Small-scale, big deal: Sampling catches from European small-scale fisheries

2015 ICES WGCATCH GROUP

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Introduction
Small-Scale Fleets (SSF)

No single definition (linked to the end-user needs).
Fleet segments by vessel length ranges (<10m; 10-12m and >= 12m) adopted,

SSF present some **specific features** that distinguish them from Large-Scale Fleets (LSF). E.g.,

- multi-gear/multi-species,
- high spatial distribution/heterogeneity/seasonality,
- part-time/full-time activity
- frequent direct sales

SSF have to be monitored differently by a census or a sampling approach adapted to their specific features. But there is no clear guidelines for the design, implementation and quality assurance of such schemes.

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SSF, a highly diversified fleet !

WGCATCH and SSF

*Small-scale fleets (SSF) are an **important component of many ICES fisheries** and receiving **growing attention** in the CFP.*

In 2015, **WGCATCH,** ICES expert group on commercial fisheries, analyzed **SSF data collection** with the aim of:

(i)   providing **descriptions of national SSF**,

(ii)   providing an **overview** of possible **data collection methods** according to specific features of SSF,

(iii) Develop a **work plan to establish guidelines** and **best practices** for sampling SSF in ICES waters

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WGCATCH method

(i) National questionnaire asking for:

- Data on the sizes of the SSF compared with the LSF (year 2012),
- Information on SSF data collection methods adopted.

(ii) 1 week of work: Analysis/synthesis of questionnaires, Presentations and Discussions within subgroup and plenary

(iii) Objectives:

(i) **Size and importance of national SSF** compared with LSF in term of numbers of vessels, fishing effort and catches

(ii) **Current SSF data collection methods,** issues encountered to quantify the SSF fisheries data (capacity, fishing effort, landings, discards and fleet-based biological data)

(iii) **Draft work-plan** to establish **guidelines of best practices** on design, implementation and quality assurance of SSF data collection schemes in order to reduce bias, increase precision and improve cost efficiency.

WGCATCH survey

Questionnaires: 17 institutes, 14 countries, from the Baltic Sea to the
Mediterranean
Presentations: 10 presentations, 8 countries on importance of
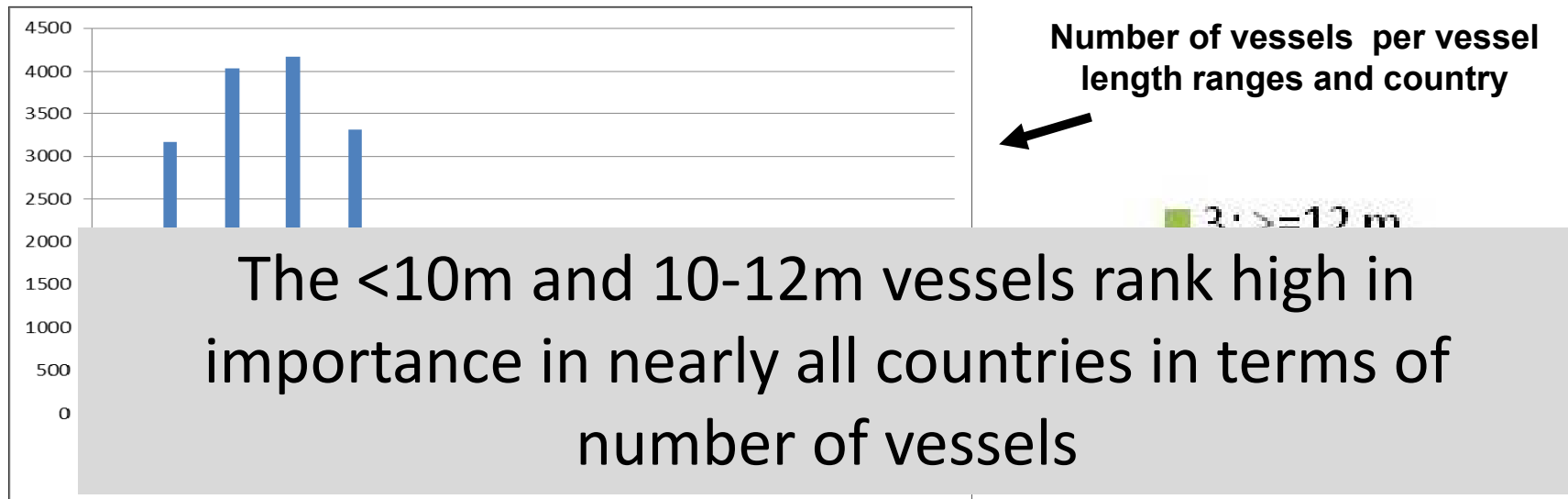national SSF and SSF data collection issues

