June 20, 2017

Baltic Sea Pioneers for better nutrient monitoring and reporting
Meeting Report Workshop 1 – Challenges and Solutions

4 May 2017, SIWI office in Stockholm

Background

This workshop is part of the project "Baltic Sea City Accelerators – Pioneers for better Pollution Monitoring and Reporting". The project aligns with Zennström Philanthropies' Race For The Baltic "Baltic Sea City Accelerator" (BSCA) – an initiative that is a pilot program for pioneers, by pioneers – engaging at the forefront of Baltic Sea issues, with SIWI as a partner. BSCA is an open, knowledge-sharing platform, working with municipalities and partnering with stakeholders from various areas, e.g. science, business, NGOs, solution providers, etc.

The project was initiated because we saw, while working with municipalities on their local Baltic Sea Action Plans (BSAP's), both a need and an opportunity for further investigation with respect to the municipalities' monitoring and reporting of nutrient data to regional and national authorities, and HELCOM.

While compiling and analyzing responses from the municipalities to a questionnaire we asked them to complete in December 2016, and during preparations for the first workshop, we saw a possibility to focus on the value of municipalities developing local BSAP's and working toward HELCOM targets - and the important role that the monitoring and reporting of data plays in their implementation efforts.

The workshop on 4 May therefore focused on outlining the challenges and considering the possible benefits of various solutions, i.e. using digital technologies to monitor, report and share municipalities' progress, implementation efforts toward achieving nutrient reduction (and/or other HELCOM) targets.

In short, during the workshop we considered:

- How awareness-raising about HELCOM on the municipality level can also contribute to a sense of working toward a "greater good" i.e. could HELCOM targets, which unite the Baltic Sea region, benefit/accelerate action on the municipal level?
- The potential value-adds from raising awareness and sharing knowledge about how municipalities are working toward national/HELCOM targets.
- Steps that can be taken to improve data quality and knowledge-sharing about the implementation of "best practice" measures.
- The potential benefits of putting real-time "Water quality" data into the hands of municipal leadership and Baltic Sea citizens.

Presentations & Comments

DMITRY FRANK-KAMENETSKY, PROFESSIONAL SECRETARY, HELCOM

Traditionally HELCOM works on country level, primarily engaging national representatives. HELCOM 38-2017 identified involvement of municipalities to the implementation of the BSAP as one of

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current priority activities. The national reporting to HELCOM covers many fields of human activities and each kind of data passes several stages of quality verification and national approval before integration into HELCOM resources and making it public. It is a complicated, fine-tuned process of data reporting based on national data input. The reporting process is divided in two parts: annual and periodic (every 3 or 6 years).

One of the HELCOM priorities has been to keep track of and find ways to reduce input of nitrogen and phosphorus to the Baltic Sea which cause the widespread eutrophication that is continuously ongoing in the Baltic Sea. The most recent available data in this regard suggest that:

- We are far from the set phosphorous target; it needs work/focus to achieve BSAP target
- Nitrogen input is closer to the target, though the target is also not achieved for the whole sea

Several measures are suggested in order to reduce nutrient input including:

- Waste water management, e.g. handling of sewage sludge, storm water management
- Agriculture, e.g. upgrading of drainage
- Reduction of airborne input, e.g. ammonia emission, reduction of long-range transport
- Specific measures: internal load, land planning

In addition to the practical themes suggested there is a need to raise public awareness and capacity building to create lasting and sustainable effects. Communication and awareness raising is HELCOM's Achilles heel and need more work at national and local level. The work on enhancing public awareness and education issues seems to focus more on hazardous substances. BSAP does not contain certain commitments for raising public awareness around nutrient issues.

HELÉNE EJHED, RESEARCHER, IVL

A questionnaire was directed to a selected group of municipalities and cities located around the Baltic Sea to get an overview from the "local" level on their role in monitoring and reporting with respect to BSAP and WFD. It primarily addressed organization, monitoring networks and methods. This select group comprises 6 municipalities and one region around the Baltic Sea involved in the Baltic Sea City Accelerator program.

The report concludes that municipalities currently are involved in the development of plans and implementation of measures to reduce nutrient discharges from their municipality but they could be more involved in the monitoring and reporting on the impact of the measures to the national level and in a next stage to HELCOM to reach BSAP targets (see full report in Annex 3).

Coordination and communication of the important role municipalities' play, as well as feedback to municipalities on how their reported data is used, can lead to a higher political and practical prioritization of environmental work at the municipality level. Further, using harmonized and cost-efficient measures can build up the foundation required to reach WFD and BSAP targets.

RICH BATIUK, ASSOCIATE DIRECTOR FOR SCIENCE, EPA, U.S.A.

The Chesapeake Bay Program is a unique regional partnership that has led and directed the restoration of the Chesapeake Bay since 1983. The Chesapeake Bay Program partners include the states of Maryland, Pennsylvania, Delaware, New York, West Virginia and Virginia; the District of Columbia; the Chesapeake Bay Commission, a tri-state legislative body; the Environmental Protection Agency (EPA), representing the federal government; and participating citizen advisory groups.

Each Bay Program partner uses its own resources to implement Bay restoration and protection activities. Partners work together through the Bay Program's goal teams, workgroups and committees to collaborate, share information and set goals.

Every two years, EPA compile the data and reach out to the public, via websites and news outlets, of the outcome of the program including reports on nutrient sources outputs from agriculture, urban runoff, wastewater, septic and forests. The "Oversight status" tables present the likelihood of states to reach the 2017 and 2025 targets ("people take action if they know how to do something, or if they are embarrassed for not doing it"). The transparency is building confidence that people's tax money result in something, pays off, transparency between states/municipalities

Funding for the reporting comes from a dozen different source including EPA and regional or local sources. The reporting system is streamlined where laboratories follow the same procedures in their analysis. Since the start of the project there has been a 50% increase in population but a significant reduction in nutrient load.

