Document title	Use of the results of BONUS projects in HELCOM work
Code	2-2
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Background

HOD 51-2016 took note of the list of BONUS projects results having a potential in management and suggested to the Secretariat to invite BONUS projects to follow up closer the HELCOM priorities and synthetize their expected policy input to HELCOM work and share it with the relevant HELCOM bodies. The meeting also recommended to consider an opportunity to include an overview of the BONUS projects contributing into the current agenda of one of the upcoming HELCOM meetings.

The attached overview has been prepared to link the recently finalized, ongoing or planned BONUS projects (all together 40 projects) to different areas of HELCOM work (working groups). The projects have been categorized according to a theme (climate change, nutrient reduction potential, increasing scientific knowledge, etc.).

In the overview no analysis has been made how BONUS projects may support implementation of the individual HELCOM requirements and commitments. The aim of the overview is to indicate in which areas the expected results of the BONUS projects could feed into the ongoing or planned work in HELCOM in short-term.

HELCOM does not deal with all important marine issues at all times and with the same intensity, and issues are decided by the Contracting Parties to be taken up based on management needs and timetables, availability of resources and policy priorities. Therefore, it may be expected that some project results could feed into the HELCOM work only in long-term.

Further specification of potential contribution by the BONUS projects to the current HELCOM work could be done together with the individual BONUS projects and with involvement of relevant HELCOM working groups.

The Secretariat is in contact with the BONUS Secretariat to further plan how interaction between HELCOM groups and new projects could be organized in the best way. One example of cooperation is a joint HELCOM and BONUS BALTICAPP regional workshop on the use of ecological–economic research to support and improve marine policy implementation in the Baltic Sea region, held in March 2017. In the workshop the ongoing HELCOM work on social and economic analysis and corresponding work in the BONUS projects were presented. Marine policies and maritime spatial planning provided a policy context for the workshop. Participants included scientists and national managers as well as representatives from DG MARE and DG ENV as well as OSPAR.

Chairs of relevant HELCOM groups could be engaged to facilitate further information exchange and cooperation with BONUS projects.

Action requested

The Meeting is invited to:

- take note of the overview,
- discuss in general the proposed actions (last column in the table) and agree as appropriate.

Attachment

BONUS Innovation 2014-2017
BONUS Viable ecosystem 2014-2018
BONUS Sustainable ecosystem services 2015-2018
NEW BONUS projects (announced 3.4.2017)
***The project under grant agreement negotiation, to be started in July – September 2017**
HELCOM OVERARCHING WORK PLANS AND DOCUMENTS: A general overview of current HELCOM activities is presented in **the Roadmap of HELCOM activities on ecosystem approach** (a living document, last updated March 2017). https://portal.helcom.fi/meetings/HELCOM%2038-2017-401/MeetingDocuments/3-1%20Roadmap%20of%20HELCOM%20activities%20on%20ecosystem%20approach.pdf Results of a **HELCOM survey of knowledge and research need to achieve GES** http://www.helcom.fi/helcom-at-work/groups/state-and-conservation/survey-of-knowledge-and-research-needs/ **Workplan of the EU chairmanship in HELCOM**: http://www.helcom.fi/about-us/chairmanship/work-plan-of-the-eu-chairmanship/ **Outcome of the HELCOM high-level segment on Sustainable Development Goals,** 28 February: http://www.helcom.fi/Documents/HELCOM%20at%20work/Events/Outcome.pdf HELCOM working structure: http://www.helcom.fi/helcom-at-work

