Newsletter
May 2010
BONUS Baltic Organisations Network for Funding Science EEIG


Kyösti Lempa

Participants of the BONUS Day

BONUS DAY PUZZLED SCIENCE POLICY INTERFACE

Seventy representatives of the academic community, governments and non-governmental organizations in the Baltic Sea Region gathered to an event called 'BONUS Day' on February 9th, 2010 in Helsinki. The Day was organised jointly by the Academy of Finland, the Baltic Sea Action Group, BONUS EEIG and Finnish ministries and research institutes. The day aimed at finding new ways to use research as a base for policy decisions and enhance cross-sectoral communication, as well as to discuss the values of the Baltic Sea. In particular, the focus was on maritime safety and the multitude of goods and services provided by the Baltic Sea ecosystem. As an outcome of the day, a message was presented by **Petteri Taalas**, the General Director of the Finnish Meteorological Institute, to state leaders convened to the Baltic Sea Action Summit on the following day.

The event started with a plenary session with five keynote presentations. After the opening words by the president of the Academy of Finland, Mr **Markku Mattila**, a presentation was given by Mr **Igor Maydanov**, the chair of the Baltic Sea Environment Protection Commission, HELCOM. He highlighted the role of science in the development of the Baltic Sea Action Plan, and even more importantly in its implementation. Also, he proposed an international science panel to provide independent scientific advice to support HELCOM's work.

Potentials and failures of science-policy interplay

Thereafter, three expert views illustrated the potentials and failures of current science-policy interplay. **Peter Aakjaer**, Director General from Denmark's Meteorological Institute, demonstrated how the operational marine safety services are operating now and how should they be developed in the future. According to his view, three components need to be in place: political and institutional leadership, strong national components and international co-operation. The latter includes research to improve the existing systems, products to serve the users' needs, and services that are robust and always present.

Research Director **Douglas Wilson** from Aalborg University, Denmark, described how the interplay between research and policy making has operated in implementing the Common Fisheries Policy, and in applying the ecosystem approach in fishery management. His presentation was based on a study of the ICES advisory mechanism. His conclusion was that the advice needs to be based on a science/governance network providing broad review processes. Multiple sources of support are needed for resisting bureaucratic pressures that can distort science.

Professor **Markku Ollikainen**'s presentation questioned the potential of HELCOM's Baltic Sea Action Plan in providing the required policy action to account for eutrophication. His argument was that it is too costly for the transition economies. This situation poses challenges for research in constructing the social problem of eutrophication, outlining the basic features of a binding international agreement and going through the hard work of negotiations.

Learning café looked for solutions

The afternoon was organized in the form of a 'learning café' where the six chairmen led discussions in separate rooms and the participants moved from one room to another and contributed to discussions in changing groups. The groups considered three themes: 1. Research as a base for policy making 2. Stakeholder values of the Baltic Sea and 3. Cross-sectoral communication forum.

The two groups discussing *research as a base for policy decisions* agreed that the policy process concerning maritime safety and ecosystem goods/services does not use the available research results in an optimal way - policy processes follow other forms of logic besides the logic of science. The major obstacle identified was that the major management bodies (IMO and EU) cannot take into account area specific risks and impacts. It was pointed out that systematic peer review of the advice is partly missing. There should be more intermediaries between science and decision makers/general public. A problematic situation arises when there is a lack of consensus amongst the scientific community because the decision makers can then pick the scientists of their choice.

The groups suggested several actions to improve the situation. More cross-disciplinary research is needed to link together the management options and their biological and economic impacts. User groups should be given more responsibility for managing the resources and for proving the sustainable management of resources. As a practical solution, mechanisms, e.g. a science panel, to create a more unanimous voice for science should be developed. There is a need for knowledge from off-shore industries, and more science is needed for the spatial planning of coastal and offshore sea areas. In addition, a careful study of 'close shave' incidents might help to reduce risks. Finally, it was stated that there is not enough knowledge on the impact of chemicals.

What kind of Baltic Sea do we want?

Regarding *stakeholder values*, the two groups pointed out that values have been defined in different documents but are not shared by everyone. The key question is: 'What kind of Baltic Sea do we want?' There are, however, different value drivers on many levels, namely individual values, economic values vs. others, and cultural differences between the countries. A common maritime spatial planning process, including the whole ecosystem, is the way to handle the reconciliation of different drivers

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and values. Science plays a crucial role by offering objectivity when values are conflicting – however, the conflicts have to be solved by politicians, not scientists. The role of science should be made more visible by education and raising awareness. In particular, increasing awareness in business is important. Big or small commitments can create a common value base. It was proposed that there should be governance through common business structures – good governance would also create economic benefits through lower insurance costs. The group identified research needs in the societal differences and values, as well as basic scientific research to support political decision making.

Is the scientists' message heard?

The third group pair pointed out that *cross-sectoral communication* is the KEY issue for supporting good governance and informed decision making. Although there is a lot of initiatives and communication from scientists to politicians, only the part of the message that fits into their agenda is heard. This phenomenon need to be studied – why isn't the message heard?

The issues to be tackled are complex, and science should therefore focus on the co-production of a solid knowledge base. This calls for cross-disciplinarity and cross-sectoriality.

