

**Variations of Planktonic communities (phytoplankton and zooplankton) before  
cage culture of fish in the southern e Caspian Sea**

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## **Abstract**

The studies were carried out in 2008, 2009 and 2010 in spring, summer, fall and winter at 8 transects in the southern Caspian Sea. In this study, the average temperature in spring was between 15.1 to 25.2 °C, in the summer between 23.23 and 24.3 °C, in the autumn between 15.8 to 17.2 °C and in the winter changed from 9.3 to 11 °C. The highest density of phytoplankton was observed in winter,  $46.46 \times 10^6$  ind/m<sup>3</sup> in 2008,  $259.16 \times 10^6$  ind. m<sup>-3</sup> in 2009 and  $442.3 \times 10^6$  ind/m<sup>3</sup> in 2010. The density of phytoplankton gradually increased since 2008 and reached to maximum value in 2010. There were 188 species of phytoplankton in 2008, 195 species in 2009 and 172 species in 2010. The study of zooplankton were seen 12 species in 2008, 22 species in 2009 and 14 species in 2010. In this study, the density and diversity of phytoplankton and zooplankton were introduced before cage culture in the Caspian Sea that these data can compare with possible changes in next years.

**Keywords:** Phytoplankton, Zooplankton, Water temperature, Aquaculture, Caspian Sea