Technical Report on the National Data Collection Programme under Council Regulation (EC) 199/2008, Commission Regulation (EC) 665/2008 and Commission Decision 2010/93/EU

Estonia 2014

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I. General framework

This document describes the results of the Estonian National Program for collection of data in the fisheries sector in 2014. The program has been developed and performed in accordance with the rules laid down in relevant Commission and Council regulations (Council Regulation (EC) No. 199/2008, Commisssion regulation (EC) No. 655/2008 and Commission Decision No. 2010/93/EC), and STECF comments on the proposals of earlier years.

Estonia joined the DCR in 2005, and there have been no major changes in approach compared to the years before.

The year 2014 is covered by the Technical Report.

No derogations (Table 1A).

No formal bilateral or multilateral agreements yet.

II. National data collection organization

II.A National correspondent and participating institutes

The programme will be conducted in close cooperation between:

- **Estonian Marine Institute, University of Tartu (EMI)**

Estonian Marine Institute, University of Tartu, is a Public Research Institution that carries out research, investigations and provides advice concerning sustainable exploitation of live marine and fresh water resources. It has experience in fisheries management and economics, as well as in mathematical modelling. Institute has an agreement with the Ministry of the Environment to conduct applied fisheries research in Estonia, and is responsible for the main part of the National Data Collection Programme in 2014-2016.

- **Estonian Ministry of the Environment (EME)**

Estonian Ministry of the Environment is responsible for regulating the questions concerning the protection of marine nature and environment, as well as for solving the tasks concerning the use

of marine resources. The Fish Resources Department, established in 2001 to replace the Fisheries Board and the Fisheries Department, manages and co-ordinates research, assessment, exploitation, reproduction and protection of fish resources.

- **Estonian Ministry of Agriculture (EMA)**

As of March 2001, the fisheries matters are divided between two ministries: the Ministry of the Environment and Ministry of Agriculture. Fishing Economics Department of the latter deals with issues of pisciculture, production, processing and marketing of fish and fish products, structural fishing policy. Since 1 January 2006, EMA holds the Estonian Fisheries Information System of commercial fishery.

Estonian Ministry of the Environment is acting as coordinator for the Estonian Programme. The participating institute will be treated as a partner.

National correspondent

Estonia has assigned the Estonian Ministry of the Environment as the National Correspondent. Contact person is:

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The data collection problems in 2014 were discussed in close cooperation with EMI as main executor of the Estonian National Programme. National coordination meeting was held on 11-12 September 2014 in Toosikannu. The main discussion objects were Estonian National Programme in 2014-2020, problems raised in 2014 and outlook for the program in 2015, including financing matters. Once again, possible solutions for the problem of effort data (see paragraph III.F.2) were discussed. Participants included persons from research institutions, Ministry of the Environment, Ministry of Agriculture, Environmental Inspectorate.

The next National coordination meeting is planned in 2015 during the III or IV quarter.

According to the Commission Regulation 665//2008 article 8(2) all data collected under the Estonian National Data Collecton Programme are stored on central website (http://kala.envir.ee, see module VI).

II.B Regional and International coordination

II.B.1 Attendance of international meetings

See standard table II.B.1. RCM Baltic was attended. NAFO areas were moved from RCM North Atlantic to the RCM North Sea and Eastern Arctic in 2009. Originally, the relevant areas for the RCM North Sea and Eastern Arctic (RCM NS&EA) are ICES Sub-areas I, II, IV and ICES Divisions IIIa and VIId, from 2009 onwards ICES Sub-areas XII, XIV, ICES Division Va and the NAFO areas also are included in RCM NS&EA.

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

See Table II.B.2.

III. Module of the evaluation of the fishing sector

III.A General Description of the fishing sector

The Estonian fishery is mainly taking place in the Baltic Sea areas (ICES areas III b-d), and there is some fishery in the North Atlantic: (ICES Sub-areas V- XIV excl.VIId and NAFO), North Sea and Eastern Arctic: ICES Sub-areas I, II, IIIa, IV and VIId.

The general overview of Estonian fleet fishing activities by geographical areas is given in Table III.A.1. Major changes are associated with closure of shrimp fishery in NAFO area and some increase of finfish fishery in the same area.

Baltic Sea: ICES areas III b-d

Composition of the fleet, use of different gear etc. are described in corresponding sections of the Report and in Standard Tables. Use of active gear (trawls) is almost totally limited to herring and sprat fishery. Coastal fishery uses predominantly passive gears (different trap-nets, gillnets) and is directed to herring (during spring, the spawning season), flounder and several freshwater species, most importantly, to perch and pikeperch. Importance of recreational fishery in the coastal catch has an increasing trend.

North Sea and Eastern Arctic: ICES Sub-areas I, II, IIIa, IV and VIId

Due to the closure of shrimp fishery, activities of the Estonian fleet in NAFO area have substantially declined, and activity in other North Sea and Eastern Atlantic – somewhat increased.

North Atlantic: ICES Sub-areas V- XIV and NAFO

Due to the closure of shrimp fishery, activities of the Estonian fleet in NAFO area have substantially declined.

III.B Economic variables

Supra region: Baltic Sea (ICES areas III b-d), North Sea (ICES areas IIIa, IV and VIId) and Eastern Arctic (ICES areas I and II), and North Atlantic (ICES areas V-XIV).

III.B.1 Achievements: Results and deviation from NP proposal

Types of data collection for each fleet segment and for each economic variable are described in standard tables III.B.1, III.B.2 and III.B.3.

The data concerning economic variables were collected as listed and defined in Appendix VI of Commission Decision 2008/949/EC. For economic variables included in Estonian Fisheries Information System (EFIS) (includes log book data, fishing vessel register) data were collected about all members of the population (census type of data collection). For other economic variables questionnaires were sent out. It is important to mention that all these surveys have been carried out on a voluntary basis.