The groups emphasized the moral responsibility of the research community to react to crucial research challenges. Regarding communication with the wider audience, the group called for campaigns on the environmental quality and value of the Baltic Sea (seeing is believing). Acting at the local level is important. Regarding research needs, the group identified trans-disciplinary research and off-shore spatial planning as the foremost topics. In addition, new ways of 'participatory research' should be developed.

All the presentations and café group summaries are available at www.bonusday.fi

Kaisa Kononen


rodeo.fi

BONUS+: THE FIRST YEAR OF IMPLEMENTATION COMPLETED

All sixteen BONUS+ research projects have started off vigorously in the first year of implementation. The main emphasis has been on establishing the consortia and gathering the initial data – both from the field and by experiments, data mining, contingent queries, and initial model runs. The first results were shared during the Annual BONUS Conference in January 2010, and are reflected in the annual reports that are delivered through the Programme's web-based reporting system - EPSS.

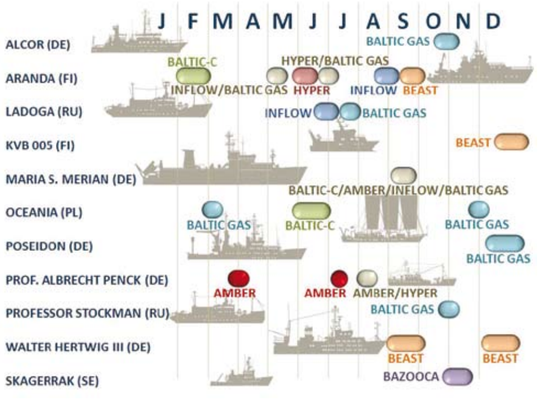
Collaboration within free-geometry clusters

In some contrast to what has been observed in EU Framework Programmes, BONUS established lively collaboration among its various projects from the very beginning. This has been achieved mostly through forming free-geometry clusters to approach specific research issues and the cooperative use of sophisticated and expensive research infrastructures, especially research ships and advanced computing facilities. Altogether 25 research cruises in the Baltic have been undertaken in 2009, four of them manned by researchers from two or more BONUS+ projects (Figure).

In August, during the days of the Baltic Sea Science Congress in Tallinn, representatives of eight projects gathered to discuss the general issues of communicating science results to the policy level. This meeting was arranged by the PROBALT project.

In October, HYPER, ECOSUPPORT and RECOCA invited five other projects involved with modelling and projections of the future development scenarios of the Baltic Sea system to discuss issues of joint data gathering efforts and data exchange, to identify the overlaps and ways towards standardization, and to arrange joint training and dissemination activities.

Finally, in November, RISKGOV, PROBALT and BaltGene participants met to discuss the challenges of uncertainty and possible ways to address them in these projects. In particular, the participants of this meeting discussed how the complexity, uncertainty and ambiguity of the scientific knowledge may be dealt with while implementing the ecosystem approach to management (EAM).



Research vessels and cruises within BONUS+ in 2009

Dozens of suggestions and modifications to policy documents and action plans

Another distinctive feature of the BONUS+ projects is their clear inclination towards practically useful outcomes that will qualitatively advance the whole system of the Baltic Sea protection policy and the collective effort to make its resources sustainable. Projects have commenced active stakeholder work and dissemination from the very beginning of their implementation. According to statistics collected together with the first annual reports, the work of the BONUS+ projects has already resulted in ten modifications of various policy documents and action plans at national and regional levels. More than 45 suggestions concerning pertinent public policies and governance practices have originated from the BONUS+ projects.

Fulfilling the BONUS human capacity building program, projects have actively engaged in pedagogic activities. Altogether 13 various courses are referred to in the first annual reports. Two of the organized courses were supported from the central BONUS EEIG budget. The target audience of the BONUS teaching activities was not limited to the PhD students, but also involved, e.g., science journalists. The conclusion is obvious: BONUS projects possess an enormous training potential which is in high demand. This potential shall in the future be backed by more support from centralized Programme sources.

Although no substantial modifications to the original research plans were made during the first year of implementation, some projects modified the sequence of some tasks and deliverables to improve the quality and efficiency of their work and to streamline the flows of newly acquired information from one task team to another.

According to the information in the project annual reports, BONUS scientists received almost EUR 0.8 million worth of in-kind support in the form of free access to ship time, and EUR 0.4 million of support in the form of access to advanced computational facilities. Put together, this contribution added approximately 17% on top of the annual budget of the Programme.

A more detailed overview of the first year of implementation including each project's annual report may be accessed from the BONUS Portal: www.bonusportal.org/research_projects.

Andris Andrusaitis

EDITORIAL: TINY BONUS-169 IN THE GIANT EU MACHINERY

Six years of preparation by the BONUS ERA-NET and EEIG reached an important milestone on October 29th, 2009 when the European Commission adopted the Legislative Proposal concerning the Joint Baltic Sea Research Programme, BONUS-169. It proposes a 100 million euro programme for the years 2010-2016. This is major funding for Baltic Sea research, though only a tiny part of the research budget of the FP7 or the budget of the whole EU.

