



Cost Action 869

Mitigation options for Nutrient Reduction in Surface Water and Groundwaters"

Workshop WG2

Influence of nutrients on ecological processes in surface waters

Athens-Anavyssos, Greece, 17-19 September 2008

REPORT

PRESENT

Austria	Thomas Hein	Ireland	Ken Irvine
Belgium	Georges Hofman	Israel	Iggy Litaor
Czech Rep.	Josef Hejzlar	Israel	Moshe Shenker
Finland	Petri Ekholm	Lithuania	Antanas Sileika
Finland	Kirsikka Niemi	Lithuania	Kazimieras Gaigalis
Finland	Anita Pätynen	Netherlands	Wim Chardon
France	Jean-Marcel Dorioz	Netherlands	Jeroen de Klein
France	Chantal Gascuel	Netherlands	Roos Loeb
Germany	Ralph Meißner	New Zealand	Deborah Ballantine
Germany	Gregor Ollesch	Norway	Åge MØlvaersmyr
Greece	Nicolaos Skoulikidis	Poland	Leszek Hejduk
Greece	Konstantinos Gritzalis	Romania	Daniela Dana
Greece	Aleka Pavlidou	Romania	Romulus Mocanu
Greece	Kalliopi Pagou	Romania	Grigore Adriana
Greece	Prof. Scoulos	Romania	Anghelescu Letitia
Greece	Prof. Dasenakis	Slovakia	Jaroslav Antal
Greece	Sofia Laschou	Sweden	Barbro Ulen
Greece	Ioannis Karaouzas	Sweden	Maria Khalili
Greece	Theodora Kouvarda	Switzerland	Emmanuel Frossard
Hungary	Istvan Sisak	UK	Penny Johnes
Hungary	Vera Istvánovics		

1 AGENDA

The meeting was organized by Nikos Skoulikidis (GR), with Petri Ekholm (FI), Ken Irvine (IE) and Wim Chardon (NL) as co-organizers. It was attended by 41 persons from 19 countries, and had as general topic: "N/P limitation and interactions between N and P in surface water". Also, during the program some time was spent on discussing the database with factsheets.



2 SUMMARY OF DISCUSSION AND PRELIMINARY CONCLUSIONS

During the presentations and discussions, the following points were discussed:

- Although nutrient limitation is mostly ascribed to N or P, also Si (e.g. diatoms), C or light can be limiting.
- Nutrient need and limitation can strongly differ between species and taxa.
- The N/P ratio in surface water often change during the year: in summer denitrification tends to reduce N concentration, and remaining N is preferentially taken up by macrophytes, so N/P is often lowest in summer.
- Especially in pristine systems with low N concentration organic forms of N are relatively important, so total N should be used when studying the N/P ratio.
- Also for P organic forms become more important at low levels of total P so must be taken into account; however, some forms of be can be strongly bound to oxides in sediments.
- N/P ratios should never be used as such for system evaluation, but always together with total levels of N and/or P.
- Deposition can be an important source for N in surface water, that is often hard to reduce.

A more extended document with conclusions from the meeting will be written (see 4. Follow up and next meeting).

3 DISCUSSION ABOUT FACTSHEETS

An introduction about the background of the database with factsheets about mitigation options was given by Wim Chardon [see also reports of WG3 meetings in February and April]. Also, lists of possible mitigation options dealing with *Measures in surface water* and on *Abating consequences of eutrophication* were presented. The following remarks were made about the database:

- The length of some factsheets is much larger than what will probably be read by interested persons; to overcome this, a shorter version can be made with a link to the extended version.
- The title of options of which no factsheet is available yet is not always clear; this can be overcome by adding a link to a description of the option until a factsheet is available.
- For giving comment on a factsheet to the first author, it would be useful to add the email address [this was done now].
- Georges Hofman noted overlap between factsheets on Nutrient management.
- It is the task of members of the Management Committee to introduce the database in her/his country, and to let it translate when needed.
- Care must be taken that a factsheet author is not too positive about an option, and neglects negative experiences with that option. When this happens, the COST network should correct a factsheet, since it is the responsibility of COST 869 to prevent biased opinions.
- An expert system that gives an entrance of the usefulness of options under different conditions could be a valuable. However, no money is available within COST to develop such a tool.



7 FOLLOW-UP AND NEXT MEETING

It was decided that Petri Ekholm will write a factsheet about N/P ratios and distribute it among participants of the meeting for comment. In a later stage, Ken Irvine intends to use this as a basis for a position paper about the topic.

It was also decided to have a next meeting of WG2 in 2009 on the topic: “Ecological response to system manipulation”. During this meeting we will discuss case studies in which nutrient input was reduced, and ecological response of the system was followed. Both negative and positive results are interesting, so we can learn about setting up future attempts to improve ecological quality via manipulating nutrients. The meeting will be prepared by Petri Ekholm, Penny Johnes, Ken Irvine, Thomas Hein, Jean-Marcel Dorioz and Wim Chardon.