BONUS Project title (Project lead)	Project duration	Project deliverables relevant for HELCOM – to be further developed	Relevant HELCOM group	Reference to work plans of the groups and other documents	Area/topic of potential contribution Proposal for action.
BONUS BAMBI Baltic Sea marine biodiversity – addressing the potential of adaptation to climate change (University of Gothenburg, Sweden)	1.1.2014-31.12.2017	- the project will model how organisms spread and distribute under different future climate scenarios, as well as effects of different management measures such as MPAs. - the project will suggest science-based management measures that aim to safeguard genetic variation of Baltic Sea populations and promote adaptation to expected environmental changes.	State & Conservation group	State & Conservation work plan 2017-2018 - Task 4.6 Thematic assessment on climate change - Task 6: Prepare proposals for measures for the conservation and protection of species and coastal and marine habitats and biotopes Action 22 in the HELCOM Roadmap	Climate change. Potential contribution to assessment of regional climate change and its implications on the ecosystem (planned in HELCOM for 2018-2020 in cooperation with Baltic Earth). **Action:** Potentially feeding into preparation for the 2018 HELCOM Ministerial Meeting
BONUS SOILS2SEA Reducing nutrient loadings from agricultural soils to the Baltic Sea via groundwater and streams (Geological Survey of Denmark and Greenland, Copenhagen, Denmark)	1.1.2014-31.3.2018	- develop new methodologies and tools for planning of differentiated regulations based on new knowledge of nutrient transport and retention in surface and subsurface waters - evaluate how spatially differentiated regulation can offer more cost-efficient solutions to reducing nutrient loads to the Baltic Sea - analyse how changes in land use and climate may affect the nutrient load to the Baltic Sea as well as the optimal location of measures aiming at reducing the load; and - develop new governance and monitoring concepts that acknowledge relevant aspects of EU directives and at the same time are tailored towards	Agri and Pressure groups	AGRI group work plan 2017-2018 Action 5. Enhance transfer of knowledge and technology and exchange of good examples Pressure group work plan 2017-2018 Task 2.5: Assess effects and as far as possible, effectiveness of measures to reduce input of nutrients and identify sources which have a reduction potential.	Climate change and nutrient reduction potential. Potential contribution to HELCOM considerations on implications of climate change, identification of nutrient reduction potential and implementation of nutrient reduction targets. **Action:** Potentially feeding into preparation for the 2018 HELCOM Ministerial Meeting

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		decentralised decision making aiming at incorporation of local scale knowledge required to optimally design differentiated regulation measures			
BONUS GO4BALTIC Coherent policies and governance of the Baltic Sea ecosystems (Aarhus University, Denmark)	1.4.2015-31.3.2018	- analyse how the BSAP can be implemented cost-effectively throughout the Baltic Sea region, - measure the effectiveness of existing policies in terms of creating incentives for technological innovation and development to reduce nutrient losses from agriculture, - analyse how future agricultural and climate policy developments influence the achievement of nutrient load reductions to the Baltic Sea, - analyse how farmers adapt to the current and future policies in different parts of the Baltic Sea region.	Pressure & Agri groups	As above	Nutrients reduction potential and climate change. **Action:** Potentially feeding into preparation for the 2018 HELCOM Ministerial Meeting
BONUS PROMISE Phosphorus recycling of mixed substances (Natural Resources Institute Finland)	1.4.2014-31.3.2017	- will convey backbone data on potentially hazardous contaminants in organic and recycled P-fertilizers, assess strategies for P fertilization that fully acknowledge food safety and food security, establish agro-technological transfer regions and thus pave the way for a fundamental adoption of advanced fertilizer practices in the Baltic Sea region.	Agri and Pressure groups	AGRI group work plan 2017-2018: Action 4. Promote development of appropriate methodology for phosphorus recycling Pressure group work plan 2017-2018	Nutrient reduction potential. Potential contribution to HELCOM work on nutrient recycling and identification of potential for further nutrient reduction. **Action:** Potentially feeding into preparation for the 2018 HELCOM Ministerial Meeting

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				Action 3: Pollution prevention from waste water treatment, including sustainable handling of sewage sludge Action 31 in the HELCOM Roadmap (Develop HELCOM nutrient recycling strategy) Point 5 in the EU chairmanship work plan (Developing regional policy on nutrient recycling)	
BONUS MIRACLE Mediating integrated actions for sustainable ecosystems services in a changing climate (Linköping University, Sweden)	1.4.2015-31.3.2018	- to seek win-win models for governance to further reduce nutrients enrichment and flood risks by emphasising synergies between aligned policy communities, such as the flood control sector, downstream urban communities vulnerable to flooding, biodiversity conservation interests, and the human health and biosecurity sector.	Pressure group	Actions 2 and 3 in the workplan.	Nutrients reduction potential. **Action:** Potentially feeding into preparation for the 2018 HELCOM Ministerial Meeting
BONUS MICROALGAE Cost efficient algal cultivation systems – a source of emission control and industrial development	1.2.2014-31.1.2017	- cost efficient emission control and new policy guidelines by the industrialisation of microalgae cultivation systems taking into account the spatial distribution of nutrients arising from intensive agricultural, industrial and municipal wastewaters	Pressure group	Action 3 in Pressure group work plan 2017-2018 : Pollution prevention from waste water treatment, including sustainable handling of sewage sludge Nutrients control	Nutrients reduction. Potential contribution to practical implementation of HELCOM requirements.

