

WG 1 Water pollution issues

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Effect based methods (EBM) PP and examples from Sweden

- 100.000 chemicals in the market – few risk assessors. A lot of difference between EQS in different countries. Holistic approach needed.
- EBM consists of: **Bioassays** (environmental samples), **in vitro cell lines**, **in vivo organism**, **biomarkers**, **ecological indicators BQE**
- Linking chemical and ecological status by using science based management
- Inventory and selection of bioassays and biomarkers, 138 EBMs are available in a technical report on aquatic EBM tools.
- Suggested to use **EBM in combination** (triad approach) with other monitoring, since chemical stress is usually in combination with other stress.
- Results of measures taken in Sweden seem to have been cost effective

Conclusions: **Option 1** – EBM is supportive component of chemical and ecological status, and identify cause of ecological degradation. Requires changes of WFD.

Option 2 – include EBMs in monitoring and screening. Useful in pressure and impacts assessment, investigative monitoring. Can catch changes that otherwise could be missed.

Some of these methods are being used in the Scandinavian countries, also related to OSPAR and MSF

Experience with passive samplers and estimation of pollutant concentrations in water and biota

PP and example from Finland

- Grab water sampling: both particles and dissolved materials
- Passive sampling: Dissolved fraction of chemicals. Has been used to detect metals, pesticides, pharmaceuticals etc.
- Different techniques – different results – so what do we need to know?

The presence of TBT and other pesticides cannot be ensured with grab samples – it is more secure to do passive sampling.

WFD pollutants studied from biota (fish) in Finland

Conclusions: low concentrations can be enriched to measurable level, combining passive sampling and biotesting. Can be used in combination with EBM.

More information are available in EC2009 Guidance on the surface water chemical monitoring under the WFD

Pharmaceuticals in relation to the Watch list PP from Iceland and Finland

- EU strategy for pharmaceuticals
- Pharmaceuticals are being found everywhere not. Future needs for monitoring and risk assessments of pharmas.
- Should be moved to the priority list
- EBM should be part of technical status assessment
- POLICY IS NEEDED

- Environmental drug load can be reduced – a policy brief from Finland

Recommendations: Improving Waste water treatment plants (new technologies), use less of environmentally harmful drugs, reduction of the drug waste, monitoring and setting limits.

Environmental permits: management of waste, limit/threshold values, bioassays tests for effluents.

International/Nordic collaboration?