Feedback from the European Marine Board Secretariat to the European Commission's consultation on the Nutrients - Action Plan for better management

(19 April 2022)

The European Marine Board (EMB) Secretariat supports the European Commission's Nutrient Action Plan for Better Management to help reduce nutrients by at least 50% and hope that it will complement the Zero Pollution Action Plan.

The problem statement highlights the importance of an integrated approach on nutrient pollution including air, water, soil and climate. We believe that the marine environment should also be included in this approach, as highlighted in modelling studies last year: Friedland et al. [1] used hydrological and hydrodynamic-biogeochemical models to show that improved management of agriculture and river wastewater treatments helped to reduce marine eutrophication in nearly all European marine regions. However, Piroddi et al. [2] used an ensemble of higher trophic level models from across Europe to show that the proposed technically feasible nutrient reduction to surface waters under the Water Framework Directive did not have the desired positive effects on the structure and function of marine ecosystems. In fact, the only significantly positive effects that were found were in the Baltic Sea, which was the most impacted by eutrophication. Piroddi et al. [2] found that the nutrient reductions proposed by the European directives will not have the required impact on the higher trophic levels of most European marine ecosystems. The impact of nutrient pollution as an co-occurring pressure should be taken into account through proper cumulative pressure assessments as is asked for in the EMB's Navigating the Future V.

The only way to achieve zero nutrient pollution is to find ways to recycle nutrients, rather than finding new ways to mine them. The scarcity of phosphorus, highlighted by including phosphorus in the critical raw materials list, creates environmental problems across the world. In the USA the mining of phosphate on land has been petitioned by the Center for Biological Diversity. Phosphate mining has also

been proposed off the coast of Namibia, although the ecological impact of this mining is not clear. It is important to make phosphate (and nitrogen) recycling more financially and environmentally viable. It is not clear if the mentioned cost-benefit analysis for nitrogen takes into account the reduction in fisheries that is inevitable from more eutrophic marine ecosystems, but it is unlikely as there are not many good marine ecosystem service assessments – see the EMB Future Science Brief on Valuing Marine Ecosystem Services.

This influx of nutrients entering marine waters also results in the proliferation of specific microalgae, which might not be the preferred food for fish and other species eaten by humans, and might change the dynamics in the food web, which can ultimately impact fish catches and food availability [3], and lead to eutrophication, hypoxia and anoxia [4].

Finally, it is important for Europe to lead by example and ensure that the cross-border nature of nutrient pollution also includes the global nature of the nutrient cycles. The EU cannot only look at the transboundary water issues of the European Seas, but must take into account its purchasing power to export the problem to less developed countries such as Namibia.

References:

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4. Diaz, R.J. *Overview of hypoxia around the world.* J. env. qual., 2001. **30**(2): 275-281.