



Effects of gelatinous plankton (*Mnemiopsis leidyi* and *Beroe ovata*) on Caspian Sea fish and their food resources

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Abstract

Gelatinous zooplankton (GZ) populations are sensitive to climate change such as environmental perturbations, and spatial changes in their abundance and biomass may be associated with degraded environmental and biota conditions. The aim of this paper describes the effect of gelatinous plankton invaders *Mnemiopsis leidyi* on fish in the Caspian Sea based on field data and the relevant literature. Representatives of three ecological groups of planktivorous fish, zooplankton and phytoplankton whiting of temperate waters. Changes were noticeable in all three groups, particularly after the invasion of the ctenophore *Mnemiopsis leidyi*. When the density of the latter decreased, some decreased events in fish stocks were recorded, which may increase after the invasion of *Beroe ovata* in 2020 predator of *Mnemiopsis*. For example, the maximum catch of Kilka on the whole coast of Iran was equivalent to 95,000 tons in the year 1996, and after that it was severely reduced to 15,000 tons in the year 2003 and afterward.

Keywords: Caspian Sea, *Beroe ovata*, *Mnemiopsis leidyi*, zooplankton.