species (CV/ other) per year	Herring 22500 (other); Sprat 18000 (other);
Remarks	Merged with metier PTM_SPF_16-31_0_0 – justification below

The Finnish trawl fisheries is conducted mainly in ICES SD's 29-32, but the fishing effort concentrates to the Bothnian Sea (SD 30) where the main part (84%) of the catches are also taken from.

The Finnish trawl catches consist mostly of herring and sprat, but the share of sprat in the catch diminishes towards north in the Gulf of Bothnia. The main part of the catch is used as animal fodder, especially in fur-industry.

Unsorted catches are sampled fresh from vessels arriving in harbours and there is no need to carry out sea-sampling, because all catches are valuable at least as fodder, and therefore landed.

Other species than herring or sprat except occasional sticklebacks are uncommon in this fishery and therefore establishment of sampling scheme 1 for the metier is not expected to increase the workload although all the species found in the catch/sample are always measured.

The most common gear in trawl fishery is "pelagic trawl", otter-trawl with 16-13 mm codend, hauled in midwater alone or in pairs with smaller vessels. Because the fishing gear, the target and the composition of catches are the same, the métiers OTM_SPF_16-31_0_0 and PTM_SPF_16-31_0_0 are merged for length-sampling. The very same gear is, however, traditionally also referred as "bottom trawl", when hauled near bottom in deeper areas catching bigger herring for human consumption.

Planned total number of trips is 90 following the rule of 1 trip at minimum /month/season and sub-division (or stock). Taking into account the number of available length-classes, the resulting maximum number of length-measurements for herring is 22 500 and 18 000 for sprat.

The sampling effort is concentrated to Bothnian sea according to effort ranking and high catch levels (>75 000 tons in 2007) and depth-dependent variability in length-distributions (i.e. differences in small fish targeting fodder-fishery and big herring targeting human-consumption fishery with the same gear).

III.C.2.6 The share of the various river-stocks in unsorted landings of salmon in the Baltic Sea with genetic stock composition analysis

According to the Commission Decision 2008/XXX/EC, section III.B.B1.1.(2) "[...] additional biological sampling programmes of the unsorted landings have to be carried out in order to estimate: (a) The share of the various stocks in these landings for [...] salmon in the Baltic Sea". As stated in the Commission Decision 2008/XXX/EC, section III.B.B1.2.(5), the estimates should reach level 2 precision i.e. $\pm 25\%$ for a 95% confidence level or a coefficient of variation (CV) of 12.5% used as an approximation.

The WGBAST recommended inclusion of DNA based stock composition analysis of salmon catches in the DCR in order to improve the assessment (WGBAST 2005, ICES 2006). The group has estimated the minimum sample sizes for the DNA analysis to obtain the stock and stock group proportions in the Main Basin and Gulf of Bothnia. The calculations have been based on the probability intervals in the stock proportion estimates of stock groups from different assessment units. WGBAST recommended in all 1300 samples to be analysed from salmon catches in the following areas to cover the main fisheries targeted to Gulf of Bothnia salmon stocks:

1. Baltic Main Basin: 500 samples (countries where first sale occur; mainly Sweden, Denmark and Poland)
2. Aaland Sea: 400 samples (Finnish catch)
3. Gulf of Bothnia: 400 samples (200 from the Finnish and 200 from the Swedish catch)

WGBAST recommended that in order to get a representative sample of whole Main Basin fishery all fishing countries should collect samples for a pooled sample. This pooled sample should make one representative sample from the Main Basin for the total catch taken from the area. Similarly for the Bothnian Bay estimate, samples should be collected from both Finnish and Swedish fishery, providing then the overall composition of fish schools entering the Bothnian Bay, where fish from some Swedish salmon river-stocks have already partly departed from the schools. The Aaland Sea fishery is chosen because of its central location in relation to springtime spawning migration, providing thus the overall composition of fish schools entering the Gulf of Bothnia.

In order, to ascertain the standardised quality of DNA-analysis over the years, it is advisable to do it in the same laboratory and with same methods, thus Finland has volunteered to organise the DNA-analysis, maintenance of comparison database from salmon river-stocks contributing into the catches (baseline data), and proportion estimation work. FGFRI has been performing it since 2000. Therefore Finland is ready to take the whole task also in future, and also in the NP 2009-2010. Because of that the costs for the DNA based catch composition analysis in the Baltic Sea are included solely in the Finnish budget, although it serves all Baltic Sea countries, and Baltic salmon assessment. The needed scale samples for these analyses are taken by all fishing countries from the scales collected for age determination. So no additional sampling costs are caused.

The costs consist of chemicals, subcontracted laboratory work for DNA analyses of 1300 fish for 17 gene loci, and proportion estimation work done by FGFRI. There has not yet been any costs for baseline maintenance, FGFRI has collected the data also for research purposes.

Genetic catch composition analysis has been conducted under DCR in years 2002-2008 excluding year 2005. Results for annual variation in wild stock proportions over five years are published in ICES Journal of Marine Science (Koljonen 2006). Continuation of genetic catch composition analyses has been recommended by ICES Advisory Committee on Fishery Management (ICES 2005).

The DNA-samples are resampled by area and time from the pool of samples collected for the age determination, so as no additional sampling for genetic analysis is needed. The sampling strategies thus also follow those decided for other salmon catch sampling. The samplings for age determination are explained in chapter III.E.2.5. For samples at the Main Basin (subdivisions 22-28) WGBAST recommended a stratified random sampling design in terms of nation, subdivision, gear and time, in all 500 fish. The Council regulation (812/2004) has banned the usage of drift nets in the Baltic Sea from January 1 2008, and it is expected that salmon fishery is moving to long-line fishery, so sampling is planed to change accordingly. For the sub-division 29, the recommended sample size was 400 from Finnish coastal trapnet fishery, and for the Sub-division 31 a pooled Finnish-Swedish sample of 400 salmon from the coastal trapnet fishery also. Because Finland is the only country fishing on migrating salmon

at the Aaland Islands, the samples, which need to be taken there, will have to be collected entirely by Finland. Reservations related to success of salmon catch samplings because of changes in fishery apply to genetic samplings as well.

Table III.C.1. Number of salmon individuals to be sampled by season, fishery, gear and ICES Sub-division for genetic stock composition analysis.

Fishery	Months	22-28	29	31	Total
Off-shore longline	1-4 and 9-12	500*			500
Coastal trapnet	5-8		400	400	800
	Total	500	400	400	1300

*) A stratified sample from SWE, DEN and POL samples

III.C.3 Data quality

Table III.C.2 (below) gives the description of the national metier stratification and the description of the metier stratification in all other metiers to be sampled. Concise details regarding the exact stratification planned in each of the sampled metiers are given in the chapters III.C.3.1 – III.C.3.6 below.

Table III.C.2. The description of the national metier stratification and the description of the metier stratification in all other metiers to be sampled

Metier LVL6	National metier	Target species	Space strata	Time strata	Comments
GNS_FWS_all_0_0	GNS_coreg	Common whitefish (2 different forms)	IIIId	Quarterly estimates May-Nov	See chapter III.E.2.2
	GNS_percif	Perch, Pike-perch, Pike	IIIId	Quarterly estimates, Jan-Dec	See chapters III.E.2.3, III.E.2.4 and III.E.2.8
FYK_ANA_all_0_0		Salmon, Sea trout	SD29-SD31; SD32	Quarterly estimates, May-Aug	See chapters III.E.2.5 and III.E.2.6
FYK_FWS_all_0_0	FYK_coreg	Common whitefish (2 different forms)	IIIId	Quarterly estimates, May-Oct	See chapter III.E.2.2
	FYK_percif	Perch, Pike-perch	IIIId	Quarterly estimates, Apr-June	See chapters III.E.2.4 and III.E.2.8
FYK_SPF_all_0_0		Herring	SD29+ SD32; SD30; SD31	Quarterly estimates, Apr-July	See chapter III.E.2.1
OTM_SPF_16-31_0_0 (PTM_SPF_16-31_0_0 merged into it)		Herring, Sprat	SD25-SD29+ SD32; SD30; SD31	Quarterly estimates	See chapters III.E.2.1 and III.E.2.7

III.C.3.1 Metier GNS_FWS_all_0_0

Metier GNS_FWS is divided into two national metiers: ‘GNS_percif’ and ‘GNS_coreg’ following the Commission Decision 2008/XXX/EC Chapter III. The first one includes gillnet fishing which targets mainly pike-perch and perch. Pike and some whitefish as well as several other species are caught as by-catch. The second one includes gillnet fishing which targets whitefish, several other species are caught as by-catch.