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(Tallinn University of Technology, Estonia)		improving water quality in aquatic ecosystems			
BONUS OPTITREAT Optimasation of small wastewater treatment facilities (Sweden)	1.2.2014-31.1.2017	This project promotes development and optimizes the efficiency of small wastewater treatment systems techniques already available on the market in the Baltic Sea region, aiming at removal of pathogens, various pharmaceutical substances and residuals of personal care product.	Pressure group	Action 3 in Pressure group work plan 2017-2018: Pollution prevention from waste water treatment, including sustainable handling of sewage sludge HELCOM Recommendation 28E/6 on on-site wastewater treatment of single family homes, small businesses and settlements up to 300 person equivalents (P.E.)	Pollution reduction. Potential contribution to practical implementation of HELCOM requirements on nutrients and pharmaceuticals.
BONUS RETURN Reducing emissions by turning nutrients and carbon into benefits (Stockholm Environment Institute, Sweden)	1.5.2017-30.4.2020	The project will identify and pilot (economically and environmentally) efficient and (socially and politically) equitable technologies that contribute to win-win solutions that address multiple and interlinked challenges in urban and rural settings within the BSR whilst reducing nutrient enrichment and carbonization in water bodies. The outputs include an evidence-based review of eco-technologies; innovative models comprising both nutrient and carbon cycling; sustainability assessments of selected eco-technologies; policy recommendations for promoting the eco-technologies;	Pressure group	TBD	Nutrients and carbon reduction. **Action:** Project could be invited to present the intended results.

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		and market strategies for the most promising eco-technologies.			
BONUS BIO-C3 Biodiversity changes – investigating causes, consequences and management implications (Helmholtz Centre for Ocean Research Kiel, Germany)	1.1.2014-31.12.2017	- the project will investigate causes and consequences of changes in biodiversity, effects on ecosystem functioning, food web dynamics, productivity and assesses implications for environmental management and sustainable use of ecosystem goods and services. - Spatio-temporal biodiversity responses will be analysed and evaluated considering abiotic/biotic /anthropogenic drivers (climate change, eutrophication, species invasion, fisheries) and their interactions.	State & Conservation group	Multiples objectives and tasks.	Increasing scientific knowledge.
BONUS BLUEPRINT Biological lenses using gene prints – developing a genetic tool for environmental monitoring in the Baltic Sea (University of Copenhagen, Denmark)	1.1.2014-31.12.2017	- develop a conceptual and methodological framework for the assessment of ecological status of the Baltic Sea ecosystem based on information on microbial functions and processes.	State & Conservation group	Task 3 in State & Conservation work plan 2017-2018: Development of operational HELCOM core indicators, with associated targets	Increasing scientific knowledge. Currently not a HELCOM agenda but the gap has been acknowledged by HELCOM and OSPAR in their work to coordinate the development of indicators and determining GES: "Prokaryotic microbes are principal drivers of carbon and nutrient biogeochemistry and account for a major fraction of pelagic biomass and productivity in the Baltic Sea. Still, these organisms are neither included among the indicators of environmental status currently in use nor considered as functional

