A country's response to tackling plastic pollution in aquatic ecosystems: The Chilean way

Urbina, M.A. Luna-Jorquera, G. Thiel, M. Acuña-Ruz, T. Amenábar Cristi, M.A. Andrade, C. Ahrendt, C. Castillo. C. Chevallier, A. Cornejo-D'Ottone, M. Correa-Araneda, F. Duarte. C. Fernández, C. Galbán-Malagón, C. Godov, C. González-Aravena, M. Hinojosa, I.A. Jorquera, A. Kiessling, T. Lardies, M.A. Lenzi, J. Mattar, C. Munizaga, M. Olguín-Campillay, N. Perez-Venegas, D.J. Portflitt-Toro, M. Pozo, K. Pulgar, J. Vargas, E.

Abstract_

Marine plastic pollution is worse than expected, and we are starting to realize its full extent and severity. Solving the plastic pollution problem is not easy, as it requires the action and commitment of all sectors of our society. With a coastline extending over 4,000 km (from 18°S to 56°S), Chile is a maritime country, and since plastics are potentially harmful for marine and coastal ecosystems, food security, and public health, plastic pollution is a real threat. Chile is the sixth-largest exporter of seafood (fish, invertebrates, and algae) in the world, but the extent of plastic contamination of marine organisms, its potential effects on commercial species and aquaculture, and its subsequent effects on human health are mostly unknown. Chile has recently introduced some legislation to prevent plastics from reaching the environment and the coastal ocean. Governmental and non-governmental organizations have joined an

informal alliance to take action against plastic pollution, both at a national and regional level, but stronger involvement of producers and commerce is required for effective measures. Chilean scientists working on plastic pollution have created the Scientific Plastic Pollution Alliance of Chile network, aiming to promote collaborative and coordinated research focused on this pollutant. The wide geographical extent of Chile, with researchers working in diverse ecosystems, provides a unique opportunity to better understand the consequences of one of the most recent and severe threats to biodiversity. Rather than solely presenting the plastic pollution problem from the scientific perspective, this paper includes views from different sectors of society. Mitigating plastic pollution is exceptionally complex, with this study highlighting the importance of local engagement, media, solving social inequities, new legislation, and law enforcement in order to advance on decreasing plastic pollution from a country-wide perspective.

Author keywords Chilean society legal commitments media and social perception ocean plastic pollution