The description of this national metier stratification is given in Table III.C.2 (above).

III.C.3.2 Metier FYK_ANA_all_0_0

Coastal salmon fishery targets on spawning migrants. In a given coastal area, the fishing season lasts only about 2 months (from V-VII). During the season age and stock composition of the catches varies strongly, therefore weekly sampling is needed to get representative samples. In total 1400 salmon need to be sampled from the coastal fisheries in subdivisions 29-31 in order to obtain catch composition data of spawn migrating salmon entering the Gulf of Bothnia and Bothnian Bay. In addition 500 salmon will be sampled from the Gulf of Finland (see below). The sea trout

caught as a by-catch in this fishery are sampled concurrently with salmon. About 500 individual samples is anticipated from this fishery.

Fishery	Months	SD22-28	SD29	SD30	SD31	SD32	Total
Coastal trapnet	5-8		400	500	500	500	1900
Samples marked as grey are optional							

III.C.3.3 Metier FYK_FWS_all_0_0

The metier 'FYK_FWS_all_0_0' is divided into two national metiers, 'FYK_percif', and 'FYK_coreg', following the Commission Decision 2008/XXX/EC Chapter III. B.B1.2.(2). The first one includes trapnet fishing which targets mainly pike-perch and perch. Common whitefish as well as several other species are caught as by-catch. The second one includes trapnet fishing which targets whitefish, several other species are caught as by-catch.

The description of this national metier stratification is given in Table III.C.2 (above).

III.C.3.4 Metier FYK_SPS_all_0_0

This metier is targeting spawning herring from all three herring stocks. This fishery is conducted in all 4 ICES sub-divisions along the Finnish coastline (Table III.C.2). Herring spawns in spring, starting in April in the southern areas and may continue till early July in the northernmost areas.

III.C.3.5 Metier OTM_SPF_16-31_0_0

The most common gear in trawl fishery is "pelagic trawl", otter-trawl with 16-13 mm codend, hauled in midwater alone or in pairs with smaller vessels. Because the fishing gear, the target and the composition of catches are the same, the metiers OTM_SPF_16-31_0_0 and PTM_SPF_16-31_0_0 are merged for length-sampling under OTM_SPF_16-31_0_0. The very same gear is, however, traditionally also referred as "bottom trawl", when hauled near bottom in deeper areas.

The Finnish trawl fisheries is conducted all year round, mostly in sub-divisions 29-32, excluding areas that are covered by ice in winter (usually sub-divisions 31 and 32 in quarters 1 and/or 4). The fishing effort concentrates to Bothnian Sea (sub-division 30) where the main part (84%) of the catches are also taken from.

This metier is mostly targeting mixed herring and sprat, but from deeper areas also purely big herring for human consumption.

III.C.4 Regional co-ordination

RCM Baltic 2006 recommendations	Responsive actions
No relevant recommendations related to this chapter	
RCM Baltic 2007 recommendations	Responsive actions
<p>Section 4.1; Regional sampling</p> <p>The RCM Baltic recommends that all MS submit data in the agreed format when requested. The compiled regional data should be distributed to the members of RCM Baltic well before the meeting.</p>	We did not receive any data request by due time of this NP.

III.C.5 Derogations and non-conformities

III.C.5.1 Request for derogation on discard sampling of Baltic herring and sprat

Discards data is available in the logbooks/landings declarations [landings (net catch) + discards = catch (gross catch)]. This data can be reported yearly on quarterly basis. No additional discard sampling is planned within the Finnish National Programme 2009-2010 in case of Baltic herring and sprat (see Table III.C.3 below; corresponding metiers are presented in Standard table III_C_1).

Finnish vessels use log-books that include separately the landings and discards. According to the catch statistics, the Finnish commercial catch of Baltic herring in 2007 was 88 939 tonnes and, as reported by the fishermen, total discards of herring 62 tonnes (0.05%).

Of these herring discards, 47 tonnes (75%) were reported as seal eaten from catches of metier FYK_SPF_all_0_0, and the remaining 15 tonnes originate from metier OTM_SPF_16-31_0_0 (FGFRI 2008).

Of the sprat discards (6 ton in 2007) one ton was reported as seal eaten from bycatches of metier FYK_SPF_all_0_0.

All herring and sprat catches are usually valuable to the fishermen since they are sold either for human consumption or for fodder markets. Therefore no need for fishermen to discard is anticipated and no separate discard sampling will be conducted for Baltic herring and sprat by Finland in 2009-10. This derogation has been applied and accepted in previous years.

III.C.5.2 Request for derogation on discard sampling and justification for not sampling the landings on metier 'OTB_DEF_>=105_1_110' targeting cod

The Finnish reported catches of cod in 2007 was 853 tons which corresponds to less than 1 % of the total cod catches in Baltic, and according to the logbooks/landings declarations, there were only 680 kilos of discards. The effect of discarding in Finnish cod fisheries and fleets has been evaluated by a pilot study in 2003 and was shown to be negligible. Based on the pilot study, derogation for cod discard sampling has been

applied and accepted annually (see III.C.3 below; corresponding metiers are presented in Standard table III_C_1).

The metier 'OTB_DEF_>=105_1_110' targeting cod was included in the selection of metiers to be sampled based on the total value of the commercial landings. Nevertheless, the first sales of the landings from this metier takes place entirely in other MS, which are therefore responsible for the biological sampling of these landings, as stated in the Commission Decision 2008/XXX/EC, section III.B.1.3.(1)(a). Hence the metier 'OTB_DEF_>=105_1_110' is not planned to be sampled under the Finnish NP 2009-2010. We will inform the MS concerned about the situation.

Table III.C.3. Overview of derogations dealing with discard sampling in the Finnish NP 2009-2010

Species	Actions in NP 2009-2010	Basis for actions	STECF-SGRN
Baltic herring and sprat	Logbook/landing data collection Derogation applied for additional sampling	Catch used entirely either for human consumption or for animal fodder	Agreed with NP's 2003-2008
Cod	Logbook/landing data collection Derogation applied for additional sampling	Pilot study carried out in NP 2003 showed discards to be negligible	Agreed with NP's 2004-2008
Salmon and sea trout	Logbook/landing data collection Derogation applied for additional sampling	Discard data (age/size) is not needed/used in assessment	Agreed with NP's 2003-2008

III.C.5.3 Request for derogation on discard sampling of salmon and sea trout

According to the log-books about 8000 salmon (41 t) salmon were discarded due to seal damages. Seals caused severe damages to all fisheries mainly in ICES subdivisions 29-32 where seal damages comprised 17 % of the total commercial catch in the region. Other discards were about 800 salmon (4 t).

Finnish log-books separate the landings and discards. The discards of undersized (<60 cm) salmon released from the gear back to the sea are usually not entered in the logbooks. All undersize salmon belong to the same year-class (the latest recruited). Fish released from the long-line the fish are assumed to die, meanwhile the salmon released from the trap nets mostly survive (>80 % survival assumed based on studies).

According to logbook data, discards has constituted about 10 % of the total commercial salmon catch in the last few years. About 99 % of the reported discards were seal mauled fish, mainly occurring in the coastal trapnet fishery.

At present the assessment utilises the total catches including the discards. However, the age composition data of the catches (or discards either) has not been used. Based on this the Finnish salmon discards will not be sampled in 2009-2010 (see Table III.C.3 above; corresponding metiers are presented in Standard table III_C_1).

About 12 t of commercial sea trout catch was discarded due to seal damage. Commercial sea trout catches are low and geographically so scattered that it will be practically impossible to sample the discards. Therefore no discard sampling will be performed for sea trout by Finland in 2009-2010 (see Table III.C.3 above; corresponding metiers are presented in Standard table III_C_1).