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					entities in biogeochemical models."
BONUS COCOA Nutrient cocktail in coastal zones of the Baltic Sea – improving understanding of the transformation and retention of nutrients and organic matter in the coastal zone (Aarhus University, Denmark)	1.1.2014-31.12.2017	- developing empirical models to estimate the nutrient retention across coastal ecosystems - improving the model formulations for coastal nutrient retention in the decision support system NEST, used for the revision of the Baltic Sea Action Plan	Pressure State & Conservation groups	Nutrient reduction scheme	Increasing scientific knowledge underlying HELCOM policy and implementation on nutrient reduction.
BONUS INSPIRE Integrating spatial processes into ecosystem models for sustainable utilisation of fish resources (Estonian Marine Institute, University of Tartu)	1.2.2014-31.1.2018	The overall objective of the project is to advance the knowledge base and develop quantitative measures to evaluate consequences of spatial and temporal heterogeneity in the Baltic Sea for an ecosystem-based management of the major fishery resources.	Possibly Fish group	TBD	Increasing scientific knowledge.
BONUS BALTCOAST A systems approach framework for coastal research and management in the Baltic	04.2015-03.2018	- a stepwise, user friendly method of practical relevance which allows a systematic input of scientific findings into societal processes, policy making and the complex management of coastal areas and seas.	Possibly HELCOM-VASAB Maritime Spatial Planning group	Different cases in the project could fall into the overall and specific aims of BSAP, overall management and science-policy interface.	Increasing scientific knowledge and management approaches. Different cases in the project to support site-specific Integrated Coastal Management around the Baltic Sea.

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(Leibniz-Institute for Baltic Sea Research (IOW) Warnemünde, Germany)					Also related to the overall management and science-policy interface.
BONUS FERRYSCOPE Bridging the divide between satellite and shipborne sensing for Baltic Sea water quality assessment (Brockmann Consult GmbH, Geesthacht, Germany)	1.7.2014-30.6.2016	Builds an integrated system of optical measurements from ferries and satellites serving monitoring, research, and resale of marine spatial information through improved quality of spatial biogeochemical products, and by providing the tools to harvest and 8roup8i the observation data in near real-time.	State & Conservation group	Task 2 of State & Conservation work plan 2017-2018 on the HELCOM Joint Coordinated Monitoring system	HELCOM coordinated monitoring programme.
BONUS AFISMON Development of the current Automatic Flow Injection Sampler to monitor microbially driven biogeochemical processes in the Baltic Sea water (Leibniz Institute for Baltic Sea Research Warnemünde, Germany)	1.4.2014-31.3.2017	Prototype applicable for the monitoring of temporal and spatial variations of biogeochemical processes of microorganisms	State & Conservation group	As above	HELCOM coordinated monitoring programme
BONUS PINBAL Development of a spectrophotometric pH-measurement	1.4.2014-31.3.2017	-to have prototypes running at the involved partners, which are involved in the HELCOM monitoring programme, and a technology developed at CONTROS which allows a product for	State & Conservation group	As above	HELCOM coordinated monitoring programme

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system for monitoring the Baltic Sea (Germany)		the market in the near future matching the monitoring programme requirements for the Baltic			
BONUS HARDCORE Harnessing coastal radars for environmental monitoring purposes (Finnish Meteorological Institute**)**	1.6.2014-31.5.2017	- cost –effective ways to monitor marine environment (two new installations with end user portal setup are made to the Greifswalder Bodden and to Szczecin Lagoon, important navigationally and in difficult ice conditions)	State& Conservation and Maritime groups		HELCOM coordinated monitoring programme and oil spill detection
BONUS SEAMOUNT New surveillance tools for remote sea monitoring and their application on submarine groundwater discharges and seabed surveys (EvoLogics GmbH)	1.4.2017-31.3.2020	-To develop innovative remote sensing technologies for complex real-time sea survey, analysis and monitoring. -To test and deploy this technology in a complex Baltic Sea survey project for the detection and monitoring of submarine groundwater discharges (SGD) and studying the seabed integrity - Most relevant detected SGD will be continuously monitored to determinate nutrient and pollutant fluxes, study their importance for the Baltic Sea nutrient balance and ecological status, and understand the influence of human activities. Integrated hydrological 9roup9ing will be done in coastal catchments. - Collected data will be made available to the scientific population and policy	State & Conservation	Task 2 of State & Conservation work plan 2017-2018 on the HELCOM Joint Coordinated Monitoring system	HELCOM coordinated monitoring programme.