There was a deviation from NP proposal. Instead of probability sample survey census type of data collection scheme was decided to use in the case of trawlers. Previous practice showed quite low response rate for enquiries. Due to the above reason and low population sizes, questionnaires were sent for each vessel. In these populations the use of census type of data collection scheme is more justified instead of probability sample survey to achieve better results – to ensure the greatest possible number of responses. In the case of vessel using passive gears (coastal fishery) probability sample survey was used like planned.

Clustering of fleet segments. Standard Table III.B.2 reports the segments that have been clustered. Estonia has two clustered fleet segments - Pelagic trawlers 12-<18m and Pelagic trawlers 24-<40m (table III.B.2). In both cases the segments added (Demersal trawlers 12-<18m, Demersal trawlers 24-<40m, Pelagic trawlers 18-<24m) were with similar characteristics (length classes and/or capacity figures) and were merged for sampling purposes, as well as for confidentiality reasons. Clusters were named after the biggest segment in terms of number of vessels.

Estimation of capital value and capital cost. The capital value and capital costs were estimated using the proposed Perpetual Inventory Method (PIM) according to the study *Evaluation of the capital value, investments and capital costs in the fisheries sector* (Study No FISH/2005/03, IREPA Onlus Coordinator, 2006). PIM generates an estimate of the capital stock by accumulating past purchases of assets over their estimated service lives. Price per GT is based on the book values of the vessels from the balance sheets.

III.B.2 Data quality: Results and deviation from NP proposal

Accuracy indicators and the values of them are presented in standard table III.B.3. Response rates were used as accuracy indicator for census type of data collection. In case of probability sample survey achieved sampling rates were used. The coefficient of variation (CV) of total estimates was calculated according to SGECA-09-02 report.

FTE national and FTE harmonised calculated according to the methodology presented in Study No FISH/2005/14. For the calculation of national FTE, the number of hours worked during the year collected from the enterprises. The number of working hours of employee was 1794 hours per year in 2013. The harmonised reference level for FTE working hours were set to 2000 hours in accordance with the Appendix VI of Commission Decision 2008/949/EC.

Due to the changes in data collection scheme there was deviation from NP proposal. Instead of probability sample survey census type of data collection scheme was decided to use in the case of trawlers. Previous practice showed quite low response rate for enquiries. Due to the above reason and low population sizes, questionnaires were sent for each vessel. In these populations the use of census type of data collection scheme is more justified instead of probability sample survey to achieve better results – to ensure the greatest possible number of responses. In the case of vessel using passive gears (coastal fishery) probability sample survey was used like planned.

III.B.3 Follow-up of Regional and international recommendations

There were no recommendations addressed to MS.

III.B.4 Actions to avoid shortfalls

As surveys carry out on a voluntary basis continuous clarification about importance of data collection among target group should be one possible way to maintain or even enhance response rates.

III.C Metier-related variables

Baltic Sea (ICES areas III b-d)

III.C.1 Achievements: Results and deviation from NP proposal

No major changes in activities or catch volumes/values of different métiers since 2007-08. See standard tables III.C.3, III.C.4, III.C.5 and III.C.6 with the information collected during the sampling year 2014.

In general, métier sampling intensity in 2014 corresponded to the plan.

The planned number of samples is given in Table III.C.4. Achieved number of samples is in Table III.C.3; data in this Table include test fishing data (with commercial gears). The total number of samples (297) corresponded to the planned number (300).

In addition, abundance of salmon and sea trout juveniles was assessed in many rivers, and smolt trapping was performed in one river.

All samples from the Baltic Sea fisheries were taken from unsorted catches (Table III.C.6). Discarding is not allowed in the Estonian EEZ and it seldom happens in case of regulated fish species. No discard samples could be analysed for this reason.

Over- and undersampling of several species for length composition (Table III.C.6 is related to the catch rate of these species, which varies annually and is hard to prognosticate. This table includes data collected by the Estonian Marine Institute, including surveys and test fishing with commercial gears.

Commercial catches of *Salmo salar, Anguilla anguilla*, *Psetta maxima, Coregonus lavaretus* and *Esox lucius* were low, and usually a few specimens (if any) could be sampled during a trip. The number of eels we could analyse was very low due to extremely low catch rate.

Some species were oversampled in 2014. It should be stressed that this did not increase costs of sampling from funds of the project of data collection. Oversampling was achieved due to the incorporation of data collected in frames of projects funded from other sources.

Most data for *Salmo salar* and *Salmo trutta* originate from test fishing in rivers. *Sander lucioperca* could be sampled only in Pärnu Bay, in other areas along the Estonian coast only a few specimens were registered in the catch.

Significant oversampling of, *Perca fluviatilis, Clupea harengus* and *Sprattus sprattus* was due to higher CPUE than expected, especially in test fishing catches (all individuals are analyzed in test fishing catches).

III.C.2 Data quality: Results and deviation from NP proposal

For some species (eg eel), compiled data of several MS could achieve the target. For local species (eg pike) where analytical assessment has not been used and can probably not be used in future, Estonia follows the stock situation using test-fishing data (CPUE, age/length distribution) for advice.

III.C.3 Follow-up of Regional and international recommendations

See Table II.B.2.

III.C.4 Actions to avoid shortfalls

For local species currently at low stock level, other methods than analyses of commercial catches should be accepted by the Commission to follow the stock status. In Estonia, these coastal stocks are monitored in frames of regular (since 1993) test fishing in fixed sampling areas along the Estonian coastal zone. CPUE, year class strength and other parameters indicating the stock status can be calculated from test fishing data.

North Sea and Eastern Arctic

III.C.1 Achievements: Results and deviation from NP proposal

Fishery in this area was not included in the NP as fishery there has been more or less occasional,

depending on fishing possibilities of the current year. In previous years, due to this reason, sampling was done occasionally.

Fishing activity was low and mostly in Ia; altogether, 5289 t of shrimp *Pandalus borealis*, 1101 t of *Hippoglossoides platessoides* and 249 t of *Gadus morhua* were caught.

As in recent years the catch has been increasing we are planning to add this stock to our NP and start regular sampling next year. EU 2014 landings predicted to be 9000 tons (NAFO/ICES *Pandalus* Assessment Group Meeting, 10–17 September 2014 Greenland Institute of Natural Resources, Nuuk, Greenland. NAFO SCS Doc. 14/18 Serial No. N6365).