III.D Biological - Recreational fisheries - Baltic Sea (ICES areas III b-d)

III.D.1 Data acquisition

In 2006, there were over 1.8 million recreational fishermen in about one million households in Finland. Of those, about 230 000 fishermen participated in fishing only by rowing or steering a boat. The proportion of recreational fishermen of the total Finnish population was 35 per cent. The total catch amounted to 42 million kg, of which 75 per cent was taken in inland waters. The marine recreational catch in 2006 was about 10.3 mill kg. Perch and pike made up over half of the catch.

Recreational catches in the sea area

The data on recreational fishing will be collected by a postal survey using a sample drawn from the population register maintained by the Finnish Population Register Centre. The whole recreational catch is surveyed, but a special attention is drawn to marine catches of salmon, cod and eel for instance in terms of sample allocation. The Finnish population register will be the target population, because there is no covering and usable register on the recreational fishermen. On the other hand, one can not predestinate, whether a contacted fisherman would have been fished at the sea, in inland waters or both. The statistical unit in the recreational fishing statistics is the household. The term recreational fishing includes all the fishing carried out by Finnish households with the exception of professional fishermen and their households.

The process of collecting catches of recreational fishing in 2008 will start in the end of 2008 by planning and a preparatory work of the survey. This includes planning the inquiry forms, commissioning the frame register and designing and extracting the sample.

Recreational salmon catches in rivers

Fishing in the Finnish rivers with wild Baltic salmon stocks (Rivers Tornionjoki and Simojoki) is 100% for recreational/household purposes. The total annual catch from the two rivers is typically in thousands of specimen. The vast majority of catch is caught by angling due to strict restrictions allowing only a marginal use of more efficient types of gear. Fishing season starts in May and ends in August, and over 90% of the fishers are Finnish citizens.

Data concerning recreational catches of salmon in rivers will be collected annually using postal fishing questionnaires. River-specific registers on recreational fishers are created first by storing the information (fisher's name and address, type of licence) from the receipts of sold licences. The compiled registers will cover at least 90% of all licensed fishing in each river. Then, samples for the fishing questionnaires will be drawn from the registers using simple random sampling.

III.D.2 Data quality

Recreational catches in the sea area

The sample will comprise about 6000 household-dwelling units. One household-dwelling unit consists of the persons living permanently in the same dwelling and comprises one or more households. The sampling will be targeted at persons aged 18-74 years. The sample design is stratified sampling. The strata will be formed taking into account the location of the person's municipality of residence.

For those who will not respond to the postal questionnaire, post-sampling will be conducted as a telephone interview. The size of the sample is planned to be about 1000. The purpose of the post-sampling is to establish the proportion of fishing households among non-responders. For the computation, a weighting factor will be formed for each statistical unit, or household. The survey data (catch size) for the household will then be multiplied by that factor. The weighting factor will be formed from the inverses of the inclusion probability and response probability of the sampling unit, that is, household-dwelling unit, and from the calibration weight. The partial loss due to missing data items will be taken into account using hierarchical imputation.

The results of the pilot studies proved that, the accuracy of the catch estimates will increase, while the sample size gets larger. On the other hand, the marginal benefit will decrease while increasing the sample size. Salmon, cod and eel are caught by relatively very few fishermen, and in addition, the variation of these uncommon catches by fishermen is relatively high. Because of these facts, the confidence intervals of those catch estimates are always quite wide even in the case of large sample sizes (sample size several thousands).

The post-sampling for non-respondents helps to correct the bias resulting from the differences between respondents and non-respondents. If the bias is not taken into account, the catch and number of fishermen would be overestimated.

Recreational salmon catches in rivers

The fishers who will receive mailed questionnaires are sampled from the registers at a rate making it possible to estimate salmon catches at level 1 precision (a precision of $\pm 25\%$ for a 95% confidence level):

- River Tornionjoki: 5 000 – 10 000 fishers, sampling rate 1:5.
- River Simojoki: ca. 3000 fishers, sampling rate 1:4.

In Tornionjoki, the local fishers and non-local fishers are considered separately due to the marked differences in fishing practices between these groups. In Simojoki, the fishermen will acquire with their fishing licence a catch questionnaire, which is asked to be returned after the fishing is over. The fishers, who returned the questionnaires voluntarily (only ~10%), are not included in the postal questionnaire.

The length distribution estimates of the catch will be acquired by catch samples (see chapter III.E.2.5.).

III.D.3 Regional co-ordination

There were no relevant recommendations for national actions.

III.D.4 Derogations and non-conformities

The pilot studies on recreational salmon fishery and cod fishery were conducted during the previous DCR period. A basic result of the pilot studies was that a cost-efficient data collection strategy, with respect to the reliability, is to collect data on recreational fishing every second year. Therefore the next survey will be conducted in 2009 (referring to the year 2008), but there will be no survey in 2010. This practice would produce a continuous and methodologically stable biennial time-series of recreational catches.

III.E Biological - stock-related variables - Baltic Sea (ICES areas III b-d)

III.E.1 Selection of stocks to sample

During the programme period 2009-2010, we are planning to sample eight species, which are divided into 11 'Areas / Stocks' (or management units), as presented in Standard table III_E_1,

III.E.2 Data acquisition

Standard table III E.2 gives an overview of the long-term sampling strategy with respect to 'stock related variables' and Standard table III E.3 gives an overview of the planned sampling for age, weight, sex ratio, and maturity in the NP years 2008-2010.

In this NP, all 'stock related variables' are referenced to age.

The guidelines (STECF-SGRN 08 01 –report) states that “In the 2009-2010 NP, for species to be sampled triennially, the period 2008 – 2010 shall be considered. If such a species has been sampled in 2008, it will be not necessary to plan sampling in 2009 –2010”. Despite this, we are including some 'Group 2'-species (*Coregonus lavaretus*, *Perca fluviatilis*, *Salmo trutta*, *Sander lucioperca*) in our NP 2009-2010, even if they were already sampled for 'stock related variables' based on our NP 2008. The reasons for this are:

- To get experience for collecting data for these species under the new DCR
- To share the species evenly during the programme period
- To have time to get adapted to changes caused by the new DCR

Species/stock-specific information regarding the planned collection of 'stock related variables' is given in the chapters III.E.2.1 – III.E.2.8 below.

III.E.2.1 Herring (*Clupea harengus*)

Assemblage	Small pelagic fish
Region; Fishing ground	Baltic Sea; SD 25-32
Target species in following sampled metiers (OTM & PTM merged) (% of MS landings of the species)	OTM_SPF_16-31_0_0 (94,4%) FYK_SPF_all_0_0 (5,4%)
Data sources	Port sampling, Surveys
Planned no. of fish per Area/ Stock for Age in Stock-based variables (min/ CV)	SD's 25-29,32: 1800 (min) SD30: 2000 (min) SD31: 600 (min)
Sampling years in 2008 - 2013	All
Remarks	

Stock-related variables are collected mostly from catch sampling of commercial fisheries in harbours along with the length-sampling, but also from BIAS-surveys in autumn.

Age-length-keys are built up year-quarterly and separately for all ICES sub-divisions and herring stocks (herring in SD 25-29 and 32, herring in SD 30 and herring in SD 31). For all specimen collected for ageing, their individual weights and lengths are recorded at the same time. From commercial sampling in spring and from acoustic surveys in autumn, individual sex and maturity information is additionally collected.

The target (maximum) number of age-readings is 10 specimen/0.5 cm length-class/SD/year-quarter, corresponding to total of 1750 age readings per year. For the maturity ogives, an enhanced sampling (for maturities at age) is carried out in spring before spawning time, corresponding to about 300-500 extra age-readings annually.

On the other hand, during the year-quarter of the BIAS survey (Q3 or Q4 depending on the area), the data will be derived from there, and regular commercial sampling for stock-related variables will be conducted only for lengths that are complementing survey data. The number of age-readings (incl. all other stock related variables) from surveys is about 2000 annually. Thus the hypothetical annual target of herring age-readings adds up to over 4000 specimen, which is not usually reached due to rarity of the fish in the extreme ends of the length distribution.

