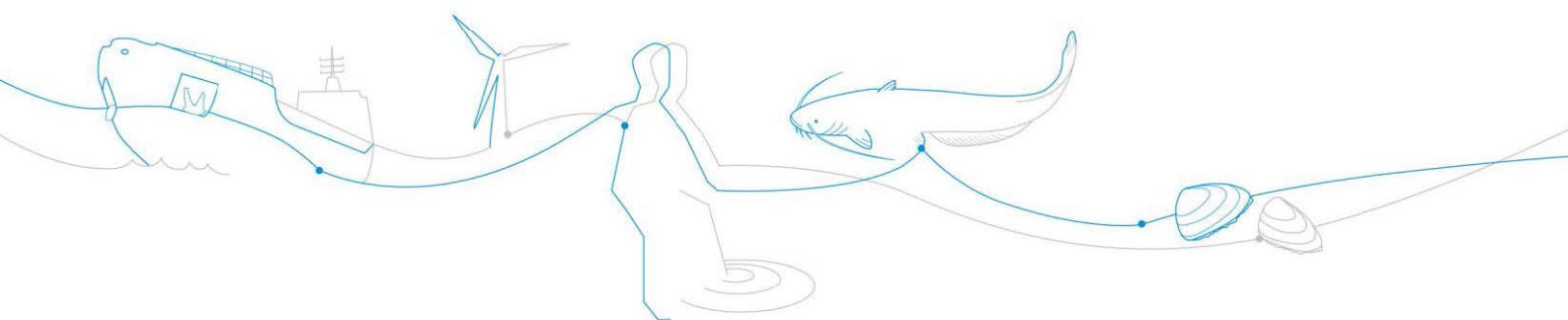




Challenges and good practice in implementing the Water Framework Directive in the Nordic countries



Nordic WFD Meeting 2015
September 23–25 in Gothenburg, Sweden

Conference report

Harmonizing the implementation of the Water Framework Directive in the Nordic countries

The Nordic WFD Meeting 2015 took place in the City of Gothenburg 23rd – 25th of September. The first day gathered over 100 participants from different authorities and sectors. There were representatives from the governments and environmental departments in Finland, Norway and Sweden, from regional and national authorities in Norway, Finland, Iceland, Ireland, England, Sweden and Denmark, and from the European Commission. There were also participants from the agriculture and hydropower sectors.

The conference shared experiences and discussed challenges and best practices. Working group sessions focused on characterization, economics, physical impact and implementation of measures. At the end of this report you find a list with possible task for future cooperation. An excursion in the drainage area of Viskan ended the conference, looking at on going work with concrete measures.

Many thanks to the organizers, speakers, chairmen and participants for taking the time to come to Gothenburg and contribute to the success of the event.

This report is a short summary of talks and events at the conference. All presentations are available at <https://www.havochvatten.se/nordicmeeting>



Björn Risinger from the Swedish Agency for Marine and Water Management welcomed the delegates to Gothenburg.

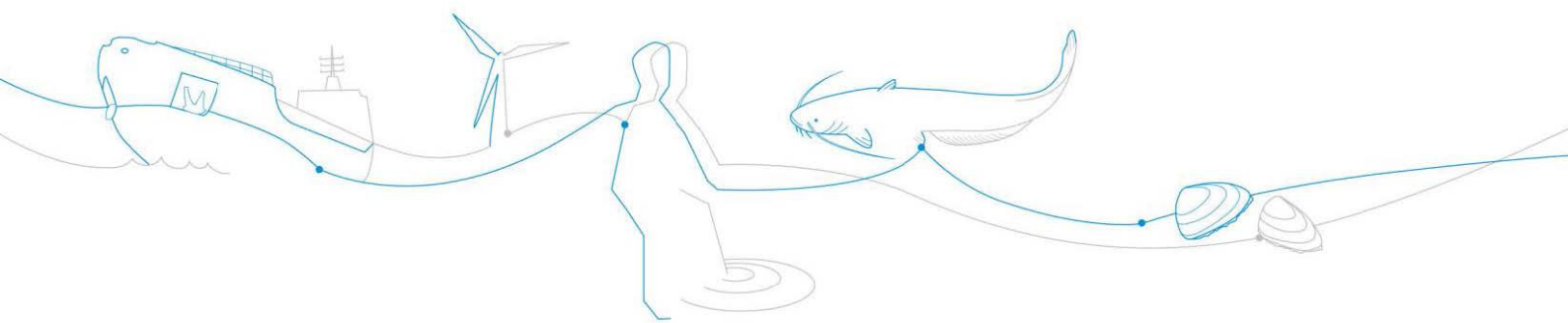
Collaborating Agencies

The Nordic Meeting program for 2015 has been developed in collaboration between the Environmental Protection Agency of Ireland, the Finnish Environment Institute, the Norwegian Environment Agency and the Swedish Agency for Marine and Water Management. Nordic Council of Ministers and Swedish Agency for Marine and Water Management financed the meeting.

Program committee

Anneli Harlén, Swedish Agency for Marine and Water Management, Sweden
Jonas Svensson, Swedish Agency for Marine and Water Management, Sweden
Katarina Vartia, Swedish Agency for Marine and Water Management, Sweden
Johan Kling, Swedish Agency for Marine and Water Management, Sweden
Milla Maenpää, Finnish Environment Institute (SYKE), Finland
Jo Halvard Halleraker, Norwegian Environment Agency, Norway
Anders Iversen, Norwegian Environment Agency, Norway
Lars Stalsberg, Norwegian Water Resources and Energy Directorate, Norway
Marie Archbold, Environmental Protection Agency, Ireland

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Text and photo: Susanne Liljenström. Graphic design: Wenche Klang.



