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Background

This document contains the comments made to the draft HELCOM Recommendation on aquaculture during the Meeting.

Action required

The Meeting is invited to discuss the revised version of the draft Recommendation.

DRAFT HELCOM RECOMMENDATION [XX/YY]

Supersedes HELCOM Recommendations 25/4, 20/1 and 18/3

[Adopted XXXXXX having regard to Article 20, Paragraph 1 b) of the Helsinki Convention 1992]

ON MEASURES AIMED AT THE LIMITATION OF NEGATIVE ENVIRONMENTAL IMPACTS OF AQUACULTURE DEVELOPMENT-OF SUSTAINABLE AND ECOSYSTEM-BASED AQUACULTURE IN THE BALTIC SEA REGION¹**THE COMMISSION,**

RECALLING to Article 6 and Regulation 1, Annex II of the Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992 (Helsinki Convention), requiring the Contracting Parties to prevent and eliminate pollution of the Baltic Sea Area from land-based sources by using, inter alia, Best Environmental Practice for all sources and Best Available Technology for point sources, minimizing or eliminating inputs to water and air from all sources by providing control strategies,

RECALLING ALSO to Article 3 of the Helsinki Convention, in which the Contracting Parties shall individually or jointly take all appropriate legislative, administrative or other relevant measures to prevent and abate pollution in order to promote the ecological restoration of the Baltic Sea Area,

HAVING REGARD to the HELCOM Baltic Sea Action Plan and, for those Contracting Parties being also EU-Member States, to relevant EU legislation, aiming at preventing further degradation of the marine and freshwater environments and at achieving a healthy sea in good environmental/ecological/chemical status by 2020/2021, with diverse biological components functioning in balance and supporting a wide range of sustainable human economic and social activities,

RECALLING FURTHER the 2013 Copenhagen Ministerial Meeting agreement to develop a new HELCOM Recommendation on sustainable aquaculture by 2014 to substitute the existing HELCOM Recommendation 25/4 aiming at limiting potential environmental impacts of aquaculture activities such as the introduction of non-indigenous species, ecological and genetic impacts on wild fish stocks from unintended releases of farmed species, nutrient pollution, as well as introduction of antibiotics and other pharmaceuticals,

TAKING INTO ACCOUNT that in the HELCOM BSAP and its follow-up process the Contracting Parties agreed *inter alia* on the following provisions ~~on boundaries~~ to reach a healthy Baltic Sea, ~~including~~:

¹ FI and DK have reservations of the new title. Proposed: "on measures aimed at sustainable aquaculture"

- achieving the ~~[maximum allowable inputs of nutrients]~~ country allocated reduction targets in order to reach good environmental status, and undertaking ~~defining~~ corresponding actions ~~to address aquaculture as one of the sources which can have significant eutrophication impacts, and to maintain or recover water quality that enables the integrity, structure and functioning of the ecosystem;~~
- maintaining or recovering water quality that enables the integrity, structure and functioning of the ecosystem;
- maintaining thriving and balanced communities of plants and animals, as well as viable populations of species to reach favourable conservation status – through actions *inter alia* aiming at the prevention of introduction of alien species via different pathways, including aquaculture;²
- addressing aquaculture as one of the sources which can have a relevant ~~an~~ impact on the eutrophication and the aforementioned issues.

RECALLING the Baltic broad-scale Maritime Spatial Planning Principles, jointly adopted by HELCOM and VASAB, as a follow-up of the HELCOM BSAP, whereby the ecosystem approach is an overarching principle,

RECALLING FURTHER that according to the Ecosystem Approach, as defined by HELCOM and OSPAR², human activities need to be managed in order to respect the capacity of ecosystems, and the total load of human activities needs to be limited to ensure the health of the ecosystem and the achievement of a good ecological/environmental status according to the BSAP, MSFD and WFD, requiring that any uses of vital resources are performed in a sustainable way,

RECALLING FURTHER that Ecosystem Approach to fisheries, as defined by FAO, is “an approach that strives to balance diverse societal objectives, by taking into account the knowledge and uncertainties about biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries”,

RECOGNIZING the relevance of direct discharges and losses, nutrients and organic material, in particular, from marine and fresh water aquaculture, as sources of pollution of the aquatic environment,

RECOGNIZING the need ~~to fill~~, on a sustainable and ecologically sound basis, the growing gap between ~~global seafood consumption and capture fisheries' capacity to~~ general seafood demand and supply ~~sustainable seafood~~.

