

## **Investigation of Caspian Sea kilka (*Clupeonella cultriventris*) Biological Indices in Guilan Province, Anzali Port**

**\*B. Aminian Fatideh<sup>1</sup>, H. Jafari<sup>2</sup> and Gh. Karimzad<sup>3</sup>**

<sup>1</sup>Faculty of Member, Assistant Prof., Aquatics and Fisheries Education Department, Gilan Agricultural and Natural Resources Research and Education Center, AREEO, Rasht, Iran,

<sup>2</sup>M.Sc. Graduate, Non-Governmental Rudaki, Tonekabon, Mazandaran,

<sup>3</sup>Faculty of Member, Lecturer, Dept. of Fisheries, Non-Governmental Rudaki, Tonekabon, Mazandaran

Received: 07.16.2018; Accepted: 08.25.2019

### **Abstract**

The aim of this study was to investigate biological parameters, estimation of reproductive status and growth parameters of *Clupeonella cultriventris* during 2014-2014 in the southwestern waters of the Caspian Sea in the Guilan province. Samples were collected every 30 weeks, 6 times and 18 times a season for a total of 1250 pieces, from the Anzali fishing port. This port is considered as a major discharging of the Kalahari catching vessels of Guilan province. All specimens were transmitted to the laboratory after biopsy and endometrial studies. Age determination was performed using Sajita's patch. The average fork length and total weight of fish were 112 mm and 16.29 g, which decreased in comparison with previous years. Growth parameters for this species were calculated ( $L_{\infty}=148.16$  mm,  $k=0.46$  yr<sup>-1</sup>,  $t_0=-0.45$  yr,  $Z=0.89102$ ,  $M=0.4986$ ,  $F=0.3924$ ), respectively. The length and weight ratios were estimated to show a negative allometric growth pattern. The results showed that fishes consist of 5 age groups, including 2 to 6 years old and during the years studied, the typical Kilka population structure was younger.

**Keywords:** Age, Biological Indexes, Caspian Sea, Common Kilka, Growth