

DCF Workshop “Using fishing activity levels in economic data collection”

The Hague, The Netherlands 13 - 17 October 2014

#

Contents

DCF Workshop “Using fishing activity levels in economic data collection”	0
The Hague, The Netherlands 13 - 17 October 2014.....	0
Executive summary	1
Introduction.....	4
Terms of reference and objectives for the workshop.....	4
Workshop process	5
TOR 1. Identify differences in activity levels for fleet segments covering all regions.....	6
TOR 2. Develop consistent methodology to distinguish between: - “Commercial” and “non-commercial” fishermen (revenue) - Normally active and less active fishermen (effort/revenue).	10
TOR 3. Test the effects of application of these two approaches to the fleet segments.....	12
TOR 4. Investigate possible implementation procedures (esp. in cases where no/little auxiliary information is available) Develop advice on the issues concerned with the application of different thresholds and ways forward.	15
TOR 5. Develop advice on the issues concerned with the application of different thresholds and ways forward.	17
Annex 1. List of participants	19
Annex 2. Presentation on the introduction of the subject and the “Utopian Case”	22
Annex 3. The MS Presentations on the effects of stratification based on activity levels.....	23
Annex 4. Presentations on application of FADN thresholds	36
Annex 5. Complete list of issues/statements from the cases	32

DCF Workshop “Using fishing activity levels in economic data collection” , The Hague, 13-17 October 2014

Executive summary

The target population for the economic data collection program in the EU includes all vessel in the EU fisheries register (Council Regulation (EC) No 199/2008 of 25 February 2008). Although being part of the vessel register for commercial fishing vessels, the activity level of the vessels varies considerably from being completely inactive and generating no income at all to fishing almost all year round and generating millions of Euros. As from 2009 the inactive vessels have gained a specific position in the reporting and data collection, but within the vessels that are active no distinction has been made so far between vessels that are operating normally/commercially and those that show low levels of activity (fishing very few days and/or earning small amounts of money), although from an economic and social perspective these two groups are very different. During PGECON in May 2014, it was recommended that a workshop should be held on the usefulness and implementation issues of a distinction between in the data collection programme for economic data under the DCF in order to take steps forward on this long debated topic.

The TOR for this workshop were set as:

- Identify differences in activity levels for fleet segments covering all regions
- Develop consistent methodology to distinguish between: - “Commercial” and “non-commercial” fishermen (revenue) - Normally active and less active fishermen (effort/revenue)
- Test the effects of application of these two approaches to the fleet segments
- Investigate possible implementation procedures (esp. in cases where no/little auxiliary information is available)
- Develop advice on the issues concerned with the application of different thresholds and ways forward.

In addition to the TOR it was clearly stated that the objective of this workshop was to facilitate for a distinction in the reporting of the data; NOT to limit the data collection to the vessels with high activity levels.

The approach to the issue was to assemble a set of representative cases of fleet segments around the EU and analyse the activity patterns and the effects of distinguishing between vessels with low levels of activity and normal activity and discuss the TOR, based on the findings.

In order to prepare the cases, each participant was asked to fill in an excel sheet for one or two fleet segments with disaggregated data on a vessel level on effort, landings, landings value and two cost items.

The excel sheet included some standard automated analyses about:

- Distribution of activity levels
- Relationship among activity level indicators and between activity levels and cost items
- Identification of logical threshold levels
- Analyses of the consequences of stratification for: group size, CV of estimations and Average costs of active vessels

Based on the outcomes of the analyses, each participant was asked to prepare a preformatted presentation. In total 12 presentations (DK, EL, FI, GE, GR, IT, ML, NL, PO, UK, SL) were prepared by

participants of the WS and two presentations were prepared by experts who were not able to attend (FR and IR). Moreover, FR also send a paper on their position on the issue of thresholds which was presented to the EWG (Annex 3) All presentations were prepared and presented to the groups by teams of two experts, commenting on each other's case (Annex 4). Based on the analysis of the cases a gross list of issues was made (Annex 5) and participants worked in small groups to develop texts for the report. In addition, the implementation of the FADN system of thresholds to define the population of "commercial farms" was given by dr. Hans Vrolijk from LEI to stimulate the discussion (Annex 6). Thursday afternoon the conclusions and recommendations were discussed and agreed upon and Friday was used to finish parts of the report.

Based on the discussions the group concluded the following:

- By definition, the population of vessels in the EU vessel register covers all commercial fishing vessels. Considerable differences can be seen between different vessels in terms of economic importance, social importance and behaviour to management changes, resulting from differences in local context.
- In order to take into account these differences in the data collection a distinction between low active vessel and high active vessels could be useful.
- Distinction should be made between thresholds for data collection and for reporting (reporting threshold)
- MS are free to apply sub-stratification in their data collection program. A sub-stratification based on activity level may help to increase the quality of the estimates and/or the cost effectiveness of the data collection programme.
- The application of a reporting threshold will lead to more transparency of the importance (economic and social) of low active and high active vessels in specific cases.
- The threshold should distinguish between vessels which are operated by "economic agents", thus following the principle of profit maximisation and being a relevant source of income, and vessels which are not a relevant source of income and are not predominantly operated for profit maximisation.
- The distinction between low active vessels and high active vessels mainly applies to small scale fisheries. In large scale fisheries (>12 meters) a threshold may only identify vessels with abnormally low activity levels.
- It should be evaluated at national level whether the implementation of a reporting threshold leads to better quality estimates, taking into account methodological and data issues (e.g. low observation numbers), and results that better represent the two types of vessels. In fleets with high regional differences in standards of living, application of overall national thresholds for reporting might not be useful.
- There is not one solution to the most optimal application of thresholds to all Member States/fisheries, but the applicability of a threshold depends on the management context and the type of fishery. However, the group considers that in using a set of fixed thresholds, based on economic indicators used to describe the income of the firm (e.g. FADN, average total revenue per vessel) may provide a pragmatic solution to come to a consistent set of thresholds. A short-term contract should provide an analysis of potential indicators (see TOR in appendix ..) for the next PGEcon meeting including examples of the application, based on which PGEcon can decide on the indicator to be used. This discussion in PGEcon will be based on an application of the proposed

indicator and resulting threshold to a selection of cases (using the excel sheets) as was done before the workshop on stratification.

- In case a reporting threshold is used, the rationale for using a threshold should be clearly described in the National program and in the description of the results.
- In order to facilitate the use of reporting thresholds JRC should facilitate the reporting of economic data for the two different groups.