RECOGNIZING that sustainable and ecologically sound aquaculture can be a positive force against global overfishing if it constitutes a net producer of marine animal protein, and that it can possibly contribute to the good environmental status and to fish species conservation.

BEARING IN MIND that aquaculture has globally been the most rapidly growing form of primary food production during the past 30 years. Also the industry's technological and functional development has been fast. Therefore the industry has great potential to apply green technologies and production methods, both in marine and fresh water, to be environmentally friendly.

RECOGNIZING ALSO the need to prevent other environmental pressures and their possible negative impacts on marine ecosystems that are likely associated with aquaculture such as the

² ¹ HELCOM/OSPAR 2003 Statement on the Ecosystem Approach to the Management of Human Activities, HELCOM 2006 Ecological Objectives for an Ecosystem Approach, HELCOM 2007 BSAP

introduction of non-indigenous species, ecological and genetic impacts on wild fish stocks from unintended releases of farmed fish as well as introduction of antibiotics and other pharmaceuticals, as well as use of antifouling agents to achieve good environmental/ecological status as referred above,

DESIRING to limit the pollution, ~~per unit of production,~~ from fish farms located in the catchment area of the Baltic Sea and in the Baltic Sea – *inter alia* – by applying Best Available Techniques (BAT) and Best Environmental Practice (BEP),

RECALLING the [Regulation \(EU\) No 304/2011](#) amending [Council Regulation \(EC\) No 708/2007](#) concerning the use of alien and locally absent species in aquaculture, creating a framework governing aquaculture practices in EU member countries in order to ensure adequate protection of the aquatic environment from the risks associated with the use of non-native species and locally absent species in aquaculture,

RECALLING ALSO the requirement in HELCOM Recommendation 20/4 concerning anti-fouling paint containing organotin compounds to ban the retail sale or use of organotin paints for fish net cages,

RECALLING FURTHER the prohibition laid down in Annex XVII to the [EU Regulation \(EC\) 1907/2006](#) on the registration, evaluation and authorisation of chemicals (REACH), on the use of hazardous substances in anti-fouling of cages, floats, nets and any other appliances or equipment used for fish or shellfish farming,

~~**NOTING-ACKNOWLEDGING** the relevance of existing national and international criteria and guidance the need to follow existing national and international criteria, guidance and regulations for an sustainable and environmentally friendly ecologically sound aquaculture, and for the HELCOM countries being EU members including the [EC Guidance on Aquaculture and Natura 2000 for the HELCOM countries being EU members](#), the [EC Regulation No. 710/2009](#) as regards rules on organic aquaculture animal and seaweed production, for Nordic countries the Nordic Council recommendation on RAS aquaculture ([Rek. 5/2014](#)) [for Nordic countries](#), as well as **WELCOMING-NOTING** forthcoming development of similar guidance documents addressing the requirements of the EU Water and Marine Strategy Framework Directives in relation to aquaculture (as proposed in Strategic Guidelines for the sustainable development of EU aquaculture ([COM\(2013\) 229 final](#)), as applicable,~~

~~**ACKNOWLEDGING-ALSONOTING ALSO** the targets and priorities outlined by the [Strategy of aquaculture development in Russian Federation to the year 2020](#),~~

RECALLING ALSO the EIA Directive (85/337/EEC) and its following amendments, in particular 97/11/EC bringing it in line with the UN ECE Espoo Convention on [Environmental Impact assessment in a](#) transboundary context and similarly the SEA ~~Di~~irectives (2001/42/EC),

RECOMMENDS to the Governments of the Contracting Parties to the Helsinki Convention to [jointly](#) develop ~~jointly~~ [by 2016] and apply criteria for best environmental practice for aquaculture in the Baltic Sea region based on the following principles:

1. to [take into account, when](#) developing marine and freshwater aquaculture, ~~taking into account~~ the need to maintain or restore ecosystem functions and services ~~(and hence to focus on extensive forms of aquaculture, i.e. [low or no-feed culture, particularly in areas of high eutrophication] of bivalves and algae)~~ and with a view to prevent emissions and discharges and

minimize environmental effects (by e.g. spatial planning and nutrient recycling) and the need to relieve pressure on wild fish stocks ~~while contributing~~

~~1.2.~~ to ensure that possible impacts from aquaculture will enable and not jeopardize the achievement of a good environmental/ecological/chemical status, as agreed upon in the HELCOM BSAP and relevant national and international legislation

