

Summary from the 3rd Nordic Workshop: Harmonisation and realization of the WFD in the Nordic countries with emphasis on lakes/ivers

Sigtuna, Sweden, 20 – 22 September 2010

The expectations for harmonisation of the WFD between River Basin districts is high from stakeholders, and although there is a national perspective on most issues, the international perspective will be even higher when the Commissions summary of the national Article 13 reports will be public.

Acknowledging the work done within the EU context by different working groups, still a lot have to be done by the member states. Basically there are also several advantages in promoting a similar development of e.g. different classification systems and analyses for the Nordic countries. Realizing the expectations, the Nordic countries have established a forum for exchange of experience, since many of our water bodies are of similar types as in the other countries. Further steps can be taken to harmonize the WFD River Basin Management Plans. These notes summarizes the third Nordic workshop and concludes some agreed further development, including establishing of different projects and working groups. For further exchange and planning, the agendas for 2010-2015 for each country will be compiled.

The presentations are available on www.vannet.no, together with the presentations from earlier workshops.

Monday 20. September

Overview WFD within the Nordic countries

- [Welcome - expectations to the workshop](#) - Lennart Sorby, CA North Baltic RBD
- [Summary of earlier workshops and some key similarities and gaps between Nordic countries](#) - Jo H. Halleraker, Norwegian Directorate for Nature Management
- [Recent in the intercalibration and in the Northern GIG](#) - Ansa Pilke, Finnish Environment Institute (SYKE)
- [Mistra Pharma – An R&D project on pharmaceuticals in the environment](#) - Christina Rudén, Professor, Royal Institute of Technology, Stockholm

Updates on WFD within the Nordic countries and approved RBMP

- [Finland](#) - Antton Keto, Finnish Environment Institute (SYKE)
- Norway - Jon Lasse Bratli, Norwegian Climate and Pollution Agency (KLIF)
- [Iceland](#) - Heiðrún Guðmundsdóttir, Environment Agency of Iceland
- [Sweden](#) - Åke Bengtsson, CA Bothnian Sea RBD

Tuesday 21 September

Session 1: Classification and monitoring

Assessment of status; Experiences and plans of classification

Chair: Lennart Sorby, CA North Baltic RBD

- [Overview of the Finnish classification system, with a highlight on macrophytes](#) - Seppo Hellsten, Finnish Environment Institute (SYKE)
- [Classification of Ecological Status in Norway](#) - Steinar Sandøy, Norwegian Directorate for Nature Management
- [Norwegian classification system for ecological status](#) - Anne Lyche Solheim, Norwegian Institute for Water Research (NIVA)
- [Classification and monitoring, Assessment of status, Experiences and plans of classification on Iceland](#) - Sigurður Guðjónsson, Institute of Freshwater Fisheries
- [The Swedish National Assessment System work in progress](#) - Mikaela Gönczi, Swedish Environmental Protection Agency

Notes ASSESSMENT OF STATUS

FINLAND

Classification: a list of metrics is used/useable for classification in Finland, both for lakes and rivers. A lot of ongoing development. Some metrics have been removed, such as ASPT for macro invertebrates.

The classification system: Reference conditions spatial based/modelling/expert judgement
Status classification based on biology>phys chem.

Weight of evidence approach is used when the lowest classification is unsure. Risk assessment is taken into consideration.

Presentation of a status classification in small lakes:

What about early warning and compromising between different metrics?

Large lakes:

WoE tackles for example lack of monitoring data.

Classification shortcomings

Rivers: no macrophytes

Lakes: No periphyton

Some deficient BQE metrics.

There is a new macrophyte index coming from Finland.

A comparison between lakes with red-listed species in Sweden, Norway and Finland shows that the lakes are classified in different classes between the countries.

Macrophytes might be a very good indicator on hymo alterations in lakes.

According to invasive/alien species: Some of them are considered as established (since late 1800). Other species haven't been discussed yet (like rainbow trout).

NORWAY

Background: Norway had acid index, an evaluation system.

Personal perception from scientists alters to a national classification system for status classification. It should be used for all types of ecological evaluations of water bodies.

What do we have now?

Present system for lakes

Eutrophication system – phyto and macrophytes

National metrics – supporting elements

Acidification system – national metrics under testing

Hymo pressure – national metrics

Examples of application of the class system – eutrophied lakes
An assessment for a lot of parameters, such as chl a, secci depth and so on.