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		makers for a better understanding of the Baltic Sea, and for maritime spatial planning.			
BONUS ECOMAP Baltic Sea environmental assessments by opto-acoustic remote sensing, mapping, and monitoring (Christian-Albrechts-Universität zu Kiel, Germany)	*	The project will develop innovative methods for improved remote sensing of the seafloor in the Baltic Sea. We propose new measurement techniques and a remote sensing catalogue detailing new procedures on how to implement remote sensing methods for selected habitats.	State and Conservation group	Task 2 of State & Conservation work plan 2017-2018 on the HELCOM Joint Coordinated Monitoring system	HELCOM coordinated monitoring programme.
BONUS INTEGRAL Integrated carbon and trace gas monitoring for the Baltic Sea (Leibniz Institute for Baltic Sea Research Warnemünde, Germany)	*	Integrate the different data streams of the Integrated Carbon Observation System (ICOS) and related infrastructure in the pan-Baltic area, Develop, in close interaction with stakeholders, the strategy for a better, cost efficient monitoring approach for the Baltic Sea by integration of ICOS and related data	State & Conservation group	HELCOM Joint Coordinated Monitoring system	HELCOM coordinated monitoring programme.
BONUS CHANGE Changing antifouling practices for leisure boats in the Baltic Sea	1.1.2014-31.12.2017	- The overall objective of the project is to reduce to a minimum the supply of hazardous compounds, e.g., copper, from paints used on leisure boats - The expected outcome of the project is a deep understanding of how the linkages between individual attitudes,	Maritime group	The work plan 2016-2018: Consideration of the ways to further reduce emissions and discharges from shipping Baltic Sea Action Plan: to promote development of	Environmental impact of shipping. Practical implementation of HELCOM commitments. **Action**: Project could be invited to present the results to consider if any further action is needed by

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(RISE Research Institutes of Sweden, Borås)		behaviour, market actors and the legal framework shape the environmental policy performance in the field of toxins from antifouling paints.		effective, environmentally friendly and safe TBT-free antifouling systems on ships	HELCOM or Contracting Parties to amend the current policy or practice.
BONUS ZEB Zero emissions in the Baltic Sea (IVL, Swedish Environmental Research Institute)	1.1.2014-31.12.2016	- proposing a Zero Emission concept for oily water emissions in the ecological sensitive Baltic Sea with focus on oily water separation and the development of existing technologies	Maritime group	The work plan 2016-2018: Consideration of the ways to further reduce emissions and discharges from shipping	Environmental impact of shipping. **Action**: Project could be invited to present the results to consider if any further action is needed by HELCOM or Contracting Parties to amend the current policy or practice.
BONUS SHEBA Sustainable shipping and environment of the Baltic Sea region (IVL, Swedish Environmental Research Institute)	1.4.2015-31.3.2018	Provide an integrated and in-depth analysis of the ecological, economic and social impacts of shipping in the Baltic Sea and to support development of the related policies on EU, regional, national and local levels	Maritime group	The work plan 2016-2018: Collection and analyses on environmental impact of shipping/experience exchange	Environmental impact of shipping. **Action**: Exchange of activities ongoing with HELCOM Maritime activities. As many of the key results will be published in scientific journals during winter 2017-18 there will be further scope for cooperation in joint publications with HELCOM.
BONUS SWERA Sunken wreck environmental risk assessment (Finnish Environment Institute)	1.5.2014-30.4.2016	- will prepare a novel risk analyses method to evaluate the potential of environmental risk of a certain wreck with the basic factors also to evaluate the possibility of underwater salvage operation	Response group	Work plan 2017-2018: Keep track of studies on effects of and response to oil spills on the sea – bed (sunken oil)	Environmental impact of wrecks. **Action**: Has given input to the work of the expert group on environmental risks of hazardous submerged objects.