In 2014, 3192 shrimp were analyzed from unsorted catches by observer on board.

III.C.2 Data quality: Results and deviation from NP proposal

As fishery in this area has an increasing trend, regular sampling will be included in NP and started since 2015 and will be done by scientific observers on board of the vessels. In 2014, 3192 shrimp were analyzed from unsorted catches by observer on board (which was not included in the NP).

III.C.3 Follow-up of Regional and international recommendations

See Table II-B.2.

III.C.4 Actions to avoid shortfalls

As fishery in this area has an increasing trend, regular sampling will be included in NP and started since 2015.

North Atlantic

III.C.1 Achievements: Results and deviation from NP proposal

See standard tables III.C.3, III.C.4, and III.C.6 with the information collected during the sampling year.

There were only 5 fishing trips to the NAFO area in 2014. During one trip, both shrimp (3L) and finfish were targeted, other trips targeted finfish:

Vessel	Target species	Trip start	Trip end	Trip duration (days)
Ontika	PRA, GHL	28.10.2013	17.02.2014	113
Madrus	GHL, RED	9.11.2013	3.03.2014	115
Madrus	GHL, RED	14.03.2014	22.07.2014	131
Madrus	GHL, RED	7.08.2014	6.12.2014	122
Madrus	GHL, RED	28.12.2014	16.04.2015	110

One additional trip was to Svalbard area to catch shrimp. Scientific observer was on board of this vessel, and shrimp samples were analysed.

Metier sampling was low due to limited fishing activities of the Estonian fleet in NAFO area in 2014, mostly due to the collapse of shrimp fishery in 3M.

Estonian catches in the North Atlantic consist only a few species listed in Tables. In the case of shrimp fishery, volume of discarded (damaged) shrimp is registered by observers (discarding is very low), but discarded shrimps cannot be analyzed due to their poor condition.

In case of *Reinhardtius hippoglossoides, Gadus morhua,* and other fish species, unsorted catches are analyzed by observers (see text table in section III.E.1 for details). Bycatch is registered by species and volume, but bycatch is too low to get significant samples for length, weight, age, sexual composition measurements, except for *Sebastes* bycatch in shrimp fishery in some years (not the case in 2014, see Table III.C.6).

III.C.2 Data quality: Results and deviation from NP proposal

OTB_CRU_40_2_19-22 sampling was very low in NAFO area (as compared to earlier years), due to the collapse of shrimp stock and moratorium for fishery. However each fishing trip to NAFO area was covered by the scientific observer on board.

In case of species which were sampled in low numbers (primarily due to low stock abundance), accuracy indicators achieved nationally did not meet the requirements of DCF.

III.C.3 Follow-up of Regional and international recommendations

See Table II-B.2.

III.C.4 Actions to avoid shortfalls

Data collection in the North Atlantic is dependent on fishing activities of the Estonian fleet in this region, and on coverage rate of fishing trips by observers. Shrimp fishery is declining, and shrimp sampling in this region has decreased during recent years and finfish fishery (and sampling) have increased somewhat. However, 100% coverage of fishing trips by scientific observers on board has been a rule and our intention is continue this practice. Only the most qualified observers will continue their duties, and this will probably improve the data quality.

III.D Recreational fisheries

Baltic Sea (ICES areas III b-d)

There is no recreational fishery in other areas than the Baltic Sea.

III.D.1 Achievements: Results and deviation from NP proposal

Recreational fishing in Estonia can be devided as:

1) Hobby fishing (*e.g*. general angling and underwater spear fishing) without special license.

2) Fishing on the basis of special fishing license (*e.g.* fishing with gears like gill net, longline or salmon and sea trout rod fishing in rivers). Providing catch data is obligatory in licensed fishing.

Data for licensed fishery (gill net fishery, salmon fishery in rivers, longline fishery etc.) are collected by using census type of data collection. Additionally the study of hobby fishing catches (includes angling and underwater spear fishing) of the species listed in annex IV, for other species (locally important species), as well as fishermen preferences and other relevant characteristics of the sector is performed for 2010 and 2012. All planned activities described in Estonian National Programme (as requested updated program with precise methodology and activities of study are sent to the European Commission in 2nd June 2011) are fulfilled and necessary activities are implemented to estimate total catches of recreational fishery.

For licensed fishery it is mandatory to report the catches (length and weight of fish) since 2005. The data for salmon, eel, cod and other species are available in EFIS. The amount and proportion of licensed fisheries catches compared to Estonian total catches are described in two tables below.

Table. Recreational catch vs commercial catch in 2014

Species	**Recreational catch, t**	**Commercial catch, t**	**%**
Platichthys flesus	44,049	204,1	21,6
Perca fluviatilis	25,78	1566,7	1,6
Esox lucius	6,832	65,4	10,4
Coregonus lavaretus	5,054	25,9	19,5
Salmo trutta	4,931	14,6	33,8
Salmo salar	2,524	5,2	48,4
Clupea harengus	2,446	7535,6	0,0
Sander lucioperca	1,244	173,3	0,7
Gadus morhua	0,908	7,0	12,9
Psetta maxima	0,113	0,1	116,3
Sprattus sprattus	0,069	0,6	12,0
Anguilla anguilla	0,005	1,1	0,4

The biggest recreational catch in 2014 was for flounder (44 t) followed by perch, pike, whitefish, sea trout, salmon and other species.