Introduction

The target population for the economic data collection program in the EU includes all vessel in the EU fisheries register (Council Regulation (EC) No 199/2008 of 25 February 2008). Although being part of the vessel register for commercial fishing vessels, the activity level of the vessels varies considerably from being completely inactive and generating no income at all to fishing almost all year round and generating millions of Euros. As from 2009 the inactive vessels have gained a specific position in the reporting and data collection, but within the vessels that are active no distinction has been made so far between vessels that are operating normally/commercially and those that show low levels of activity (fishing very few days and/or earning small amounts of money), although from an economic and social perspective these two groups are very different. Mixing these vessels has a number of consequences for the use of the data. In case fleet segments consist of both normally active fishing vessels and vessels with low levels of activity, the average economic performance, may not resemble normal fishing practice and therefore will have limited use for bio-economic analysis. As such, combined data is less useful to carry out economic evaluations of management measures or to estimate consequences of implementation of new CFP. During the last decade an on-going discussion has taken place about the usefulness of distinguishing between vessels that are operating normally/commercially and those that show low levels of activity (fishing very few days and/or earning small amounts of money). Some argued in the economic data collection a threshold should be implemented to filter out vessels that show low levels of activity (measured in earnings) as these vessels could not be regarded as economic agents and the use of a filtering threshold would allow for a more accurate and cost efficient data collection. Others argued that as all vessels in the vessel register are by definition commercial fishing operations, implementation of such a filtering threshold should not be done. During PGECON in May 2014, it was recommended that a workshop should be held on the usefulness and implementation issues of a distinction between in the data collection programme for economic data under the DCF in order to take steps forward on this long debated topic.

Terms of reference and objectives for the workshop

The workshop was chaired by Hans van Oostenbrugge. In the beginning the group agreed on objectives to be achieved.

The TOR for this workshop were set as:

- A) Identify differences in activity levels for fleet segments covering all regions
- B) Develop consistent methodology to distinguish between: - “Commercial” and “non-commercial” fishermen (revenue) - Normally active and less active fishermen (effort/revenue)
- C) Test the effects of application of these two approaches to the fleet segments
- D) Investigate possible implementation procedures (esp. in cases where no/little auxiliary information is available)
- E) Develop advice on the issues concerned with the application of different thresholds and ways forward.

In addition to the TOR it was clearly stated that the objective of this workshop was to facilitate for a distinction in the reporting of the data; NOT to limit the data collection to the vessels with high activity levels.

Workshop process

The approach to the issue was to assemble a set of representative cases of fleet segments around the EU and analyse the activity patterns and the effects of distinguishing between vessels with low levels of activity and normal activity and discuss the TOR, based on the findings.

In order to prepare the cases, each participant was asked to fill in an excel sheet for one or two fleet segments with disaggregated data on a vessel level on effort, landings, landings value and two cost items. The excel sheet included some standard automated analyses about:

- Distribution of activity levels
- Relationship among activity level indicators and between activity levels and cost items
- Identification of logical threshold levels
- Analyses of the consequences of stratification for: group size, CV of estimations and Average costs of active vessels

Based on the outcomes of the analyses, each participant was asked to prepare a preformatted presentation. In total 12 presentations (DK, EL, FI, GE, GR, IT, ML, NL, PO, UK, SL) were prepared by participants of the WS and two presentations were prepared by experts who were not able to attend (FR and IR). Moreover, FR also send a paper on their position on the issue of thresholds which was presented to the EWG (Annex 3) All presentations were prepared and presented to the groups by teams of two experts, commenting on each other's case (Annex 4). Based on the analysis of the cases a gross list of issues was made (Annex 5) and participants worked in small groups during Wednesday and Thursday to develop texts for the report. In addition, the implementation of the FADN system of thresholds to define the population of "commercial farms" was given by dr. Hans Vrolijk from LEI to stimulate the discussion (Annex 6). Thursday afternoon the conclusions and recommendations were discussed and agreed upon and Friday was used to finish parts of the report.

TOR 1. Identify differences in activity levels for fleet segments covering all regions

During the first two days of the meeting analyses on 17 national fleet segments were presented. These fleet segments resembled an representative sample of most EU fishing fleets, covering all fishing areas and regions and a variety of main gear types. The cases represent both small scale and large scale fisheries, although the focus was mainly on small scale fisheries. The presentations can be found in Annex 4. The results of the analyses of the differences in activity levels are presented in table 1.

Table 1: Summary of results of differences in activity levels for the various cases.

Country	Segment	Characteristics (total nr of vessel)	Distribution of activity indicators	Relationships among activity levels (range of R2)	Relationships with costs (range of R2)
DK	PGP0010	855	Effort is highly skewed	Landing value 482 € per seaday (R2=0,456)	Cost 16 € per seaday (R2=0,054) Cost not dependant on days at Sea
DK	PGP1218	35	Trimodal: below 50 / 80-180 / above 190 days at Sea	Landing value 3108 € per seaday (R2=0,526)	Cost 399 € per seaday (R2=0,418)
EL	PGP0612	9,037 (most important segment in Greece)	Effort: Left-skewed normal (with one possible natural group Landings/ landings value: Exponential distributions	0.13-0.21	Moderate, Fuel:0.25-0.55 R2, Maint costs 0.2-0.4
FI	VL0010	1,144 (high number of low activity vessels)	Skewed distribution of effort. Distribution of landings and value is even more skewed.	Low relationship with fishing days (soaking time). Effort no good measure for stratification	Correlation with landings and landings value low: for fuel costs 0.03 and 0.22 respectively; and for maintenance costs 0.46 and 0.37.
FI	DTS	45 (Merger of 3 trawler segments)	High variance in effort, single outlier for landings and value. Landings and value distribution skewed.	Dependency on effort (R2=0,5-0,6)	High correlations; coefficient of correlation 0.8-0.9
FR	Atlantic-Channel-North Sea/2010 Gillnetters	401 vessels (sample = 72)	High variance in effort, outliers for landings and value. Landings and value distribution skewed. No clear group distinction	Reasonable relation between effort and value of landings (R2=0.53), low R2 for effort and landings (R2 = 0.32). Quality of data questionable (under declaration).	High correlations between costs and value of landings and landings 0.8-0.9. Question about meaningfulness of R2 as measure for relationship
GE	TBB1224		Effort normally distributed between 100 and 230 das. Some low values landings and value somewhat skewed. Possible threshold at 70 das?	Poor relationship between activity indicators (R2 0.1-0.2). Das bad indicator for activity level.	Low dependency of costs on activity levels. Max R2 for maint. Costs and landings value (R2 0.7)
GE	PG0812		Effort landings and value highly skewed distribution with low minimum values. No clear group distinction	Reasonable relation between activity indicators (R2 0.5-0.6). Vessel indicator might further increase correlation.	Low dependency of costs on activity levels. Max R2 for maint. Costs and landings value (R2 0.7)
HR	PS24XX	73 (cluster: purse seiners for SPF and LPF)	Bimodal distribution for effort, but only small group of low activity vessels (less than 10 vessels)	Reasonable relation between effort and landings (R2=0.416) and effort and landings value (R2=0.569)	Low correlation with maintenance costs higher correlation with fuel costs.
HR	DTS0612	234 Demersal trawlers and demersal seiners	High variability with no clear group distinction High number of vessels with low landings, highly skewed distribution	Reasonable relation between effort and landings (R2=0.530) Lower dependency between effort and landings value (R2=0.393) Possible causes: the nature of the fishing technique, heterogeneous groups of vessels	High dependency on fuel costs, and low on maintenance costs.
IE	DTS2440	Demersal trawlers and (DTS and SSC) for nephrops and witefish	Effort is skewed to the right with majority of vessels having DAS>200 Landings skewed to left and value spread out. No clear group distinction	No relationship between effort and landings (R2 = 0.00), but it seems that there are two distinct relationships. Relationship between value and seadays poor	High dependency of fuel costs with effort and landings value (0.8-0.9). Poor dependency of maintenance costs
IT	PPV0006	2,699 highly artisanal-in-	Variability with no clear group distinction	Large heterogeneity in the segment (different gears, areas, employment,	Low dependency (Fuel from -0.24 to 0.02; Maintenance from 0.19 to 0.32)