For acidification, type specific approach is used for chemistry. Not yet for biology.

Present system for rivers:
Some intercalibrated some national metrics for eutrophication. For acidification, no intercalibrated metrics yet.

Hymo – some national metrics under testing.
A nice example of the classification in a clay influenced river.

Coastal waters
Some metrics for eutrophication, phytopl, macroalgae and bentic invertebrates.

Gaps:
Water types, categories and pressures.
No system for transitional waters
Rivers influenced of clay
Mountain lakes and rivers not intercalibrated
Fjords not intercalibrated!
Reference conditions for existing metrics not validated
Typology may need revision (fewer types?)
Some pressures not included, like alien species, salt from roads, toxic pressure other than priority substances.

Gaps: BQEs and metrics.
Whole BQE are missing, like angiospermas in coastal, macrophytes in rivers, fish in lakes and rivers and all BQE in transitional waters.
Some metrics are also missing within BQE, e g phytoplankton metrics.
Combination rules for metrics.
Intercalibration not yet done for some metrics.

Current work:
Bioclass-fresh metric development.
WISER – some promising metrics.
A bunch of metrics are going to be intercalibrated in NorthernGIG.

ICELAND

The implementation of WFD was delayed in Iceland. The environmental agency in Iceland is responsible for WFD, together with some other authorities.

5 working groups are now working. The habitats in freshwater in Iceland are very diverse. There are some climatic differences in temperature and precipitation.

Two groups of water: Younger and older bedrock areas. Younger are N-limited, older P-limited for bio production.

Iceland has few species in very variable waters. It makes it hard to use biological metrics for classification – it is hard to find differences.

There is however data: Fish in lakes. There is also a database (Marine Research Institute) including hydrology, chemistry, macrophytes, invertebrates, and fish.

Pilot project for defining water bodies
Types, references, bodies – surface waters and groundwater/glacier waters.

Not yet any monitoring.

There might be some coordination possibilities for Iceland/northern Norway/Sweden.

SWEDEN

New water agency will take over the responsibility for WFD 2011, making the development unsure right now.

Assessment system today:
 For most of them legally binding methods
 Directive on priority substances is implemented.

BQE

EPA has a research programme , 47 million SEK.

Content:

Marine and freshwater

Reference conditions

Develop transparent strategy for boundaries and references.

How to handle uncertainty

How to combine the BQEs and challenge the OneOut-AllOut concept.

Following WISER and intercalibration work.

Macrophytes

New index for eutrophication

Index for rivers, acidification and hymo

Evaluate use of aerial photos.

Phytoplankton

New indices for lake eutrophication and acidification including blooms

Phytobentos

Validate current indices

Develop indices for hymo and forestry

Evaluate the use of phyto in lakes

Evaluate the use of pigment data

Bentic macroinvertebrates

Validate current indices. Develop indices for hymo and forestry.

Fish

See bentic...

Physico-chemical QE

Improved calculations of P reference values in areas with agriculture

Improved calculations of ref value for oxygen (summer stagnation)

Improved calculations for uncertainty for tot-P and acidification

MAGIC library extended with 1000 acidified lakes.

HYMO-QE

Improving existing methods with emphasis on the connection between class boundaries and biology.

Hydro regime and morph conditions.

Chemical status

On EU level, COM proposal in January 2011.

Negotiations in council and parliament

16 substances are going to be proposed – pesticides and pharmaceuticals, and some others.

Time plan

WATERS 2015/2016

Intercalibration decision 2012

New priority substances 2012?

Changed national regulations up to the new agency.

Some discussions about the pressure, which is necessary to know in due to suggest proper measures. Also the transparent way to decide reference values is important.

Type and site-specific reference values?

Discussion:

- What is done, what is in the future and how can we cooperate?
- All countries are working with the classifications, WISER is ongoing.
- We are building on a construction site. We have a problem with FISH. We need to do something more than what is going on in the intercalibration process. Monitoring is needed as well.

- We have some gaps. Invasive species! Threatened species – N2000. We need a system to compare ecological status and favourable conservation status.
- Toxic substances, for example copper, new substances in priority directive. A good idea is to have a Nordic approach on some of these substances.
- Models – how to develop them and make them simpler? Several models are good....
- Pressure – the way to proper measures.
- Nordic groups should work with these issues – some suggestions of funding etc.
- WISER database is very valuable! Data are in different countries, but it is possible to use them.

