

Fluoride (F) levels in the fillet of 4 species of fish (*Tilapia leucostictus*, *T. zillii*, *T. nilotica*, *Micropterus salmoides*) ranged from 1.3 to 2.0 mg F/kg wet weight, while the bone levels ranged from 117 to 211 mg F/kg. The F levels of tilapia exposed to 5.2 mg F/l in Lake Baringo were significantly lower than the concentrations of F in tilapia exposed to 2.4 mg F/l in Lake Naivasha. No positive correlation was found between tissue F levels and the size of the fish. The F content of fish fillet does not appear to be a major contributor to the prevalent and severe human dental fluorosis in the Rift Valley area.