nature, with the highest number of inactive or low-active vessels

etc.). Low correlation

MT	DTS1824	12	Efforts and Landing are distributed in 3 groups but take into consideration the small number of observations. High variability in Landings value	Given in GT-days Low correlation between effort and landings and higher between effort and landings value	Costs are related but due to low number of observations
NL	PGP0012	197 Combination of different passive fishing techniques.	Highly skewed distribution for effort, landings and value. No obvious thresholds	Low correlation between activity indicators	Fuel costs are correlated to landings and landings value (R2 0.8-0.9). Dependency of maintenance cost low. (R2<0.7)
NL	TB2440	54	Low variability in effort (between 200 and 300 DAS) landings and landings value. One outlier for landings	Low correlation between activity indicators	Fuel costs are correlated to landings (R2 0.8) otherwise no correlations
PL	TM2440	47	High variability in all variables (effort from 50-200 das)	Low correlation. (likely is going to improve since kWdays considered)	Fuel costs highly correlated with landings and landings value.
PL	DTS1218	79	High variability in all variables	Moderate correlation	High correlation between effort and fuel costs low in case of maintenance costs
SI	DFN0012	58 Drift netters and fixed netters	Skewed with long tail. High variability on Effort. No obvious thresholds	Low high dependency on effort 0.4-0.50	Low dependency 0,01-0,17
UK	FPO0010	Static gears - mixed fishery, One of largest segments in UK for vessel numbers	Highly skewed distribution for effort, landings and value. No obvious thresholds	Low dependence	Some dependency on activity (0.3-0.7) maintenance costs more variable than fuel costs

Main conclusions that can be drawn from this:

- Nearly all cases show high variation in activity level, both in effort, landings and landings value. Only one large-scale segment shows homogeneous activity levels (e.g. Beamtrawlers in the Netherlands)
- In most cases the distributions of especially landings and landings value are highly skewed, with the majority of the vessels having relatively low landings and landings values and some vessels having much higher values.
- Minimal effort is low in all segments. Although minimal landings and value of landings of large scale fisheries is in general much higher than for small scale fisheries.

During the meeting many possible reasons for low activity levels were mentioned:

- fisheries can be seasonal and as such effort will be limited. It was stressed that despite this, fisheries can still provide an essential part of the livelihood in combination with other activities.
- Fishermen can have economic incentives for being in the fleet register, like attaining quota and/or licences or speculating on options for decommissioning.
- In all MS being in the vessel register is a precondition for being able to sell your fish and as registration fees are not very high, fishermen keep this option.
- Technical failure/maintenance

Besides these reasons for low activity levels there are other reasons why the registered activity levels are low. The main reason for this is underreporting. This was mentioned for a number of MS during the meeting and does not have to be due to illegal practices. Especially small-scale fisheries do not have to register all catches, leaving them with possibilities to legally underreport landings and activity levels.

It can be concluded that the reasons for low activity levels are numerous and often depend on the national context. As such it is very difficult to draw general conclusions on what is low activity on an EU basis.

TOR 2. Develop consistent methodology to distinguish between: - “Commercial” and “non-commercial” fishermen (revenue) - Normally active and less active fishermen (effort/revenue).

Reasons to distinguish between active and less active fishermen.

As concluded under TOR 1 there is considerable variance in activity levels in many of the cases examined. As such it can be justified to reason for a distinction in subgroups in reporting, based on activity levels.

Reasons for doing so are:

- to improve the statistical precision of the reported data and related forecasts to be prepared by the end users (scientists, industry, managers and politicians). The threshold should make it possible to make the segments more homogenous by separating units that have different levels of activity.
- to allow for transparency in data collection procedures and data sources, which might be different for low activity fishermen leading to a more efficient assignment of data collection resources, but also to differences in quality of the obtained information.

In case data on activity levels would be available at the start of the data collection, stratification might also lead to more cost efficient data collection schemes. The EWG concluded however that the availability and quality of control data for all vessels (logbook) is such that in many fisheries, such a stratification is not feasible. Implementation of the distinction between active and less active fishermen by post stratification could lead to improved statistical precision of the reported data also in those cases, but this would initially give extra cost.

It is the perception of the WG that proper stratification will have a positive effect on the precision for the above threshold group. Also the below threshold group will benefit from the separation, as the less active could become a visible segment, which, although the production is relatively low, can include a large number of part time fishermen. The less active fishermen would not disappear and become a minor part of the average in the overall segment. For local/coastal management of fishery this segment could be used as a source for assessment.

Selecting variables to be used in defining the threshold

The EWG agreed on the three main indicators for activity levels to be used as the basis of the definition of the threshold: Effort, landings and value of landings. The analyses of the cases showed that for most cases the effort (expressed in DAS), landings and landings value showed limited correlations. Because of this, it was found appropriate to try and select one indicator for the activity level to allow consistency in the methodology. Based on the outcomes of the cases the usefulness of the indicators was discussed. The conclusions are summarised in Table 2.

Table 2 Summary of results of differences in activity levels for the various cases.