Monitoring programmes

Chair: Jon Lasse Bratli, Norwegian Climate and Pollution Agency (KLIF)

- [Monitoring in Sweden in according to WFD](#) - Juha Salonsaari, CA Bothnian Sea RBD
- Finland - Ansa Pilke, Finnish Environment Institute (SYKE)
- [Surveillance monitoring program in Norway – lakes and rivers](#) - Ann Kristin Schartau, Norwegian Institute for Nature Research (NINA)
- [Monitoring Programmes on Iceland](#) - Heiðrún Guðmundsdóttir, Environment Agency of Iceland

Notes MONITORING

SWEDEN

Present situation: in the Swedish WaterInformationSystem (VISS) approx 46 000 monitoring stations all over the country, however with different purposes and financing. Including national and regional monitoring, recipient control, local monitoring, liming follow-up etc. Low coordination, different temporal resolution, many stations with low activities e.g. only pH and alkalinity.

Article 8 reporting in 2007: 2 769 stations; data picked from ongoing programs. Selection based on criteria min 2 biological QEs and phys-chem QEs plus phys-chem monitoring in river mouths. The CA:s have no control over the monitoring and have not changed any monitoring, only put labels surveillance or operational.

Sweden didn't make the programs in full accordance to WFD. New monitoring programs are planned to be finished in Dec 2012. The goal is to better coordinate present monitoring and to use it for Surveillance, operational, quantitative, investigative programmes. Use, improve and coordinate the ongoing monitoring AND fill in the blanks with models and stations

Assess status, risk and the cause of environmental problems; show the effects of the program of measures

1. analysis of the needs
2. description of the present monitoring
3. analysis of the gaps
4. priorities
5. a new program

Financing: 24 million SEK annually for national monitoring program for fresh water + 35 million for coastal and marine.

Problems for the new programmes – no extra money, no real control over the monitoring, practical problems on typology and the identification of water bodies varies between competent authorities how it is done.

Will also look into how to include hydropower stakeholders, forestry and agriculture to pay for recipient control and to monitor biological and chemical QEs.

FINLAND

Obligatory local pollution monitoring since early 1960s with 5000 sampling sites and biological monitoring QEs included, profundal macroinvertebrates have been common.

Main approaches for new programmes:

1. types, QEs

2. rotation sites, yearly visited sites
3. intensive sites
4. less focus on large lakes than earlier – more towards medium and small lakes

WFD program made in 2006 updated 2008-09, tried to integrate various monitoring activities, produced by regional authorities

Databases in Finland: Hertta and Oiva, fish monitoring data at Fisheries authority, interactive website www.ymparisto.fi/oiva (in Finnish but some parts are in Swedish and English)

Article 8: 2007 - 186 sites; 2010 – 1 347 sites in 6 153 water bodies (4275 lake, river 1602, coastal 276)
Finland will make an analysis of the monitoring programs and facing approx 20% cut down of budget. May be more chem QEs and less biol QEs.

With new polluters and new permits – include in the licence how to monitor according to standards with WFD

NORWAY

Monitoring in lakes and rivers at present

- Salmon populations various programs
- Effects on liming , chemistry, aquatic vegetation phytoplankton and zooplankton
- Effects of long-range transported pollutions (acid rain)
- Effects of nutrient enrichment
- Biological diversity
- Only very few reference sites

Some long time-series 30-40 years, most <10 yrs

Proposed surveillance program for WFD

1. Reference sites, 254 lakes and 248 rivers
2. 26 large lakes >50 km² and 34 large rivers >2500 km²
3. Eutrophied lakes and rivers
4. Regulated lakes and rivers
5. Acidified lakes and rivers
6. Hazardous substances

Total rivers 666, total lakes, 649 in the proposed program.

Possibly extra money => 120 lakes/120 rivers more.