What is important for the Nordic countries to focus on and what is particularly important to consider in reporting 2016

Early spring this year, the European Commission reported to the European Parliament and the Council on the progress of implementing the Water Framework Directive in the different member states. From this report, Jorge Rodriguez-Romero from the Commission, DG Environment, presented some conclusions of special interest for the Nordic countries in their ongoing work to revise and report the River Basin Management Plans in 2016.

The EU Court of Justice has recently made it very clear that WFD environmental objectives for water bodies are binding, not only for planning but also for individual projects, Jorge Rodriguez-Romero said. This means that member states are required to refuse authorisation for projects that may deteriorate or jeopardize the quality status of water bodies, unless an exemption is granted according to the conditions of the directive.

According to the above ruling a change for the worse in one single quality element is to be considered as a deterioration of the whole water body. This approach guarantees that pristine waters are protected, Rodriguez-Romero pointed out.

To implement the WFD can be especially complicated when it comes to waters in use for e.g. hydropower and agriculture. Here, several legislations are involved, and we need to find ways to balance legitimate water use and water protection.

When it comes to waters that are heavily modified by, for example hydropower, the objective is set for Good Ecological Potential. This does not mean that you don't have to do anything, Rodriguez-Romero emphasized. Conditions should be improved, status quo is not an option! He presented a checklist including inventories to detect pressures, measures for restoration, and monitoring to follow the efficiency of the measures.

Monitoring is an essential part in the work for improved water environment, modified or not. We see that in many countries the authorities are struggling to keep their monitoring budgets, Rodriguez-Romero said. To cut funding is an easy way to save public expenditures, but it is a risky and shortsighted move. Monitoring is the very solid basis for planning, prioritizing and taking the right decisions.



"Status quo is not an option"

For more details and country specific recommendations, Jorge Rodriguez-Romero encouraged everyone to have a look at <http://tinyurl.com/nfp4u35>

The implementation of WFD in Finland, Norway and Sweden

– main achievements and remaining gaps

Finland

Broader cooperation with different sectors and stakeholders, and stronger local engagement



In Finland, the implementation of WFD has enhanced the establishment of water protection strategies and programmes, **Hannele Nyroos** from the Finnish Ministry of Environment said. Planning covers increased amount of water bodies, classification has improved and better tools have been introduced to assess cost effectiveness of measures. Not least, the process has also provided forum for broad cooperation with stakeholders.

Today, 85 percent of the Finnish lakes and 65 percent of the rivers are in good or excellent condition (status good or high). But there is still a lot to do, Nyroos pointed out: For example, as much as three fourths of the surface area of Finnish coastal waters are deteriorated, the most significant problem being eutrophication. As a consequence, in the Gulf of Finland and in the Archipelago Sea, good status will not be reached until 2021 or 2027.

How should this be addressed in the WFD revision 2019? Extended deadlines beyond 2027? Ecological recovery takes long time, Hannele Nyroos concluded, but less stringent quality objectives are really destructive policy message!

Sweden

More people are involved and engaged in water management



During the first ten-year cycle, implementation of the WFD has definitely made water management more visible in our society, said **Stefan Berggren** from the Swedish Ministry of Environment. Both to the general public and foremost, to different stakeholders. More people are involved and engaged in water management, and more people understand the importance of a good water status. Also, the implementation has made the management approach more strategic.

The mercury issue is an old problem in Sweden, responsible for the map on water quality status looking so “red”. It will take a long time for all the aggregated mercury to vanish, and this lower the status even if there has been an improvement in all other parameters. So how do we encourage stakeholders to continue to reduce their impact, when the colour of the status is still yellow or red despite previous efforts? This also reflects the problem “one out - all out” in the classification process in the present application of the directive.

Finally, Berggren addressed the issue of linked legislation. There is a need to use other legislations that goes hand in hand with the WFD. To broaden the perspective to other areas when you are up to your ears with the daily work is a real challenge, Stefan Berggren concluded.

Norway

River Basin Management Plans are already a success

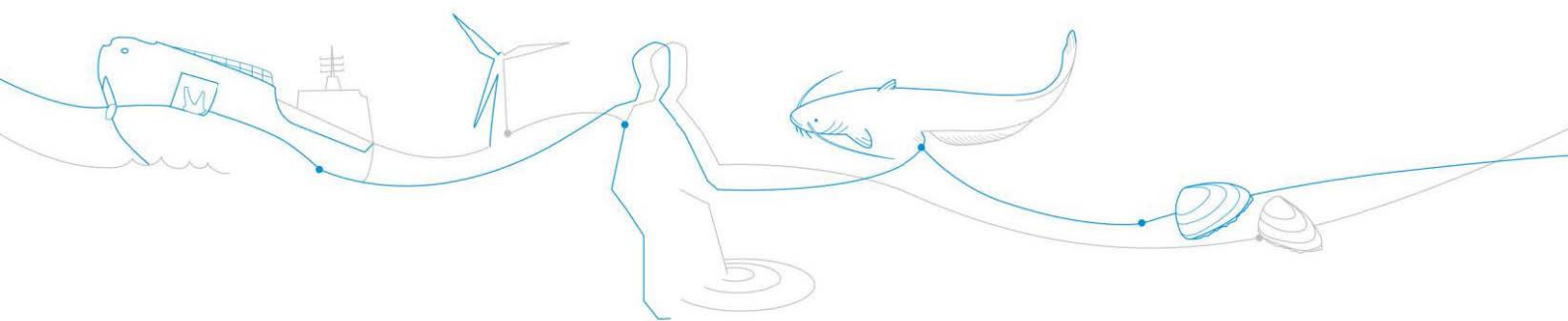


Thanks to the WFD, we have a better overview of the Norwegian waters than we have ever had, **Tor Simon Pedersen** from the Norwegian Ministry of Environment said. The management plans have raised awareness of the water issues among people, and given local politicians a leverage to improve water quality - blaming unpopular measures on “Brussels”.

