



## External peer review of survey series: Lessons learned from the Rügen Herring Larvae Survey

### Introduction

ICES coordinated surveys are, on a non-regular basis, reviewed by parent expert groups. A potential problem is that these are often conducted by evaluators being themselves involved in the surveys, thus lacking independence. Compared to the cost of most surveys, the funds assigned to quality control is minimal, and external peer reviews rarely happen.

In the present case, the survey was increasingly reduced to the delivery of a recruitment index for the assessment of the Western Baltic Spring Spawning herring, but the time series could never be used for the analytical assessment.

### The Review

Two external experts reviewed the time series during a week in late 2006, together with all institute's staff involved in the survey. The group was looking at the general survey design and methods used, results, and allocation of manpower for sampling and evaluation. About 2 days were spent on reviewing methods and available data, two more days for the development of recommendations and a future workplan (within the limits set by the institute), and the last day was used for the presentation of the review results and reporting.

The reviewers **concluded** that the survey is scientifically highly valuable, but recommended to move the focus towards early life history and ecosystem work, while maintaining the collection of potentially assessment relevant data. Other suggestions included:

- amendment of the sampling strategy
- testing of important assumptions
- how to increase the scientific output.



Research vessel "Clupea", built 1948, the main research platform for the RHLS.



A large herring larva from the Bodden area.



Typical fleet harvesting herring in the Greifswalder Bodden using traps and set nets.

### Conclusion

Peer reviewing of surveys is a **cost effective** and **fast way to resolve problems** with surveys, especially if they appear to be underexploited or too little focussed.

### The Survey

This national survey is conducted since 1977 in one of the important, clearly defined spawning areas of the **Western Baltic Spring Spawning herring**. 35 standard stations were sampled annually 10-14 times in weekly intervals over the entire spawning period.



Fig. 1: Station Grid and stratification of the Rügen Herring Larvae Survey in the Greifswalder Bodden and Strelasund, and distribution area of the Western Baltic Spring-Spawning Herring (inset).



Hydrographic and other accessory data were regularly recorded on each station. With more than 12000 stations, the dataset derived from the survey is **one of the most comprehensive sets on the early life history of clupeids** in the world.

A Bongo plankton net, used for the sampling of herring larvae in the Greifswalder Bodden since 1977

### Lessons learned

The following key points should be considered in future for a successful review of surveys:

- The **review should not be restricted in its conclusions** (including a termination of the survey or a change of focus)
- A **transparent workplan** that allows for an allocation of sufficient time for a full review of the survey workplan, execution and output, and the implementation of any detailed recommendations from a review
- **Limitations** (e.g. manpower) should be clearly defined.

The external peer review made it much easier to convince the survey participants to accept changes. The institute only needed to spend roughly one tenth of the cost of a single year's survey on the week long review process.

### Outlook

Most of the recommended work has already been done within the first year after the review. Institute's staff motivation and public interest on the survey boosted after the review, which is also expected to increase the scientific productivity in the medium term. The institute will continue to have its surveys and related fields of activity peer reviewed by external experts.



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