The Proposal was thereafter submitted to the European Parliament's and Council's co decision process. This process provides an extraordinary opportunity to learn about the operation of EU decision making in the triangle machinery of the European Community – the Commission, the Council and the Parliament. The usual way to approach the triangle is from one angle only - depending on the role of the person, whether one is a scientist, politician, lobbyist, administrator or expert. The giant size and diversity of the full machinery remains hidden to most of us.

The Legislative Proposal was prepared by DG Research – the Commission's body to develop the European Union's policy in the field of research and technological development. For scientists, DG Research is the same as the European Union, as scientists seldom need to deal with any other DGs or bodies. DG Research is the address for research proposals and the body to contact, contract and communicate about funded collaborative European projects. In addition, administrators dealing with the RTD sector in the countries collaborate with DG Research. This collaboration broadened remarkably when the ERANETs were started some years ago.

Many other DGs relevant to Baltic Sea issues were communicated with during the preparation of the BONUS-169 Proposal. DG Environment and DG MARE were the most obvious bodies to consult. These DGs are familiar to professionals working with environmental and fisheries management in the national ministries and institutes. The crosscutting regional directorate DG REGIO, which currently is the main coordinating body of the EU Strategy of Baltic Sea Region, adopted BONUS-169 as one of the flagship projects of the Strategy.

Extra flavor to this soup was added by the Secretariat General's Impact Assessment Services that BONUS got to get familiar with as well.

In the European Parliament, the BONUS-169 proposal is currently handled by the Parliament's Industry, Research and Energy Committee (ITRE) and by the Parliament's political groups. The Environmental Committee ENVI gives its opinion to the ITRE Committee. Rapporteurs in both committees have a key role to play, as they can decide what comes in to the legislative text. Shadow rapporteurs from other political groups then ensure that the proposal is not too one-sided. They negotiate and fine-tune the wordings of the legal text. Amendments can be made by any MEP and the original report with all the amendments is then voted on in the Committee. For politicians (MEPs or their assistants) and a full range of lobbyists and interest groups, the EU is the same as the Parliament. The EP represents the citizens of the EU with its 750 MEPs elected every five years.

In parallel to the EP discussions, the Council handles the Legislative Proposal in the Research working group composed of research attaches of the Member States' permanent representations. This group ensures that the legal text is in accordance with the Member States' legislative regulations and political intentions. Any disputes go up to the next level where the Member States' EU Ambassadors negotiate on compromises. Final touches and a political decision are finally made by the ministers themselves. The Council represents the 27 EU Member States.

The magnitude and in-depth expertise of the machinery of European Union is impressive. One can imagine that getting familiar with the whole machinery may take years. Our tiny BONUS-169 is on its way through the system. The next milestone is voting in the Parliament's Plenary Session, June 16th, 2010. The EP rapporteur Lena Ek (Swedish Liberal / Liberal Swede) is engaged in close co-operation with the Council and the Commission in order to get BONUS through in the first reading.

Kaisa Kononen

BONUS IN A NUTSHELL

The word BONUS is used several times in this Newsletter. The term was first used only in the context of the BONUS ERA-NET project, which finished in the end of 2008. During the course of the project, new activities were developed, which have got their own BONUS inspired abbreviations. Today, BONUS is used as a general term referring to all of these activities.

BONUS EEIG is a legal entity with a full name of BONUS Baltic Organisations Network for Funding Science EEIG. It is an independent organisation under the legal entity of a European Economic Interest Grouping, which was established in order to be a contractor with the European Commission and other possible parties. Its members are either funding agencies directly or organisations managing national funding allocations for the joint calls under the Joint Baltic Sea Research Programme. BONUS EEIG is funded by the member fees and the Finnish Ministry of Education. As regards the BONUS+ Call, BONUS EEIG is the contractor concerning the EC funds, it manages the call and the evaluation process and distributes the EC funds to the national funding agencies after the selection of the projects to be funded. The aim is that in the future all members contributing to a call would transfer their funds to a common pot which would be fully managed by the EEIG.

BONUS+ is a call that was launched in 2007. It includes both national and EC funds. The latter are from the so-called ERA-NET Plus funding scheme of the EU Seventh Framework Programme on the basis of a specific contract with the EC, and therefore the call abbreviation is BONUS+. BONUS+ is also a term used for the 16 research projects funded through the call. The implementation of the BONUS+ funded projects is to take place during 2009-2011.

BONUS-169 is the abbreviation given to the Joint Baltic Sea Research Programme. The aim is to implement this programme under Article 169 of the EC Treaty, and thus its abbreviation is BONUS-169. Article 169 stage will start with a strategic phase in 2010-2011 and continue with an implementation phase during 2012-2016.

BONUS EEIG Members

- Danish Agency for Science, Technology and Innovation
- Estonian Science Foundation
- FiRD Coop, Finland
- Forschungszentrum Jülich Beteiligungsgesellschaft mbH, Germany
- Latvian Academy of Sciences
- Agency for International Science and Technology Development Programmes, Lithuania
- Foundation for the Development of Gdansk University, Poland
- Swedish Environmental Protection Agency SEPA
- Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning FORMAS

BONUS+ YOUNG SCIENTIST ACTIVITIES: TRAINING AND FUN

Surprisingly many of the connections between scientists, administrators and policy makers, which help communication and push forward professional initiatives, originate from the time when the people were students.

