

# JERNKONTORETS NOTISER

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## Workshop on metals in sediments in Nordic waters

**Studying metals in sediments is complex. To cast light on this question, Metal Information (MITF) invited researchers, public authorities, companies and interest groups to a workshop in Stockholm in March.**

**T**he workshop on ‘Metals in Sediments in Nordic Waters’ took place at Jernkontoret in Stockholm on 29 March this year. A total of 22 participants met for a full day’s discussion on the subject. The organiser of this event was MITF which is the Scandinavian metal forum for zinc, copper, iron and steel as well as mining industries. Researchers, experts, public authorities, companies and interest groups were amongst those invited. Dag Broman of the University of Stockholm had been engaged as moderator for the day.

“We arranged this workshop in order to jointly investigate the premises

for setting environmental quality standards (EQS) for metals in sediments,” said Sophie Carler, marine ecologist responsible for handling water-related issues at Jernkontoret. “This workshop was the first step



*Sophie Carler from Jernkontoret talking to Juha Salonsaari from the Swedish Water Authorities.*

and, during the day, we discussed the feasibility of applying EQS values in Nordic waters.”

To study metals in sediments is more challenging than studying metals in water. On the one hand, methods for measuring concentrations are not straightforward and, on the other hand, the impact analysis is difficult i.e. it is a complex task to connect the metal concentration in a particular sediment to a specific discharge from an industrial activity.

“One method for getting round the problem of the historical build-up of pollutants is to look at the bioavailable metal concentrations in sediments,” said Sophie Carler.



From the left: Participants have lunch at Jernkontoret. Richard Bindler in conversation with Anders Jönsson. Marnix Vangheluwe speaks to his neighbour at table Marianne Sundberg from SCDA (Scandinavian Copper Development Association) before the lectures commence. Pia Voutilainen from SCDA in discussion with Emil Jösendal from Boliden. Ingemar Renberg lectures about lead. Chris Schlekat from NiPERA. Moderator for the day was Dag Broman. Lars-Åke Lindahl shows Mario Carere a map of Stockholm during one of the breaks. Annikki Hirn from Nordic Galvanizers.

### Metals in sediment

The day commenced with a lecture by Anders Jönsson of the Swedish Environmental Research Institute (IVL) entitled “Why do we look at metal concentrations in Nordic marine, brackish, and freshwater sediments?” The EU’s legislation on water quality, already today, makes it possible for a member country to set environmental quality standards for sediments rather than for water. The question remains, however, whether there are sufficiently robust tools in the form of measuring methods and modelling of metals in sediments to be able set limit values in this recipient; also whether these methods can be applied satisfactorily in Nordic waters. Anders Jönsson maintained that a key requirement in this context was to work on the bioavailable fractions of metals in sediment rather than the total metal content as such.

### Lead in focus

Next on the podium stood two researchers from Umeå University, Ingemar Renberg and Richard Bindler. They spoke about current and

historical trends in Nordic sediments as well as natural background concentrations - principally of lead. After a coffee break it was time to hear about the EU perspective. Mario Carere from the Italian National Institute of Health spoke about the existing regulatory framework and future developments in the legal area. Juha Salonsaari representing the Swedish Water Authorities also focused on legislation but within the Nordic context, a subject where Jari Mäkinen from the Geological Survey of Finland also contributed with his expertise.

Environmental Quality Standards Marnix Vangheluwe, consultant and expert in sediment modelling in European waters, further developed the workshop subject in a talk entitled “Scientific basis for setting environmental quality standards (EQS) in sediments”. After this interesting contribution from Marnix Vangheluwe and the many questions generated by his talk a lunch buffet was served at Jernkontoret. After lunch, the speaker was Chris Schlekat, a leading researcher from

the Nickel Producers Environmental Research Association (NiPERA) in North Carolina, USA. NiPERA has developed a test program to assess nickel toxicity and bioavailability in freshwater sediments.

### Long discussion

The day was concluded with a two-hour discussion on the subject of the workshop. From the discussion it was clear that already today there exist scientific tools for measuring and modelling metal toxicity in sediments. Moreover, in certain cases e.g. that of nickel, datasets have been produced that can form the basis for the setting of metal EQS values in sediments. However, the supporting data is specific to each metal. There is a requirement, therefore, to conduct tests and model each specific metal subject to investigation.

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