

## EXECUTIVE SUMMARY

The pearl mullet is an endemic fish species that can only survive in salty-alkaline waters of Lake Van . As the largest lake in Turkey , it covers 3712 km<sup>2</sup> surface area with a mean depth of 171 m on the average and 451 m at maximum, and with an altitude of 1648 m. Due to highly salty-alkaline waters of the lake, it is commonly known as a “soda lake”. As noted earlier, it has a pH of 9.8 and a salinity of 0.19 % (Kempe *et al.*, 1978). The biological diversity varies significantly from fresh to salt waters. There are 103 species of phytoplankton including *Diatome*, *Bacteriophyta*, *Cyanophyta*, *Chlorophyta*, *Flagellata* and *Phaeophyta*, and 36 species of zooplankton including *Rotatoria*, *Cladocera* and *Copepoda* in the lake (Selçuk 1992). The only fish species inhabiting the lake is the pearl mullet, a member of the Cyprinidae family (*Chalcalburnus tarichi*, Pallas 1811). It is a migratory fish. To reproduce, it migrates from its primary habitat to rivers flowing into Lake Van and later at post-spawning season it goes back to the lake.

Generally it has a bright silver color with grayish green in the back and silver in the abdominal region. The body area is covered with small scales, and it has large eyes (Kuru 1987, Geldiay and Balık 1988). The length is 19.5 cm on the average and weight is around 80 g. It mainly feeds on phytoplankton and zooplankton. The fish has a maximum life span of 7 years, and reaches the sexual maturity at 3 years old. At reproduction period between early-April and late-July, the pear mullet migrates in shoals to rivers surrounding the lake. Since it cannot move directly from salty-alkaline to fresh waters when migrating, it needs to wait shortly at outfalls for osmotic regulation both on the way to and from the spawning areas. As water temperature reaches around 13 °C, it moves to rivers and starts laying eggs. After laying eggs at

pebbly, sandy areas where rivers sprawl out with a lower rate of flow, it returns to the lake. After hatching, the juvenile fish return to the lake within a week or two. They swim in shoals around nutritiously richer areas along the lakeside to feed on. The pearl mullets in summer tend to move all across the lake not deeper than 25 m whereas in winter they live in waters with a depth of 60 m at maximum (Sarı 2001, Sarı 2003).

Fishing boats up to 8-16 m in length cast trammel nets with mesh size greater than 20 mm when fishing pearl mullets during the winter. Fishing is done illegally during the reproduction period at river mouths using beach seine nets, and at river beds with simple trapping. The annual yield of pearl mullet fishing is around 10,000 tons which constitutes  $\frac{1}{4}$  of total inland fish production in Turkey .

The Nature Observers Society continues its conservation efforts for achievement of sustainable pearl mullet fishery which is currently the main source of income for 14,000 local people living around the lake. As a result of these efforts, illegal fishing has been decreased by 60% in the last 10 years.

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