Criteria	Justification	Active/passive gears	Advantages	Disadvantages
Effort (DAS)	Direct indicator of the activity level of the vessel	More appropriate for active gears, however GT*days and/or kW*days should be used; since it doesn't consider the soaking time it seems less appropriate in the case of passive gears	In general higher reliability of the data (more precise data is reported on the logbook), unless an effort quota system is in place; comparable data among countries or regions	Less suitable with the quota system (e.g. in few days all the quota could be landed); no international or regional benchmark; large variation between segments
Landings (Kg)	Indirect indicator of the activity level of the vessel; Direct indicator of the impact on the stocks	Less applicable in the case of multispecies fisheries due to the high variability in terms of landings	Comparability among countries or regions (not linked with economic indicators)	Highly variable with the same activity and economic output

Value of landings	Direct indicator of the economic performance of the vessel; Indirect indicator of the activity level of the vessel	Applicable for both categories	Availability of international benchmarks (e.g. FADN)	Less comparable among countries or regions, adjustment to the standard of living may be considered
-------------------	--	--------------------------------	--	--

Based on the above, the EWG concluded that the indicator of income was the most appropriate one to base a threshold on.

Defining the level of the threshold

The EWG discussed various options for defining the level for the threshold.

The possible thresholds can be categorised as follows:

A) Fixed threshold

It consists of a given value per country per year. For instance the FADN system for collection of economic data for agriculture uses a threshold based on a calculated standard output value, which has been set at different levels (2000, 4000, 8000, 15000, or 25000 Euro) for different Member States.

B) Variable/statistical threshold

In this case a rule is established rather than a fixed value. It can be based on a proportion of a statistical indicator as shown below:

- a. A percentage of the average value of the segment or the sector (e.g. 20% of the mean value)
- b. The threshold is set in order to distinguish between groups that account for a certain percentage of the total (e.g. vessels that account for less than 5% of the total)

Table 3 Advantages and disadvantages of the different options for setting a threshold.

	Advantages	Disadvantages
Fixed threshold	<ul style="list-style-type: none"> - Regional comparison - Suitable to segments and countries 	<ul style="list-style-type: none"> - Not flexible - national or regional adjustments (e.g. PPP or cost of living)
Variable/ statistical threshold	<ul style="list-style-type: none"> - Flexible - Suitable to segments and countries - No need for national or regional adjustments (e.g. PPP or standard of living) 	<ul style="list-style-type: none"> - Regional comparison - Could not reflect reality (e.g. doesn't distinguish between low active and high active vessels) - Dependent on the average activity level of the sector

After an in-depth discussion and considering the results of the analysis, the group recommends the 'fixed threshold'. However, the economic indicator to be used as a threshold needs to be identified.

TOR 3. Test the effects of application of these two approaches to the fleet segments

In order to test the approach, the prepared xls-sheets also included an analysis of stratification of the data based on different thresholds based on effort, landings and landings value. Table 4 shows the used thresholds and table 5 summarises the results of the stratification.

Table 4 Overview of used thresholds for the analyses of the cases.

Country	Segment	Effort (DAS)			Landings (*1000 kg)			Landings value (*1000 Euro)			rationale for levels
		Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	
DE	PG0812	50	100	150	20	60	100	10	50	100	
DE	TBB1224	70	140	210	50	100	150	100	200	300	
DNK	PGP0010	40	80	120	20	30	40	25	35	45	
DNK	PGP1218	40	80	120	20	40	60	25	35	45	
EL	PGP0612	90	150	280	1	3	7	4	20	40	Based on a) the distribution and b) the increasing accuracy. Value of Landings seems most rational of thresholds for entirety of UK fleet.
FI	DTS	50	100	150	5	10	40	5	10	40	
FI	VL0010	50	100	150	5	10	40	5	10	40	
FR		70	100	130	10	25	40	50	100	200	130 < > 15% of cum value, 40,000 < > 10% of cum value, 200,000 < > 10% of cum value
HR	DTS0612	50	100	150	20	60	100	10	50	100	
HR	PS24XX	50	100	150	20	60	100	10	50	100	
IE	DTS2440	50	100	150	10	50	100	10	50	100	
IT	PPV0006	65	95	110	1.1	1.5	1.9	11	12.5	16	They represent respectively 5%, 10% and 15% of the values
MT	DTS1824				2	16	30	25	50	100	categorised depending on the variation of the values
NL	PGP0012	5	15	50	2	10	20	10	25	50	set arbitrary in order to divide population into subgroups and perform further analysis
NL	TB2440	190	200	225	400	500	600	1600	1700	2000	set arbitrary in order to divide population into subgroups and perform further analysis
PL	DTS1218	90	120	140	400	900	1500	120	300	600	set arbitrary in order to divide population into subgroups and perform further analysis
PL	TM2440	90	130	180	100	250	500	70	150	300	set arbitrary in order to divide population into subgroups and perform further analysis
SI	DFN0012	20	50	100	1	2	3	5	10	15	
UK	FPO0010	50	100	150	20	50	100	10	100	150	Skewed distribution with long tail. 10000 Euro Selected to fit in with UK £10,000 threshold.

Table 5 Summary of results of stratification based on activity thresholds.

Country	Segment	Effect stratification on group size	Effects on CV	Effects on Average costs
DE	PG0812	Effort evenly distributed, landings and value skewed 82 vessels (40% in smallest class, No natural level of threshold. 10.000 will	Marginal effects of stratification only maintenance costs decrease considerably, might be due to small number of observations	Less suitable with the quota system (e.g. in few days all the quota could be landed); no international or regional benchmark; large variation between segments
DE	TBB1224	Normal distribution for effort with few vessels with low activity (less than 70 days)	No added value for stratification	Highly variable with the same activity and economic output
DK	PGP0010	Majority of the vessels are below the thresholds	Some positive effect on CV	No effects of low threshold some on high threshold
DK	PGP1218	Small below threshold group / Majority above threshold	Positive effect on CV	Only high threshold has effect
EL	PGP0612	L1: Majority above the thresholds, L3: majority below thresholds	No clear effect on CV	Increasing averages, excl. effort thresholds
FI	DTS	No low-activity group; if the national threshold of ~10,000 euros is applied all vessels would be above the threshold	Stratification improves the CVs in some cases	Average costs rise with higher thresholds
FI	VL0010	Threshold of 5,000 euros in landings value introduces low number of observations in the low-activity stratum, however the population is big.	CV increases with stratification in most cases for fuel costs, CV decreases with level 3 stratification on landings for maintenance costs.	Average value of landings increases much more than costs
FR				
HR	DTS0612	Large number of vessels below thresholds	CV slightly decreased	Averages increased
HR	PS24XX	Large number of vessels above thresholds	CV slightly decreased	Averages increase, except in case of maintenance costs which are constant
IE				
IT	PPV 0006	No significant effects can be observed	In many cases CVs are higher after the application of the thresholds	Landings values and maintenance costs increase while Fuel costs decrease
MT	DTS1824	Results in very small groups!	No results	No clear results because of small number of vessels
NL	PGP0012	High levels result in low numbers of observations	CV of fuel costs decreases slightly in most cases, CV of maintenance costs decreases significantly (up to 30%) in most cases	Averages follow changes in thresholds
NL	TB2440	Extreme values result in small number of observations	In many cases CVs decrease little, in some also increase	Fuel costs remain relative stable with increasing effort and value thresholds and increase with landings volume, Maintenance increase with effort and value, but decrease with landings volume
PL	DTS1218	Changes in number of vessels and observation are more less proportional to changes in thresholds.	CVs deteriorate or change slightly compared to base case	Averages follow changes in thresholds
PL	TM2440	Number of observation above and below change proportionally to changes in thresholds	CVs deteriorate or change slightly compared to base case	Averages follow changes in thresholds
SI	DFN00-12	Majority below the threshold. Slovenia, 5.000 minimum wage, for each vessel	Landings value, Fuel costs and Maintenance costs increasing with increasing thresholds	
UK	FPO0010	Large amount of vessels below the higher thresholds. Too small segment sizes.	CV largely decreased but for the most part changes were negligible. Landings of Value (Fuel Costs) CV increased for	Large impact