Table. Proportion of recreational catch (%) in the total coastal fishery 2007-2014

Species	2007	2008	2009	2010	2011	2012	2013	2014
Cod	0	0,1	0,1	0,1	0,1	0,1	0,2	12,9
Eel (catches at sea)	3,3	3,9	2,5	3,9	2,8	0,8	0,8	0,4
Eel (inland waters)	3,2	3,5	7,9	6,8	6,4	3,8	3,7	
Salmon *	32,6	35,7	41,4	46,3	47,2	29,5	23,7	48,4
Sea trout *	16,2	19,2	21	25,1	25,6	20,3	22,6	33,8
Flounder	12,8	14,1	16,8	16,4	15,4	13,6	14,5	21,6
Baltic herring	0	0	0	0	0	0	0	0,1
Sprat	0	0	0	0	0	0	0	0
Whitefish	17,4	19	18,4	21,5	23,8	17,4	16,2	19,5
Pike	9	14,7	10,8	9,3	10,2	11,2	7,3	10,4
Pikeperch	1,3	1,3	0,8	0,9	0,7	0,6	1	0,7
Perch	1,4	2,2	1,2	1,4	1,7	1,5	2	1,6

*includes river recreational catches of salmon and sea trout

The proportion of licensed fisheries catches of total catches by species was, in most cases, rather similar to data of earlier years, with significant increase for cod, salmon and some increase for flounder and sea trout.

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

All recreational fishery is covered by catch estimate. Fishing card fisheries catch data for cod, salmon and eel in Table (above) should be considered as exhaustive. Catches of regulated fish species by hobby fishery (except for pike, perch and pikeperch) are marginal and should be considered as irrelevant.

Length, weight and age composition of fishing card fisheries catches were not studied in 2014 (except for salmon and sea trout), due to low volumes of catches and financial restrictions.

No deviations asked.

III.D.3 Follow-up of Regional and international recommendations

No specific for recreational fishery recommendations in 2014.

III.D.4 Actions to avoid shortfalls

No need.

III.E Stock-related variables

Baltic Sea (ICES areas III b-d)

III.E.1 Achievements: Results and deviation from NP proposal

Table III.E.3 contains the information collected during the sampling year.

In the case of *Clupea harengus, Platichthys flesus, Gadus morhua* and *Psetta maxima*, sampling of most parameters was close to the planned level.

In some cases, the achieved data collection was different compared to what was planned in the NP proposal. Some of stocks were oversampled, but this is due to incorporation of data from various (national) financing sources (projects). Actual expenses for sampling in 2014 from the Data Collection Project did not increase.

Parameters for herring (especially length-weight) were oversampled due to incorporation of data obtained from another project sampling commercial catches. Also, sampling of salmon and sea trout rivers, as well as sea trout catches, was more intensive in 2014 due to incorporation of data from an INTERREG project. High numbers of *Perca fluviatilis* were sampled, oversampling was mostly due to another project (selectivity of trapnets).

Our sampling protocol prescribes to analyze all demersal fish in the catch of most gears. Sampling rate (trip No) was kept high due to problems with getting samples of several other species.

Some species were significantly under-sampled as in previous years: salmon (commercial catches), and eel (from West-Estonian Basin District). There is directed fishery only for eel, but catches are extremely low due to stock situation. Additional obstacle was lack of money to purchase fish for sampling as all these species are of high commercial value and prices are high.

Data of eel were collected also from Narva River Basin District. Oversampling from planned sampling rate was necessary to make appropriate statistical assessment for eel stock in the biggest river basin and eel management unit in Estonia.

In 2014, also *Sander lucioperca*, *Coregonus lavaretus* and *Esox Lucius* were undersampled. Low number of analysed fish was due to the stock situation of these species (low/decreasing abundance).

III.E.2 Data quality: Results and deviation from NP proposal

Values of the accuracy indicators will be calculated in an international level, as (in most cases) national samples are too small to get accurate estimates. Oversampling of some species is due to inclusion of data financed from other projects. Undersampling of some species is due to low stock abundance and very low catches.

III.E.3 Follow-up of Regional and international recommendations

See Table II.B.2.

III.E.4 Actions to avoid shortfalls

Better planning of NP proposal is needed in future. Increase of national funding since 2015 will allow to get bigger samples of valuable commercial species which stock is at a low level.

North Sea and Eastern Arctic

III.E.1 Achievements: Results and deviation from NP proposal

Fishery in this area was not included in the NP as fishery there has been more or less occasional, depending on fishing possibilities of the current year. In previous years, due to this reason, sampling was done occasionally.

Fishing activity was low and mostly in Ia; altogether, 5289 t of shrimp *Pandalus borealis*, 1101 t of *Hippoglossoides platessoides* and 249 t of *Gadus morhua* were caught.

As in recent years the catch has been increasing we are planning to add this stock to our NP and start regular sampling next year. EU 2014 landings predicted to be 9000 tons (NAFO/ICES *Pandalus* Assessment Group Meeting, 10–17 September 2014 Greenland Institute of Natural Resources, Nuuk, Greenland. NAFO SCS Doc. 14/18 Serial No. N6365).

In 2014, 3192 shrimp were analyzed from unsorted catches by observer on board.

III.E.2 Data quality: Results and deviation from NP proposal

As fishery in this area has an increasing trend, regular sampling will be included in NP and started since 2015 and will be done by scientific observers on board of the vessels. In 2014, 3192 shrimp were analyzed from unsorted catches by observer on board (which was not included in the NP).

III.E.3 Follow-up of Regional and international recommendations

See Table II-B.2.

III.E.4 Actions to avoid shortfalls

As fishery in this area has an increasing trend, regular sampling will be included in NP and started since 2015.

North Atlantic

III.E.1 Achievements: Results and deviation from NP proposal

Table III.E.3 contains the information collected during the sampling year.

Estonian shrimp fishery in the NAFO area almost ceased and only 1 trip was performed to NAFO area (3L) to catch shrimp in 2014. Observer was on board during the trip and took unsorted samples of shrimp, at the same frequency as in previous years, but the total number of analyzed shrimp was much lower than originally planned (planning was done during extensive shrimp fishery in 3M).

Juvenile redfish (as a bycatch in shrimp fishery) could not be sampled in 2014 due to very low level of shrimp fishery. As planning of redfish sampling was done during the high shrimp abundance when redfish bycatch was substantial, planning of sample size was done in order to get representative data on bycatch. In 2014, only retained catches of redfish were sampled (5615 specimens).