Reference network: step 1) Establish type specific reference conditions – criteria selection of sites; step 2)

Network for detecting temporal changes

Criteria for reference sites – represent all eco regions, climate regions and common types, sites not at risk and/or high status. 8-10 sites/eco regions

Surveillance monitoring 2009-2010 2 million NOK in addition to previous monitoring money, used it on 24 lakes, will be rotated every 2nd year if no more money arrives

ICELAND

Water monitoring:

- OSPAR-convention
- EEA-agreement
- Water supplies
- Local health inspections

Ecological monitoring made out by Institute of fisheries, nature labs, marine research institutions etc

Monitoring since 1989

- Heavy metals in fish and shellfish
- Radioactives
- Precipitation - chemical
- Groundwater - chemical
- Effluents – chemical

Chosen only areas of potential pressures and will not monitor the rest (pressures e.g. people, agriculture, aquaculture, geothermal), 8 areas for operational monitoring in <10% of total area of Iceland
Data in more than 4 different databases

Discussion:

- All countries will get less money for monitoring, one way to get more monitoring is through recipient control
- Nordic countries have good chances to cooperate and to get good reference values
- Possible projects together – best design surveillance monitoring, a Nordic reference network, same approach to operational monitoring
- Workshop on monitoring only, 2 days

Tuesday 21 September

Session 2 - Hymo alteration and HMWBs

Chair: Bo Sundström, CA Bothnian Bay RBD

Current practice of HMWB and environmental objective setting in Nordic countries

- [Heavily modified water bodies in Finland](#) - Antton Keto and Kimmo Aronsuu, Finnish Environment Institute (SYKE)
- [Hydropower and heavily modified water bodies in Norway](#) - Anja S. Ibrekk, Norwegian Water Resources and Energy Directorate (NVE)
- [Hydropower - Impact and environmental care taking in Norway](#) - Øyvind Walsø, Norwegian Directorate for Nature Management
- [Heavily Modified Water Bodies in Sweden](#) - Johan Kling, CA Skagerrak and Kattegat RBD
- [First steps towards defining Artificial and Heavily Modified Water Bodies in Iceland](#) - Kristinn Einarsson, National Energy Authority

The Nordic HMWB project

Chair: Jo H. Halleraker, Norwegian Directorate for Nature Management

FINLAND:

- National guidelines for the HYMO scorings system – for designation.
- Not so hard to designate. System is not “top science”, but still accepted as a functional approach.
- FIN have not done any further development of the scoring system
- Not taken any decision to stop using this system or try another approach
- Some years since they developed the system.
- Did not have time to do a monitoring or sufficient screening of ecological effect.

Status assessment is actually defining the level of potential:

- Finding the list of “all” possible mitigation
- Estimate the influence of measure on the adverse effect (not defined the limits here!)
- Defined MEP-measures
- In sub-groups: discussions about possibilities on which measures to include
- However, hard to understand the process by the public – really hard to communicate.

- Result from the process is not very good – few WBs where improvements actually were needed to achieve GEP.

After the workshop with stakeholders, NGOs:

Need for new task was introduced:

- Estimate the “restoration coefficient”
- Migratory fish paragraph introduced
 - o For GEP – ecological continuum is required for international, national or regional importance (Atlantic salmon)
- The final assessment of the potential carried out in the expert group of the Env centers.
- Final feedback:
 - o Still, many did not understand what was done – hard for public participation.

As part of the final approval of RBMPs in FIN:

- Uncertainty by SYKE regarding acceptance by agriculture and hydropower
- But not much discussion upon HYMO questions after the RBMPs were approved.
- In several HMWB – bad status is due to combined effect of pollution from agriculture and hydropower.

A couple of good ongoing project for using fish ladders/fish by passes as mitigations:

- FIN has defined a prioritized fish-ladder strategy for rivers. Priority list of measures for special care-taking of migratory fish. → similar to Austria and Norway....
- Water licenses (for e.g. hydropower) are permanent – therefore limited possibilities to demand for environmental improvement like fish ladders or environmental flows. Not very good legally tools to demand improvements → voluntary improvements are therefore the main “tool”.

Still the state is the main owners of many hydro plants, and here a national discussion is ongoing for ambitions of improvements.

- All potentially HMWBs due to high HYMO scoring → if measure without sign adv effect, would make them to reach GES = these water bodies should not be designated as HMWBs

Sensitivity for HYMO alteration to other QEs than fish:

- Made impact curves by hydrological changes in lakes to macroinvertebrates and macrophytes and fish. Significant effect for lakes. No good studies in rivers.
- Not any good studies of morphological changes in either lakes or rivers.
- Therefore no good fundament for impact in rivers.

For uncertain WBs – not clear about GES or not: FIN has not designated them as HMWB, even though they will end up in this group in the next planning cycle.

