From the SedNet Oslo conference to a thematic set of articles on sediment management in Norway

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In issue 4, 2008, p. 211 of this journal, Gijs Breedveld wrote: “I plan to start my activities [as Subject Editor for JSS] with the preparation of a special issue on the basis of the 5th International SedNet conference, 27th–29th May 2008 in Oslo, Norway, at the Norwegian Geotechnical Institute (NGI). The event was hosted and co-organised by NGI which is my institute, and so I had the pleasure to play a major role in the organisation of the conference.”

In fact, this SedNet conference provided both a comprehensive overview on sediment issues from risk assessment to remedial measures and a deeper insight into the European concept of sustainable sediment management as presented by Norwegian examples.

First half of the conference: urban sediment management and port re-development

The first half of the conference covered the following problems:

Sediment in rivers, harbours and marine coastal zones in urban areas is often historically contaminated. This ‘legacy of the past’ complicates the re-development of harbour areas and the waterfront of cities for housing or commercial purposes. A proper sediment management strategy is required which takes into account environmental risks associated with contaminat-

ed sediment as well as the identification of appropriate remediation options in the urban environment. Furthermore, European legislation increasingly requires the involvement of stakeholders, which may be associated with conflicting viewpoints and concerns.

Second half of the conference: sediment in river basin management plans

The second half of the conference was dedicated to the state-of-art on sediment management in river basin management planning, including an outlook on practical remediation measures for contaminated sediments.

Norwegian research groups

In particular, several themes presented by Norwegian research groups attracted wide attention from the international audience. Based on the discussions and feedback during the conference, the idea of presenting some Norwegian key issues for the readers of JSS evolved, which appeared to us more timely, original and beneficial than the first plan of developing scientific papers on the basis of the contributions to the conference in Oslo.

While European sediment management has been an issue for many decades to other places in Europe, this field is rather new in Norway. The reason is that sedimentation rates are generally low and limit the need for navigational dredging. The coast is dominated by deep fjords with restricted circulation of the water column. As a result, contaminants from industrial and urban activities have been accumulating in the fjords since the early industrialisation. After decades of reducing direct discharges from industry into the fjords, the State Pollution Control Authority (SFT) has, during the recent years, focussed on the importance of the historic contaminant layer in the sediments as secondary source of contaminants to the fjordal system.

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Sediment management in Norway is therefore primarily driven by sediment quality issues resulting in a strong focus on diffuse sources of contaminants, sediment quality criteria and remediation methods that might improve the environmental quality in vast areas at a realistic cost/benefit ratio.

A selection of papers will highlight the Norwegian approach to sediment quality issues, from monitoring to measures, for a wider audience interested in adaptive management of contaminated sediments.

This thematic set of articles is planned to be published as issue 1 in February 2010.

Outline

Sediment management in Norway

Editor: Gijs Breedveld

Preface/Editorial

Industrial history at the bottom of a fjord

Gijs D. Breedveld, Jens Skei and Audun Hauge

Norwegian Geotechnical Institute

Norwegian Institute for Water Research

National Sediment Council of Norway

Sediment geochemistry and transport in Norwegian and north Russian rivers

Rolf Tore Ottesen, Jim Bogen and Vladimir Beljajev

Geological Survey of Norway

Norwegian Water Resources and Energy Administration

Moscow State University

Contaminants in urban runoff to Norwegian fjords

Arne Pettersen and Morten Jartun

Norwegian Geotechnical Institute

Geological Survey of Norway

Dioxin contamination in the Grenlandsfjord

Kristoffer Naes, Morten Schaanning and Torgeir Bakke

Norwegian Institute for Water Research

Development of sediment quality criteria in Norway

Torgeir Bakke, Torsten Källqvist and Anders Ruus

Norwegian Institute for Water Research

Sediment and society: assessing approaches for including stakeholder interests and contaminated sediment management

Amy M.P. Oen, Magnus Sparrevik, David Barton, Udaya Sekhar Nagothu, Gerald Jan Ellen, Gijs D. Breedveld, Jens Skei, and Adriaan Slob

Norwegian Geotechnical Institute

Norwegian Institute for Water Research

TNO, the Netherlands

Valuing the benefits of remediating contaminated marine sediments—a review and illustration from the Grenlandsfjord Norway

David N. Barton, Ståle Navrud, Heid Bjørkeslett and Ingrid Lilleby

Norwegian Institute for Water Research

Institute for Economics and Resources, University of Life Sciences

Capping of sediments using active materials

Espen Eek, Morten Schaanning, Gerard Cornelissen

Norwegian Geotechnical Institute

Norwegian Institute for Water Research

Sediment management in areas of archaeological interest

Jens Laugesen, Jostein Gundersen, Thomas Møskeland, Audun Hauge

DNV

Norwegian Maritime Museum

Norwegian Geotechnical Institute