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# Proposal of implementation of public policies to face Harmful Algal Bloom (HAB) in sea of southern Chile

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**Background:** Harmful Algal Blooms (HAB) have occurred around the world at increasing frequencies in recent years and have caused severe and unfavorable consequences to ecosystems and public health under climate change. There is emerging evidence that climate change will impact coastal and offshore marine phytoplankton communities and projections that this change may include increase in the frequency and severity of HABs. Climate change processes already are causing shifts in phytoplankton community composition but the projections on climate, HAB effects, independent of other anthropogenic impacts, remain speculative. These pressures will be manifest as alterations in temperature, stratification, light, ocean acidification, nutrient inputs by anthropic activities and natural activities (precipitation). Absence of fundamental knowledge of the mechanisms driving HAB frustrates most hope of forecasting their future prevalence. One of the variables that can be controlled is the reduction and control of the nutrients contributions from anthropogenic sources. It is important to know the N:P ratio and available minerals to analyze the HAB opportunism species and proliferation under certain conditions. Each HAB event worldwide is addressed with different country management policies according to their geographical distribution and technical resources for mitigation. In this paper we will analyze the Chilean case contemplating the public policies applied in HAB management, analyzing their strengths and weaknesses. Effective proposals will be proposed for better HAB events management, based on scientific and practical criteria.

**Conclusion & Significance:** Formation of a permanent autonomous institution exclusively in charge of combating HAB in a holistic way integrating all the actors involved. A monitoring system is implemented for HAB, nutrients and sediment restoration. A large bivalve seafood treatment plant should be built for the artisanal fishing sector. A diversification should be made in artisanal fishing towards a productive reconversion focused on a small-scale aquaculture not affected by HAB.

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