

The risk of the spread of cyanobacteria and its possible effects on fish cage culture in the southern of Caspian Sea

Mojgan Rowshan Tabari^{1*}, Fatemeh Sadat Tahami², Fariba Vahedi³, Abdollah Hashemian⁴, Ziba Rezvani⁵

1,2,3,4-Caspian Sea Ecology Research Center (CSERC), Iranian Fisheries Science Research Institute (IFSRI), Agricultural Research, Education and Extension Organization (AREEO), P.O. Box: 961, Sari

5- Caspian Sea Ecology Research Center (CSERC), Iranian Fisheries Science Research Institute (IFSRI), Agricultural Research, Education and Extension Organization (AREEO), Noshahr Station

*Corresponding author e-mail: rowshantabari@yahoo.com

Abstract

The cyanobacteria bloom (*Nodularia spumigena* Mert) was first seen in the southern Caspian on 04/09/2005. The aim of this study was the effect of *N. spumigena* on the physical and chemical factors of water, zooplankton, Benthic invertebrate and *Mnemiopsis leidyi*. The results of this study showed that with the development of *N. spumigena* in 2005, the nitrate concentration had a significant increase in the surface layer of 20 meters depth. The density of phytoplankton was measured at surface layer 2261.60×10^6 ind. m^{-3} , 11 times more than bottom layer and 16 times more than 7 meters depths. With increase *N. spumigena* in 20m depths, the density of zooplankton 7 times and Benthic invertebrate 10 times were less than 7 m depths. There was observed bloom in 20 m and there was not in 7m depths). Since, the bloom move from one area to another, there is a great risk to fish in the cage.

Keywords: Phytoplankton, *Nodularia spumigena*, Zooplankton, Benthic invertebrate, Aquaculture, Caspian Sea