(i) **Size and importance of national SSF** compared with LSF in term of numbers of vessels, fishing effort and catches

Size and importance of national SSF
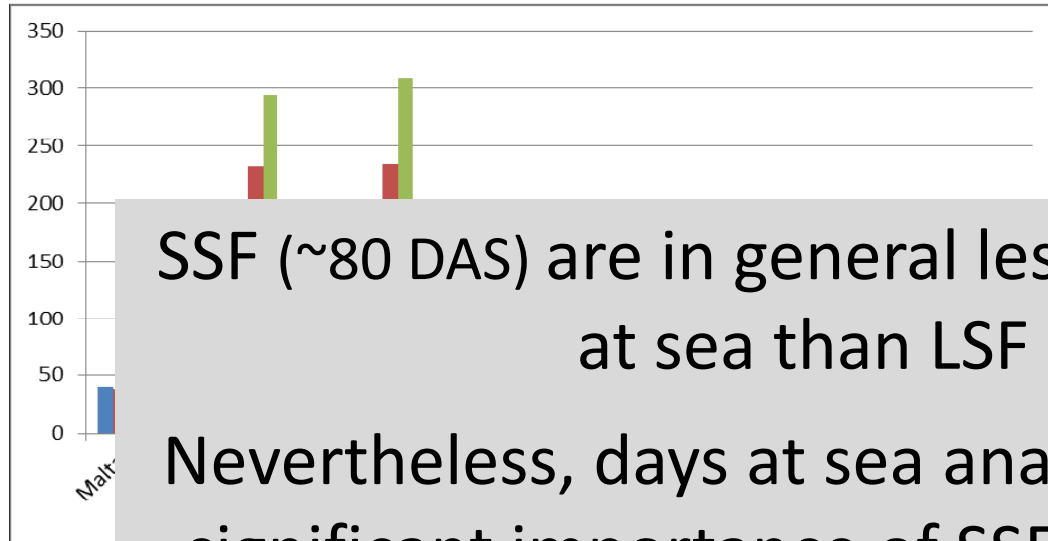

Number of vessels per vessel length ranges and country

The <10m and 10-12m vessels rank high in importance in nearly all countries in terms of number of vessels