Only 5 trips was performed to catch finfish during 2014 in NAFO. The target species were Greenland halibut and redfish, and these species were sampled for length, weight, age, and sex. Also, in 2014 Estonian vessels caught *Gadus morhua*, *Hippoglossoides ptaesssoides* and *Limanda ferruginea* in NAFO area. These species were not included in the Estonian national sampling programme as there was no fishery for these species during the project planning and reference period. Nevertheless, these species were sampled in 2014 (Tables III.C.6 and III.E.3).

III.E.2 Data quality: Results and deviation from NP proposal

Planning and quality ensuring are rather complicated in the case of the Estonian distant fishery as fishing possibilities are much lower than earlier (due to moratorium on shrimp fishery in 3M) and as we use trained observers in data collection. All data are transferred to the NAFO Scientific Council which assesses the quality of data internationally.

Pandalus was undersampled (as compared to the initial NP proposal) due to the closure of fishery in NAFO area, and for this reason bycatch of redfish in shrimp fishery was not sampled.

Unsorted catches were sampled. No discard or bycatch sampling could be performed, as discarding and bycatch (regulated species) were at very low level (eg discarding in shrimp fishery – 0,014% by weight).

III.E.3 Follow-up of Regional and international recommendations

See Table II.B.2.

III.E.4 Actions to avoid shortfalls

Observers (engaged in sampling in NAFO area) need permanent training for maturity estimation of shrimp and fish, as well as for identification of (rare) bycatch species. This training will be included as a routine before every trip.

III.F Transversal variables

The main data source is EFIS. It contains data from logbooks, landing declarations, sales notes and fleet register. For commercial fishery the Ministry of Agriculture and for recreational fishery the Ministry of the Environment manages the data. VMS data are available from FMC administered by Environmental Inspectorate.

III.F.1 Capacity

III.F.1.1 Achievements: Results and deviation from NP proposal

Table III.F.1 contains the information about the variables collected during the sampling year.

Data collection was exhaustive.

All the relevant information was obtained from Estonian Fisheries Information System (EFIS), which also includes the Fishing Vessel Register. All Estonian fishing vessels with the right to undertake commercial fishery are registered in the Fishing Vessel Register. The Fishing Vessels Register includes all the information concerning the vessel:

- Vessel type e.g. trawler;
- Age of the hull;
- Dimensions of the vessel; GT, length;
- Engine power;
- Vessel owner.

III.F.1.2 Data quality: Results and deviation from NP proposal

Table III.F.1 contains the information about the variables collected during the sampling year.

III.F.1.3 Actions to avoid shortfalls

None.

III.F.2 Effort

III.F.2.1 Achievements: Results and deviation from NP proposal

Table III.F.1 contains the information about the variables collected during the sampling year.

Effort data (days at sea, fishing days, number of trips) are based on data obtained from the Estonian Fisheries Information System (EFIS). It includes all necessary data for trawlers where vessels with length of more than 12 meters are used and therefore the Community logbook is utilized. But for coastal fishery (small vessels mostly with length below 12 meters using passive gears) the data are recorded in national logbooks and due to their vast numbers there have been difficulties with recording above mentioned data electronically into the EFIS. The problem is noticed and in order to improve the situation Ministry of Environment has changed according legislation to improve the filling of logbooks by fishermen and more efforts will be done to

record necessary data into EFIS by Ministry of Agriculture. In addition meetings have been arranged with representatives of fishermen to discuss improved logbooks and to give guidance concerning filling the logbooks.

Data collection was exhaustive for vessels with length of more than 12 meters**.**

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

Table III.F.1 contains the information about the variables collected during the sampling year. Effort data (days at sea, fishing days, number of trips) for coastal fishery were not presented but should become available in near future.

III.F.2.3 Follow-up of Regional and international recommendations

No.

III.F.2.4 Actions to avoid shortfalls

The problem with coastal fishery (small vessels mostly with length below 12 meters using passive gears) has been noticed and efforts have been done to improve the situation. The data is recorded in national logbooks and due to their vast numbers there have been difficulties with recording above mentioned data electronically into the EFIS. Ministry of Environment has changed according legislation to improve the filling of logbooks by fishermen and more efforts will be done to record necessary data into EFIS by Ministry of Agriculture. In addition meetings have been arranged with representatives of fishermen to discuss improved logbooks and to give guidance concerning filling the logbooks.

III.F.3 Landings

III.F.3.1 Achievements: Results and deviation from NP proposal

Table III.F.1 contains the information about the variables collected during the sampling year.

Data collection was exhaustive.

Landings data (based on logbooks and fishermen diaries) are stored in EFIS.

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

Table III.F.1 contains the information about the variables collected during the sampling year.

III.F.3.3 Follow-up of Regional and international recommendations

Table II.B.2.

III.F.3.4 Actions to avoid shortfalls

None.

III.G Research surveys at sea

III.G.1 Achievements: Results and deviation from NP proposal

See standard table III.G.1 with the information collected during the sampling year.

All planned surveys were performed (Figures and Table below).

III.G.1.1. Estonian-Latvian Gulf of Riga herring acoustic survey

Survey was performed in 28 July – 05 August 2014, using the same chartered fishing vessel as in previous years. Altogether 21 trawl hauls were performed and acoustic track of 428 NM was covered with acoustic measurements.

