

Håkanson, L.: **Water Pollution.** – Backhuys Publ., Leiden 1999. ISBN 90-5782-024-2. 277 pp., USD 100.00.

The book consists of the following chapters: 1. The PER (potential ecological risk) approach – criteria to rank threats to aquatic ecosystems. 2. Introduction to aquatic ELS (effect-load-sensitivity) modelling. 3. Predictive modelling. 4. Remedial measures. 5. Epilogue. 6. Literature references. 7. Appendix (the description of a few models used in the text).

Even very gifted and enlightened scientists (according to my experience) were believing, for a long time, that the complex ecosystems would never be computed and predicted, because of infinite, never-ending web of relationships and driving variables. Predictive ecology, in spite of this, fortunately, has emerged and became a useful instrument of environmental management. It enables to evaluate and make meaningful predictions in the major threats to aquatic ecosystems such as acidification and eutrophication. The whole text stresses concrete examples, familiar to its author from his co-operation in projects.

An example of practically useful models dealt with in

the book is the problem of lake liming. Application of Ca into an acidified lake is only a provisional first-aid, but it was the only way how to help lakes with a low buffering capacity to survive till SO<sub>2</sub> loads would be eliminated. In Sweden and Canada lime is applied into lakes, which is not a cheap affair. Liming of about 8 000 lakes in Sweden spent about 25 million USD/year. Liming after modelling approach can be more expensive, but gives better results.

Application of PER approach resulted in some political and economic conclusions, e.g. the greatest danger for Swedish lakes is acidification, next one is eutrophication and contamination with Hg. Very popular problem of <sup>137</sup>Cs, as the result of Chernobyl accident, was evaluated as “does not seem to influence reproduction or biomasses of key functional organisms in aquatic ecosystems...”.

The book is an example how modern methods can assist decision makers to select and direct money, time, and effort to key and large ecological problems rather than to small and imaginary ones. For USD 90 per one book it is a good investment, is not it?

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