% number of vessels per vessel length ranges and country
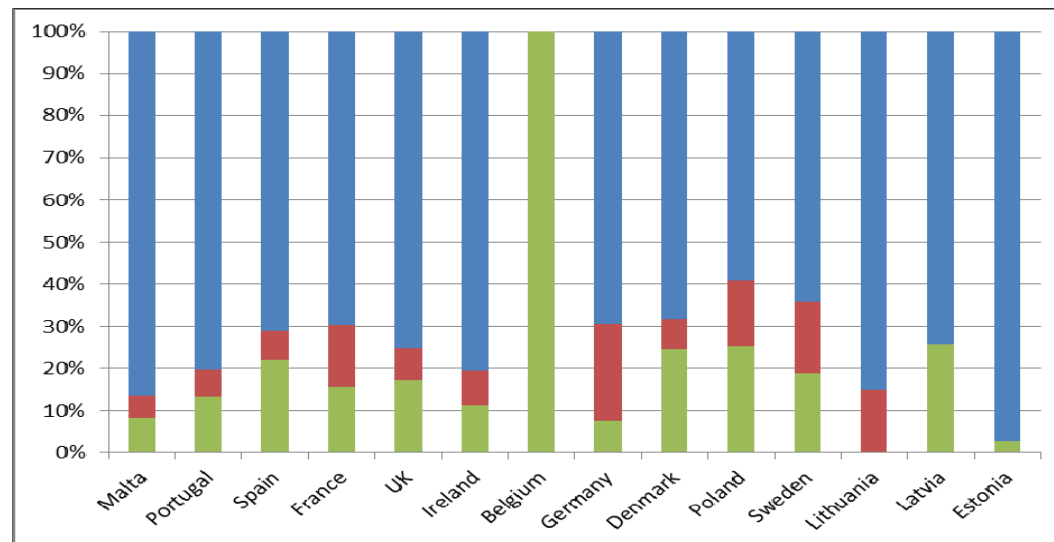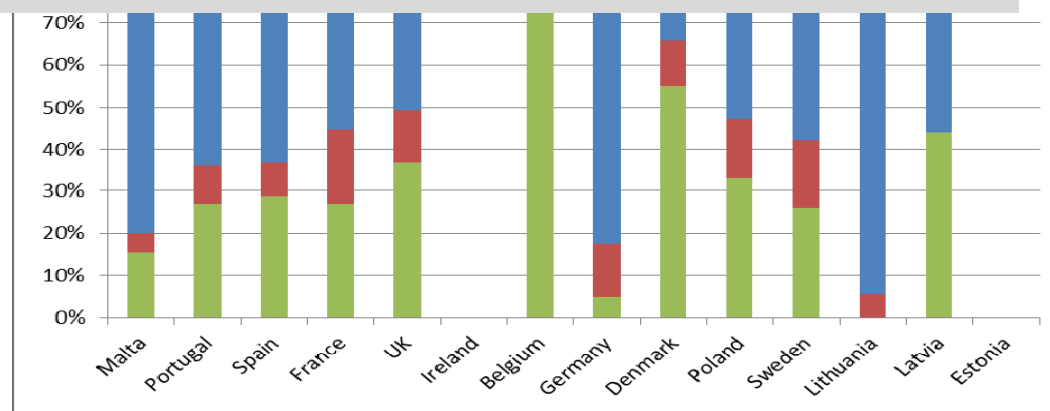
Size and importance of national SSF