Two thirds of the waters in Norway are in good condition, the rest is unsatisfactory or unknown (lack of knowledge). The main pressures are acidification, hydropower and aquaculture.

But of course there are obstacles and challenges: There are gaps of knowledge; for example about the biological pressures from aquaculture on wild salmon stocks. We lack methodology to measure the effects from these pressures, Pedersen said. Research is on its way, and we look forward to the Commission coming up with guidelines.

Pedersen also mentioned confusions regarding classification, using as an example the Tana River on the Norwegian-Finnish border. It turns out in the process that the two countries end up with different conclusions – using the same guidelines. Discussions with colleague Hannele Nyroos will sort things out, Tor Simon Pedersen said, but the guidance documents could perhaps be clearer.



New Challenges

Perfluorated substances - emerging pollutants in groundwater



"Emerging pollutants are a growing challenge and deserve attention"

In 2011, the drinking water in Botkyrka near Stockholm was found to contain some 350 ng PFOS per liter, said **Helena Dahlgren** at the Geological Survey of Sweden, SGU. This is way above the national guidance levels. Since then, perfluorated substances have been found in groundwater supplies at several places around Sweden, e.g. in Uppsala and Ronneby. None of them were discovered through analyses of the groundwater supplies themselves, but rather indirectly through other studies.

PFOS and similar perfluorated substances (PFAAs) used to be an ingredient in fire fighting foam, but is also used in many other products like textiles and food containers. Elevated concentrations in groundwater and surface water can be found near fire fighting training facilities and airports.

Today, PFAAs are widely found in the environment and in the human population. They are stored in the blood and liver and accumulate in fish. The health risks are uncertain but they are persistent and bioaccumulative, with probable effects on the liver, immune system and fetal development, said Dahlgren.

A central authorities' working group has been formed to set up an action plan and provide a platform of knowledge about PFAAs. Further groundwater monitoring is needed and special attention should be given to identifying fire training facilities, Helena Dahlgren pointed out.

The climate changes and adaptation is needed



"It pays to adapt to climate change compared to the cost incurring by no action"

Using long timeseries from climate stations all over the country, the Swedish Meteorological and Hydrological Institute, SMHI, studies climatological changes. **Gunn Persson** gave some insights to how global and regional climate models are used to describe the future climate.

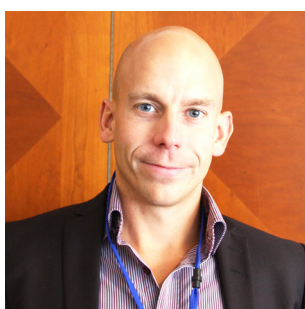
Although there are some variation, all climate models give similar results, Persson emphasized. In general, precipitation will increase (but there are also regions in Sweden facing droughts), the question more being how much. To study flow changes over the year in specific rivers, high resolved data are needed and SMHI has developed a method to downscale climate data for hydrological modelling.

In 2015 SMHI reported a national mission on climate adaptation. Several suggestions were made of which some are related to water. Persson pointed out the need for guidelines; for example on environmental friendly methods to protect coastlines from erosion, and for handling climate change within the Water Framework and the Marine Strategy Directives. Also, there is need for methods to distinguish between the effects of human activities and those from climate change.

An important conclusion is that roles and responsibilities in the society should be made clearer, Gunn Persson said: What to do, who is responsible and where to find the money?

Practical work with pressures and measures

From programme of measures to practical work - what is important for success?



"A growing city is an opportunity to put water issues on the agenda"

The politicians in Stockholm has recently decided on an action plan for good water status, said **Juha Salonsaari**, Water management coordinator in Stockholm city. The action plan states that lakes, coastal waters and streams within the city shall reach the environmental targets (good ecological and chemical status) by 2021 or 2027, and that local programmes of measures have to be completed by latest 2018.

The city has done an overall calculation of the costs to reach good ecological status. It will be quite an expensive journey, Salonsaari said. Preliminary figure is about 5-15 billion Swedish crowns. Finding finance for the measure programmes is a big challenge. In Sweden, tax money can not be used for measures in the water bodies but only in the wastewater treatment systems. Here we need central funding, as Salonsaari explained.

In the practical work, a big challenge is to find ways to translate environmental targets to information that can be used by the engineers that build roads and houses. For example, to calculate how much rainfall has to be retained to reduce nutrient loads in order to reach the targets for a specific water body.

Implementing the measure programmes calls for a strong and effective organisation of the municipality, Juha Salonsaari pointed out. But he also emphasised the need for support from regional and national authorities, for example when it comes to coordinating measures upstream involving several municipalities. Another message to the national authorities was that today's legislation often is too blunt to be an effective help, it needs to be improved and modernised. We need sharp weapons, Juha Salonsaari concluded.