From the analyses it can be concluded that the theoretical statistical advantages of the thresholds are not obvious from these applications. In many cases the added value of application of the thresholds is small and in some cases the resulting CV is even higher than without the application of the threshold. This was not expected but might be very well due to the none normality of the distributions (many are highly skewed), the small amount of observations in some of the resulting groups. Consequently, the results are much more random than expected, but this can be explained by the poor relationship between costs and the activity indicators.

The effects of the application of the thresholds for the average costs are more intuitive, where average costs of the vessels above the thresholds are increasing, depending on the level at which the thresholds are set.

TOR 4. Investigate possible implementation procedures (esp. in cases where no/little auxiliary information is available) Develop advice on the issues concerned with the application of different thresholds and ways forward.

The EWG discussed thoroughly the possible implementation issues for setting a threshold. The issues are listed below.

Methodological issues

- Statistical issues:
 - One of the main reasons to introduce a threshold is getting more accurate estimates. Thus the objective is to ensure that applied stratification leads to higher precision and better accuracy.
 - When calculating and evaluating the accuracy indicator values (e.g. CV), the different estimation methods in different countries should be taken into account as they influence the accuracy indicators.
 - The estimation and the value of the coefficient of variation for the estimate relates to the sampling design and estimation methods used in the Member State. In the analysis presented in the WS it is assumed that MS use only the simple random sampling scheme (sample is a simple random sample) and the estimation is made raising the average to the population (this is Horvitz-Thompson estimator which is valid when the sample is a simple random sample). In practice, MS can choose the best sampling scheme and estimation method they use taking into account the data availability and national characteristics of the fisheries. And in many MS the more advanced sampling design and more advanced estimation methods has been used in which case the random sampling assumption is not always applicable. One should be cautious when making conclusion on thresholds based on the analysis done in the WS for the MS that use other sampling schemes and estimation methods than demonstrated in the WS.
 - How do different sampling schemes affect setting the threshold and stratification? The group discussed the issue and concluded that in case census data is available, stratification can be applied prior to data collection. Post-stratification is possible, even without census data, although it might be more challenging.
- Defining the threshold:
 - Setting a threshold for large scale vessels (over 12 meters) should only affect vessels that have low effort levels due to abnormal conditions. Perhaps for large scale vessels there is no need for a threshold; in general, they are more business oriented, efficient and more homogenous groups. Setting a threshold could be more useful with small scale vessels (there are more low-activity vessels).
 - How to define in which strata the vessels belongs to (low vs. high activity vessels)? Two year average could be used for defining samples. However, this would make the stratification process more complicated, and the effect of including data from several years would level out quite quickly. The group concluded that data from one year can be used for determining an appropriate activity level stratum for a vessel.

Data quality

The group has discussed data availability issues and its possible influence on setting thresholds and on the resulting estimates. Two different data collection systems for the collection of transversal data were discussed. Member states either use control data or have a sample survey in order to collect transversal data on effort, landings and landings values.

The control data is collected differently depending on the region and Member State. Data incompleteness mostly concerns vessels below 10 m LoA which are not subject of the logbook obligation within the Control Regulation¹. There are different methodologies for collecting control data on small scale fisheries (monthly fishing reports, logbooks on fishing trips, sampling programs) and alternative ways of collecting transversal data within the framework of the DCF (effort, landings and landings values).

Under-declaration of control data is most evident for small scale vessels with low activity levels but it also might refer to incomplete logbook data, which could affect the results for large scale vessels after applying a threshold. Bias in terms of missing data due to under-declaration of control data and other low quality data might lead to underestimation of effort, landing and landing value information.

When applied on reliable and proper control data introducing the threshold could give more homogeneous groups of sub segments on the basis of which the sampling scheme could be optimized. However, under-declaration influences the number of observations in the low activity sub segment and subsequently may have a negative impact on data quality of the whole fleet.

On the other hand, in sample survey data collection systems, having no census data on transversal variables might make post-stratification more complex and low observation number might be an issue.

Consequences of application

Although this workshop is largely based on the theoretical issues surrounding thresholds the group also discussed possible real world consequences. Chief among these are the political implications and the use as a tool by decision makers. An threshold could influence people's perceptions of the 'low activity' fleet of a member state. Whilst not a filter for reporting, in essence a threshold could cause data to be misinterpreted by decision makers in such a way to exclude and ignore the 'low activity' vessels. In certain member states there may be a social impact of ignoring these 'low activity' vessels. There are regional disparities that may mean that vessels that are very important for a local community (e.g - in terms of employment and income) fall below a national threshold. The exclusion of these vessels from the 'high activity' fleet could cause them to be excluded from the thought processes of decision makers at a national level. On a European level this could also impact on the distribution of funding. In theory it could become difficult for a socially important enterprise to apply for grants if they are categorised as 'low activity' despite their relative importance to their local community. It was also argued that the distinction between active and low active fishing units will enhance transparency and can also be used by local fisheries to show their social importance. Therefore it was concluded that it would be important to consider the effect of stratification on other socio-economic variables as well.