Number of days at sea (in average by active vessel) per vessel length ranges and country
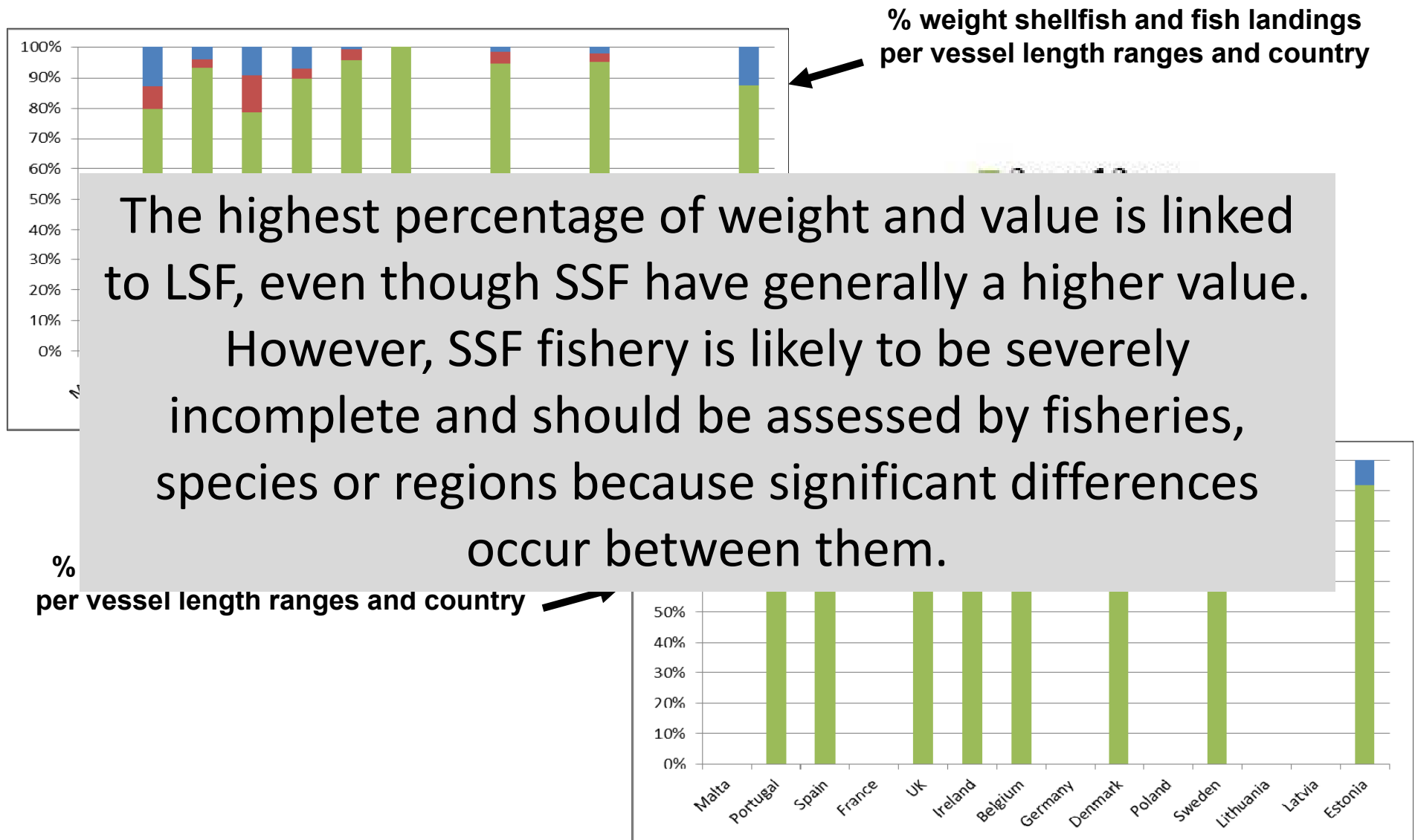
SSF (~80 DAS) are in general less active in term of days at sea than LSF (~150 DAS)

Nevertheless, days at sea analyses underscore also a significant importance of SSF in nearly all countries
(note that in SSF fishing data is likely underreported !)

% days at sea per vessel length ranges and country

Size and importance of national SSF

% weight shellfish and fish landings
per vessel length ranges and country

The highest percentage of weight and value is linked to LSF, even though SSF have generally a higher value. However, SSF fishery is likely to be severely incomplete and should be assessed by fisheries, species or regions because significant differences occur between them.

%
per vessel length ranges and country

(ii) **Overview on the current SSF data collection methods**, issues encountered to quantify the SSF fisheries, fishing effort, landings, discards and biological data

SSF data collection methods

Two different type of SSF transversal data collection:

(i)   **Census approach**
- **Adapted declarative forms has to be used**
- **Sales notes** could be used but **insufficient**
- **Accuracy/Reliability/Completeness** of such data has **to be assessed**

(ii)   Sampling approach
- Stratified sampling of vessels or Clustered sampling of fishing trips
- Quality issues related to the statistical soundness of the sampling design
- Accuracy/Reliability of self-reported data has to be assessed

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SSF data collection methods

SSF on-shore and on-board sampling, conclusions:

(i) **SSF onshore sampling** generally **included** in a **general** (across all vessel sizes) **shore sampling scheme.**

- Generally <u>no statistical differences observed between SSF and LSF landings' length composition</u> but has to be assessed. Risk of oversampling SSF when these are prevalent.