More information about targets, indicators, environmental conditions and measures in Stockholm city at <http://www.miljobarometern.stockholm.se/vatten>

Practical mitigation measures to reduce pressure

"Many solutions are quite simple and cost-effective"



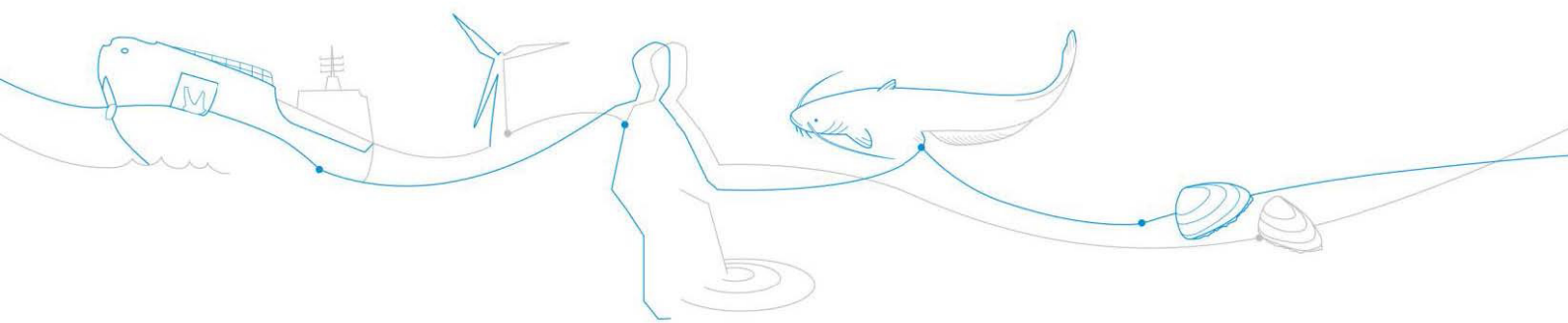
Although many Norwegian waters are in good or very good ecological and perhaps also chemical status, we have problems, said **Helga Gunnarsdottir** from the Norwegian Environment Agency. Measures are in progress but we still have a long way to go.

In a presentation, Gunnarsdottir and her colleague **Steinar Sandøy** showed some inspiring cases where measures to help migrating fish have proved both simple and inexpensive.

For example, the installation of road culverts often creates waterfalls at the entrance, too high for fish to pass. This can easily be mitigated by building thresholds outside or inside the culverts and thus equalize the water levels, Gunnarsdottir explained. The cost for this is often less than 100 000 Norwegian crowns.

Norway is the largest producer of hydropower in Europe, said Sandøy. Hydropower plants affects approximately 70 percent of Norwegian waters. The pressures include reduced or no water flow and/or variation in water levels, which affect fish and all other organisms living in and around the waters.

When water flow is reduced, sediments aggregate and even out the river bottom. The solution could be digging holes in the sediment with an excavator, and adding new spawning gravel. This not only provides new spawning areas, but also hiding places for the young fish. The success of these measures requires knowledge about both hydrology and biology, Steinar Sandøy pointed out. For example, you need to know preferred gravel size and burial depths for eggs for the species in questions.



Plans and permits



"The legal status of RBMPs is not so vague anymore"

Finnish legislation says that river basin management plans, RBMP, should be "taken into account" by the authorities when environmental permits are considered. But what does that mean in practise? What is the legal status of the plans?

Based on data from the years 2011-2014 **Jussi Kauppila** from the Finnish Environment Institute, SYKE, presented some interesting observations.

His first conclusion is: Context matters. In peat production for example, the management plans always play a role in the authorization process. As opposed to permits for animal farms (cows and pigs), where there is no evidence that the plans have any effect. When it comes to mining projects, the plans seem to have no influence on the permit threshold as such, but may have some effect on the permit conditions, for example the monitoring programs.

River base management plans include information on e.g. present environmental status, objectives for future status, and programs of measures to reach the objectives. In designated water bodies, the quality objectives are taken into account by the permitting authorities, Kauppila explained, but when it comes to undesignated waters the plans have little or no effect. In general, the more specific and precise management plans are, for example on quality status and objectives, the more weight they have in the permit process.

Finally, Jussi Kauppila referred to a new judgement from the EU Court of justice, which in fact means that the environmental objectives are binding law. So maybe it is time to reconsider the "taken into account", he concluded.

What will you bring back home from the conference?



Karoline Valle, County Governor of Møre og Romsdal, Norway:

It's very inspiring to learn from others, both inside and between countries. For example how we deal with issues such as monitoring and describing quality status.



Rune Raun-Abildgaard, The Danish Nature Agency, Denmark:

I'm impressed by UK's way of working with economics and how they make the analysis of disproportionate costs. Hopefully we can learn a lot from their approach.



Anne Laine, North Ostrobothnia ELY-centre, Finland:

There have been a lot of good presentations. What Jorge Rodriguez-Romero from the Commission said about defining good ecological status with respect to the recent EU court ruling was quite clarifying.



Bart de Wachter, Jämtland County Administrative Board, Sweden:

Some countries have come further in certain areas; for example Finland with economic valuations and Norway with ecological flows. This provides valuable information and good recommendations for our future work.

How can we identify significant impact on water use?

Harmonization of Good Ecological Potential



"Adverse effect on use cannot be zero"

Hydropower modifies water bodies in many ways, for example barriers for fish and reduced water flow. As a consequence, reaching good ecological status, GES, is usually not possible. Instead, the objective is good ecological potential, GEP, aiming for as much ecological improvements as possible – with as little effect as possible on the water use.

In his presentation, **Jo Halvard Halleraker** from the Norwegian Environment Agency reported from ongoing work to harmonize European efforts to reach GEP in waters used for hydropower. One key issue is to find comparable criteria for how to decide whether a measure has significant adverse effects upon the energy production, and thus reason for being ruled out.