¹ Council Regulation (EC) No 1224/2009 of 20 November 2009 establishing a Community control system for ensuring compliance with the rules of the common fisheries policy, amending Regulations (EC) No 847/96, (EC) No 2371/2002, (EC) No 811/2004, (EC) No 768/2005, (EC) No 2115/2005, (EC) No 2166/2005, (EC) No 388/2006, (EC) No 509/2007, (EC) No 676/2007, (EC) No 1098/2007, (EC) No 1300/2008, (EC) No 1342/2008 and repealing Regulations (EEC) No 2847/93, (EC) No 1627/94 and (EC) No 1966/2006 (OJ L 343, 22.12.2009)

TOR 5. Develop advice on the issues concerned with the application of different thresholds and ways forward.

Based on the discussions on TOR 1-4, the group concluded the following:

By definition, the population of vessels in the EU vessel register covers all commercial fishing vessels. Considerable differences can be seen between different vessels in terms of economic importance, social importance and behaviour to management changes, resulting from differences in local context.

In order to take into account these differences in the data collection a distinction between low active vessel and high active vessels could be useful.

Distinction should be made between thresholds for data collection and for reporting (reporting threshold)

MS are free to apply sub-stratification in their data collection program. A sub-stratification based on activity level may help to increase the quality of the estimates and/or the cost effectiveness of the data collection programme.

The application of a reporting threshold will lead to more transparency of the importance (economic and social) of low active and high active vessels in specific cases.

The threshold should distinguish between vessels which are operated by “economic agents”, thus following the principle of profit maximisation and being a relevant source of income, and vessels which are not a relevant source of income and are not predominantly operated for profit maximisation.

The distinction between low active vessels and high active vessels mainly applies to small scale fisheries. In large scale fisheries (>12 meters) a threshold may only identify vessels with abnormally low activity levels.

It should be evaluated at national level whether the implementation of a reporting threshold leads to better quality estimates, taking into account methodological and data issues (e.g. low observation numbers), and results that better represent the two types of vessels. In fleets with high regional differences in standards of living, application of overall national thresholds for reporting might not be useful.

There is not one solution to the most optimal application of thresholds to all Member States/fisheries, but the applicability of a threshold depends on the management context and the type of fishery. However, the group considers that in using a set of fixed thresholds, based on economic indicators used to describe the income of the firm (e.g. FADN, average total revenue per vessel) may provide a pragmatic solution to come to a consistent set of thresholds. A short-term contract should provide an analysis of potential indicators (see TOR in appendix ..) for the next PGEcon meeting including examples of the application, based on which PGEcon can decide on the indicator to be used. This discussion in PGEcon will be based on an application of the proposed indicator and resulting threshold to a selection of cases (using the excel sheets) as was done before the workshop on stratification.

In case a reporting threshold is used, the rationale for using a threshold should be clearly described in the National program and in the description of the results.

In order to facilitate the use of reporting thresholds JRC should facilitate the reporting of economic data for the two different groups.

Annex 1. List of participants

Croatia

Ivana Vukov

Ministarstvo poljoprivrede Republike Hrvatske Ministry of Agriculture of Republic of Croatia Uprava ribarstva Directorate of Fisheries Sektor za Ribarski monitoring centar, upravljanje flotom i prikupljanje podataka Sector for Fisheries Monitoring Centre, fleet management and data collection Služba za Ribarski monitoring centar i prikupljanje podataka – Odjel za program prikupljanja podataka Service for Fisheries Monitoring Centre - Unit for Data Collection Programme

Planinska 2a

HR - 10 000 Zagreb

mobile: +385 (0) 91 1556 766

tel: +385 (0) 1 6443 177

fax: +385 (0) 1 6443 200

email: ivana.vukov@mps.hr<<mailto:ivana.vukov@gmail.com>>

web: www.mps.hr/ribarstvo<<http://www.mps.hr/ribarstvo>>

Denmark

Kim Normark Andersen

Senior Economic Advisor

Fishery Statistics

Tel.: +45 39 17 33 83

kno@dst.dk

Sejrøgade 11

2100 Copenhagen Ø

www.dst.dk

Finland

Simo Karvinen

Research Assistant

Research and Expert Services

Finnish Game and Fisheries Research Institute

Viiikinkaari 4 (P. O. Box 2), FI-00791 Helsinki, Finland

simo.karvinen@rktl.fi

www.rktl.fi

Heidi Pokki

Research Economist

Research and Expert Services

Finnish Game and Fisheries Research Institute

Viiikinkaari 4 (P. O. Box 2), FI-00791 Helsinki, Finland

Tel. +358 29 532 7092

Tel. +358 50 590 3592

heidi.pokki@rktl.fi
www.rktl.fi

France (not attending, but providing case study)

Sophie Léonardi, Unité d'Economie Maritime, Ifremer, Brest
Mathieu Merzéréaud, Unité d'Economie Maritime, Ifremer, Brest

Germany

Jörg Berkenhagen, fisheries economist
Thünen-Institute of Sea Fisheries
Palmaille 9, D-22767 Hamburg
phone: +(49) 40 38905 206
joerg.berkenhagen@ti.bund.de

Greece

Dr Angelos Lontakis (alontakis@agreri.gr),
member of our team about socioeconomic data collection and analysis of fleet will participate.
Dr Angelos Lontakis alontakis@agreri.gr
Statistical Analysis of Greek fishing fleet economic data

Ireland (not attending, but providing case study)

Emmet Jackson

Italy

Dario Pinello, Fisheries Economist
pinello@nisea.eu
dariopinello@yahoo.com
+39 347 9836785

Malta

Ms Marianne Aquilina
Email: marianne.b.aquilina@gov.mt
Tel number: +356 22921256
Grade: Economics Officer
Address: Ministry of Sustainable Development, The Environment and Climate Change,
Department of Fisheries and Aquaculture, Fisheries Resource Unit
Għammieri, Ngiered Road,
Marsa, MRS 3303
MALTA

Netherlands

Hans van Oostenbrugge
Senior Scientist Fisheries Economics
Aquatic Resources Unit
LEI, part of Wageningen UR

P.O. box 29703, 2502 LS The Hague
Alexanderveld 5, 2585 DB The Hague
The Netherlands
Tel:+31 (0)70 3358239
Fax: +31 (0)70 3615624
E-mail: Hans.vanOostenbrugge@wur.nl<mailto:Hans.vanOostenbrugge@wur.nl>

Poland

Emil Kuzebski ekuzebski@mir.gdynia.pl

Slovenia

Edvard Avdič Mravlje
Zavod za ribištvo Slovenije/Fisheries Research Institute of Slovenia
Sp. Gameljne 61a, 1211 Ljubljana-Šmartno
Tel: 01 24 43 417, Fax: 01 24 43 405
<http://www.zzrs.si>
Edo.Avdic@zzrs.si