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BONUS ANCHOR **T**he captain assistant system for navigation and routing during operations harbour (Astri Polska Sp. z o. o.)	1.4.2014-30.6.2016	- to deliver the Captain Assistant for Navigation and Routing during Operations in Harbor system for large ships incoming to and outgoing from the harbors. The main objectives is to increase the safety of ships movement in harbors and to control the environment (weather and water) in the Baltic area close to the harbour.	Maritime group	The work plan 2016-2018: Measures and actions enhancing maritime safety	Safety of navigation. **Action**: Project could be invited to present the results to consider if any further action is needed by HELCOM or Contracting Parties to amend the current policy or practice.
BONUS ESABALT Enhanced situational awareness to improve maritime safety in the Baltic (Finnish Geospatial Research Institute, Kirkkonummi)	1.3.2014-28.2.2016	- feasibility study of an integrated system for enhancing maritime safety, which incorporates the latest technological advances in positioning, e-Navigation, Earth observation systems, and multi-channel cooperative communications (including a focus on user-driven crowdsourcing techniques for information gathering and integration) The project will define an intelligent, novel, user-driven solution and associated services for enhancing the maritime safety in the whole Baltic area.	Maritime group	The work plan 2016-2018: Measures and actions enhancing maritime safety Recommendation 34E/2 "Further testing and developing the concept of pro-active route planning as well as other e-navigation solutions to enhance safety of navigation and protection of the marine environment in the Baltic Sea Region"	Safety of navigation. **Action**: Project could be invited to present the results to consider if any further action is needed by HELCOM or Contracting Parties to amend the current policy or practice.
BONUS STORMWINDS Strategic and operational risk management for wintertime maritime transportation system	1.4.2015-31.3.2018	- to contribute science-based analyses and practice-oriented tool developments for enhancing maritime safety and accident response, during winter in the northern Baltic Sea	Maritime group	The work plan 2016-2018: Measures and actions enhancing maritime safety HELCOM Recommendation	Safety of navigation. **Action**: Project could be invited to present the results to consider if any further action is needed by HELCOM or Contracting Parties to

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(Aalto University; Finland)				25/7 "Safety of winter navigation in the Baltic Sea Area"	amend the current policy or practice
BONUS GEOILWATCH Geopositional early warning system integration for disaster prevention in the Baltic Sea (Tallinn University of Technology, Estonia)	1.5.2014-30.4.2016	- will result into a proof-of-concept of a data interface with the Seatrack Web platform for inclusion of new sources of real time oil spill information	Response group	2013 Ministerial Declaration: - Develop tools and methodology for regular regional assessments of maritime risks Maintain Seatrack Web/AIS/SAT for improved identification of possible polluters - Further develop regional preparedness and response related services including HELCOM SeaTrackWeb, HELCOM AIS, HELCOM POLREP, HELCOM GIS towards a second generation HELCOM oil response information system	Oil spill prevention and response. Direct contribution to HELCOM work. **Action**: Project results could be presented by lead country Sweden in HELCOM RESPONSE to consider if any further action is needed by HELCOM or Contracting Parties to amend the current policy or practice.
BONUS BALTHEALTH Baltic Sea multilevel health impacts on key species of anthropogenic hazardous Substances (Aarhus University, Denmark)	1.4.2017-31.3.2020	– develop novel indicators of animal health and good ecological status – an integrated model of health effects of multiple stressors on the Baltic food web – novel knowledge for risk assessment	State & Conservation group	Task 3.1 of State & Conservation work plan 2017-2018: Development of HELCOM core, pre-core and candidate indicators, including for biodiversity, hazardous substance, marine litter, underwater noise, input of nutrients	Assessments. **Action**: To be identified how it corresponds to the identified needs for future development.