A questionnaire has been circulated among countries, Halleraker said. The results show that some measures to reach GEP are widely used in many countries, for example bypass channels, lifts and ladders to help migrating fish. Measures to mitigate negative ecological effects from low flow are also normally expected, but here, sometimes measures are not implemented because they will affect energy production in a significant way.

So far, there is insufficient information from many countries on the criteria they have for significant adverse effects, so more detail is needed for the final comparison. But there is a tendency that e.g. an impact of a few percent production loss seems to be a threshold for countries with reported national criteria.

Harmonization of measures to reach GEP in waters used for hydropower is on its way, Jo Halvard Halleraker concluded. And it can't mean that mitigations should have no effect on the water use – unless all measures mitigating ecological impact from hydropower already have been implemented.

Impacts from mitigation measures on agriculture water use

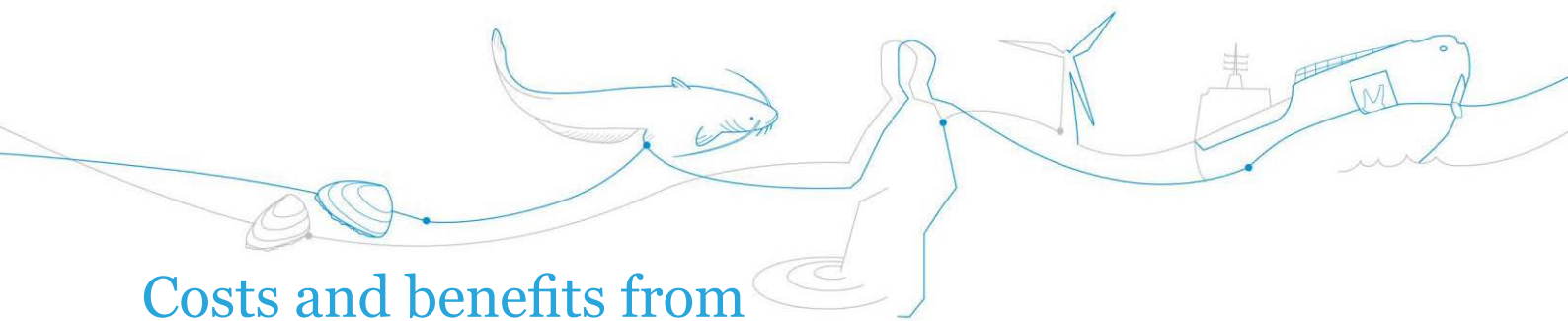


"Need to define 'significant impact' on agriculture"

Is it possible to achieve a good water environment according to the WFD and still have a competitive Swedish agriculture? This is one of the key questions for a joint project with the Swedish Board of Agriculture, presented by **Josefin Walldén** and **Johan Kling** at the Swedish Agency for Marine and Water Administration.

The aim of the project is to develop a strategy for how to prioritize water measures in agricultural areas, Walldén said. Improved knowledge is one of several objectives; for example on agriculture as a hydromorphological pressure, but also on how measures best should be placed for a minimum impact on agricultural production.

To define significant adverse impact from mitigating measures on agriculture is much harder compared to hydropower, Kling explained. In opposite to hydropower, agriculture generates a wide variety of products and there is not a common market. Economic loss from mitigating measures is thus harder to calculate. So we still have a long way to go.



Costs and benefits from water improvement

Estimating the benefits of river basin management



«Residents and summerhouse owners are willing to participate»

Turo Hjerppe from the Finnish Ministry of Environment presented three methods that have been used in case studies to show the benefits from programs of measures. The methods serve for somewhat different purposes and complement each other, he said.

The first method has a framework approach and can be used to identify and pinpoint the significance of benefit factors (fisheries, recreation etc), and how they could benefit by improved water quality. No monetary values can be estimated, but the method stimulates the discussion with stakeholders, Hjerppe pointed out.

The second method uses a model-tool (Virva) to estimate the monetary value of improved water quality for recreational use. Questionnaires show a clear connection between water quality and feasibility for e.g. swimming and sauna. This method evaluates the benefit for water front properties only, and is based on the average price for the properties.

Finally, Hjerppe presented a classic valuation study, where residents' willingness to pay for improved water status is investigated. Questionnaires were used to ask if and how much people are willing to contribute to an imaginary foundation to help finance the costs for measures. A majority of the respondents would participate, Hjerppe said, especially summerhouse owners. This is probably due to a higher income in this group, and more intense recreational use of the water. An analysis from the Vuoksi river basin district shows that residents would be willing to finance about 30 percent of the calculated costs for planned measures.

Willingness-to-pay is probably the best method for cost-benefit analysis we got at the moment, Turo Hjerppe concluded. But the method is quite laborious. Further analyses are needed for benefit transfer to other river basin districts and for the evaluation of disproportionate costs. This is work in progress.

The costs and benefits of improving England's water environment



«Local, catchment based cost-benefit analysis has been a valuable exercise»

Kathrynne Moore from the Environment Agency, on behalf of the Department for Environment, Food and Rural Affairs, presented England's approach to a comprehensive economic analysis of improving the water environment. The analysis provided the evidence base for the Impact Assessment of England's 2nd cycle river basin management plans.

The analysis is probably the most detailed economic assessment of improving the water environment that has ever been undertaken in England, Moore said. Among the aims of the analysis, was to identify which measures are cost-beneficial and to support decisions on the use of the disproportionate cost exemption.