(ii) **SSF onboard sampling: Many issues** linked to safety and space for observers

- <u>Difficulty to assess the overall discard rate of SSF</u> even though can contribute significantly (particularly for inshore species)

- <u>Difficulty to asses PETS</u> (Protected, Endangered and Threatened Species) catches

- <u>Alternative: fisher self-sampling with a validation procedure to evaluate the bias ?</u>

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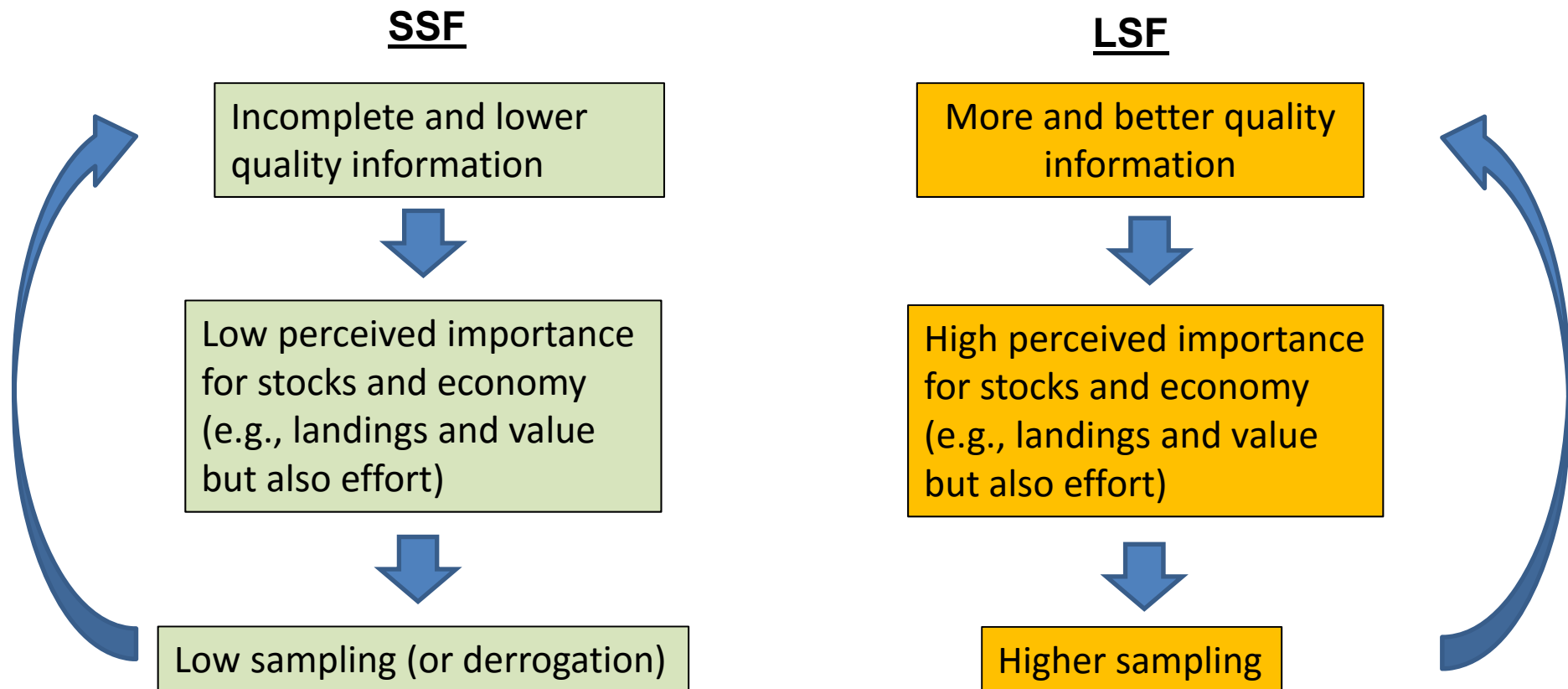- Alternative: fisher self-sampling with a validation procedure to evaluate the bias ?