We in the BONUS EEIG acknowledge such informal but professionally important networking and try to do our best to promote it. BONUS activities addressed to young scientists include serious training, but also a lot of fun.

The first year of BONUS+ projects is behind us and the projects have now recruited their PhD students and PostDoc researchers. This has led to an expansion of the Young Scientists Club from eight members participating in the first meeting a year ago up to 40 people participating in the second meeting in Vilnius on in January this year.

Five training courses

In spring 2009, the BONUS EEIG Steering Committee decided to open a call for training courses. After the evaluation of the proposals, altogether five courses were decided to be funded.

- ECOSUPPORT/BALTIC-C: Climate impacts on the Baltic Sea – from science to policy. Held 27 July - 5 August 2009.
- AMBER: Time series analyses and modeling of environmental data. Held 13-17 September 2009.
- RISKGOV/PROBALT: Governing Environmental Risks in the Baltic Sea –Multidisciplinary Perspectives and Approaches. To be held 16-22 August 2010.
- BALTIC GAS: Seismo-acoustic Imaging of Sedimentary and Gas-related Features in the Baltic Sea. To be held in summer 2010.
- PREHAB: Ecological, economical and institutional challenges for spatial planning in the Baltic - a multidisciplinary introductory course on ecological mapping and economic valuation of coastal areas. To be held in spring 2011.

The eelpout won the Eurofishion contest for the most beautiful fish!

In the middle of the serious scientific BONUS+ Annual Conference, the Club meeting on January 19th, 2010 had a playful form. The local Lithuanian organizers had designed a scientific game where

A group of Young Scientists engaged in serious discussions

the participants were split into four groups, each of which got a specific task to consider:

- Global warming – vineyards in the Baltic?
- Eurofishion – new contest for the most beautiful Baltic Sea fish?
- Windmill ecosystem – a requiem for Don Quixote?
- Clean Baltic Sea water for mermaids by 2010?

Each group had its turn to be on stage and bombarded by the audience with most imaginative questions. The amount of interdisciplinary, multisectoral innovativeness was amazing! The competition between the groups was tough. The final winner was the group which had identified the eelpout as the most beautiful fish in the Baltic Sea.

All participants found the Club to provide a good surrounding for making new contacts and sharing experiences and expertise.

Kaisa Kononen

PROBALT – IMPROVING SOCIETAL CONDITIONS FOR THE BALTIC SEA PROTECTION

Although the protection of the Baltic Sea has long roots, the problem of eutrophication remains. In PROBALT, the underlying idea is that the short-comings of the attempts to protect the sea cannot be explained by lack of knowledge on the severity of the problem, its causes or possible solutions. Instead, PROBALT suggests that the problem lies in the failure to transform scientific knowledge into effective and socially acceptable protective practices.

PROBALT aims to make the protection of the Baltic Sea more effective by

1) analyzing the societal conditions for the effective protection of the Baltic Sea at national, regional and EU levels (WP1)
2) examining nutrient trading as an instrument to more effectively combat eutrophication (WP2)
3) increasing national concern about the state of the Baltic Sea in individual countries (WP3)

Case Finland: The nature of scientific knowledge (WP1)

Based on 18 in-depth interviews with eutrophication experts in Finland, an analysis was carried out on different features of scientific knowledge that have implications for the science-policy interface in the case of the Baltic Sea. From this, five different features were distinguished: (1) the uncertainty of knowledge concerning ecological processes; (2) the heterogeneity of knowledge; (3) the societal and political call for (certain) knowledge; (4) the contingency of the knowledge that ends up being taken as a baseline for decision making and further research; and (5) the links of knowledge production, processing and communication to particular characteristics of individual researchers and research societies.

These features have various implications for getting the message across. On the one hand, it is embedded in the nature of science itself that even when there is unanimous scientific understanding of an issue, scientific interpretations are usually challenged by other, competing views on the issue. On the other hand, contradictory views can sometimes be brought into the discussion without any scientific back-up, whereas their neutralization requires solid and plausible scientific evidence and argumentation. The existence of differing views means that the decision-maker is afforded the possibility to choose which interpretation to take up. Different interpretations of the essence of the problem lead to different definitions of the solutions to the problem, but in the worst case may be used to justify inaction.

The linkage between knowledge, decision-making and implementation has been disturbed by different socio-economic, political and cultural factors.

Case Russia: Previous efforts not enough (WP1)

The research focus of the Russian case includes policy analysis on the environmental sphere in Russia at both federal and sub-national levels. On the basis of empirical research, consisting of in-depth expert interviews in the Kaliningrad oblast, initial conclusions concerning policy-making at the sub-national level in this region were made.

Firstly, the actors in the region involved in Baltic Sea protection are numerous and diverse: representatives of the federal, regional and local authorities, the scientific community, NGOs and business. All of them are influenced by both European project partners and the international obligations of Russia. Second, the euthrophication problem in Kaliningrad is predominantly explained by the old canalization system, an issue which can be addressed by building a new waste water treatment plant. However, any such initiative would require both impetus and financial support from the federal level as local policy-makers suffer from lack of funds and also believe it to be the federal centre that is obliged to solve the problem, given the federal signature on international agreements. As a result, the Kaliningrad actors are ineffective in providing Baltic Sea protection and the regional problems remain unsolved.