~~2.3.~~ [to account for nutrient discharges and losses from marine aquaculture in an effort to reduce inputs to respect and fulfill nutrient release reduction targets and m]³ Maximum allowable inputs for nitrogen and phosphorus for the Baltic Sea basins, as agreed by the Contracting Parties at the HELCOM 2013 Copenhagen Ministerial Meeting ~~(and following updates)~~ as recalled in Annex 2 and future possible updates]⁴, ~~with regard to the planned development of the aquaculture industry~~

~~3.4.~~ to develop future freshwater and land based aquaculture particularly e.g. by developing, promoting and establishing [, where feasible,] recirculation aquaculture systems (RAS) with a view to limit and where possible avoid direct nutrient discharges into the Baltic Sea new types of aquaculture farms, [e.g. Integrated Multi-Trophic Aquaculture (IMTA)⁵ and land-based recirculation aquaculture systems (RAS) for marine and particularly herbivorous and omnivorous species, as well as recognized types of aquaculture, such as multi trophic earth ponds], to prevent, mitigate and compensate discharges of nutrients, organic matter and chemicals and to reduce the net input of marine protein.

~~4.5.~~ to avoid potential negative impacts to when establishing new, or enlarging existing, marine and freshwater aquaculture facilities in the Baltic Sea Region for marine and freshwater aquaculture with due precaution to avoid potential negative impacts and taking account maximum allowable inputs

~~5.6.~~ to manage marine and freshwater aquaculture on the basis of the Ecosystem Approach, taking into account the potential impact on the environment of the introduction non-indigenous species, and the ecological and genetic impacts on wild fish stocks and from unintended releases of indigenous species

RECOMMENDS ALSO

7. to establish and maintain national databases of aquaculture or water permits and monitoring data in cooperation with the aquaculture sector. A better assessment of the nutrient loads from aquaculture should be based on data collected by national monitoring systems and reported to the HELCOM PLC database

³ ~~Germany and Finland wish to check have a study reservation on the new wording~~

⁴ ~~Germany and Finland have a study reservation on the new wording~~

⁵ IMTA is the practice which combines, in the appropriate proportions, the cultivation of fed aquaculture species (e.g. finfish/shrimp) with organic extractive aquaculture species (e.g. shellfish/herbivorous fish) and inorganic extractive aquaculture species (e.g. seaweed) to create balanced systems for environmental sustainability (biomitigation) economic stability (product diversification and risk reduction) and social acceptability (better management practices).

8. to develop specific measures aimed at reduction/compensation/prevention of nutrient release into the Baltic Sea consistent with measures foreseen in the national aquaculture development programs, which have to be implemented contemporaneously with the growth of fish production.

RECOMMENDS ALSO to the Governments of the Contracting Parties to apply the following guidance for BAT and BEP measures aiming at sustainable and environmentally friendly aquaculture in the Baltic Sea Region as contained in Annex 1 to this Recommendation.

DECIDES that this Recommendation will be implemented by [1.1.2016] and reviewed/reconsidered every six years.

DECIDES ALSO that actions taken by the Contracting Parties to implement this Recommendation should be reported for the first time in the year [2016] and thereafter according to the HELCOM reporting schedule every six years.

Annex 1

Guidance for BAT and BEP measures aiming at sustainable and environmentally friendly aquaculture in the Baltic Sea Region

{to be applied in marine and fresh water aquaculture}

1. Establish new or enlarge existing aquaculture facilities only upon granting permits or according to prior regulations by the competent authority or appropriate body in accordance with existing legislation (including EIA and SEA directives for EU member states) and, ~~where appropriate, applying taking into account~~ the following ~~principles~~aspects:
 - a) when establishing fish farms, negative local environmental effects and threats to biodiversity should be avoided or minimized ~~by~~ careful planning processes including environmental impact assessment considering WFD and MSFD requirements and selection of appropriate locations within the hydrographic framework of the specific water area;
 - b) permits or ~~prior~~ regulations should ~~contain limits of discharges to phosphorus, nitrogen and organic matter from a production unit,~~ aiming at [limiting/preventing additional] emissions and discharges of phosphorus, nitrogen ~~and organic matter~~ in order to [ensure that at the basin scale the overall nutrient inputs from all anthropogenic sources remain below the Maximum Allowable Inputs of nitrogen and phosphorus as agreed in the HELCOM Ministerial Declaration 2013 (and following updates)]⁶ and to enable and not jeopardize the achievement of a good environmental/ecological/chemical status as agreed upon in the HELCOM BSAP and relevant national and international legislation at the latest by 2021;
 - c) ~~such discharge limits might be expressed as (1) maximum annual discharge or (2) maximum amount of nutrients in feed, and such~~ permits- should⁷ inter alia
 - i. take due account of the current status of the marine and freshwater area affected by the aquaculture facility and other sources of nutrient release