NORWAY:

Relevant planning tools relevant for HMWB in Norway:

- Pre-existing structures
 - Licencing
 - Master Plan
 - Protected rivers
- Provisionally HMWB (characterisation)
- Designation of HMWB (management plan)
- Political agreement – environmental objectives

A description of the national hydropower licensing system was presented:

- 340 licenses may be initiated for revision by 2022
 - All major hydropower schemes
 - Also the hydro scheme including all environmental issues
 - Comprises environmental conditions and user interests
- To day, only 1 revision completed. About 20 started the process.
- River Basin Authority may initiated the process

Status pr September 2011 in Norway:

- Use existing structures to meet the directive

- First step: candidates for HMWB (Art. 5)
- Second and third step in combination: designation and setting the environmental objectives of HMWB
- Political clarification – environmental objective in regulated rivers
- Still working with national guidance HMWB
- Need for more practical experiences

There were discussed possible principal differences in approach between FIN and NOR regarding setting env objectives in regulated rivers:

- The Norwegian approach is limiting the env objectives to the national legal limitations and not to BAT (what is the technical potential) as in FIN.

ICELAND:

First steps towards defining Artificial and HMWBs in Iceland.

- 176 potential candidates
- Should be done for domestic needs
- Based on present knowledge
- Tentative scale limits:
 - Rivers longer than 15 km
 - Lakes > 0,5 km²
 - Catchments >10 km²
- Special features:
 - Some HMWBs may obtain more life – “better eco status” due to removal of glacial water
 - Limitations for Iceland to participate in to may n
- Environmental flows: only in a few hydropower schemes
 - Many are connected to glacial rivers (sparse ecology)

SWEDEN:

- Vacuum in handling HMWB in the RBMPs

HYMO – driving forces:

- Agriculture
 - Not used for pressure on HMWB yet.
- Hydropower
 - Very large (but few) in the northernmost districts
 - Major regional differences regarding small vs large scale
- HMWBs – substantially altered – new criteria list is defined
 - Ca 2600 hydropower plants
 - 206 plants above 10 MW providing 61 out of 65 TWh
 - No time limit for the permit
 - In average 70 years
 - Only ca 65 licenses have been through a revision
- Hydropower >10 MW
 - Not set mitigation measures – not really finished with designation
- HMWB in Sweden vs other countries:
 - Env info easier assessable for larger hydro
 - Normally lack of info for small scale hydro
- Present status:
 - Discussion with Swedish Energy and the small scale association
- R&D – HYMO
 - Stream and lake regulation impact on fish and benthic fauna and macrophytes
 - Macrophytes are well suited for describing – good indicators
 - Possible to include a fish index
 - Present index for ecostatus in SWE not well suited.

- Need to standardize the descriptions of HYMO alteration. A simple value is not enough
- Impact on deeper parts?
- Need a robust toolbox of methods to link hydropower with ecol impact
 - Elforsk and R&D – HMWB and socio-economics regarding mitigations
- New possibilities
- Several interesting figures regarding Swedish and Nordic Hydropower production vs import/export....
- A new –shape model from to produce daily unregulated vs regulated Q data from all catchments in Sweden, and also some Norwegian rives.

The Nordic HMWB project was defined as follows:

Comparison of methodology of HMWB's in Nordic countries

Objectives of the Nordic HMWB project: Improve conformity in designation and ecological status classification of heavily modified water bodies' within Nordic countries in order to have better assessment system for the 2nd planning period.

The following main outcomes of the collaboration were discussed:

- arranged seminars, where discussions with WFD experts and key stakeholders are enforced of HMWB designation and classification
- summary on existing designation criteria and existing development ideas concerning criteria
- recommendations how assessment methods for heavily modified water body designation and classification procedure in Nordic countries are harmonized on a sufficient level for the 2nd planning period
- recommendations regarding the development of ecological classification system in heavily modified water bodies
- produce a final report which summaries results of previous outcomes

WPs responsible

- WP 1: Comparison of criteria and procedures for handling heavily modified water body in RBMPs within 2010 (Responsible: Johan Kling – SWE)
 - Designation criteria and threshold values
 - Comparison of environmental objectives in various countries, including other EU hydropower countries
 - Baseline legislation
- WP 2: Compilation of relevant mitigation measures (Responsible: Jo H Halleraker– NOR)
 - BAT – best practice of HYMO measures (good practice – technical report on CIRCA) to be used in the mitigation based method
 - Significant adverse effect – regional, national, internationally
 - Potential evaluation methods (based “classification” method or classification method in general)
- WP 3: Impacts –effect HYMO vs ecological response (Responsible: Antton Keto – FIN)
 - Compile state of the art regarding quantification of impacts; hymo alteration versus response on various QEs
 - Detailed study of biological data on existing classification procedure
 - Evaluate best methods for monitoring impacts of hydromorphological changes
- Timetable: Final report within June 2012
 - Open WS February 2012 for management, stakeholders (power companies) and NGOs
 - Nordic WS October 2011 – special session about this project
 - Common presentation at next HMWB and hydropower workshop arranged in Germany autumn 2011
- Possible external fundings?
 - NCM