Case Germany and EU: Reluctant but important in combating Baltic Sea eutrophication (WP1)

The potential for effective anti-eutrophication policies in Germany and at the European level were analyzed. Despite a reputation for environmental progressiveness, Germany is still responsible for 8% of the anthropogenic nutrient loadings of the Baltic Sea. A lack of concern for marine protection seems to be the major obstacle to increasing German commitment. Eutrophication is not an issue as such in public debates on the environment, being far less prominent than, for instance, Waldsterben (forest dieback) or Atomausstieg (withdrawal from nuclear power). Thus, any strategy aiming for deeper German involvement in Baltic Sea protection should aspire to raise awareness of the need for marine protection. The measures taken should be multidimensional and able to integrate air quality and energy targets with marine environment concerns.

To a certain extent, the situation with the EU is similar. Although the Baltic Sea is not at the center of interest for most of its member states, the EU in many ways seems to be the optimal level to address Baltic Sea eutrophication. It covers most of the states that are eithe affected by or cause the problem. Moreover, the EU has competences across all the relevant policy sectors and provides strong institutions to facilitate and enforce decisions. But still, as in the case of Germany, there is no specific European anti-eutrophication policy. Progress thus depends mostly on the extent to which the issue is related to or overlaps with other, more urgent topics on the EU's agenda. However, initiatives like the Baltic Sea Strategy may pave the way for greater flexibility to address regional specific challenges in a targeted way, while still making use of the strong European institutions.

PROBALT aims to provide new tools for Baltic Sea Protection (WP2)

Baltic Sea protection requires considerable reductions in nutrient loads in all littoral countries. Two major sources of waterborne phosphorus and nitrogen in the Baltic Sea are agriculture and municipal sewage water treatment plants. The Baltic Sea Action Plan outlines country-specific reduction requirements, which lead to very uneven cost burdens between the countries. Sharing the uneven cost burden of nutrient reductions and promoting efficient reductions of nutrients in each country can be promoted by new economic instruments. There are two interesting candidates for this job: a nutrient trading system and international taxation.

The basic idea of nutrient trading is the same as with carbon dioxide emissions trading. In nutrient trading, permits for nutrient emissions are traded among the participants in order to reduce the nutrient loads where it is the most inexpensive to do this. Nutrient trading can be a bridge between point sources (waste water treatment plants and industry) and nonpoint sources (agriculture), producing a cost-efficient solution to the eutrophication problem. Moreover, cost-sharing can be implemented nicely by a suitable allocation of nutrient emissions rights between the dischargers.

Another option to tackle the problem of eutrophication is to levy a tax on the nitrogen and phosphorus emitters. For point sources, the nutrient tax can be levied on emissions, while for nonpoint sources, a nutrient input tax is feasible. The nutrient tax rate should be set at a level which motivates the polluters to reduce the nutrient loads to the socially and ecologically desired level. Moreover, the allocation of a share of nutrient tax revenue to a collective international fund could provide a way to make the un-even cost burden across the countries more equitable.

Both of the two options are theoretically justifiable. Which one of them functions more effectively in Baltic Sea nutrient reduction may become clear as the PROBALT project goes on.

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www.probalt.fi

RISKGOV – ENVIRONMENTAL RISK GOVERNANCE OF THE BALTIC SEA

Eutrophication, over-fishing, toxic chemicals, oil discharges: The Baltic Sea ecosystem is stressed and exposed to many different risks. Complexity in terms of, e.g., risks, uncertainties, ambiguities and scale levels poses serious challenges for science and policy-making. The RISKGOV project, as one of the projects in the BONUS+ programme, aims at analyzing and improving governance structures and processes concerning environmental risks in the Baltic Sea area.

About RISKGOV

Despite decades of substantial efforts by multiple actors to counteract negative environmental trends in the Baltic Sea, environmental risks remain substantial. RISKGOV argues that effective, sustainable and legitimate environmental risk governance requires developing fruitful links between (A) the ecosystem approach to management (EAM); (B) international, European and transnational governance structures; (C) an integrated assessment

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of environmental risks; and (D) the inclusion of stakeholder viewpoints and concerns. A point of departure in RISKGOV is that the required linkages are not yet fully in place, and that there are basic challenges to achieve such integration across different risk sectors.

The RISKGOV consortium has been assembled to meet interdisciplinary research requirements and includes expertise on governance, assessment and communication for all environmental risks analysed in this study.

As noted above, the expected outcomes of RISKGOV aim at both analyzing and improving the governance of environmental risks. The analysis will be based on a comparative case study approach, where five important environmental risk areas (i.e., eutrophication, over-fishing, invasive species, hazardous chemicals and oil discharges) are compared in terms of (i) governance structures, (ii) risk assessment and risk management interactions and (iii) stakeholder communication processes. Based on the theoretical and empirical knowledge gained from these tasks, RISKGOV will suggest a normative framework for improving environmental risk governance for the Baltic Sea.