III.E.2.2 Common whitefish (*Coregonus lavaretus*)

Assemblage	Freshwater species
Region; Fishing ground	Baltic Sea; SD 25-32
Target species in following sampled metiers (% of MS landings of the sp.)	GNS_FWS_all_0_0 (78%) FYK_FWS_all_0_0 (19%)
Data sources	Port sampling
Planned no. of fish per Area/ Stock for Age in Stock-based variables (min/ CV)	IIIId: 1900 (CV)
Sampling years in 2008 - 2013	2008, 2009, 2012
Remarks	Samples for stock-based variables are collected from SD29 (n = 400); SD30 (n = 750) and SD31 (n = 750)

There is significant commercial fishing for whitefish in the Archipelago Sea, and in the Gulf of Bothnia (ICES Sub-divisions 29, 30 and 31). Gill nets are the main gear type in the whitefish fishery. In the Gulf of Bothnia (SDs 30 and 31) trap nets are used as well. There are two whitefish forms in the sea area of Finland: river-spawning migratory whitefish and sea-spawning whitefish. The forms have different growth rates compared to each other. Also within a whitefish form, growth rate varies between ICES sub-divisions. The migratory whitefish is more common in the catches, the share of the sea-spawning whitefish being about 20-25 %. In some cases the catch consists of both whitefish forms.

Differences in growth rate between the different whitefish populations leads to a situation, where it is difficult to reach the precision targets set for length and weight for age when sampling from the commercial fisheries catches, where several populations are caught simultaneously. In spite of sample sizes far above the minimum required, precision targets for length at age have been reached only for some age-groups.

The basis for sampling for stock-based variable in our NP 2009-2010 is that sampling covers both whitefish forms and most common gear types, including different mesh size classes of gill nets (27-30 mm, 36-45 mm, and 46-50 mm bar lengths) due to different selectivity of the different gear types.

Simple random sampling is applied. Each individual will be measured for length and aged.

III.E.2.3 Pike (*Esox lucius*)

Assemblage	Freshwater species
Region; Fishing ground	Baltic Sea; SD 25-32
Target species in following sampled metiers (% of MS landings of the sp.)	GNS_FWS_all_0_0 (77%) FYK_FWS_all_0_0 (17%)
Data sources	Port sampling
Planned no. of fish per Area/ Stock for Age in Stock-based variables (min/ CV)	IIIId: 300 (CV)
Sampling years in 2008 - 2013	2010, 2013
Remarks	

The commercial pike catches have varied between 210 and 280 tons in recent years. In addition the recreational pike catch in 2006 was estimated to 2740 tons, which is 92% of the total catch. The commercial catches are taken mainly by gill nets (77%) and trap nets (17%). The pike catches are distributed to the coast as follows: 28% in Sub-division 29 (Archipelago Sea), 41% in Sub-division 30 (Bothnian Sea), 11% in Sub-division 31 (Bothnian Bay) and 20% in Sub-division (Gulf of Finland). The catches peak in spring, e.g. the second quarter of the year.

The number of samples based on DCR (one sample, 50 individuals) is not adequate, because a sample of 50 fish can hardly be used as a basis for any assessment. The sampling is focused on the two main fishing areas, Sub-divisions 29 and 30, and to gill nets. Simple random sampling is applied. The adequate sampling schedule for pike is the following:

- ICES Sub-division 29: 3 samples, 150 individuals
- ICES Sub-division 30: 3 samples, 150 individuals

Annually this totals 6 samples and 300 individuals, which will all be measured and aged. As pike catches have not been sampled in earlier years, the targeted number is based on intuition.

III.E.2.4 Perch (*Perca fluviatilis*)

Assemblage	Freshwater species
Region; Fishing ground	Baltic Sea; SD 25-32
Target species in following sampled metiers (% of MS landings of the sp.)	GNS_FWS_all_0_0 (77%) FYK_FWS_all_0_0 (21%)
Data sources	Port sampling
Planned no. of fish per Area/ Stock for Age in Stock-based variables (min/ CV)	IIIId: 1900 (CV)
Sampling years in 2008 - 2013	2008, 2010, 2013
Remarks	

Most of the commercial perch catch is taken in April - June with trap nets and gill nets, and in summer and autumn with gill nets.

In recent years, the total commercial perch catch has been 780–900 tonnes/ year. In addition, there is the recreational catch that was estimated at 3300 tonnes in 2006, i.e. 79% of the total catch. On the average of 2005-2007, 57% of the commercial catch was taken from ICES Sub-division 30 (Bothnian Sea) and 30% from ICES Sub-division 29 (Archipelago Sea). In 2007, 69% of the catches were taken by gillnets and 30% by trap nets.

The number of samples based on DCR (nine samples, 450 individuals) is not adequate, because the perch from trap net and gill net catches represent different parts of the populations with e.g. different growth rates. Both the trap net and gill net catch should be representatively sampled, including the different mesh sizes of gill nets mostly used. Simple random sampling is applied. The adequate sampling schedule for perch is the following:

- ICES Sub-division 29: 19 samples, 950 individuals
- ICES Sub-division 30: 19 samples, 950 individuals

Annually this totals 38 samples and 1 900 individuals, which will all be measured and aged. To calibrate the age determination that is mostly conducted from opercular bones, a part of the specimens (circa 400 specimens) will be aged from otolith cross-sections, as well. The perch ageing workshop held in Riga 15–17 Feb 2005 agreed that otolith cross-sections give more reliable age estimates than opercular bones.

Precision levels in lengths by age groups with this sampling schedule was analysed with the data from commercial landings in 2004 and 2005 (Annex I in the Finnish Technical Report 2007; Precision estimates for biological parameters of MP and EP species. Biometrical Report 19.6.2008). The calculations showed that the targeted precision levels (12.5%) were achieved in age groups which made the main part of the catch in 2005. In 2004 the CV values were slightly higher than the target values (12.5%) in most of the age groups. However, this sampling effort was accepted as justified.

III.E.2.5 Salmon (*Salmo salar*)

Assemblage	Anadromous
Region; Fishing ground	Baltic Sea; SD 25-32
Target species in following sampled metiers (% of MS landings of the sp.)	FYK_ANA_all_0_0 (50%)
Data sources	Self-sampling, Market sampling
Planned no. of fish per Area/ Stock for Age in Stock-based variables (min/ CV)	SD29–31: 2050 (min) SD32: 500 (min)
Sampling years in 2008 - 2013	All
Remarks	River monitoring of salmon also included in this chapter

In 2007 Finnish fishers caught about 75 000 salmon (408 t), which was about 36 % of the total salmon catch in the Baltic Sea. Commercial catch was 64 000 salmon (338 t) and recreational catch including river catches was about 11200 salmon (70 t). The commercial catches are taken from two IBSFC management units, the Gulf of Bothnia – Baltic Main Basin (ICES Sub-divisions 22-31) and the Gulf of Finland (ICES Sub-division 32), both having their own annual TACs. In both areas, two principal types of fishing are engaged, with totally different catch age and length compositions. In the offshore fishery long-lines are used to capture feeding salmon in winter months (XI-IV). In the coastal fishery, trap-nets and anchored gillnets are used to capture mature salmon returning to home rivers in summer (V-VII). Technical measures are taken to manage these fisheries.

The ICES Baltic Salmon and Trout Working Group (WGBAST) have dealt with the international collaboration of salmon sampling under the DCR, and gives the guidelines for the river monitoring, sampling of the catches and for the collection of genetic data (see chapter III.C.2.6) to fulfil the data requirements for the Baltic Salmon stock assessment (WGBAST 2005 and ICES 2006).

Sampling for stock-based variables

Data to derivate age and stock composition of catches (including growth curves and relations between age/length) for salmon and sea trout accumulate from the basic catch sampling programme and tag recapture data (obtained outside the DCR).

In sampling of salmon landings gender of fish is determined and recorded routinely from each individual fish. This will enable the derivation of the sex ratio for the whole duration of the programme. Since the coastal salmon fishery targets on spawning migrants, all salmon in the catch are mature making purposeless to conduct the maturity measurements there. In case of the Finnish off-shore fishery of salmon at the Main Basin of the Baltic Sea, the vessels land all the catch to other MS', excluding the requirement for biological sampling of these catches from the Finnish NP.

