

عنوان مقاله:

Research Article: An investigation on the effects of fish farming in marine cages on abundance and structure of *Mnemiopsis leidyi* and *Beroe ovata* (Ctenophora: Lobata) in the southwestern Caspian Sea during ۲۰۱۸-۲۰۲۰

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نویسندگان:

S. Bagheri - *Inland Waters Aquaculture Research Center, Iranian Fisheries Science Research Institute (IFSRI), Agricultural Research, Education and Extension Organization (AREEO), Anzali, Iran*

M. Sayad Bourani - *Inland Waters Aquaculture Research Center, Iranian Fisheries Science Research Institute (IFSRI), Agricultural Research, Education and Extension Organization (AREEO), Anzali, Iran*

H. Babaei - *Inland Waters Aquaculture Research Center, Iranian Fisheries Science Research Institute (IFSRI), Agricultural Research, Education and Extension Organization (AREEO), Anzali, Iran*

A. Roohi - *Caspian Sea Ecology Research Center, Iranian Fisheries Science Research Institute (IFSRI), Agricultural Research, Education and Extension Organization (AREEO), Sari, Iran*

A.D. Ghandi - *Inland Waters Aquaculture Research Center, Iranian Fisheries Science Research Institute (IFSRI), Agricultural Research, Education and Extension Organization (AREEO), Anzali, Iran*

خلاصه مقاله:

The purpose of this study was to investigate changes in abundance of combs and non-biological parameters around fish cage in southwestern Caspian Sea. This study was conducted with ۳ stations near the cage fish farming site and ۳ reference stations far from the cage during ۲۰۱۸-۲۰۲۰. Total number of *Mnemiopsis leidyi* in the stations near to fish farming site (۱۳۲۰۰ ind.m^{-۳}) increased by ۴۲% compared to far stations from the fish farming site (۹۵۰۰ ind.m^{-۳}) in ۲۰۱۸-۲۰۲۰. *M. leidyi* had the highest monthly abundance at the station near the cage fish farming site with ۳۰۱۱ ind.m^{-۳} in February ۲۰۱۹. The lowest abundance of *M. leidyi* was observed at the far station from cage fish farming site almost ۴.۰ ind.m^{-۳} in February ۲۰۲۰. The length group of less than ۵ mm dominated *M. leidyi* populations by more than ۹۶% and was the predominant *M. leidyi* population at the cage fish farming site. The findings showed, the abundance of *B. ovata* fluctuated between ۲۷ and ۴۷ ind.m^{-۳} at near the stations cage, notably *B. ovata* was not observed at stations far from the cage fish farming site. CCA analysis confirmed that there was a strong relationship between *M. leidyi* abundance and nutrients levels ($r=0.99$). Increasing the amount of nutrients generated from feed and excretion of fish farming in cages is one of the main reasons for increase in the abundance of *M. leidyi* and *B. ovata* at stations near the fish farming site. Therefore due to the closed environment of Caspian Sea, without investigating cage culture effects on native fauna and flora, development of fish farming sites in sea cages is not sustainable.

کلمات کلیدی:

Fish, Cage culture, *M. leidyi*, *B. ovata*, abundance, Nutrients, Caspian Sea