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BONUS BLUEWEBS Blue growth boundaries in novel Baltic food webs (Finnish Environment Institute)	1.4.2017-31.3.2020	– investigate the development and consequences of novel food webs – application of modern bio-economic and social science approaches to evaluate the consequences of novel food webs for ecosystem services provision – indicators for MSFD descriptors (food webs) – Bayesian Network based decision support systems – assessment of the consequences of achieving a Good Environmental Status on the capability of Baltic Sea food webs to sustainably produce Blue Growth	State & Conservation group	As above	Assessments. **Action**: To be identified how it corresponds to HELCOM needs and potential input to HELCOM work e.g. on economic and social analyses (ESA)
BONUS BALTICAPP Wellbeing from the Baltic Sea – applications combining natural science and economics (University of Helsinki, Finland)	1.4.2015-31.3.2018	- explores the long-term prospects for the demand and supply of marine ecosystem services - combines state-of-the-art models and recently collected ecological and economic data to create a coherent and causal chain of interactions between the natural and human systems.	Gear group (Expert network on social and economic analysis)	Roadmap for continued HELCOM work on economic and social analyses (ESA)	Social and economic analysis. **Action**: Joint HELCOM – BONUS BALTICAPP regional workshop on the use of ecological–economic research to support and improve marine policy implementation in the Baltic Sea was held in March 2017. Cooperation to continue to feed the project results to the HELCOM ESA group.
BONUS BALTSPACE Towards sustainable governance of Baltic marine space	1.4.2015-31.3.2018	– Provide science-based approaches and tools to clarify and improve the capacity of maritime spatial planning as a policy integrator and thereby enhance	HELCOM-VASAB Maritime Spatial	The Regional Baltic Maritime Spatial Planning Roadmap (2013-2020)	Maritime spatial planning. **Action**: Flagship project of the EUSBSR Spatial Planning, already

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(Södertörn University, Sweden)		the capabilities of society to respond to current and future challenges directed to the Baltic Sea region.	Planning group		regularly reported to meetings of HELCOM-VASAB MSP WG.
BONUS CLEANWATER – Eco-technological solutions to remove micro-pollutants and micro-plastic from contaminated water (Aarhus University, Denmark)	1.4.2017-31.3.2020	– explore the dominant sources of xenobiotics and micro-pollutants from wastewater and stormwater – test removal technologies for selected hydrophilic (pharmaceuticals, etc.), lipophilic compounds (fragrances, flame retardants) – innovative methods for testing for these compounds including metabolites and particles will be used and further developed.	Pressure 15group (expert network on marine litter)	Pressure group work plan 2017-2018: Task 3.4 on Implementation of the new HELCOM action on micropollutants in effluents from wastewater treatment plants; Task 4.2: Follow up knowledge gathering and development of relevant legislation of hazardous substances. Based on this, identify substances and scope areas for which joint actions might be needed, such as atmospheric inputs and pharmaceuticals; Task 4.7: Assessing the state of threat to the Baltic Sea marine environment posed by input of pharmaceuticals, filling in data and knowledge gaps, prioritization of measures with aim to elaborate regional policy in terms of pharmaceuticals in the region. HELCOM recommendation on Regional Action Plan on Marine Litter.	Reduction of marine litter and micro-pollutants. **Action**: Project could be invited to present the intended results.

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BONUS MICROPOLL Multilevel assessment of microplastics and associated pollutants in the Baltic Sea (Leibniz Institute for Baltic Sea Research Warnemünde, Germany)	*	The focus is on the multilevel impacts of microplastics (MP) themselves, of associated pollutants and of attached biofilms on the ecosystem Baltic Sea. The hazard potential and impacts of these substances will be determined by i) detecting the recent status regarding MP in the Baltic Sea (abundance, composition, sources, sinks), ii) exploring the vector function of MP for associated pollutants and biofilms, and iii) in situ and laboratory experiments, exposing marine organisms from different trophic levels (pro- as well as eukaryotic) to defined levels and size classes of MP and POPs.	State & Conservation group Pressure group (marine litter network)	HELCOM Joint Coordinated Monitoring system Pressure group work plan 2017-2018 Action 3.4. Implementation of the new HELCOM action on Micropollutants in effluents from wastewater treatment plants. Action 5. Coordinate implementation of Regional Marine Litter Action Plan	HELCOM coordinated monitoring programme – litter and micropollutants. **Action**: Project could be invited to present the intended results.
BONUS GOHERR Integrated governance of Baltic herring and salmon stocks involving stakeholders (University of Helsinki, Finland)	1.4.2015-31.3.2018	- investigate 1) what are the socio-cultural and political prerequisites for successful integrated fisheries governance, and what kind of institutional, organisational, structural and attitudinal flexibility is needed, 2) if and how integrated fisheries governance can benefit the sector based management of Baltic herring and salmon, the stakeholders, and finally consumers in terms of reduced dioxin content in fish, and 3) how integrated governance at the regional level can be linked to governance at the national and international level	Fish group	Priority III of the EU Chairmanship in HELCOM: Tackling the challenge of regional governance	Fish and management. **Action**: Project could be invited to present the results to consider if any further action is needed by HELCOM or Contracting Parties to amend the current policy or practice