In a given coastal area, the fishing season lasts only about 2 months (from V-VII). During the season age and stock composition of the catches varies strongly, therefore weekly sampling is needed to get representative samples. In total 1400 salmon need to be sampled from the coastal fisheries in subdivisions 29-31 in order to obtain catch composition data of spawn migrating salmon entering the Gulf of Bothnia and Bothnian Bay. In addition 500 salmon will be sampled from the Gulf of Finland.

Catch samples of salmon will be collected from the fishery in the wild salmon rivers of the Gulf of Bothnia (River Tornionjoki and River Simojoki). This data collection is a part of the assessment of spawning run composition and the effects of fishery, and it is linked to the corresponding sampling from the Finnish coastal fishery. The monitored variables include smolt age, sea-age, sex, origin (wild/reared) and size at capture (weight and length). The planned sample size is 650, of which majority are from the River Tornionjoki. Organization of the sampling as well as analysis and data treatment is similar to those of the catch samples from the sea fishery.

The sampling stratification is presented in Table III.E.1 (below).

Table III.E.1. Number of salmon individuals to be sampled by season, fishery, gear and ICES Sub-division

Fishery	Months	22-28	29	30	31	32	Total
Coastal trapnet	5-8		400	500	500	500	1900
River	5-9					650	650
	Total		400	500	1150	500	2550
	Samples marked as grey are optional						

Monitoring of salmon in wild salmon rivers

According to the Commission Decision 2008/XXX/EC, section III.B.B2.1.(3) “For wild salmon stocks in the index rivers, as defined by ICES, running into the Baltic Sea III b-d, the following variables have to be collected: (a) Information on abundance of smolt; (b) Information on abundance of parr; (c) Information on number of ascending individuals”.

There are two wild Baltic salmon rivers in Finland: River Simojoki and River Tornionjoki. In addition, the River Kiiminkijoki as a potential salmon river is nationally selected for attempts to re-establish wild salmon stock: Re-establishment efforts include stocking of salmon juveniles, habitat restoration/improvement, water quality improvements and management of fisheries.

The River Tornionjoki (‘Torneälven’ in Swedish) flows along the border of Finland and Sweden, and it is clearly the largest of the current Baltic salmon rivers. Monitoring of salmon stock of the River Tornionjoki is organised in close co-operation with Sweden. Finland has a much large share of the total programme in this river and therefore also much higher monitoring costs than Sweden. The division of the monitoring is recognized and supported by both countries. Finland operates a large-scale smolt trapping in early summer to estimate the annual smolt production. As a new element of monitoring, Finland plans to establish annual counting of spawners by hydroacoustics, starting in 2009. The recent methodological development in hydroacoustics has reached the point in which spawners could be counted with reasonable costs even in large rivers. The setup of spawner counting consists of 2-3 DIDSON (Dual-frequency Identification Sonar) units, weirs guiding salmon to pass the site at appropriate range from the transducers, data collection and post-processing of data (identification and measuring of fish images). Expansion of the counts by a statistical treatment of the data may be needed to cover unsampled periods of time/unsampled parts of the river transect. Moreover, the data collection in the Tornionjoki includes electrofishing of about 80 sites in the late summer/early autumn (Table III.E.2). The planned volume of data collection with regard to smolt trapping and electrofishing follows earlier years’ volume. However, establishing and running the counting of spawners requires substantial new resources.

The planned volume of salmon juvenile monitoring (smolt trapping and eletrofishing) in the River Simojoki follows earlier years’ monitoring, with about 30 electrofishing sites and the setup of a smolt trap and a smolt screw (the screw trap is used for marking in mark-recapture trials). Counting of spawners by echo sounding consists of a DIDSON unit, weirs guiding salmon to pass the site at appropriate range from the transducer, data collection and post-processing of data. Expansion of the counts by a statistical treatment of the data is needed to cover unsampled periods of time/unsampled parts of the river transect (Table III.E.2).

Monitoring of salmon abundance in the River Kiiminkijoki is planned to consist only of electrofishing (Table III.E.2). The relative intensity of sampling (number of sites) is roughly similar to the intensity of sampling carried out in the wild salmon rivers.

Depending on the annual variation in the river conditions (the most critical variable being discharge), in some year's occurrence of extraordinary conditions may lead to failure of some data collection. On average, this happens on every 5th or 6th year.

It is important to notice, that data collection costs depend very much on the size of the river and also, whether the river in question is an index river or not. The northern Baltic rivers located in Finland and Sweden are much larger than the salmon rivers in the middle and southern Baltic. Thus, costs for data collection per river (and per nation) are clearly highest in the northern Baltic Sea.

Table III.E.2 Monitoring of the wild and potential salmon rivers in the Finnish Baltic Sea. Smolt trapping period covers the smolt migration season and electrofishing sites are selected along the whole reach of the rivers. Echo sounding covers the ascending period of adult salmon.

	River Simojoki	River Tornionjoki	River Kiiminkijoki
Smolt trapping	May-June with smolt trap and smolt screw	May-July with smolt trap	-
Electrofishing	August-September, 30 sites	August-September, 80 sites	August, 20 sites
Echo sounding	May-September	May-September	-

III.E.2.6 Sea trout (*Salmo trutta*)

Assemblage	Anadromous
Region; Fishing ground	Baltic Sea; SD 25-32
Target species in following sampled metiers (% of MS landings of the sp.)	FYK_ANA_all_0_0 (50% of commercial landings)
Data sources	Port sampling, Self-sampling
Planned no. of fish per Area/ Stock for Age in Stock-based variables (min/ CV)	SD22-32: 500 (min)
Sampling years in 2008 - 2013	2008, 2009, 2012
Remarks	

In 2007 Finnish fishers caught about 266 tonnes of sea trout. Comparison to the whole Baltic Sea catch is impossible due to partly missing recreational catch estimates from other MS. Commercial catch was 68 t and recreational catch including river catches was 198 t. The estimate of recreational sea trout catch is uncertain. Sea trout has been caught mainly by gillnets and trapnets at the coastal fishery. About 12 t of commercial sea trout catch was discarded due to seal damage. Commercial sea trout catches are low and geographically scattered, which prevent us to organise harbour sampling.

Therefore the sampling will be organised by the means of self sampling carried out at the sea by the selected fishermen, who perform concurrently the salmon sampling.

Data to derivate size of catches (growth curves and relations between age/length) for salmon and sea trout accumulate from the catch sampling programme and tag recapture data (obtained outside the DCR). About 500 individual samples are anticipated, which would allow us to provide with the required biological parameters every third year.

III.E.2.7 Sprat (*Sprattus sprattus*)

Assemblage	Small pelagic fish
Region; Fishing ground	Baltic Sea; SD 25-32
Target species in following sampled metiers (% of MS landings of the sp.) (OTM and PTM merged)	OTM_SPF_16-31_0_0 (100%)
Data sources	Port sampling, Survey
Planned no. of fish per Area/ Stock for Age in Stock-based variables (min/ CV)	SD 22-32: 600 (min)
Sampling years in 2008 - 2013	All
Remarks	

Stock-related variables for sprat are collected concurrently with those of herring, mostly from catch sampling of commercial fisheries in harbours along with the length-sampling, but also from BIAS-surveys in autumn.

Age-length-keys are built up year-quarterly and separately for ICES sub-divisions 29, 30 and 30, which are regularly covered by Baltic sprat stock. For all specimen collected for ageing, their individual weights and lengths are recorded at the same time. From commercial sampling in spring and from acoustic surveys in autumn, individual sex and maturity information is additionally collected.

The target (maximum) number of age-readings is 10 specimen/0.5 cm length-class/SD/year-quarter, corresponding to total of about 600 age readings per year. For the maturity ogives, an enhanced sampling (for maturities at age) is carried out in spring, corresponding to about 300 extra age-readings annually.

On the other hand, during the year-quarter of the BIAS survey (q3 or q4 depending on the area), the data will be derived from there, and regular commercial sampling for stock-related variables will be conducted only for lengths that are complementing survey data. The number of age-readings (incl. all other stock related variables) from surveys is about another 600 annually. Thus the hypothetical annual target of sprat age-readings adds up to over 1500 specimen, which is not usually reached due to rarity of the fish in the extreme ends of the length distribution.