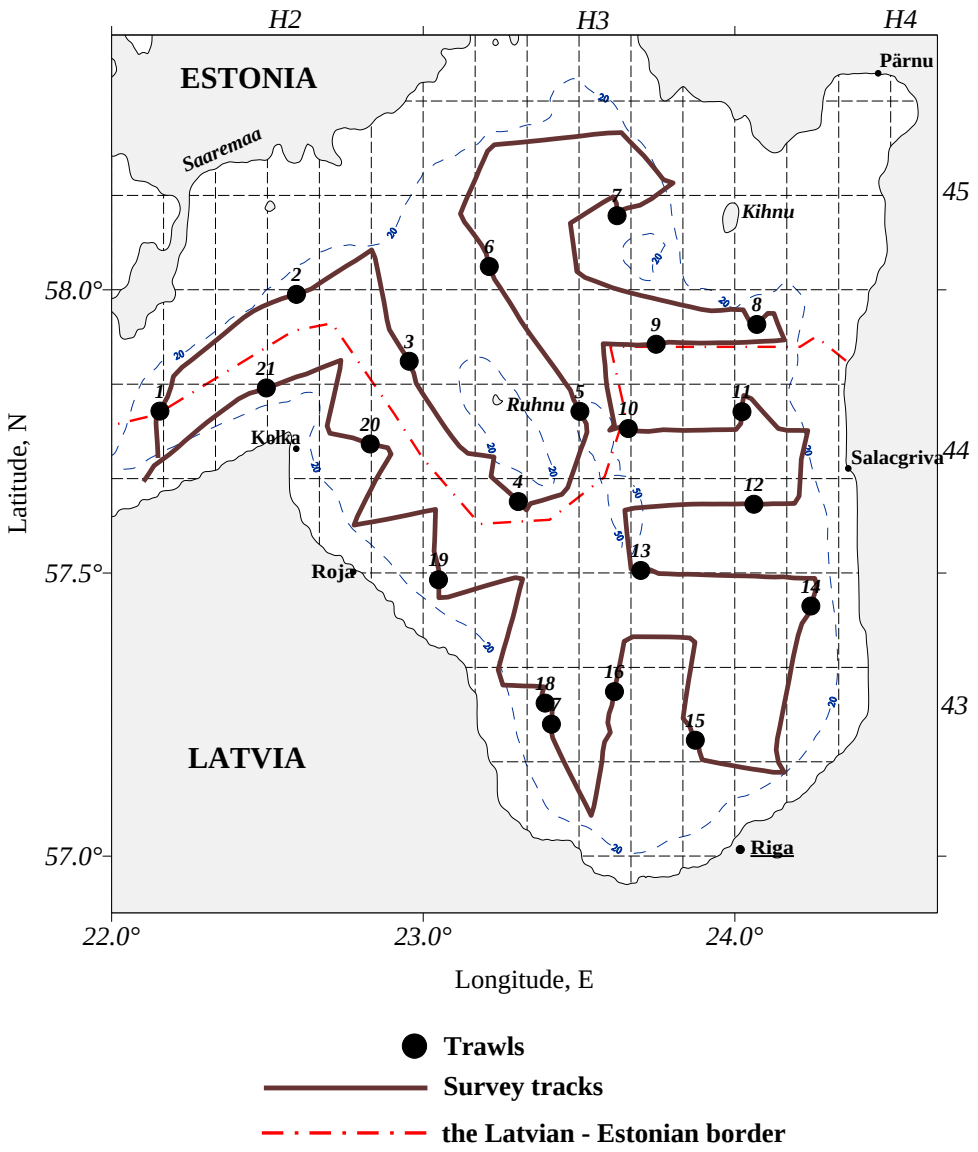


Figure III.G. 1. Survey track and location of control hauls during the EST-LAT acoustic survey in the Gulf of Riga in July 2014. Length of acoustic track 428NM, 21 hauls.

III.G.1.2. Joint Estonian-Polish acoustic survey (within the BIAS) was conducted between 19 and 29 October 2014, using (as in previous years) Polish research vessel “Baltica”. Altogether

306 NM of acoustic survey and 13 contol hauls were realised. All planned survey tasks including 13 control trawl hauls in Estonian EEZ were accomplished. The number of planned trawl hauls indicated in NP (20) was inserted with the prospect to have a joint survey with Finland and covering also the Finnish EEZ in Sub-divisions 29 and 32. All collected acoustic information was uploaded ICES BAD2 database.

