Reviewer's report

Title: Reproductive outcomes in the Swedish Fishermen's Families Cohorts - A Review

Version: 1 **Date:** 29 October 2007

Reviewer: Markku Sallmen

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General

Reproductive outcomes in the Swedish Fishermen's Families Cohorts – A review

The Swedish Fishermen's Families Cohorts –study consists of several tens of study reports. The studied outcomes, for this review in particular, vary form exposure assessment through basic reproductive parameters to the health of the progeny. Persistent organochlorine pollutants may potentially adversely affect any of the studied reproductive outcomes. I consider it important to show a broad "state of the art" overview about this topic.

I think that the overall quality of the studies is very high. As an example I take the strong efforts for exposure assessment.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. You should include your findings in (a) tables(s). It is hard to find out what you really have found. The only table was for shoving the studied outcomes and exposures.

2. The present review consists of the following parts: introduction, materials and methods, results and discussion and Conclusions. The structure is natural. However, I would like to see a few more conclusion sentences. In the present form the review gives the reader a view that nothing very important was observed. That definitely is not true. In the abstract one only can see the reasoning for the cohort studies, information on the east and west cost population and comparison the same information as in the title.

I suggest that in the conclusion part you clearly say what your studies indicate or suggest. When you have included a table / tables, it is easier to compare the findings and conclusions.

3. One other thing concerning the balance of the paper: Your review is about reviewing the Swedish Studies. Taking into account the structure of your review, it may not be an easy task to consider other studies as precisely as your own studies. Please clearly consider other studies as well, when appropriate, when

draving the overall conclusions.

4. Findings on birth weight. You say that your data implied a threshold effect rather than a linear effect. I looked at the original paper and found no clear grounds for this statement. Your numbers were small for CB-153 concentrations of 201–300 and >300 categories. The findings were of borderline of significance. However, also the finding of a continuous variable was in the borderline of significance.

To analyse whether or not the data suggest a threshold or not is not an easy task (I'm not an expert), but you most likely should have used appropriate statistical tests to assess the existence of a threshold rather than just to say that the findings of these to different analyses indicate a threshold. There may be many forms of a risk curve other than a linear or pure threshold.

It is hard to see a biological rationale for the threshold. You have pointed out the positive effects of eating fatty fish. Also, considering the spectrum of the reproductive outcomes, I would like to point out that reduced birth weight is not biologically the most hazardous one. If the exposure under study causes infertility or reduced fertility, or is associated with increased risk of spontaneous abortion, then the associations seen in studying birth weight may not be so easily interpreted.

Not to mention the huge heterogeneity in human reproductive capacity (from sterility to very healthy and effective reproducers). I don't think that there really is a threshold.

Even though your statement has been published in the most impact journal, I suggest that you exclude that statement or revise your wording here.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. Discussion second page: a possible bias introduced by lipid standardization. Can you say whether this misclassification of exposure is differential or non-differential? And further, can you say whether your findings then are expected to be underestimating or overestimating the true effects? I think this is important since you refer to a paper that has been published after your original study.

2. Materials and methods, Collecting information. Please check whether the numbers for east and west cost fishermen (2614 and 1766, respectively) have been changed.

3. Results, birth weight, 2nd page, 3rd paragraph. I think that the word "intake" is missing.

Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.