III.E.2.8 Pikeperch (*Sander lucioperca*)

Assemblage	Freshwater species
Region; Fishing ground	Baltic Sea; SD 25-32
Target species in following sampled metiers (% of MS landings of the sp.)	GNS_FWS_all_0_0 (94%) FYK_FWS_all_0_0 (5%)
Data sources	Port sampling
Planned no. of fish per Area/ Stock for Age in Stock-based variables (min/ CV)	IIIId: 2100 (CV)
Sampling years in 2008 - 2013	2008, 2009, 2011
Remarks	

The commercial pikeperch catch has been taken for the most part with gill nets in autumn, late winter and spring. In spring, pikeperch is caught also with trap nets. In recent years, the proportion of 'push up' trap nets has increased in the traditional gillnet period, as well. This is because of the increased population density of grey seals that make gillnet fishing profitless in an increasing number of areas.

In recent years, the commercial Finnish pikeperch landings have been between 390 and 730 tonnes / year. In addition, there is recreational pikeperch catch that was estimated at 590 tons in 2006, i.e. 56% of the total catch. On the average of 2005-2007, 44% of the commercial catches have been taken from ICES Sub-division 29 (Archipelago Sea), 27% from ICES Sub-division 32 (Gulf of Finland) and 28% from ICES Sub-division 30 (Bothnian Sea). About 95 % of the catches are taken by gillnets.

The mesh size of gill nets plays an important role in the management of the pikeperch fishery. In order to assess the effect of mesh sizes on the pikeperch stocks and the proportions of different mesh sizes in the fishery (the official statistics on used mesh sizes is insufficient for fisheries purposes), the biological sampling of pikeperch catch should adequately cover the different mesh sizes mostly used (43 mm, 45 mm, 50 mm bar length) in each pikeperch stock. The pikeperch stocks in different ICES sub-divisions have different growth rates and population dynamics, including maturity size. The sampling in different year quarters is needed to give information of different parts in the populations and for catch predictions. Trap nets have a different, probably lower selectivity pattern than gillnets, and a different length and age distribution in the catch. The sampling schedule based on DCR (seven samples, 350 individuals) is not adequate for these purposes.

Simple random sampling is applied. The samples needed for the assessment of pikeperch stocks in the ICES Sub-divisions 29, 30 and 32 are the following:

- ICES Sub-division 29: 15 samples, 750 individuals
- ICES Sub-division 30: 15 samples, 750 individuals
- ICES Sub-division 32: 12 samples, 600 individuals

The annual sampling schedule consists of 42 samples and 2 100 individuals, which will be measured and aged.

Precision levels in lengths by age groups with this sampling schedule was analysed with the data from commercial landings in 2005 and 2006 (Annex I in the Finnish Technical Report 2007; Precision estimates for biological parameters of MP and EP species. Biometrical Report 19.6.2008). The calculations showed that the targeted precision levels (CV 12.5%) were achieved in all age groups of pike-perch.

III.E.3 Data quality

Our aim is that the coverage and the achieved precision levels will be in accordance with those specified in Commission Decision 2008/XXX/EC, Chapter III, section B.B2.4.

III.E.4 Regional co-ordination

RCM Baltic 2006 recommendations	Responsive actions
<p>Regional co-operation</p> <p>The RCM Baltic recommends that Finland and Sweden will evaluate the collection of biological data of the herring fishery in the Gulf of Bothnia in order to elaborate congruent procedures. The possibilities to harmonize the collection of corresponding economic data should be evaluated.</p>	<p>In August 2007 Finnish and Swedish scientists had a meeting in Finland concerning comparison and harmonisation of biological sampling methods (report annexed in the RCM Baltic 2007 report).</p> <p>In November 2007 Finnish and Swedish scientists had a meeting in Sweden concerning consolidation of sampling methods, age-readings and maturity definitions. Also timetables and other practical matters were agreed for the 1st joint BIAS survey, which was carried out in the Gulf of Bothnia in September 2008.</p>
RCM Baltic 2007 recommendations	Responsive actions
No relevant recommendations related to this chapter	

III.E.5 Derogations and non-conformities

None

III.F Transversal variables - Baltic Sea (ICES areas III b-d)

III.F.1 Capacity

III.F.1.1 Data acquisition

The number and characters of the vessels according to segments is available in fishing vessel register. All vessels, even non-active vessels, and auxiliary vessels are included in the vessel register. The maintenance and continuous update of the register is allocated regionally to the Fishery Units of the Employment and Economic Development Centres (EEDCs). The fleet register data is merged with the log-book and coastal fishery data. The latter two data contain complete information on catches, effort and gears for the entire fleet. For more details, see Effort and landings

III.F.1.2 Data quality

Information will be complete.

III.F.1.3 Regional co-ordination

Recommendations will be considered when applicable.

III.F.1.4 Derogations and non-conformities

None

III.F.2 Effort

III.F.2.1 Data acquisition

Fishing effort data will be obtained besides the collection of catch data. Target population of fishing effort data consists of all the vessels that are used in commercial fishing and, of all professional fishermen, who have a personal reporting obligation. Fishing effort will be collected by fishing occasion-based reports (logbooks) and so called coastal fishery reports for vessels <10m. Fishing effort will be collected according to categorisation corresponding to the regulation.

Preliminary data for the reference year will be available in January-March next year. Final data will be available correspondingly by June.

III.F.2.2 Data quality

The data is basically complete and required quality will be achieved.

The procedure of catch/landings and effort data compilation contains following stages:

1. The raw data is physically collected to FGFRI from fisheries control system maintained by regional authorities.
2. The data is checked to find out logical errors, and corrected accordingly. Yearly number of the catch/landings reports is about 20 000.

3. The data is checked with special emphasis on the discards reporting. Especially in the salmon fishery, where seals eat a meaningful part of the catch, the fishermen often estimate the discards more in qualitative terms than with numeric data. This causes a lot of manual checking.
4. The partial non-response (of single variables in observation level) is evaluated, and corrected by statistical imputation methods. It should be noted, that errors or missing information are quite common in effort data, especially in case of non-quota species.
5. The data is crosschecked with independent data, i.e. fish first hand sales notes. The discrepancies are identified, the need for corrections is evaluated and the data is supplemented.
6. The data is complemented with the landings data from other countries.
7. The representativeness of data is evaluated against the target population. The effects of non-response are corrected by statistical estimation. For that, the data is post stratified.
8. The confidence levels (error term) of the estimates are calculated with respect to the non-response.
9. The needed tabulation and cross tabulation with background variables are calculated.
10. The principles, hypotheses and procedures are documented and the data is harmonized for the submission to the database.
11. The original data forms are returned to the regional fisheries control authorities.

III.F.2.3 Regional co-ordination

There is a landings data exchange between the relevant foreign authorities.

We interpret that there is no relevant RCM recommendations in nation level.

III.F.2.4 Derogations and non-conformities

None

III.F.3 Landings

III.F.3.1 Data acquisition

Target population of catch and landings data for minimum programme consists of all the vessels used in commercial fishing and, of all the fishermen who have a personal reporting obligation. This means that the data is basically complete, also for <10m vessels. Catches and landings will be reported according to DCR.

Catches and landings of vessels >10 meters will be collected by fishing occasion-based reports (logbooks). Catches and landings of vessels <10 meters (so called coastal fishery) will be collected by monthly reports. In addition, catches and landings of salmon in coastal fishery will be collected by fishing occasion-based reports. The

landings of Finnish vessels abroad, as well as foreign vessel landings to Finnish ports are surveyed by logbooks, landings declarations and sales notes, and by the crosschecking of the different data. There is a landings data exchange between the relevant foreign authorities.

The conversion factors are presented in III.F.3, and they follow the ones used in fisheries control.

Yearly data on catches and landings will be available during the 3rd quarter of the year that follows the referred statistical year. Preliminary data for the fish stock assessment is available in the 1st quarter.

III.F.3.2 Data quality

The data is basically complete and required precision and confidence levels will be achieved.

For the data qualification procedure refer to paragraph “Effort”.

III.F.3.3 Regional co-ordination

For the regional co-ordination refer to paragraph “Effort”.