- Nordic energy companies to carry out new investigation in regulated rivers – each country may invite energy sector into the project and have separate meeting with them.
- Each WP leader is responsible for: - further detail description of plan, milestones, and deliveries.
- Deadlines for new project plan for each WPs: end of October 2010
 - To circulate to all participants in the HYMO session.

Wednesday 22 September

Session 3 Planning for RBMP 2015

Chair: Anja S Ibrekk, Norwegian Water Resources and Energy Directorate (NVE)

- [RBMP - Way forward in Finland](#) - Antton Keto, Finnish Environment Institute (SYKE)
- [Overview of main RBMPs challenges in Norway](#) - Jon Lasse Bratli, Norwegian Climate and Pollution Agency (KLIF)
- [Ideas of how to incorporate socio-economics in a better way](#) - Silje Holen, Norwegian Institute for Water Research (NIVA)
- [Updates on pressures, impact and risk assessment in Norway](#) - Jo H. Halleraker, Norwegian Directorate for Nature Management
- [Implementing WFD in Iceland](#) - Heiðrún Guðmundsdóttir, Environment Agency of Iceland
- [Planning for RBMP 2015 in Sweden](#) - Bo Sundström, CA Bothnian Bay RBD

Notes PLANNING FOR RBMP 2015

FINLAND

Finland have made RBMP 2009 and reported it during spring 2010.

Timetable for the next period 2010-2015 is planned with hearings and decisions. Timetable is mainly in accordance with WFD.

NORWAY

Norway have made RBMP for approx 20% of the country, decision during 2010 and reported during 2010.

Timetable for the next period 2010-2015 is planned with hearings and decisions. Since RBMP are made for the first time in most parts of Norway, several products are published earlier than the Timetable according to WFD.

Norway also have a more complex process for decisions, with County Councils/Government/King, resulting in that the formal decision process lasts for approx one year.

ICELAND

Iceland have not done any RBMP yet.

Iceland ambition is to follow the timetable for the next period 2010-2015 to be in accordance with WFD. A finalized timetable is not ready yet.

SWEDEN

Sweden have made RBMP 2009 and reported it during spring 2010.

Timetable for the next period 2010-2015 is not definitely planned yet, with hearings and decisions, but it will be mainly in accordance with WFD.

Discussion:

- All countries are mainly planning according to the WFD timetable, but with some deviations relating to national situations

- Nordic countries will benefit from cooperation and exchange of information from different processes, but there are no possibilities for a more synchronized timetable
- Next WFD-cycle can be interesting for a more synchronized timetable for different processes

Wednesday 22 September

Session 4 - Technical systems – databases and GIS

Chair: Åke Bengtsson, CA Bothnian Sea RBD

Technical platforms and plans for development – databases and GIS. Nordic cooperation on common solutions? Inspire directive?

- [WFD Spatial datasets Inspire & WFD](#) - Riitta Teiniranta, Finnish Environment Institute (SYKE)
- [Technical systems Water Body Database](#) VEMU FIN - Vincent Westerberg, Centre for Economic Development, Transport and the Environment for southern Ostrobothnia
- [Vann-Nett: Water Information System for Norway](#) - Lars Stalsberg, Norwegian Water Resources and Energy Directorate (NVE)
- [Status of the WFD information system in Iceland](#) - Jórunn Harðardóttir, Icelandic Meteorological Office
- [Technical platforms and plans for development – databases and GIS Sweden](#) - Niklas Holmgren, CA South Baltic RBD

Notes TECHNICAL SYSTEMS

Three network-groups were established with a coordinator and specified subjects

- 1) Coordinated by Riitta Teiniranta, SF
Life-cycle rules for water bodies
Implementation of INSPIRE
WMS-exchange of data
- 2) Coordinated by Bo Sundström, SE
Harmonization of data in the Nordic countries with the Tornio River as an example
- 3) Coordinated by Lars Stalsberg, NO
Databases for Measures

Those who like to join one of the networks are recommended to contact the coordinator. Jennie Tjernell, SE will present an internet-based solution for the communication within the groups.