⁶ Finland has a reservation on this point

⁷ Pl proposes "could", Germany "need to"

ii. take into account the ~~assimilative and~~ carrying capacities of the ecosystem ~~and considering already existing and potential future impacts as well as cumulative effects, as well as the commitment to control human activities which may threaten the health of the marine ecosystems~~

iii. not ~~lead to~~ deterioration ~~of~~ the current status ~~of the environment~~, but aim at ~~contributing to~~ not jeopardizing the achievement of a good ecological and environmental status of the area affected and

~~[be set aim to ensure so that at the basin scale the overall nutrient inputs from all anthropogenic sources remain below the maximum allowable inputs of nitrogen and phosphorus as agreed in the HELCOM Ministerial Declaration 2013 (and following updates)]~~

~~By these principles, the aquaculture sector is incentivized encouraged to develop, promote and introduce new types of aquaculture farms, e.g. Integrated Multi Trophic Aquaculture (IMTA)⁸ and land-based recirculation aquaculture systems (RAS), as well as recognized types of aquaculture, such as multi trophic earth ponds, to prevent, mitigate and compensate discharges of nutrients, organic matter and chemicals.~~

~~Nutrient effluents of new aquaculture farms should be balanced by either nutrient recapture systems (e.g. integrated mussel and seaweed farming,) or recycling of nutrients (fish feed coming from the Baltic sea), where technologically and economically feasible, or by reducing effluents from other sources operating at the same water body. In freshwater environments, wetlands or pond cultures based on natural food production are forms of integrated farming.~~

- d) future environmental effects of the proposed installation should be evaluated as part of the authorization process for aquaculture;
- e) Aquaculture intensity, the type of cultured organisms and the production method should take into account the ~~hydrological-hydrographic~~ framework, ~~and the Ecosystem Approach, and the total anthropogenic load to the particular water area and carrying capacity of the ecosystem.~~

~~Cultured species should be selected so that the risk of genetic mixing of cultured and wild stocks, spreading of diseases, parasites as well as as well as the risk of introduction and spread of non-indigenous species to the environment are minimized. For these purposes also accidental escapes should need to be avoided.~~

2. Permits and regulations should be reviewed at appropriate intervals, set on a national level, taking into account existing permit conditions.
3. Encourage the aquaculture ~~sector industry~~ to develop and to utilize environmental friendly technologies and production methods, including feed that are not fish-based, through ~~appropriate administrative~~ incentives (e.g. a reduced administrative burden).
4. Promote alternative fish feed composition to reduce pressure on wild fish and to prevent additional nutrient discharges by optimizing nutritive requirements and using regionally sourced

⁸IMTA is the practice which combines, in the appropriate proportions, the cultivation of fed aquaculture species (e.g. finfish/shrimp) with organic extractive aquaculture species (e.g. shellfish/herbivorous fish) and inorganic extractive aquaculture species (e.g. seaweed) to create balanced systems for environmental sustainability (biomitigation) economic stability (product diversification and risk reduction) and social acceptability (better management practices).

products as fish feed ingredients with an aim to decrease the net inflow of nutrients into the Baltic Sea.