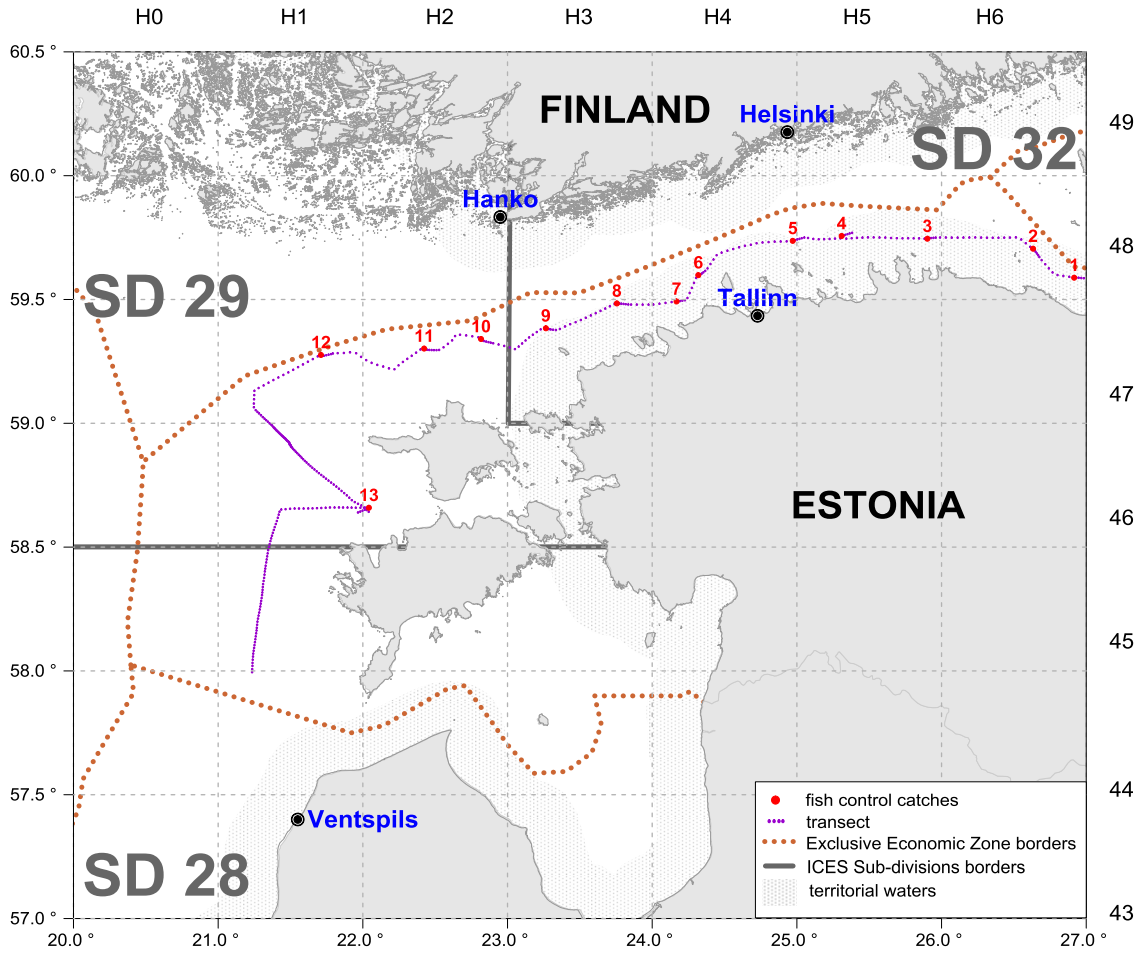


Figure III.G.2. Survey track of EST-POL BIAS in Sub-divisions 28.2 , 29 and 32 in October 2014 (306 NM of acoustic survey and 13 contol hauls were realised).

III.G.1.3. BITS 4 QRT survey was conducted as in 17-20 November 2014. 10 planned trawl hauls were performed in the ICES Sub-divisions 28.2 and 29. The survey was performed using the standard

methodology of ICES Baltic International Trawl Surveys. Alike in the previous years, the small TV3 - 530 demersal trawl was used. The 30´ trawl hauls were performed at randomly chosen position from the Clear-Tow Database. All collected information was uploaded to ICES DATRAS database.

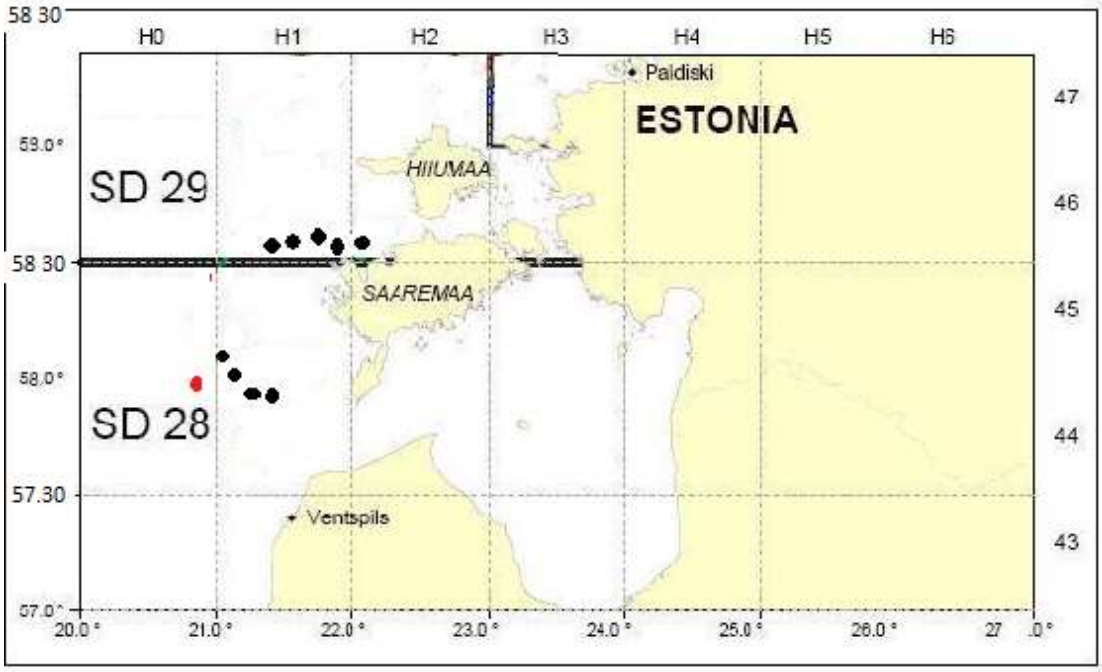


Figure III.G.3. BITS IV QRT survey in November 2014. Black dots indicate the location of trawl hauls.

III.G.2 Data quality: Results and deviation from NP proposal

In the NP Proposal, the number of fish hauls during BITS 4 QRT survey was, by mistake, indicated as 15 (should be 10). No major problems were encountered during the survey. III.G.3 Follow-up of Regional and international recommendations

No.

III.G.3 Follow-up of Regional and international recommendations

See Table II.B.2.

III.G.4 Actions to avoid shortfalls

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 Achievements: Results and deviation from NP proposal

Although it is not mandatory we decided to continue collecting data about the farming of rainbow trout as it forms around 80 % of the commercial aquaculture production in Estonia.

Types of data collection for each economic variable are described in standard table IV.A.3. The data concerning aquaculture were collected as listed and defined in Appendix X of Commission Decision 2010/93/EU. The collection of data depended on source of economic variable. The part of data was collected from the financial statements sent by the enterprises to the Estonia Tax and Customs Board. For other economic variables questionnaires were sent out. It is important to mention that all these surveys have been carried out on a voluntary basis. In spite of source of the variables census type of data collection mode applied.

The willingness to give information on voluntary basis (questionnaires) was not very high among enterprises.

IV.A.2 Data quality: Results and deviation from NP proposal

Accuracy indicators and the values of them are presented in standard table IV.A.3. Response rates was used as accuracy indicator for census type of data collection.

IV.A.3 Follow-up of Regional and international recommendations

There were no recommendations addressed to MS.

IV.A.4 Actions to avoid shortfalls

More clarification about importance of data collection among target group should be one possible way to enhance response rate.

IV.B Collection of data concerning the processing industry

IV.B.1 Achievements: Results and deviation from NP proposal

Types of data collection for each economic variable are described in the standard table IV.B.2.