The analysis used both national and local data. National data on the costs and benefits of measures to achieve protected area objectives and to prevent deterioration was used, and at the local scale, more than 300 river catchment economic appraisals were carried out. The catchment appraisals assessed the costs and benefits of achieving good quality status. The appraisals include a qualitative assessment of the impacts of measures on a range of ecosystem services and a monetary analysis of the costs and benefits of the measures, using willingness-to-pay benefit values.

To complete the economic analysis has been no small task, Kathrynne Moore concluded. Roughly, 1,5 to 2 million Euros has been invested in staff time to undertake the analysis. However, we believe it is a significant step forward to encompassing ecosystem services in the evaluation of the water environment, and political judgement and decisions.

Is it possible to integrate flood risk management and river basin management planning?



«Integration of Water Framework Directive and Floods Directive measures is possible»

Flooding can often threaten water quality, increasing for example eutrophication due to extreme run off from farmland and leakage from water sewage plants. In Finland, 21 flood risk areas have been identified, said **Vincent Westberg** from the River Basin District, RBD, of West Finland. Almost all are situated in areas with waters in less than good ecological status.

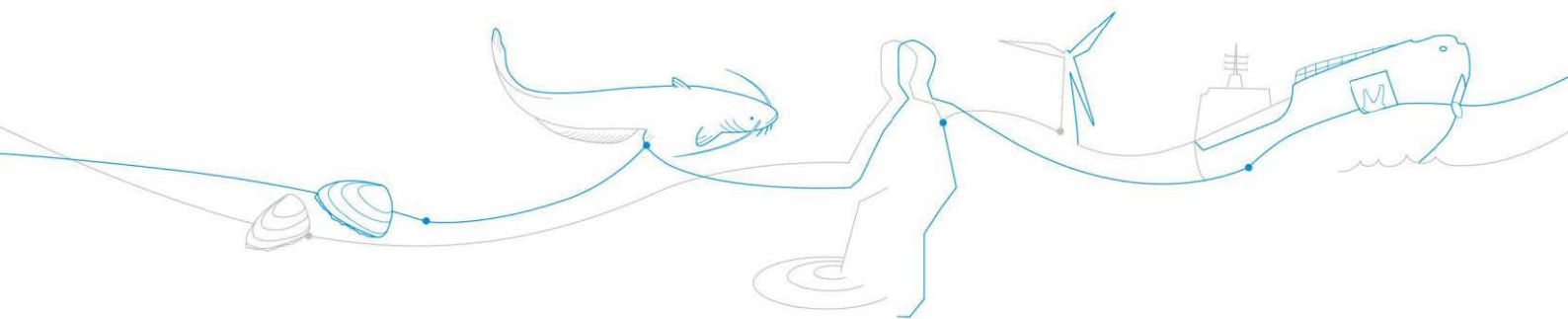
We don't want to worsen the status of these waters, Westberg said. Instead we want to use measures in flood risk management to increase water quality.

Westberg reported on a case study from the River Lapuanjoki, situated near the west coast in the middle of Finland. Here, a methodology has been developed to assess the effects of different measures for flood protection, including their environmental impact.

In the process, several measures with good effects on both flood protection and water quality was identified. These included building new or changing the use of existing embankments, but also to develop further the existing flood protection structures and the management of them. Measures with a clear benefit for water quality, such as restoring wetlands to increase water retention, could also be useful in flood protection. Some "conflict measures" were found, for example construction of new artificial lakes/reservoirs that are extremely effective for flood protection, but has severe negative environmental effects.

Involving stakeholders is an important step in the process, Westberg pointed out. An interesting experience in this case is that the stakeholders' view on measures in many ways reflected quite well the views of the water management planners'. There are of course challenges, Vincent Westberg concluded, but integration of measures is possible!





Reflections at the end of the day

As the last item on the agenda of the first day, a panel pointed out some conclusions from the presentations and discussions. Thoughts about common challenges, solutions and further Nordic collaboration for the next planning cycle 2015-2021.

There is a gap

"We have identified a lot of the pressures and a lot of solutions, and thus we have improved the 'story' around water management and improving the water environment. However, from my point of view, we haven't quite completed the story around the economics. We haven't decided whether all these solutions are worthwhile to society, so, there still seems to be a bit of a gap."

Katrynne Moore, Environment Agency, England

It is the results that counts

"There was a discussion on binding or voluntary measures. I think as long as we get results, it doesn't matter how we reach them. In Finland, nine out of ten farmers are taking part in programs for voluntary measures, so it's almost a binding system."

Airi Kulmala, Central Union of Agricultural Producers and Forest Owners, Finland

The plans must communicate

"One of the reasons our first cycle River Basin Management Plans were not implemented appropriately was because they were written in complex, scientific language. The plans and the programme of measures were not tangible to our land-use-planners. So we now need to write so that we can communicate clearly with all stakeholders, rather than duplication of effort where we write one set of plans for reporting and then additional summary reports for stakeholders."

Marie Archbold, Environmental Protection Agency, Ireland

There is no easy way around

"I think the clarification presented by Jorge Rodriguez-Romero this morning was very important; on the Water Framework Directive principle of no-deterioration in relation to status classification of single quality elements and the global status classification. The point is there is no easy way around the quality elements, we have to consider them all, and none of them is more or less important than the others."

Morten Brozek, Danish Nature Agency

We need to get the public involved

"We have to show the benefits of reaching the water directive; what we are actually adding in society value. And we have to use new information technologies and modelling together with operational monitoring to show progress. If we can't reach the public, people will never understand the benefit from the Water Framework Directive and if they don't, the politicians won't either. And then we will never get the resources or the legislation we need."

