

The environmental impact assessment in aquaculture projects in Chile: A retrospective and prospective review considering cultural aspects

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Abstract

In recent years, social and environmental conflicts concerning the aquaculture sector have increased. These conflicts arise from the different perception that individuals, collectives, private companies and the State have about the potential impacts of aquaculture on the environment and quality of life. The Environmental Impact Assessment (EIA) of aquaculture projects in Chile is the main administrative tool for decision-making, allowing identify, predict, and propose preventive measures to mitigate negative consequences of this growing sector. This article analyzes the performance of the EIA in Chile concerning aquaculture projects between 1994 and 2019. Of the 5323 projects entering the Chilean EIA during this period, the EIA system-performance analysis selected the 71 most representative. For a reliable comparative analysis, the selected projects were first classified in accordance with the active regulation within the period. Subsequently, 14 performance indicators were selected and similarities—by means of a principal coordinate analysis—were explored. Significant differences between the third (SD40) and the first two (SD30 and SD95) regulations were observed. Based on these results and considering demands of local communities and social leaders (who request continuous articulations among technical areas, administrative tools, and policies to increase the sustainability standards of aquaculture), four opportunities for improving the EIA in aquaculture projects are proposed: incorporation of synergistic and cumulative effects, adaptation to climate change, development of a general methodology, and incorporation of early citizen participation (in projects having environmental charge) increasing the performance and confidence of the EIA. The introduced methodology enables comparisons of the EIA process in different regulatory periods using indicators, serving as guidance to evaluate the performance of the EIA in aquaculture. This methodology can also be used by other aquaculture producing countries around the world. © 2021 by the authors. Licensee MDPI, Basel, Switzerland.

Author keywords

Aquaculture; Chile; Environmental impact assessment