Comment from Dmitry, HELCOM: For the Baltic Sea situation, the task is more challenging with nine countries, one outside EU, national legislations etc. Nitrogen is more or less close to the target but, in addition to waterborne input, we are struggling with airborne N from the whole of Europe and shipping (including nitrogen oxides, ammonia etc.). Phosphorous however is a difficult issue where we are far from achieving our targets. Specific for the Baltic Sea is internal P load. This also exists in Chesapeake but noticed a reduction in size and onset and offset of the load (Rich).

RUCHI VERMA, STRATEGY & CONSULTING PROFESSIONAL, ERICSSON

Ericsson is committed the Sustainable Development Goals (SDGs) and translates their dedication into action through projects like the Water Monitoring Networks – a Digital Demo Stockholm project (DDS). The project is a cooperation between Ericsson, the city of Stockholm, the Stockholm Water Authority, the Royal Institute of Technology in Stockholm, Linköping University, Telia and ABB. The target with DDS is to make Stockholm into a "smart" city by 2040 with access to clean water, security for the elderly, effective accessibility and technology for equal opportunities.

The set-up for water monitoring is deployment of sensors to detect pathogens, chemicals and water composition changes. This is transferred through cellular networks furthered on to an IoT Accelerator that will send the information to a user-friendly interface that allows for easy access to data. The project is in an early stage and results are yet to come.

Discussion

There are several opportunities as well as challenges for municipalities related to connecting closer to the BSAP. Municipalities are financially restricted in their contribution to monitoring and data reporting. It is always a question of prioritizing what type of monitoring that is most needed locally. Funding for monitoring is often connected to projects, and hence time-restricted, rather than continuous. This is the same for the industry. There's also a general lack of coordination between national and local levels with respect to data reporting. This creates an insecurity and uncertainty as to what information is needed at a higher level, i.e. HELCOM.

There is an overall lack of awareness in municipalities about the Baltic Sea challenges. This goes for politicians at municipal level as well as for the general public. There should be incentives to encourage people to save water and energy. This requires positive and well-informed leaders and maybe guidebooks on how people can be "water positive". The challenges would benefit from making them more tangible and give examples on how the individual is connected to the water cycle.

The potential to set up a common strategic direction was identified as a potential benefit with connecting closer to the BSAP. Furthermore, it would provide politicians with arguments to allocate resources to water-related work as it is a commitment signed by all nations in the region. Other opportunities identified were the potential to join forces to coordinate, for example, data collection, data reporting, and follow-up on progress towards the agreed-upon targets. As it stands today, BSAP is not used in official communication to the public but rather in discussions and dialogues between Baltic Sea/water professionals. If used more effectively in communication, there is an opportunity to communicate the related benefits of sustainability and ecology.

Conclusions and next steps

Participating municipalities, presenters and organizers were interested in working closer to HELCOM and to discuss more on how to align more with the HELCOM BSAP. There is reciprocally an interest from HELCOM to establish tools to involve municipalities more closely into the implementation of the BSAP.

Currently, there is no shared reporting system for local governments to showcase their progress or successes. HELCOM targets and recommendations are good indicators for the municipalities Baltic Sea restoration efforts and progress. Furthermore HELCOM represents the convention of what the region is working towards.

HELCOM so far has mainly engaged with national representatives, but has lately decided to work for a better dialogue with municipalities, to stimulate action and coordination amongst them to implement the agreed-upon targets.

Based on the discussion at the workshop, Swedish Water House and Race for the Baltic suggest that HELCOM BSAP could provide a framework for cities and BSCA in their work to improve the state of the Baltic Sea and capture socioeconomic benefits for their respective communities. RFTB sees an opportunity for the BSCA to support the development of a reporting system for the 100-city Vision to be launched in January 2018. A digital platform is an interesting opportunity.

The next step is to identify relevant and legible progress indicators for municipalities' to report on to demonstrate their progress towards HELCOM BSAP as well as their own, local BSAP. This has to be done in a stepwise approach:

1. HELCOM could provide a guideline/wish-list of potential involvement of municipalities into implementation of the HELCOM agreements and consequently suggest indicators to follow them up.
2. Municipalities need to discuss the guidelines/wish-list to ensure that it is understandable, relevant and feasible for them.
3. Buy-in from EU and national authorities has to be secured.

Before we organize the second workshop within the project, HELCOM will communicate a suggestion on potential involvement of municipalities into BSAP implementation to national representatives.

Some of the questions and comments that were brought up in the discussions during Workshop 1, but which have not yet been answered, will be discussed:

Are we ready to agree that the BSAP is the convention that we are going to work towards?

- What do we want to report on? Accomplished actions? Or simply reporting of pollution? These are two different tracks.
- How do we ensure the usability of the data? Who shall municipalities report to/who is using it?
- What are the mandates for municipalities?
- What is expected and by who?
- We need clarity and transparency on the roles and mandates regarding reporting.
- We need better datasets

- There are many political, resource, and practical challenges but together we can come up with ideas on how to move on. Another workshop after the summer, making a skeleton of a project proposal for getting municipalities closer to HELCOM. What are the indicators?
- What is the applicability of the data?
- There are examples from Africa, with similarities regarding lack of resources, staff, data and where the end results showed how actions were needed at a much earlier point in the process chain.

Annexes

Annex 1 – List of workshop participants

Annex 2 - Presentations from Workshop

Annex 3 - Results from Questionnaire

Annex 4 - Desk study report - Baltic Sea Nutrient monitoring and reporting