To ensure comparability across the risk cases of the studies, RISKGOV initially developed an analytical framework concerning crucial topics such as multi-level decision-making, institutional interaction, stakeholder involvement and communication, problem framing, risk assessment – risk management interactions, and the treatment of uncertainties and complexities. The next step (2009-2010) is to conduct the case studies (on-going), and finally we will focus on cross-case comparisons (2010-2011).

Analytical framework

WP1 (*Governance structures*) will, by comparing the different cases, study how governance structures, policies and norms are designed, why they take such forms, and what consequences they have. This WP will thus focus on regulatory frameworks, policies and norms, as well as on the forms of decision-making, consultation, interaction and stakeholder communication. In this WP, the first task will be to describe the most important governance structures that set some of the contextual conditions for the processes that are described and analyzed in the other two WPs. It is thus important to acknowledge the interaction between the WPs in both the case studies as well as in the subsequent comparative analysis.

WP 2 (*Governance processes I*) aims at generating in-depth understanding of the interactions between risk assessment and risk management: how uncertainties are handled, as well as how management options are generated and evaluated. The work within WP 2 will include a comparative analysis of the differences and similarities among the studied risks, regarding the following main issue areas: 1) The organization and type of risk assessment activities connected with the studied risk areas; 2) Assessment and management approaches for dealing with scientific disagreements and uncertainty, and 3) Generation and evaluation of management options.

The work within WP3 (*Governance processes II*) will include a comparative analysis of: 1) the way in which the five risks are framed by key actors and stakeholders in Baltic Sea environmental risk governance (governments/agencies, particularly regionally oriented inter-governmental agencies such as HELCOM; economic actors; science and academia; civil society/NGOs), and of the extent to which the framings of these key actors diverge in the five cases and the basis for these divergences; 2) existing institutional arrangements and procedures of risk communication at the regional (Baltic Sea) level, and the extent to and the way in which institutionalized risk communication attempts to mediate the variety of stakeholder risk framings. The task of WP3 is thus to analyze how the different risk issues are framed and communicated and the role of communication in the governance processes.

Some preliminary findings

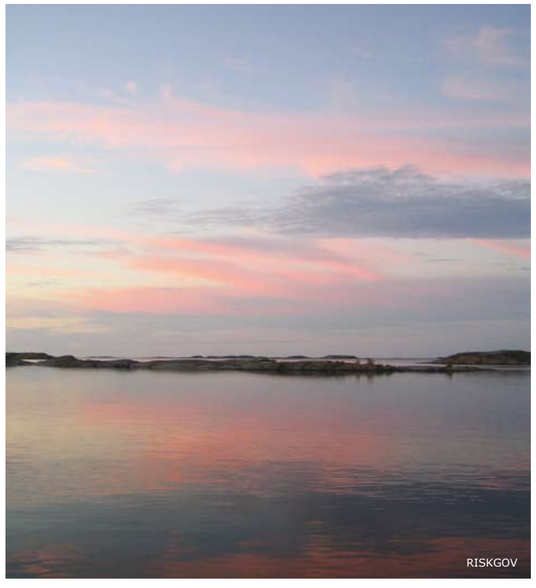
First, we turn to some 'snapshot' and tentative conclusions from the hazardous chemicals case. In this study, RISKGOV evaluates if and to what extent national and regional public policies for risk assessment and risk management have improved the capacity to cope with the problems and the uncertainty related to hazardous chemicals. Preliminary results show that society responds – with a time lag – to new knowledge at national, regional and international levels. Progress clearly has been made with respect to risk assessment methodologies, and a number of single substances have been effectively regulated. However, in spite of improved legal instruments, a number of policy shortcomings and challenges can be identified. For example, the new EU chemicals regulation REACH is not in line with common criteria for ecosystem-based management and already seems to suffer from a number of implementation problems. Based on these insights, we suggest that precautionary strategies (e.g., reversed burden of proof) are needed to improve the management of uncertainty related to hazardous chemicals in the Baltic Sea region.

As for the case study on maritime transportation, the focus so far has been on oil spills. This analysis, among other things, shows that the governance of accidental oil spills is mainly global-national in nature and especially targets precaution/vessel design. The situation for operational spills is somewhat different, and the most important difference in relation to accidental oil spills is found at the regional level. The traditional way has been to monitor vessels to collect evidence of rule violations. However, bringing intentional polluters to court has proven difficult. Technical improvements (e.g. HELCOM AIS) and regional/sub-regional collaboration on aerial surveillance have improved monitoring, but inadequate economic incentives, varying national judicial systems and the international principle of the "free high seas" have resulted in only meager governance improvements. Therefore, *smart governance* components, i.e., the No-Special-Fee system, have been invented. If smart governance models effectively addressing these and other "human factor" issues were found, marine safety would certainly be markedly improved.