5. Carefully assess the potential impacts of fish farms on protected areas (in particular, HELCOM MPAs, NATURA 2000 sites and potential MPAs as designated under MSFD Art. 13 (4)) or other ecologically sensitive areas (e.g. areas classified as affected by eutrophication) to prevent potential negative impacts).
6. Select sites of fish farms by means of objective environmental impact evaluation methods in accordance with the need to maintain and/or achieve good environmental/ecological status of the aquatic environment affected.⁹
7. Employ regional spatial planning as an instrument for allocating fish farming activities to suitable areas and mitigating conflicts between fish farming and other uses of the water area.
8. Adequately supervise the discharges from and the ecological effects of aquaculture farms through competent authorities or appropriate bodies, e.g. by means of regular monitoring and e.g. aquaculture farm operation records, discharge calculations, monitoring and environmental impact models. Focus the monitoring on measuring reliably and cost-effectively the impacts of fish farming on the marine and fresh water environments, including the eutrophication status, oxygen depletion and the state of the sediments in the affected area.
9. Minimize, strictly regulate and effectively control the use of approved bioactive chemicals and antibiotics and other pharmaceuticals at aquaculture farms and effectively control the abundance to avoid hazards to the environment. Promote the use of vaccination as prophylaxis and encourage the use of biological means to reduce the application of chemicals, promote also washing/drying of net cages instead of application of toxic compounds.¹⁰
10. Mitigate/avoid potential risks and possible negative effects of introducing non-native species to the Baltic Sea region by selecting cultured species so that the risk of genetic mixing of cultured and wild stocks, spreading of diseases, parasites as well as non-indigenous species to the environment are minimized. For these purposes also accidental escapes need to be avoided. restricting cultured species in marine aquaculture to indigenous species of local origin. The use of non-indigenous species should be limited to closed circulation systems ashore. issuing special rules or permits for the transfer of cultivated fish and introduction of new species undertaken by competent authorities of a Contracting Party in exceptional cases according to the Recommendations of [EIFAAC](#) and [ICES Code of Practice on the Introductions and Transfers of Marine Organisms](#) thus avoiding the possible negative effects. To obtain this permit, the aquaculture operator should submit an application providing certain information, including the name and characteristics of the organism concerned, the proposed destination and the reason for the movement, the potential impact on the environment and, the measures to manage and monitor the movement. The interactions between cultured and wild fish as well as the introduction and spread into the environment of non-indigenous species must be avoided. The industry should thus strive to avoid accidental releases and adopt an open policy regarding this issue, informing public and institutions when these occur.

⁹ DE on para 5 and 6: no farming in MPAs, no open cages in the marine environment including outside of MPAs

¹⁰ DE has a study reservation on this point

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11. Treat, dispose of and utilize waste or waste water resulting from the handling and processing of aquaculture products to minimize pollution to the Baltic Sea, surface or ground water.
 12. Intensify national and international cooperation between the aquaculture industry and the authorities including an elaboration of the following instruments:
 - a) keeping the further development of BAT and BEP under review;
 - b) exchange of information between countries on location intensity and cultured species, fish stock, chemicals, incl. antibiotics, other pharmaceuticals and biocides, as well as feed used;
 - c) making sure that information on fish stock, chemicals, incl. antibiotics, other pharmaceuticals and biocides, as well as feed used is publicly available;
 - d) overview of uses and discharges of potentially hazardous substances from aquaculture, e.g. antibiotics, other pharmaceuticals and biocides;
 - e) control and regulation of the amounts of contaminants in fish flesh and shellfish, e.g. mussels;
 - f) discussions of the calculation methods used as background for issuing permits taking into account the local environmental impact¹¹;
 - g) ensure sound coordination of the research and development activities and the dissemination of innovation and know-how.
 - g)h) [ensure regular reporting of nutrient discharges from aquaculture and reporting to the PLC database](#)

¹¹ [PI to delete "taking into account the local environmental impact"](#)

Annex 2 – Extract of commitments regarding nutrient Maximum Allowable Inputs and Country Allocated Reduction Targets from the HELCOM 2013 Ministerial meeting in Copenhagen.

WE WELCOME that the provisional nutrient reduction scheme of the HELCOM Baltic Sea Action Plan has been reviewed and revised based on a new and more complete dataset as well as an improved modeling approach and revised harmonized eutrophication status targets, which resulted in the following Maximum Allowable Inputs;

Baltic Sea Sub-basin	Maximum Allowable Inputs		Reference inputs 1997-2003		Needed reductions	
	TN, tons	TP, tons	TN, tons	TP, tons	TN, tons	TP, tons
Kattegat	74,000	1,687	78,761	1,687	4,761	0
Danish Straits	65,998	1,601	65,998	1,601	0	0
Baltic Proper	325,000	7,360	423,921	18,320	98,921	10,960
Bothnian Sea	79,372	2,773	79,372	2,773	0	0
Bothnian Bay	57,622	2,675	57,622	2,675	0	0
Gulf of Riga	88,417	2,020	88,417	2,328	0	308
Gulf of Finland	101,800	3,600	116,252	7,509	14,452	3,909
Baltic Sea	792,209	21,716	910,344	36,894	118,134	15,178

WE AGREE that the following revised Country Allocated Reduction Targets (CARTs), covering both pollution from land and airborne, substitute the provisional country-wise nutrient reduction requirements of the Baltic Sea Action Plan:

	Nitrogen	Phosphorus
Denmark	2890	38
Estonia	1800	320
Finland	2430 +600*	330 +26*
Germany	7170 +500*	110 +60*
Latvia	1670	220
Lithuania	8970	1470
Poland ²	43610	7480
Russia	10380*	3790*
Sweden	9240	530

The figures are rounded