ICES CM 2019/J:448

Warning trigger levels of Dinophysis for DSP outbreaks

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Abstract

Diarrhetic shellfish toxins produced by *Dinophysis* genus are a major problem for the shellfish industry worldwide as threat to human health and environment integrity, making shellfishharvesting unpredictable and creating significant losses to the aquaculture industry. The aim of this work is to predict the triggering levels of *Dinophysis* concentrations, responsible for closures of shellfish harvesting areas, to support the development of an early warning system. This study uses a five-year time series (2014-2018) of *Dinophysis* species and diarrhetic toxins in shellfish from the Atlantic coast of Portugal (W Iberia). Results were obtained within The National Monitoring Programme of Shellfish Molluscs, held by IPMA. A quasi-poisson generalized additive model was fitted and cross-validated to predict the triggering concentrations of *Dinophysis* linked to DSP outbreaks.

Keywords:

Dinophysis, GAM, early-warning, HABs, biotoxins

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