Activities and outcomes

Collaboration and communication with society and different stakeholders is very important for RISKGOV. In November 2009, the RISKGOV consortium organized the conference 'Coping with Uncertainty' in Sigtuna/Stockholm, Sweden. The aim of this conference was mainly to discuss the implications of uncertainty at the science-policy interfaces connected with environmental, social and economic risks in the Baltic Sea Region. There will also be a special issue in the journal *Ambio* in February 2011 based on papers from the conference. For 2010 and 2011, several events and outcomes are planned, e.g., a roundtable in March 2010 (in Stockholm, Sweden) on the theme '*Scientific Uncertainty, Precaution and the Implementation of the Ecosystem Approach to Management for the Baltic Sea*'; a workshop on 'Governing Europe's Marine Environment' in June 2010; a PhD course on risk governance in August 2010; and case study deliverables in December 2010. RISKGOV will also organize two more roundtables in 2010-2011, and a final conference in 2011.

Anna Maria Jönsson
on behalf of the RISKGOV consortium



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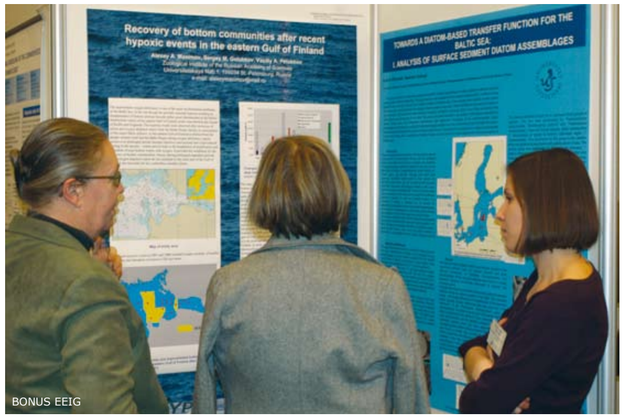
BONUS ANNUAL CONFERENCE 2010



Poster session of the BONUS 2010 Annual Conference

The first year of the BONUS research projects passed on the wings of wind, and on 19-21 January, the BONUS community, including the scientists and science managers from all nine Baltic Sea states, gathered for the second BONUS Conference – this time in the Lithuanian capital of Vilnius. The convention centre at Vilnius Reval Hotel proved to be well suited for hosting both the main sessions of 155 participants as well as various side events and lobby discussions. After opening words by the BONUS EEIG Chair Professor **Jüri Elken**, participants were warmly greeted by Professor **Eugenius Butkus**, chairman of the Research Council of Lithuania, and the work started.

The main scientific event of the year

The BONUS Programme is comprehensive and the tasks of its projects complex, but its themes are still interconnected to such an extent that it would have been a loss if the conference had been divided into several parallel sessions. So the main challenge was to arrange the 78 announced presentations in a logical series of oral and poster sessions. As last summer, 'three burning questions' presented by each project again helped to formulate four session themes that would accommodate the breadth of scientific results presented:

1) Assessing the future development of the Baltic Sea and uncertainties of projections;
2) Understanding the processes and assessing the status of the Baltic Sea;
3) A system of catchment-coast-sea continuum; and
4) Building knowledge-based governance and management of the Baltic.

Two key note lecturers were invited to put two of the key issues studied by BONUS projects into broader regional and global perspective: **Jens Hesselbjerg Christensen** of the Danish Meteorological Institute gave a lecture on regional climate projections. The talk illustrated the complexity of the challenge to project climate on a regional scale, as well as the potential for developing stronger regional-scale signals of climate change matching what the users of such knowledge most desire. **Nancy Rabalais** of Louisiana Universities Marine Consortium, USA, gave a lecture on the global phenomenon of hypoxia in the shelf seas. Dr Rabalais discussed the physical and biogeochemical interactions that lead to oxygen depletion, concluding that with the increasing human population and need for products, there is an increasing likelihood that more coastal systems will become eutrophic. Though not all effects of climate change on shelf hypoxia are as of yet defined, the increased water temperature alone will facilitate its formation and severity.

From biological diversity to science-based governance of the Baltic Sea

The first session of the Conference featured significant steps made towards refining the future projections of the coupled atmosphere-ice-ocean system, including biogeochemical cycles in the sea. At the same time, a detailed uncertainty assessment of such scenario simulations was presented. In addition to the presentation of several specific applications of the modelling approach, the value of modelling as a collective learning tool was emphasized.

Session 2 of the conference was topically the broadest and comprised of the largest number of oral presentations. Its first part was devoted to the biological effects of contamination in the Baltic Sea. Contributors dealt with several case studies on reproductive health in fish and amphipod crustaceans, and the relationships between exposure to contaminants and weakened resistance against parasites. Evidence of high levels of environmental genotoxicity in bivalves and fish, neurotoxicity, sediment toxicity, prevalence of diseases, morphological abnormalities and oxidative stress was presented for the Gulf of Finland. The second part of session 2 was devoted to the problem of bottom hypoxia and its effects on the biogeochemistry, biodiversity and ecosystem functioning of the Baltic Sea. Current progress in the BONUS projects dealing with this phenomenon in the Baltic Sea was discussed in four communications of the session. Biogeochemical phenomena in coastal and deeper parts of the Baltic, such as re-suspension, nitrification and nitrogen removal, as well as methane fluxes from the seabed were discussed in the third segment of session 2. Finally, the fourth part of this session took up the matters of inorganic and organic carbon budgets and some functional aspects of marine biodiversity.