Recent updates after the Sigtuna workshop:

A joint FIN-SWE-NOR meeting has been arranged in Sweden in December 2010 – collaboration on ...

A SWE-NOR cooperation exchanging experience on numerical models relevant in WFD implementation have been established.

Plenary session: Summary of the workshop

The workshop concluded that we need more:

- Exchange of general information on RBMP and different processes
- Exchange and development on basic issues; classification including HyMo, monitoring and technical systems
- Organized processes between the Nordic countries can promote a better outcome for the workshops and other cooperation on different issues.

Planning:

A planning group was suggested - for information and as network-link, and preparation of common meetings:

- NO: Jo Halvard Halleraker
- SF: Antton Keto, Vincent Westberg
- IS: Heiðrún Guðmundsdóttir
- SE: Lennart Sorby, SEPA/MWA
- DK:

Suggested RBMP meeting:

- Norway, Oslo, approx 27 sept 2011
- Iceland, sept 2012

Workgroups will have meetings between the RBMP-meetings

River Basin Management Plans:

Information exchange between the Nordic countries concerning the RBMP and timetables will be very valuable.

Communication efforts can be synchronized or information material can be exchanged.

Development of Socio-economics would benefit from a common model and work.

Coordination with other directives can be exchanged.

Programme of Measures would get greater acceptance if developed or used in a similar way.

Nordic HyMo - HMWB project:

A Nordic project and workgroup were established.

Project leader is Jo H. Halleraker

The workgroup will have 3 work packages:

1. Comparison of criteria and procedures for handling heavily modified water body in RBMPs within 2010 WP 1-leader: Johan Kling (SE)
2. Compilation of existing mitigation measures WP 2 leader: (Jo H Halleraker – NO)
3. Impacts –effect HYMO vs ecological response WP3-leader: Antton Keto (FI)

Characterization and classification:

It was noted that we need further Nordic work on characterization and classification. The intercalibration workgroups will provide us with better data and baselines, but many issues will not find a solution. To establish an on-going evaluation and revision of classification systems and water bodies are necessary for all countries.

Valuable processes are the Intercalibration, EU WISER research project and SE WATERS research project (to start).

Important issues (no ranking): Fish, Priority substances, Toxic substances, Threatened species, Invasive species, Pressure analysis, Coastal waters, Models, Other directives (Marine, Flooding, Groundwater, Climate Change....)

Each country has to consider the need for further work, and in what Nordic cooperation it can be developed.

Monitoring:

The Nordic countries have several common issues of importance for monitoring: similar legislation, water types, transboundary waters, etc. Particularly for some water types we find data for comparison in the neighbouring country. A common network (IS?) for reference stations and Surveillance monitoring will give a strong backbone for all other processes according to WFD.

Valuable processes would be:

- Design of Monitoring programmes
- Development of models
- Network on reference sites
- Network on Surveillance monitoring
- Design of Operative monitoring
- Design of Investigative monitoring
- Methods to group monitoring and water bodies
- Comparison of monitoring, methods and data
 - Lakes, rivers, transitional waters, coastal waters, groundwater – combination with other directives

Each country has to consider the need for further work, and in what Nordic cooperation it can be developed.

A specific monitoring workshop was suggested to define some common areas of interest and ways forward.

IT/GIS Network

A Nordic Network for IT/GIS was established.
Coordinator is Jennie Tjernell, SE.

The Network contactpoint are:

- NO: Lars Stalsberg
- SF: Riitta Teiniranta, SF

- IS: Jórunn Harðardóttir
 - SE: Bo Sundström
 - DK: nn
- 4) Coordinated by Riitta Teiniranta, SF
Life-cycle rules for water bodies
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Harmonization of data in the Nordic countries with the Tornio River as an example
 - 6) Coordinated by Lars Stalsberg, NO
Databases for Measures

Participants

SF	Ansa Pilke	Finnish Environment Institute (SYKE)
SF	Seppo Hellsten	Finnish Environment Institute (SYKE)
SF	Antton Keto	Finnish Environment Institute (SYKE)
SF	Milla Mäenpää	Finnish Environment Institute (SYKE)
SF	Riitta Teiniranta	Finnish Environment Institute (SYKE)
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