UK

Steve Lawrence (available until Thursday)
Data Collection Project Manager
Seafish | 18 Logie Mill, Logie Green Road, Edinburgh EH7 4HS
T: +44 (0) 131 524 8663 | M: (0) 7876035745 | F: (0) 131 558 1442
www.seafish.org | www.fishisthedish.co.uk
Steven.Lawrence@seafish.co.uk;

Annex 2. Presentation on the introduction of the subject and the “Utopian Case”

**Variability in activity level and
effects of stratification**

Utopia

Hans van Oostenbrugge

Annex 3. The French paper on the issue of thresholds presented to the EWG

The problem of applying a filtering threshold to the collection of economic data: Reflections on the French case

Mathieu Merzéréaud, Unité d'Economie Maritime, Ifremer, Brest

If we simply refer to sampling theory, it is understood that an optimal stratified sampling aiming at better statistical inference should focus, in its implementation, on strata which would most likely contribute significantly to the variance of the final estimator (Cochran, 1977). When it comes to estimators that are related to the activity of fishing vessels and to their production, it is expected that shifting sampling effort from inactive vessels, or vessels with low levels of activity, towards more active vessels may impact positively on the accuracy and the precision of the resulting estimates. However, applying a filter to a sampling frame is not a trivial operation: it implies, starting from a global knowledge base, excluding a part of this base (via the application of a threshold on some criteria deemed relevant to do so), and building general conclusions from only the parts preserved. Two questions may arise in doing so. First, do we have sufficient knowledge to establish this threshold? Second, what conclusions can we derive from the empirical estimates in this context, and what kind of knowledge do we sacrifice? Given these considerations, it is relevant to evaluate the potential impact of applying a filtering threshold in the sampling process, whether it seeks to differentiate or, more directly, to exclude a part of the population considered.

Adopting a threshold can be justified in some respects, for example to increase the cost-effectiveness of a survey effort dedicated to measuring particular variables of interest. But one still needs to make sure that the process leads to a reliable selection, avoiding sampling bias and adverse consequences on the estimators (especially since these can be more annoying because undetectable, by the very nature of the selection process). The question of the quality of comprehensive data on which filtering thresholds could be based has been raised by French participants to the last “DCF Workshop on statistical issues and thresholds” held in December 2013 at Helsinki. As these participants stated at the workshop, the issue regarding the data to be chosen for applying a threshold is absolutely fundamental, and should be considered a starting point for this evaluation. The table below describes the French fleet operating in the Channel and the Atlantic in 2011, and was presented at Helsinki as a case study. The table highlights the differences between the comprehensive database of individual declarative value of landings (one on which the definition of a threshold could potentially rely) and income data reported in the course of the annual round of economic data collection:

Table 1. Workshop on statistical issues and thresholds, Helsinki, 2013. French Example Case.

Source: Bureau des Statistiques de la Pêche et de l'Aquaculture, Ifremer

	Intervals of declarative value of landings (in €)					All
	[0;10 000[[10 000;20 000[[20 000;50 000[[50 000;100 000[[100 000;+]	
Number of vessels (total)	341	168	356	369	315	1549
Number of sampled vessels	36	31	106	139	124	436
Value of Landings (reported)	3 163 €	14 585 €	33 188 €	72 126 €	180 163 €	63 725 €
Value of Landings (survey)	46 221 €	50 887 €	58 215 €	87 040 €	170 284 €	84 437 €
Total Costs (survey)	35 199 €	39 607 €	50 173 €	75 979 €	133 506 €	68 825 €
Gross Profit (survey)	11 022 €	11 280 €	8 042 €	11 061 €	36 778 €	15 612 €

The first average economic variable is defined based on the declarative data which is meant to be exhaustive ("reported"), and thus on which the filtering threshold could potentially be based. The three other economic indicators ("survey") are derived from the results of direct surveys. All these indicators are calculated on the common basis of all the French vessels surveyed in 2011 and operating in the Channel or

the Atlantic (" sample "). These are individual average indicators, calculated on all vessels (" All ") or by interval of declared individual incomes.

Overall, comparison of the different annual values shows that the reported values above € 50,000 coincide with survey values. The declarative data thus seems quite reliable here. Instead, the survey values are higher than the reported values for those vessels that could be impacted by the adoption of a filtering threshold (especially for those with annual reported revenues below 20,000 €, i.e. almost a third of total population). The 36 (resp. 31) vessels sampled, reportedly achieving less than 10,000 € (resp. between 10,000 and 20,000 €) annual income, are established via the survey to generate annual average revenues of around € 50,000. Given these findings, the definition of a minimum annual value of landings threshold to filter the vessels in the French fleet which should be sampled for the purpose of collecting cost and earnings information is clearly not feasible, as it would generate significant bias in some of these indicators. In this case, the paradox is simply that evaluating the consequences of imposing the threshold to vessels with low activity required use of sample data describing these vessels, which would not have been available under application of that threshold. The implementation of a threshold, if necessary, should be completely based on an initially comprehensive and validated set of information, of sufficient quality to establish that this does not lead to major biases.

In addition, sampling plans are usually built on the basis of information relating to previous years. The variables describing individual activity may display some variability from year to year, especially for the less active vessels. We can also question a threshold value that is based on information from a single year. This year could indeed be a particular one and not reflecting the reality. Information from several years should be considered in the selection process.

Another type of impact can result from single criterion exclusion of a part of the sampling frame. The idea of applying a threshold is to set aside the vessels that contribute negligibly to the overall production of the fishery. However, the reduced or otherwise irregular activity of these vessels is not their only specificity. Excluding them from the survey would mean putting aside social profiles and specific activities that the extensive information collected via the French economic data collection surveys initially aim to evaluate and decipher.

Annex 4. The MS Presentations on the effects of stratification based on activity levels

**Variability in activity level and
effects of stratification for segments
PS24XX & DTS0612**

Croatia
Ivana Vukov

**Variability in activity level and
effects of stratification**

Polyvalent Passive Gear
0-10 and 12-18 meter
Denmark

Variability in activity level and effects of stratification

Finland

Heidi Pokki & Simo Karvinen

Variability in activity level and effects of stratification

France
Atlantic-Channel-North Sea/2010
Gillnetters (N=401, n=72)

Sophie Léonardi, *Unité d'Economie Maritime, Ifremer, Brest*
Mathieu Merzéréaud, *Unité d'Economie Maritime, Ifremer, Brest*