III.F.3.4 Derogations and non-conformities

None

III.G Research surveys at sea

III.G.1 Planned surveys

III.G.1.1 BITS survey

Finnish personnel (scientist and/or technician) will participate and co-operate on Danish BITS 4th quarter survey in Baltic Sea area IIIb-c for Baltic cod and other demersal species.

III.G.1.2 BIAS survey - Herring Acoustic Survey in SD's 28 (part), 29N and 32

The coverage of this survey will be again extended to Finnish waters (ICES Sub-divisions 29 N and 32, Gulf of Finland) for the third year since 2006 (ANNEX I).

This extension of the survey has been performed together with Estonia, with hired R/V BALTICA of Sea Fisheries Institute of Gdynia, Poland. Continuation of this procedure is preferred if R/V BALTICA will be available for this purpose. The joint survey will cover both Estonian and Finnish waters of northern Baltic proper and Gulf of Finland, and the expenses will be shared equally between Estonia and Finland.

The survey is well suited for the calculation of the ecosystem indicators 1-4 as listed in Appendix XIII of Commission Decision 2008/XXX/EC.

III.G.1.3 BIAS survey - Herring Acoustic Survey in SD's 30 and 31

As recommended by STECF-SGRN, Finland will include the extension of the herring acoustic survey (BIAS) to Gulf of Bothnia (ICES Sub-divisions 30 and 31) into its NP proposal. The survey will be performed in co-operation with Sweden, with Swedish R/V ARGOS and with shared expenses. Finland is, however, going to evaluate the possible continuation of the survey after a 2-year-pilot phase starting in 2008.

The purpose of the survey is to provide acoustic abundance estimates of herring and sprat in the Baltic. The sampling procedure and the level of precision are defined in the Manual for the Baltic International Acoustic surveys (ICES CM 2008/LRC:8 Add 2). The Manual is available at:

<http://www.ices.dk/reports/LRC/2008/WGBIFS/directory.asp>

The survey is well suited for the calculation of the ecosystem indicators 1-4 as listed in Appendix XIII of Commission Decision 2008/XXX/EC.

The main results of both acoustic surveys will be summarized and reported in standard report format, and the acquired data will be stored in FGFRI as well as on data bases BAD1 and BAD2 for further reporting in conjunction with international stock assessments (ICES WGBFAS).

III.G.1.4 SPRAS survey

The springtime sprat-survey covers the southern-middle parts of Baltic main basin, which are the spawning areas of Baltic sprat (sprat spawning does not occur/succeed in the northern parts of Baltic proper due to low salinity). Therefore Finland has never taken part in this survey nor has been requested to by other Baltic member states.

Derogation for the non-participation has been requested and accepted annually.

III.G.2 Modifications in the surveys

None

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

IV.A Collection of data concerning the aquaculture

IV.A.1 General description of the aquaculture sector

Aquaculture production has a significant role in Finnish fishery sector. Aquaculture production dominates the fishery market in the primary production and also as a raw material supply for processing industry. In 2006, altogether 343 fish farm firms or units with natural food ponds were in operation. Of these, 105 firms had food fish production and 41 firms specialised in fry production. Some firms have both production lines. The number of farmers with natural food ponds was 197. However, only a small part of these firms have aquaculture as their main activity. The sector employed 1263 persons (engaged workers).

Food fish is produced mostly at the marine farms but also in inland farms. These firms have traditionally concentrated on rainbow trout, but during the past years increasingly on European whitefish. The food fish production in 2006 was 12,000 tons. Rainbow trout is by far most important species with over 90% of both in volume and value of food fish production. The production of European whitefish has been increasing steadily during the past ten years. In 2006, the value of the production reached 9% of the total food fish production.

Some of the food fish firms have integrated fry production but there are also specialised juvenile fish producers. There are two main production methods in juvenile production: tanks and natural food ponds. Hatcheries and nurseries together with natural food ponds produce numerous fish species for on-growing and stocking purposes. The production in 2006 was 56 million individuals.

There are also few farms producing crayfish fry, but the number of these farms is limited and therefore it is not possible to have separate segment.

Segmentation

The Finnish aquaculture production will be divided into four main segments:

- Marine aquaculture (food fish production)
- Inland aquaculture (food fish production)
- Hatcheries and nurseries
- Combined (food fish and juvenile production)
- Natural food ponds

Marine aquaculture regards production in cages. Most marine farms are specialised in rainbow trout production, some produce also European whitefish. Inland food fish production regards mainly raceways, but also in cages in lakes. The production method inland will be used as strata in data collection. Some producers have integrated production of fry. This group forms the combined segment. The production is highly concentrated nowadays. Therefore it is important to have good representation of large producers in the industry.

Juvenile production is very important part of the sector. It produces around one third of the sector total in value. The major part of the juvenile production in number is released to natural waters to enhance the fish production. There are some 40 hatcheries/nurseries and numerous natural food pond producers. Natural food pond production segment is very heterogeneous and fragmented. Most of the production is considered small scale and subsidiary business mainly for agriculture.

IV.A.2 Data acquisition

Data sources

Economic data collection of aquaculture sector is based on hierarchical multi-stage survey that combines information from different data sources. Main sources are production survey, financial database in Statistic Finland (SF) and account survey.

Target frame population

The target population follows the definition in the DCR. Target frame is composed from Business register of enterprises with aquaculture as their main activity. This target frame is supplemented with information of the production survey that is collected from all fish farms in the Fish farm register of MAF. With the production survey information, the firms are segmented according to their main activity and also further stratified to design and efficient data collection.

Sampling and data collection

Economic data collection is conducted with hierarchical multi-stage survey. The production survey is collected exhaustively. In the latter survey we enquire other business activities, employment, production methods and production per species. This data is used to divide firms into segments.

Financial statements should be available in SF for all firms in Business register with aquaculture as their main activity. Primary sources of financial statements data in Statistics Finland are direct inquiries and business taxation material supplemented by Business Register data. Data is based on corporate balance sheet and profit and loss account data. Statistics Finland will check for the validity of the data. Any missing data will be estimated within stratum. Financial data gives a reliable estimate for cost structure as whole, but the disaggregation of cost items does not follow that in regulation. Therefore the cost and earnings data will be collected by account survey on aquaculture firms. Account data will be surveyed by stratified survey to detect the detailed cost structure of fish farms. This questionnaire includes all variables in the regulation. Targeted sampling size for account survey is 50 firms.

Estimation

Cost and earnings estimates will be done by design-based and model assisted regression and ratio estimation. Total revenue and costs for firms with no financial statements will be estimated using regression estimation using production value. The cost variables will be estimated with ratio estimation from account data. These results

will be raised to total population by strata with profitability correction of all firms derived from financial statements.

Production survey will be collected exhaustively from the producers. A supplementary telephone survey will be conducted to minimise the response loss. Any missing information will be estimated by stratum.

Employment will be estimated based on production survey. Employment will be presented in engaged persons and FTE. FTE will be estimated according to the STECF guidelines. Opportunity costs for unpaid labour will be estimated based on these employment estimators.

Reference year

The reference year of economic data collection is the preceding year. Preliminary financial statements data will be available on the 4th quarter after the reference year. Therefore information of the economic situation of aquaculture sector will be provided not earlier than one year after the period investigated.

IV.A.3 Data quality

Financial statements should be available for all firms in Business register. However, some financial statements are missing and there is under-coverage in the Business Register (compared to target frame population) that has to be estimated. This register survey gives good coverage in number of firms and share of production. Assuming randomness in under-coverage the conditional variation of the total costs is expected to be low, only few percentages (relative standard error of the mean). The variation of separated cost variables will be higher.

IV.A.4 Regional coordination

RCM recommendations will be applied if applicable.

IV.A.5 Derogations and non-conformities

The reliability of estimates of total cost structure is expected to be low, but the reliability estimates of separate cost items depends on the success of the account survey. The survey is based on voluntary cooperation of the aquaculture firms. All cost items will be enquired in the questionnaire but the reliable estimates cannot be guaranteed.

IV.B Collection of data concerning the processing industry

IV.B.1 Data acquisition

Data sources

Economic data collection concerning the processing industry will be carried as a register survey that combines information from several data sources. The main data sources are Business register and Structural business statistics of Statistics Finland and survey information on processing compiled by Finnish Game and Fisheries Research Institute (FGFRI).

