Dan Crockett
Executive Director, Blue Marine Foundation, London, UK

4th September, 2026.

Dear Dr. Crockett (and the consortium involved),

I would like to thank you for your letter of 28th August and welcome your invitation to respond. FAO engages in the continued scientific scrutiny of all fisheries and recognizes the particular ecological importance of Antarctic krill. I am therefore happy to engage in the spirit of transparency and openness.

However, several statements in your open letter do conflate biological stock status, ecosystem-management considerations and advocacy for the cessation of fishing. These are distinct issues to which I would like to offer some comments.

FAO examined 3 Krill fisheries in the report (Sharma et. al. 2025[1] and SOFIA 2026[2]), as part of the 15 stock groups examined in Areas 48, 58 and 88, with a cut-off date of 2023. FAO has been providing information on stock status every two years and therefore actions taken after a given date are expected to come through in future assessments.

These three krill stocks were in the Atlantic, and high latitude fisheries in the eastern and western Indian Ocean. All three were classified as Underfished based on CCAMLRs precautionary management-based approach. FAO's conclusion that the assessed stocks in Antarctic Areas 48, 58 and 88 are within biologically sustainable levels is also based on the same transparent methodological framework used to assess the other 2,570 marine fishery resources globally (now 2,665 as reported in SOFIA 2026). In the case of Antarctic krill, the underlying FAO assessment classified the Area 48 stock as underfished (as a whole), while explicitly recognizing the need for additional measures to address potential localized depletion and ecosystem interactions. Thus, FAO has neither ignored these ecological considerations nor suggested that the management system is complete or without scope for improvement.

This distinction is important. Uncertainty concerning localized predator–prey interactions does not in itself constitute evidence that the krill population is biologically overfished, although it may certainly mask challenges at smaller scales. Antarctic krill biomass in Area 48 has been estimated at more than 60 million tonnes (see CCAMLR's revised Krill Fishery Management Approach[3] (KFMA, CCAMLR 2025) in Subareas 48.1 to 48.4 as progressed up to 2024. The current 620,000-ton trigger level represents approximately one percent of that biomass. Furthermore, the trigger level was deliberately established well below the precautionary catch

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[1] Sharma, R., Barange, M., Agostini, V., Barros, P., Gutierrez, N.L., Vasconcellos, M., Fernandez Reguera, D., Tiffay, C., & Levontin, P., eds. 2025. *Review of the state of world marine fishery resources – 2025.* FAO Fisheries and Aquaculture Technical Paper, No. 721. Rome. FAO. **https://doi.org/10.4060/cd5538en**

[2] FAO. 2026. The State o World Fisheries and Aquaculture: Blue Trans ormation Turning Vision into Impact. FAO, Rome 2026. https://openknowledge. ao.org/items/8beea7 6-8644-4ad4-8b16-723236a b857

[3] CCAMLR. 2025. SC-CCAMLR-44/BG/02. CCAMLRs revised krill fishery management approach (KFMA) in Subareas 48.1 to 48.4 as progressed up to 2024. Hobart, Tasmania: https://fisheryreports.ccamlr.org

limit while CCAMLR develops finer-scale mechanisms for distributing catches. Such deliberate constraint under uncertainty is an expression of the precautionary approach.

Your statement that Antarctic krill management is based exclusively upon historic information is not entirely correct. While I am not responding for CCAMLR, I am aware that CCAMLR conducts annual scientific reviews, and draws upon contemporary acoustic surveys, catch and effort data, scientific-observer information, ecosystem monitoring and research on krill dependent predators to support its management actions. The multinational 2018–19 survey, for example, provided a more recent large-scale estimate of krill biomass, which was remarkably similar to the 2000 estimate. These data were used to develop a revised harvest rate in 2022, which explicitly incorporates predator demand through the CCAMLR Decision Rules for krill (SC-CAMLR-41). Scientific monitoring requirements for the krill fishery have progressively strengthened, including 100% observer coverage, while CCAMLR's Ecosystem Monitoring Program was established specifically to monitor changes in dependent components of the Antarctic ecosystem and is currently being expanded.

FAO does recognize the concern arising from the expiration of Conservation Measure 51-07 and the resulting possibility of greater spatial concentration of catches. Completion of CCAMLR's revised krill management approach, incorporating appropriate spatial scales, updated ecological information, climate change and the needs of recovering predators, would represent an important further strengthening of the system. Acknowledging areas for improvement, however, does not invalidate either the current biological sustainability assessment or the distinctive precautionary and ecosystem-based principles embedded in CCAMLR governance.

FAO considers its characterization of the Antarctic management system in the appropriate context: it identifies the strong institutional, scientific, precautionary and ecosystem-based foundations of the system and the observed biological status of the assessed stocks. It should not be interpreted as a statement that ecological uncertainty has disappeared or that management should cease evolving. On the contrary, precautionary fisheries management is inherently adaptive, and continued improvement in spatial management, ecosystem monitoring and the incorporation of climate and predator dynamics will remain essential.

Finally, the proposition that uncertainty should lead to the cessation of Antarctic krill fishing represents a policy position rather than a finding demonstrated by science and evidence, and it would be inappropriate for me to comment on a policy position not supported by evidence. Perhaps the more appropriate scientific question for me is whether harvesting can continue within limits that conserve the krill population and maintain the ecological relationships required by the CAMLR Convention. Available evidence supports the biological sustainability of the stock at present harvest levels, while also supporting continued strengthening of finer-scale ecosystem management.

I thank you for your attention to these matters. Conserving and sustaining our natural resources while feeding a growing population in the era of climate change is challenging and difficult. All voices are welcome in the search for solutions to these problems.

I would appreciate if this response could be posted with your letter in the spirit of this open and collaborative engagement.

Sincerely,

Manuel Barange,
FAO Assistant Director General
Director, Fisheries and Aquaculture Division,
FAO, Rome, Italy