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BONUS FISHVIEW Assessing fish passages by the use of a robotic fish sensor and enhanced digital imaging (Estonia)	1.4.2014-31.3.2017	-to provide a robust methodology which combines both the recent developments in biomimetic sensor technology and hydrodynamic imaging data in order to improve fish passibilty in tributaries to the Baltic Sea	Fish group (task force on migratory fish species)	Fish group Work plan Action 3 on migratory fish species	Fish. **Action**: Project could be invited to present the results to consider if any further action is needed by HELCOM or Contracting Parties to amend the current policy or practice.
BONUS CLEANAQ – Innovative removal of N, P and organic matter in effluents from recirculating aquaculture Systems (Technical University of Denmark)	1.4.2017-30.9.2019	- support the design and application of resource-efficient technologies, ultimately allowing recirculating aquaculture systems to decouple fish production from environmental impact	Fish group	Fish group Work plan Action 4: follow up on the HELCOM Recommendation 37/3 on Sustainable Aquaculture on BAT and BEP	Aquaculture. **Action**: Project could be invited to present the intended results.
BONUS FLAVOPHAGE – Bacteriophage based technology for pathogen control in aquaculture (University of Copenhagen, Denmark)	1.4.2017-31.3.2020	–disease management in aquaculture using natural microbial 'warfare' that is both sustainable and environment-friendly: bacteriophages	Fish group	As above	Aquaculture and pharmaceuticals. **Action**: Project could be invited to present the intended results.
BONUS OPTIMUS – Optimisation of mussel mitigation cultures for fish feed in the Baltic Sea	1.4.2017-31.3.2020	–provide robust evidence-based documentation (ecological, social, and economic) on optimized use of farmed mussel as a mitigation tool for eutrophication that in turn can be a	Fish group	As above	Aquaculture and nutrient reduction. Maritime Spatial Planning.

BONUS Project title (Project lead)	Project duration	Project deliverables relevant for HELCOM – to be further developed	Relevant HELCOM group	Reference to work plans of the groups and other documents	Area/topic of potential contribution Proposal for action.
(Technical University of Denmark)		sustainable protein-rich feedstuff for fish – Provide policy guidelines and solutions on future sustainable use of mussel mitigation cultures as fish feed – Obtain social acceptance of the mitigation concept through public outreach – Optimize the production capacity, security and costs of farmed mussels – Estimate positive and negative impacts of mussel cultures in different environments – Provide multi-criteria optimal site selections of mussel farming as input to marine spatial planning – Develop cost-efficient techniques for processing mussels into healthy feedstuff – Explore the social-economic barriers, solutions and perspectives of the mitigation concept			**Action**. Project could be invited to present the intended results.
BONUS BASMATI Baltic Sea maritime spatial planning for sustainable ecosystem services (Aalborg University, Denmark)	*	Aim is to develop integrated and innovative solutions for MSP from the local to the Baltic Sea Region (BSR) scale, and more specifically: a) analyse governance systems and their information needs regarding MSP in the BSR for developing an operational, transnational model for MSP; b) develop methods and tools for	HELCOM-VASAB Maritime Spatial Planning group Potentially Expert	The Regional Baltic Maritime Spatial Planning Roadmap (2013-2020) Roadmap for continued HELCOM work on economic and social analyses (ESA)	Maritime Spatial Planning. **Action**. Project could be invited to present the intended results.

BONUS Project title (Project lead)	Project duration	Project deliverables relevant for HELCOM – to be further developed	Relevant HELCOM group	Reference to work plans of the groups and other documents	Area/topic of potential contribution Proposal for action.
		assessments of different plan proposals including spatially explicit pressures and effects on maritime ecosystem services; c) create a spatial data infrastructure for the BSR facilitating broad access to information.	network on social and economic analysis		