Johan Kling, Swedish Agency for Marine and Water Management



Katrynne Moore, Airi Kulmala, Marie Archbold, Johan Kling and Morten Brozek.

Implementing WFD in the Nordic countries – how can we cooperate for improved results?

Day 2 of the conference the delegates split up in smaller working groups. The purpose was to inspire each other with good examples from different countries, and to find common issues where cooperation will facilitate the process of implementing the Water Framework Directive.

Each working group provided a list of tasks possible for future collaboration, presented here.

Characterization and typology

Chairman **Jonas Svensson**, Secretary **Lars Stalsberg**

Chemical substances

- Strategies for how to address chemical substances
- Models for pressure analysis; source tracking; concentrations; status
- EQRs
- Reference conditions
- Monitoring
- Exemptions and less stringent objectives
- Mixing zones

Models

- Modern models for nutrients exist for all countries, though Norway does not have a modernized model. A work group on this topic will be set up to look at the models from DK, FI, IE and SE. The UK also has a nutrient model and should join the work group, if possible.
- A model for the interaction between GW and SW and tracking of pathways has been developed by IE. Relevant for all countries and a very interesting approach since it has a consequence for where to put measures
- Acidification models has been developed by SE and NO and is a base for cooperation between the countries
- Biology; the coupling between nutrients and biology has been developed by DK for coastal areas (chlorophyll a and ell grass). Interesting for all parties.

Classification systems

- Typology in lakes and rivers is a problem in SE and the group see a need for an exchange of experience in this field. For SE, FI and NO a more harmonized typology would simplify the classification of transboundary waterbodies



- HYMO in coastal waters is a difficult challenge and a cooperation on working out how to do this is important
- Fish as QE is not intercalibrated and an open issue that SE, FI and NO must cooperate on
- The effect of HYMO QE on biological QE is an open issue where there is a need for research and pooling of knowledge

Web-based data management systems

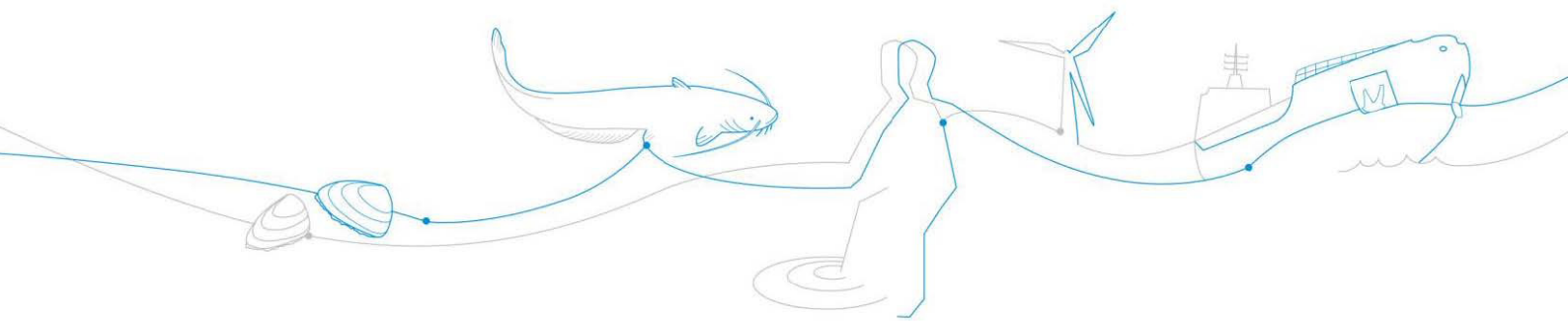
- EDEN – data warehouse

Web-based automatic assessment applications

- Irish WFD application – characterization using automated pressure data
- Automatic classification in Vann-Nett

Monitoring

- Common design
- Common cross border programs
- Representative monitoring – grouping of waterbodies on monitoring stations



Environmental economics

Chairman **Max Vretborn**, Secretary **Markku Maunula**



Disproportionate costs

- Framework/Concept
- Methodology for the assessment; UK has a good guidance, Sweden has a work on disproportionate costs
- Costs, benefits, ecosystem services; Finnish benefit framework could be shared for use and further development in other countries
- Cost benefit ratio, net present value, affordability
- Definitions

Improve the cooperation in research of socio-economic analyses related to implementation of WFD

Could we cooperate on the revision of the directive concerning the economic analyses?

- What is the interpretation and need of different requirements of the directive
- There will be discussion on EU level, it would be beneficiary to form a common view in advance.

Next planning cycle

- Some common starting points for the analyses?
- Sharing the plan for next cycle

Implementation of measures

Chairman **Milla Mäenpää**, Secretary **Helga Gunnarsdottir**



Measures and gaps

Measure is a vague term/concept, because there are different levels of measures. The main thing is to fill the gap between the good status and current status and make sure measures are targeting to mitigate that gap. Defining the basic and supplementary measures is not always easy, and we could learn from each other. We should try to clarify and make more visible the chain of different measures from basic legal instruments to strategies and physical measures.

Implementation of the measures

There are great amount of good examples of implementation of the measures in all countries and there is possibilities to learn for each other. Sharing experiences in right level of administration and in specific sectors, would be most efficient.

Follow-up of the measures

There is a need for systematic and continuous monitoring of the progress. To do this in practice was seen a common challenge. The issue is very current now and there is possibilities develop together the better linking of the chain (legal-policy-physical measures) and data system resolutions.

Communication and motivation

It was recognized that motivating not only the wide public but also administration, politicians and stakeholders is essential for a successful planning and reaching the goals. We should continue to share ideas how to keep the motivation up when the visible results in water quality takes time.

