

 Agreement on the Conservation of Albatrosses and Petrels	Tenth Meeting of the Seabird Bycatch Working Group <i>Virtual meeting, 17 - 19 August 2021 (UTC+10)</i> Highest risk abandoned, lost and discarded fishing gear <i>Eric Gilman, Michael Musyl, Petri Suuronen, Milani Chaloupka, Saeid Gorgin, Jono Wilson, Brandon Kuczenski</i>
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Attachment: Gilman, E., Musyl, M., Suuronen, P., Chaloupka, M., Gorgin, S., Wilson, J., Kuczenski, B. 2021. Highest risk abandoned, lost and discarded fishing gear. *Scientific Reports* 11: 7195 <https://doi.org/10.1038/s41598-021-86123-3>

SUMMARY

Derelict abandoned, lost and discarded fishing gear have profound adverse effects. We assessed gear-specific relative risks from derelict gear to rank-order fishing methods based on: derelict gear production rates, gear quantity indicators of catch weight and fishing grounds area, and adverse consequences from derelict gear. The latter accounted for ghost fishing, transfer of microplastics and toxins into food webs, spread of invasive alien species and harmful microalgae, habitat degradation, obstruction of navigation and in-use fishing gear, and coastal socioeconomic impacts. Globally, mitigating highest risk derelict gear from gillnet, tuna purse seine with drifting fish aggregating devices, and bottom trawl fisheries achieves maximum conservation gains. Locally, adopting controls following a sequential mitigation hierarchy and implementing effective monitoring, surveillance and enforcement systems are needed to curb derelict gear from these most problematic fisheries. Primary and synthesis research are priorities to improve future risk assessments, produce the first robust estimate of global derelict gear quantity, and assess the performance of initiatives to manage derelict gear. Findings from this first quantitative estimate of gear-specific relative risks from derelict gear guide the allocation of resources to achieve the largest improvements from mitigating adverse effects of derelict gear from the world's 4.6 million fishing vessels.