Variability in activity level and effects of stratification

Germany
Jörg Berkenhagen

Variability in activity level and effects of stratification

Greece
Angelos Lontakis

Variability in activity level and effects of stratification

Italy
Dario Pinello

Variability in activity level and effects of stratification

Ireland – DTS VL2440

Emmet Jackson

Variability in activity level and effects of stratification

Netherlands

Hans van Oostenbrugge

Variability in activity level and
effects of stratification
2440 TM & 1218 DTS

Poland
Emil Kuzebski

Variability in activity level and effects of stratification

UK – FPO 0010

Steve Lawrence

Annex 5. Complete list of issues/statements from the cases

Issue/statement	Theme	Sub-theme
Definition of commercial fishermen	1 background	general
Use of threshold for reporting reasons only	1 background	
Definition of „commercial“ fishery	2 reasons for threshold	theory
Asses optimal stratification when considering quantitative criterion. An incomplete optimal allocation for which target/data. Impact on other collected data.	2 reasons for threshold	theory
when does stratification have a significant positive effect on quality of estimates	2 reasons for threshold	theory
Cost-effectiveness issue - could a threshold introduce any increase/decrease in the cost of the data collection	2 reasons for threshold	
No need for threshold in case of homogeneous segments?	2 reasons for threshold	
For the purpose of impact assessment avoid raising figures based on insecure data for less active	2 reasons for threshold	
Less detailed economic data can be obtained from part time fishermen	2 reasons for threshold	
use of DCF cost data for EU policy: Are end users interested in all vessels or only more active ones.	2 reasons for threshold	
reasons for low activity vessels (management context)	2 reasons for threshold	
regional differences in commercial fisheries?	2 reasons for threshold	
The activity of a part time fishermen can be so limited that it takes 10-20 units to form one job	3 results of cases	
Stratification needed to distinguish between commercial and non commercial fisheries. As such concerns small scale fisheries	3 results of cases	
Very different situations between Northern sea basins and Mediterranean Sea	3 results of cases	
consequences for cost structure/profitability	3 results of cases	
Under-declaration of control data	4 implementation	data quality
How to deal with bias in census data	4 implementation	data quality
Incomplete economic data	4 implementation	data quality
Low activity vessels may not have detailed and complete accounting data	4 implementation	data quality
Reliability of survey responses	4 implementation	data quality
Reliability of data for less active vessels data and low response segments	4 implementation	data quality
If needed to justify what a threshold is, we should further encourage an accurate check of below threshold vessels	4 implementation	data quality
Reliability of the data: are we always sure the "below threshold" are reliable?	4 implementation	data quality
Ensure that applied stratification leads to higher precision and better accuracy	4 implementation	methodology
Decide on best possible variable for effort (seadays,	4 implementation	methodology

gtdays Kwdays)		
Vessel or enterprise as reference unit	4 implementation	methodology
Take into account different estimation methods in different countries	4 implementation	methodology
In which sampling scheme (census or sample survey) does the threshold make sense?	4 implementation	methodology
the capacity of one vessel cannot be on two production unit	4 implementation	methodology
is a threshold necessary for large vessels?	4 implementation	methodology
Two year average for the calculation of thresholds	4 implementation	methodology
Confidentiality problem with small segments	4 implementation	small segments
Size of fleet, size of vessel, vessel capacity are factors that affect stratification thresholds, problems with small segments	4 implementation	small segments
How to determine minimum group size and on which basis	4 implementation	small segments
In what case is Neyman allocation possible	4 implementation	methodology
There is a need for a "guide" on how to select thresholds - min observations; - rationality	4 implementation	type of threshold
Stratification methods should be suitable/flexible for all countries	4 implementation	type of threshold
Determining the „right“ threshold – where to draw the line (basing on which criteria)	4 implementation	type of threshold
How to set national threshold levels (possible methods: household revenues, percentage population coverage)	4 implementation	type of threshold
Stratification criteria must be assessed to ensure that wrong assignment and potential bias will be limited.	4 implementation	type of threshold
majority of DCF segments represents mixed fisheries. High variability in landings value , so threshold based on landings value?	4 implementation	type of threshold
Introduce a segment of part time fishermen e.g. half FTE	4 implementation	type of threshold
Threshold based on costs of living	4 implementation	type of threshold
which is the correct threshold?	4 implementation	type of threshold
Applicability of FADN methodology in fisheries. Is it possible?	4 implementation	type of threshold
Different threshold levels dependent on fishing technique?	4 implementation	type of threshold
regional differences in commercial fisheries?	4 implementation	type of threshold
criteria for commercial fishery?	4 implementation	type of threshold
Practical institutional concept for separation/threshold according to management regime	4 implementation	type of threshold
Political implications	6 consequences of application	
Does CFP target all vessels equally or are the distinction by size/effort/output eligible for subsidies/quota	6 consequences of application	
Costs: even if the vessel is below the threshold its "cost impact" could be worth to be investigated and taken into account in the analysis	6 consequences of application	

Social issues: take into account also any "social" impact when setting a threshold - do we risk exclude fishers?	6 consequences of application	
Effect of stratification on other variables	6 consequences of application	
limitations of the methods for analyses	7 discussion	methods workshop
Should thresholds be regionally agreed upon and how to organize regional consistency in reporting (regional harmonization)	8 conclusions	process
Thresholds should not be mandatory	8 conclusions	
Social issues – groups above and below threshold are of equal importance	8 conclusions	
Units with less than six months registration period for the year could be categorized as low activity vessels	6 consequences of application	

Annex 6. Presentations on application of FADN thresholds

Defining the field of observation for FADN; use of threshold

15 oktober 2014

Dr. Hans C.J. Vrolijk

Head of Centre for Economic Information, LEI Wageningen UR



Annex 7. Overview of possible background data to be used

TBA

Annex 7. Short-term contract to prepare the PGEcon discussion on the Parameter to use for the determination of a threshold.

Short-term contract on *measures for determination* of threshold on value of landings per vessel

Background:

In several member states –especially in small scale fisheries- a considerable share of vessels are reporting landings with a low total value. There is an indication that these vessels do not perform according to economic principles (i.e. profit maximization), but follow different aims.

CFP will mainly refer to the first group of “regular active vessels” (“economic agents”). In other words, regular active vessels are likely to be influenced by management decisions. As this might not have to apply to less active vessels it makes sense to distinguish between those two groups using a threshold.

The figure to be compared with the threshold is the annual value of landings per vessel

Deliverables:

The study should provide a list of potential *measures for determination* of that threshold. That measure for determination should fulfil the following requirements:

- Allow for distinction of regional circumstances
- Timely availability in all MS
- Independent of DCF data

The study should provide time series of the figures for suggested *measures for determination*.

Moreover, the study should contain a comprehensive discussion of pros and cons of the measures under consideration with respect to relevance for the purpose. Examples for measures of determination are margin of subsistence, average wages (in relevant branches), FADN thresholds.