The data concerning processing industry were collected as listed and defined in Appendix XII of Commission Decision 2010/93/EU. The most part of data was collected from the financial statements sent by the enterprises to the Estonia Tax and Customs Board. Also telephone interviews were applied to specify some variables.

There was a deviation from NP proposal. Instead of probability sample survey census type of data collection scheme was decided to use. It became obvious during the preparation of survey that the size of the population is much modest and most part of data is available from the financial statements of enterprises.

IV.B.2 Data quality: Results and deviation from NP proposal

Accuracy indicators and the values of them are presented in standard table IV.B.2. Response rates was used as accuracy indicator for census type of data collection. Due to the changes in data collection scheme there was deviation from NP proposal. Instead of probability sample survey census type of data collection scheme was decided to use. It became obvious during the preparation of survey that the size of the population is much modest and most part of data is available from the financial statements of enterprises.

IV.B.3 Follow-up of Regional and international recommendations

There were no recommendations addressed to MS.

IV.B.4 Actions to avoid shortfalls

No need.

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

V.1 Achievements: Results and deviation from NP proposal

Standard table V.1 contains the information collected during the sampling year. As in previous years, data on effects of bottom trawling are not collected as there is virtually no bottom trawling in the Estonian EEZ.

V.2 Actions to avoid shortfalls

No problems.

VI. Module for management and use of the data

All fisheries data collected in frames of the National Programme as well as purely from national sources are stored in EMI in several separate databases. Copies of databases are stored also in the Ministry of the Environment. Currently, work is ongoing to join all databases of EMI (including fisheries databases) into a common system. As the first step, a meta-database of all available data (since the 1940s) is still under construction. This work is financed from other sources. Financing (from other sources) will be available to include all historic data into digital database presumably by the end of 2016. Fisheries data for 2005-14 are in agreed format and easily accessible from the institute. Survey data and data of test fishing for 2014 are already or will be shortly available from the Fish Resources Department, Ministry of the Environment.

Ministry of the Environment has established two new modules in information system to fulfil the requirements of COMMISSION REGULATION (EC) No 665/2008 articles 8 and 9. All the primary and metadata for 2014 collected under DCF will be uploaded and available at the end of the year. Data call requests received and the responses provided in 2014 are registered in EFIS.

Data collected in frames of DCF are forwarded to correponding international users (Table VI). In addition, these data together with data for local species not included in DCF, are included in databases and analyzed by EMI. The results are regularly reported to EME and EMA which use these reports to manage local stocks. Management measures for regulated stocks (agreed internationally) are also included in these reports.

VI.1 Achievements: Results and deviation from NP proposal

Standard table VI.1 contains the information collected during the sampling year.

Data of previous years are uploaded in FishFrame 3.2 or 4.1.
Since 2010, all data on analyses of commercial catches have been uploaded in the Regional database FishFrame 5.0.

VI.2 Actions to avoid shortfalls

No deviations identified; no actions needed.

VII. Follow-up of STECF recommendations

Recent (2014) recommendations – see Table II.B.2.

STECF recommendations	**Follow-up**
SGECA 10-03 recommended MS to increase the effort in acquiring responses from the sample or from the population, as the level of non response is affected by the methods used to carry out the survey.	Estonia is following this recommendation.
SGECA 10-03 recommended MS to cross-checking data coming from different sources.	Estonia takes this recommendation into consideration. The data is crosschecked in EFIS. Observer data is checked with VMS and EFIS.
With regard to the processing sector, SGECA 10-03 observed that official statistics on economic data on the processing sector are already available. In case official statistics cannot be used to meet the requirements of DCF, MS should clearly explain the reason and justify the use of additional surveys.	Estonia takes this recommendation into consideration.

SGECA 10-03 suggested guidelines on how MS should collect and present information on quality of the data collected.	Estonia is following this recommendation.
SGECA 10-03 recommended all MS to submit data in the given time frame and thoroughly check the data quality before submitting them.	Estonia is following this recommendation. Several checks are performed before upload – checks for unusual values, comparing totals etc.
EWG 11-19 recommends MS to refer to paragraph "5.2 Best practices" of the final report of the capital WS as guidelines for capital estimation.	Estonia takes this recommendation into consideration.
EWG 11-19 recommends MS to keep the clustering scheme consistent over time, and if not to explain the reason in the AR.	Estonia takes this recommendation into consideration.
EWG 11-19 recommends MS to apply the method proposed by the "capital WS" and to give details on the average wages used in the AR.	Estonia will follow this recommendation.

VIII. List of acronyms and abbreviations

AR	Annual Report
BIAS	Baltic International Acoustic Survey
BITS	Baltic International Trawl Survey
CPUE	Catch per unit effort
CV	Coefficient of variation
DCF	Data Collection Framework
DCR	Data Collection Regulation
EEZ	Exclusive economic zone

EFIS	Estonian Fisheries Information System (a computerized database for commercial fishery in the Fisheries Department, Ministry of Agriculture, for recreational fishery – Ministry of the Environment)
EMA	Estonian Ministry of Agriculture
EME	Estonian Ministry of the Environment
EMI	Estonian Marine Institute, University of Tartu
EU	European Union
FMC	Fisheries Monitoring Centre
ICES	International Council for the Exploration of the Sea
LM	Liaison Meeting
MS	Member States
NA	North Atlantic
NAFO	North Atlantic Fisheries Organization
NC	National Correspondent
NM	Nautical mile
NP	National Programme
PIM	Perpetual Inventory Method
RCM	Regional coordination meeting
SD	Sub-division
SGECA	STECF Subgroup on Economic Affairs
SGRN	STECF Subgroup on Research Needs
STECF	Scientific, Technical and Economic Committee for Fisheries
VMS	Vessel monitoring system
WGBFAS	Baltic Fisheries Assessment Working Group (ICES)
WGBIFS	Baltic International Fish Survey Working Group (ICES)
WGBAST	Baltic Salmon and Trout Working Group (ICES)
WGEEL	Joint EIFAAC/ICES Working Group on Eels

IX Comments, suggestions and reflections

No.

X References

No.

XI Annexes

No.