Session 3 comprised of reports on studies devoted to the assessment of nutrient loads from the Baltic drainage basin into the coastal zone and finally into the sea, the impact of these loads and ways of optimizing nutrient load reduction measures. One of the cross-cutting issues of this session was differentiating the direct impact of nutrient loads and those of climate change and assessing the combined effects of both.

Multicolored at first sight, all the presentations assembled into session 4 addressed the ultimate challenge of the whole BONUS Programme – building well informed and science-based governance of the Baltic Sea. Aspects representing the fundamental BONUS Science Plan themes of *Integrating ecosystem and society*, and *Linking science and policy* are present in almost all of the projects. The matters discussed at this session ranged from the practical identification and special treatment of high environmental risk zones in the sea to more general issues of governance and media framing of the environmental risks in circumstances of uncertainty. Society's capacity to capture and eventually solve marine environmental issues was critically discussed, based on both EU and non-EU case studies.

Although the poster session took place in the evening of the second conference day, most of the forty posters were available to the audience in the main hall for almost the entire duration of the conference. And indeed, they attracted lot of attention. Still, as the conference's feed-back later revealed, the setup of the poster session was not entirely a success this time – the dedicated poster session might have been longer, and placed earlier in the conference programme, as well

Continues on page 8

Prof. Eugenius Butkus from the Research Council of Lithuania welcomed the participants

as more visibility might have been given to the poster contributions. Besides, the idea to put up the posters in the main conference hall did not apparently work well.

Next stop: St. Petersburg

The future of the BONUS Conference was discussed at the Forum of Project Coordinators (BONUS FPC) during the last day of the Vilnius event. Although of great value as a meeting place for members of all the project consortia, as was pointed out by many participants, the Conference would become even more valuable if it became more open to the outside world. Although, perhaps, differently packaged, the knowledge generated by the Programme's research projects must be shared with both its potential users and fellow scientists in the whole Baltic Sea region and beyond. The least desired development would be if the activities of the BONUS Programme would build a gap between the scientists working for the funded projects and the rest of the scientific community. Two obvious solutions to secure the openness of the BONUS Conferences were formulated by the participants of the BONUS FPC meeting: (1) differentiate the sessions (or the whole conference) between purely academic ones and those more addressing the stakeholders and potential users of the scientific knowledge, and (2) fuse the BONUS Conference into the biannual Baltic Sea Science Congress. BONUS EEIG was invited to become a co-organizer of these most representative gatherings of Baltic Sea scientists already in August 2009, during the 7th BSSC in Tallinn. Hence, the 8th BSSC, convening in St. Petersburg, summer 2011, will at the same time be the next programme-wide gathering of the BONUS scientists, while the final conference addressing more the stakeholders of marine and maritime research will be integrated into the broader BONUS Baltic Sea Fair arranged to showcase the outcomes of the Programme's first cycle, BONUS+. Scientists of Gothenburg University, Sweden, already volunteered to host the Fair – most probably in the last weeks of 2011.

So, welcome to St. Petersburg and Gothenburg!

All the conference materials including PDF files of the presentations are available from BONUS Portal: www.bonusportal.org/AC2010.

Andris Andrusaitis
in collaboration with session chairs Jüri Elken, Janina Barsiene, Sergey Golubkov, Maren Voß, Daniel Conley, Hans-Jörg Isemer, Berit Hasler and Wojciech Wawrzynski


BONUS EEIG

BALTIC RESEARCH CENTER (BRC), THE NEW INITIATIVE OF POLISH OCEANOGRAPHERS

News from members

The National Baltic Research Center (BRC) is the integrating initiative of Polish Oceanographic Institutions in response to the challenges posed by the EU Maritime Policy, the EU Strategy for the Baltic Sea Region and Polish marine policy.

The BRC Mission is the integration of Polish scientific institutions, research and development units and universities to co-ordinate their interdisciplinary research efforts in support of the sustainable management and protection of the Baltic Sea environment. Ecological education and promoting awareness of Baltic Sea issues for all groups of the general public in Poland is another ambitious goal of the Center.

The establishment of the BRC will result in the implementation of a common strategy in Polish marine investigations, the effective use of existing and future scientific infrastructure and a significant increase in research potential.

The BRC will contribute to the intensification of the co-operation between scientists and the marine industry, increasing innovativeness and ensuring sustainable development. It will also facilitate co-operation with various levels of civil service authorities.

The BRC establishment will improve the potential of Polish oceanographic institutions to compete for EU and Polish financing of large-budget scientific and infrastructure projects within the frameworks of the 7th FP, BONUS, Structural Funds and other initiatives.

The BRC will also respond to the need for co-ordination of education in the marine domain for officers, advisers and consultants, who will then be able to contribute to making reasonable marine environment management decisions.

Designing the Baltic Research Center will result in closer international co-operation with scientific, civil service and business entities within the Baltic Sea region and the EU, tightening the links with the ERA.

The intention is to establish the Center in Gdynia as a company limited by shares with Polish institutions involved in the investigation of the Baltic Sea and Gdynia authorities as shareholders. Currently, the implementation strategy of the Center and signing the company agreement is being prepared. The strong scientific potential of the Polish Oceanographic Institutions, the long-term history of their co-operation and the broad international contacts strengthen the chances of success of this important Polish initiative.

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