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(iii) **Main conclusions and future work**

Main conclusions and future work

Small-scale fleets important in nearly all countries (no particular north/south distinction) **but trapped in a "vicious" cycle**

SSF

Incomplete and lower quality information

↓

Low perceived importance for stocks and economy (e.g., landings and value but also effort)

↓

Low sampling (or derrogation)

LSF

More and better quality information

↓

High perceived importance for stocks and economy (e.g., landings and value but also effort)
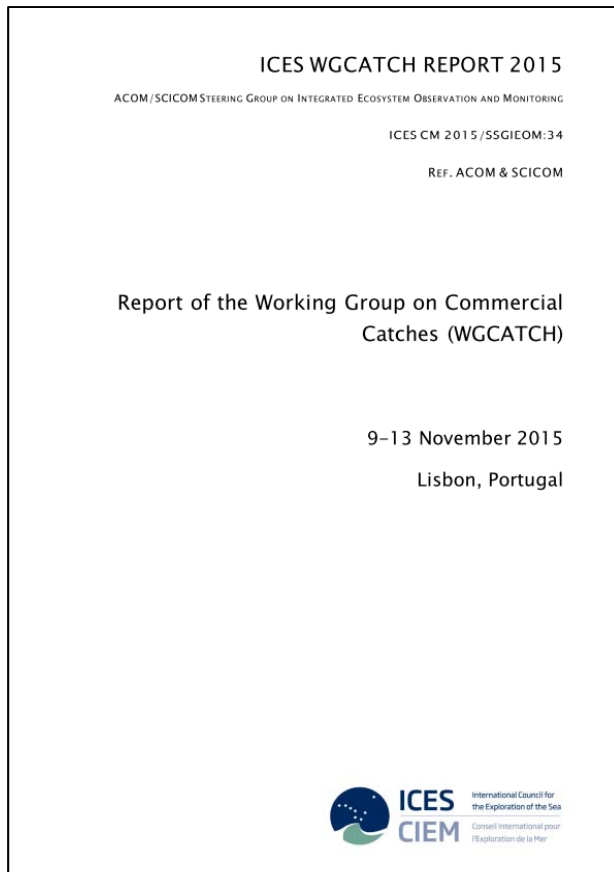
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Higher sampling

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Main conclusions and future work

i.   **Many specific features** create **challenges** for **SSF data collection**

- Importance of fixed gears (nets, pots, lines, …), Multi-gears & Multi-species fleets,
- High spatial distribution/seasonality/heterogeneity, Direct sales,
- Part-time activity in some cases, Importance of inactive vessels, etc.

ii.   **A Regional approach** is **needed. SSF high importance** for **fishery spatial management:**

- Role and importance of SSF in the inshore waters receiving growing attention (CFP, MSFD, …)
- SSF potential impact on the inshore resources and habitats
- Significant differences can occur between fisheries, species, regions
- Active end-user require to define data needs

iii.   **Various methods** (census/sampling) **in used** for SSF data collection create **challenges** to **standardize** SSF fishing data estimates

iv.   **Modern techniques,** a way to improve SSF data collection

- CCTV, geo-localization tools, …

v.   WGCATCH 2016 will establish **guidelines** on **best practices** for **SSF data collection** (transversal and biological data)

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More information:

- **2015 WGCATCH full report** available in ICES site:

ICES WGCATCH REPORT 2015

ACOM/SCICOM STEERING GROUP ON INTEGRATED ECOSYSTEM OBSERVATION AND MONITORING

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- **Questions?**