Target frame population

The target population follows the definition in the DCR. The target population is all fish processing firms. All operational firms, with fish processing as their main branch, should be listed in the Business Register of Statistics Finland. This target frame is updated with information of the production survey.

Sampling and data collection

Economic data collection is based on financial statement data and Structural business statistics data of Statistics Finland. The production survey is carried out to update the target frame population and to collect data on employment. The production survey is collected exhaustively. In this survey we enquire other business activities, employment, production methods and production per species.

In 2010, the production survey will cover all fish processing firms in the Fish processing register in FGFRI. In this survey we will inquire main activity of firms, production value, use of raw materials and employment.

Financial statements should be available in SF for all firms in Business register with fish processing as their main activity. Primary sources of financial statements data in Statistics Finland are direct inquiries and business taxation material supplemented by Business Register data. Data is based on corporate balance sheet and profit and loss account data. Data on structural business statistics covers all cost items in the DCR. The definitions of cost items follow that in Structural Business Statistics.

Estimation

Financial statements are expected to be available for all firms in the Business register. Statistics Finland will check for the validity of the data. Any missing data will be estimated.

Capital costs will be actual costs (net) paid. Capital value is collected from the balance sheet.

Employment will be estimated based on production survey and data in SF. Employment will be presented in engaged persons and FTE. FTE will be estimated according to the STECF guidelines. Opportunity costs for unpaid labour will be estimated based on these employment estimators.

Reference year

The reference year of economic data collection is the preceding year. Preliminary financial statements data will be available on the 4th quarter after the reference year. Therefore information of the economic situation of processing sector will be provided not earlier than one year after the period investigated.

In 2010 all firms with fish processing will be surveyed by production survey. This concerns the production activity in 2009.

IV.B.2 Data quality

Financial statements are collected exhaustively from the fishing firms in Business Register. Missing information if any will be estimated using information from production survey. Taken the exhaustive information on financial statements the precision is expected to be high.

IV.B.3 Regional coordination

RCM recommendations will be applied if applicable.

IV.B.4 Derogations and non-conformities

Not expected.

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

Ecosystem indicator 1, 2, 3 and 4 are calculated based on two BIAS surveys we are participating. The joint Finnish-Estonian BIAS survey covers part of the sub-division 28 and sub-divisions 29 and 32. The survey has been carried out yearly in October-November since 2006. The joint Finnish-Swedish BIAS survey covers sub-divisions 30 and 31 (partly). This survey has been carried out yearly in September-October since 2007.

VMS data (indicators 5, 6, and 7) for Finnish fisheries is collected and used by Finnish fisheries control system. Until now, Finnish Game and Fisheries Research Institute has had no access to it. Finnish ministry and FGFRI will within the year 2009 discuss and decide on the conditions and means on how to make the data available to end-users. In practise FGFRI will be the organization answering to the data requests. However, the expertise of the ministry will be used to produce such detailed and aggregated data sets, which can be transmitted to end-users. Due to small number of boats in the Finnish fleet, the expected temporal and spatial resolution of the VMS data available to end users will be relatively large.

Discarding rates of the commercially important species (indicator 8) is available in the logbooks/landings declarations [landings (net catch) + discards = catch (gross catch)]. This data can be reported yearly.

Data for fuel efficiency of fish capture (indicator 9): The value of the catches is estimated on the basis of logbooks/landings declarations and fish price statistics. The fuel costs for each fleet segment are collected.

VI Module for management and use of the data

VI.A Management of the data

Collected data is stored in two different locations: a document management system and a database. Primary data is collected with electronic scales and the files containing the primary data is stored in a document management system. Aggregated data, once it is calculated, is stored in a database. For the time being, all parties involved in data collection, storage and calculation have access to the data through their personal usernames and passwords. Databases and data are backed up according to best practices defined by the vendors for document management system and databases.

In the future the primary data will be loaded directly from the electronic scales into a database, which will be located on one of the MAF's servers. Simple data validation rules should be enforced during the upload and more sophisticated tools should be made available for personnel to ensure data validity. The development work of the new database system is ongoing and the progress has been annually reported to the EU.

VI.B Use of the data

The data will be used in producing ICES advice and in relevant scientific work. The estimation of the biological parameters follows the standard ICES practises. Data sets are produced and validated according to ICES instructions. As an example, all biological data on Baltic herring and sprat collected by FGFRI from commercial fisheries and in international co-operation with Sweden and Estonia from acoustic surveys are used in annual assessments of Baltic pelagic stocks in ICES WGBFAS. The datasets are prepared by FGFRI according to agreed formats and procedures and handed over to concerned stock-coordinators, uploaded to Intercatch as well as presented in relevant working groups.

The estimates based on transversal variables are compiled with respect to Code of practice of European Statistics.

The scientific meetings which are likely attended by national experts are WGBFAS and WGBAST meetings (ICES).

VII Follow-up of STECF recommendations

2.3 ON THE FOLLOW-UP OF RCM AND SGRN RECOMMENDATIONS

In general, SGRN always finds it difficult to evaluate whether MS has spotted all potentially binding RCM recommendations in the NP proposal or in the Technical reports. To ease the tasks both for SGRN and all MS, SGRN recommends that the Liaison Meeting elaborates a template with all recommendations related to MS actions with a column free for MS to put a footnote. This template should then always be annexed to the individual TR and NP proposals.

We support the idea about having a template ready filled with the recommendations - it would really facilitate the work.

Basically, all relevant STECF recommendations have been applied in this NP (when applicable).

VIII List of derogations

List of requests for derogations:

Short title of derogation	NP Proposal section	Derogation approved or rejected ¹	Year of approval or rejection of past requests for derogations
Discard sampling of herring and sprat catches	III.C.5	A	-2008
Sampling of cod landings	III.C.5	A	-2008
Discard sampling of cod catches	III.C.5	A	-2008
Discard sampling of salmon and sea trout catches	III.C.5	A	-2008
Sprat spring survey	III.G	A	-2008
Fuel consumption for coastal vessel	III.B		
FTE harmonised	III.B		

¹ Insert 'a' for approved or 'r' for rejected

IX List of acronyms and abbreviations

ACFM	Advisory Committee on Fisheries Management
ACOM	ICES Advisory Committee
BITS	Baltic International Trawl Survey
DCR	Data collection regulation i.e. (“old DCR” 1639/2001, 1584/2004, etc.; “new DCR” Council Regulation (EC) N° 199/2008, Commission Regulation (EC) N° 655/2008 and Commission Decision N° 2008/xxx/EC)
FGFRI	Finnish Game and Fisheries Research Institute
IBSFC	International Baltic Sea Fishery Commission
ICES	International Council for the Exploration of the Sea
MAF	Ministry of Agriculture and Forestry
NP 2006	Finnish National Programme 2006
NP 2007	Finnish National Programme 2007
NP 2008	Finnish National Programme proposal 2008
NP 2009-2010	Finnish National Programme proposal 2009-2010
SAP	Salmon Action Plan
SD	ICES Sub-division
SF	Statistics Finland
STECF	Scientific, Technical and Economic Committee for Fisheries
STECF-SGRN	STECF Subgroup on Research Need
WGBAST	Baltic Salmon and Trout Working Group
WGBFAS	Baltic Fisheries Assessment Working Group
WGBIFS	ICES Working Group on Baltic International Fish Surveys

X Comments, suggestions and reflections

None

XI References

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Koljonen, M-L. 2006. Annual changes in the proportions of wild and hatchery Atlantic salmon (*Salmo salar*) caught in the Baltic Sea. ICES Journal of Marine Science 63: 1274-1285.

WGBAST 2005. Report of the Baltic Salmon and Trout Working Group. ICES CM 2005 ACFM:18

WGBAST 2006. Report of the Baltic Salmon and Trout Working Group. ICES CM 2006 ACFM:21

WGBAST 2007. Report of the Baltic Salmon and Trout Working Group. ICES CM 2007 ACFM:12.

XII Annexes

ANNEX I. Transect plan of herring acoustic survey (preliminary)

Herring acoustic survey in ICES Sub-divisions 28 (part), 29 N and 32 (joint Estonian - Finnish survey)

