

## Science underpinning stock abundance survey practice, including unaccounted fishing mortality, especially ghost fishing (Q)

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**Conveners: Phil MacMullen (UK), Norman Graham (Ireland), Dave Reid (UK) and Ken Weinberg (USA)**

In a time of increasing unreliability for catch and landings data, stock assessments are increasingly turning to surveys as the primary source of information to provide management advice. New modelling approaches such as SURBA have been developed to make use of these. However, this puts a greater onus on the surveys to provide a Quality Assured provision of data. This theme session is designed to draw together a range of issues surrounding the conduct, analysis, and use of surveys. One key issue is that surveys are not carried out in a time warp. Methodologies and equipment evolve with time, and can become obsolete and unavailable. This is as true for fishing gears as for sounders and plankton samplers. We need to be able to evaluate and account for these changes, and have statistical methods to make transition possible. In many cases we attempt to keep surveys “consistent” but this is often impossible, as materials or equipment become unavailable. There may also be a need to develop surveys both for changed circumstances, e.g. distributional or species changes, and for changed needs, e.g. for surveys that can describe fishery ecosystems and not just abundance of one or two species. There is a critical need to understand the behaviour of the fish we survey in relation to the tools with which we survey, e.g. avoidance on acoustic or fishing surveys. Many survey series will have gaps in them due to resource problems etc., so we also need methods for maximising the value of these time-series. New surveys are often proposed, particularly in the context of recovery plans, and yet these are often launched with little forethought. An examination of new surveys and the process leading to them would be very useful. Where we have mature multi-nation survey series, there are often problems of QA both within and between national surveys; methods for documenting and controlling these are required.

The proposed theme session covers the remits of three committees; LRC, RMC, and FTC. Much of this type of work is already being addressed, in the context of trawl surveys, by SGSTS, and the session will be used to provide a forum for dissemination of their findings. Contribution from other survey approaches and methodologies are also invited.

Papers would be invited on:

- Evaluations of current survey procedures and protocols;
- Evaluations of proposed changes in survey procedures and protocols;
- Accounting for tech creep in survey time-series and in assessment process;
- Survey continuity and lack of same;
- New surveys; methods, stocks, gears??
- Use of trawl monitoring equipment, old and new;
- Fish behaviour and survey trawls: efficiency, catchability, species assemblage analysis;
- Survey standardization, QA, practice, monitoring, teaching, etc.

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