Hydromorphology

Chairman **Katarina Vartia**, Secretary **Johan Kling**



Prioritisation of future collaboration

1. Characterisation

- Develop a water body typology including hydromorphology
- Common methods, terminology etc for characterisation of hydromorphology

2. Status classification

- Develop biological methods sensitive for hydromorphology
- Extrapolation of monitoring stations

3. Intercalibration of significant pressures and measures

- Develop common libraries for pressures and measures
- Intercalibrate level when hydromorphological pressure is significant

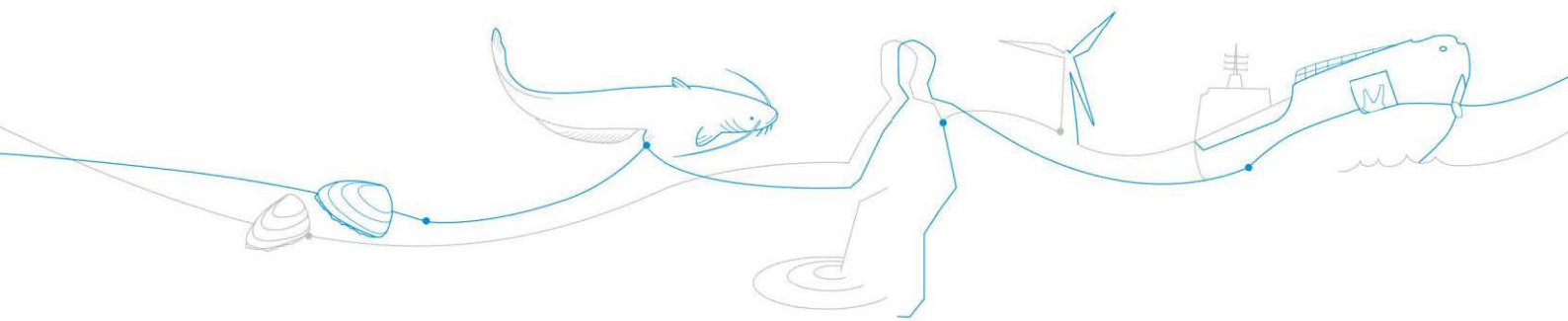
Specific tasks for future cooperation

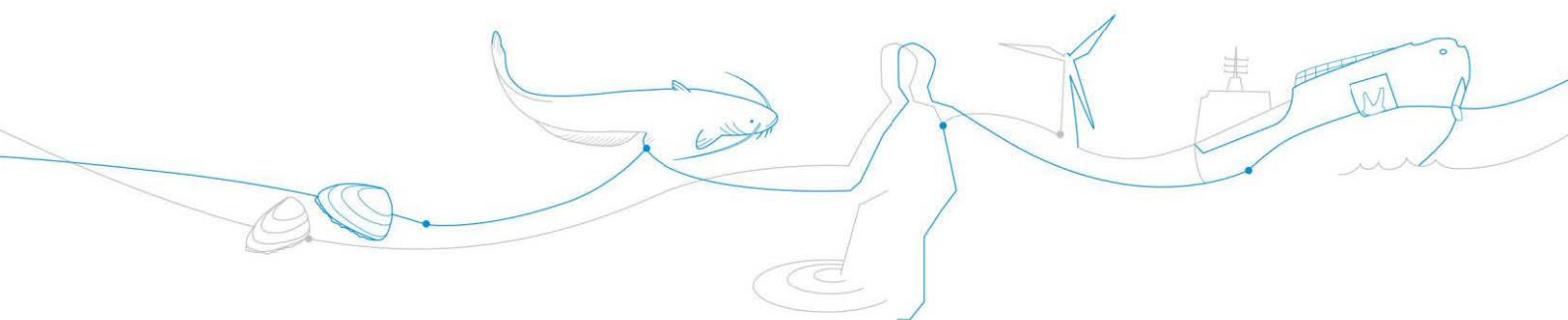
- Drainage, hydromorphological assessment and measures, drainage in respect to HMWB/LSO
- Development of coastal hydromorphology and link to MFD
- Sediment management
- Climate change issues
- Article 4.7 in respect to hydromorphology
- HMWB and new development (Article 4.7) in respect to human sustainable development
- Monitoring of hydromorphology
- Platform for sharing experience, knowledge, etc.
- Integration WFD and FD

Continuation of the work

A core group is formed with representatives from each Nordic country. The core group's task is to formalize the proposals in this document into projects. Denmark, Skottland and Irland should be contacted for possible collaboration.

- Norway: Jo Halleraker, Inger Staubo
- Finland: Antton Keto, Teppo Vehanen
- Sweden: Johan Kling, Katarina Vartia





Nordic WFD Meeting 2015

Challenges and good practice in implementation of Water Framework Directive in Nordic countries

Over 100 participants gathered in Gothenburg for the Nordic WFD Meeting 2015, to share experiences and discuss challenges and best practices. There were representatives from governments and environmental departments, from regional and national authorities, and from the European Commission. The agriculture and hydropower sectors were also represented.

About Nordic Meeting

Nordic Meeting is an annual conference with varying themes around the implementation of the EU's Water Framework Directive. Since the first meeting in 2007, Sweden, Finland, Norway, and Iceland have served as host countries. Participants have included Denmark and the non-Nordic countries Austria, England, the Faeroe Islands, Scotland, and this year even Ireland.

The meetings have proved to be a valuable opportunity to exchange knowledge and experience between national and regional agencies in the Nordic countries. Networks and platforms have evolved and developed Nordic strategies for the implementation.