

**Development of disinfection protocols for fishing gear to minimize
the impact of invasive seaweed *Rugulopteryx okamurae*
(Dictyotales, Ochrophyta)**

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Since its identification in the Strait of Gibraltar in 2016, the asiatic brown seaweed *Rugulopteryx okamurae* has produced unprecedented environmental impacts. But what has caught the attention of public administrations and the media has been the millionaire economic impacts it produces on the fishing sector and for beach management. The Spanish national strategy for the control of the species has identified the fishing sector not only as the main sector affected by the species, but also as a key player in controlling its dispersal. Huge amounts of *R. okamurae* biomass are trapped in fishing gear, which facilitates its dispersal if it is not cleaned and disinfected before being used in other areas. For this reason, the complicity of the fishing sector in the fight against the species is urgent, as well as the development of protocols for disinfecting fishing gear to minimize the potential of fishing activities to disperse the species accidentally. This paper will show on the one hand the collaborations carried out with the fishing sector to work together in the management of the species, and on the other hand the results of different laboratory experiments for the development of fishing gear disinfection protocols. These experiments have been carried out by studying the effects on *R. okamurae* photosynthesis, estimated as fluorescence measurements, of different treatments combining different chemical products, at different concentrations and application time, as well as physical stress factors such as osmotic shocks and high irradiance. All this to identify treatments that guarantee a mortality of the species above 90% in the shortest possible time, with the lowest economic cost and as innocuous as possible for the user.