

**Improvement of estimating kilka as the key species of ecosystem in the Caspian Sea**

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The investigation of the pelagic ecosystem status is inseparable from the understanding of the spatial-temporal dynamic of its key species stocks. Acoustic surveys are the most important information source for the status of key species to monitor the pelagic ecosystem. The authors discuss the problems of improving the methodology of acoustic surveys for organization to monitor the stocks status of three species kilka as key pelagic species in the Caspian Sea. It is shown that the main source of uncertainty in acoustic surveys in the Caspian Sea is poorly-studied target strength of three species kilka. The authors investigated the variability in target strength for three species kilka in relation to the length and the biological parameters and obtained new regression equations. In conclusion, the authors show the possibility of improving the estimation of the spatial distribution and temporal dynamic of the abundance index and population parameters of three species kilka based on the new regression equations of target strength in the data processing procedures of acoustic surveys in the Caspian Sea.

**Key words:** pelagic ecosystem, Caspian Sea, acoustic surveys, target strength, kilka

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