

**Radioactivity levels in fish, shellfish, algae and seagrass collected from the Eastern Black Sea coast of Turkey, 1992**

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Following the Chernobyl accident, radioactive contamination in the Black Sea environment of Turkey has been detected in fish, algae and shellfish (TOPCUOGLU *et al.*, 1988), (GUVEN *et al.*, 1990), (TUNCER and BAYSAL, 1990). In this study we report data obtained on radioactivity levels in fish, shellfish, algae and seagrass collected from the Eastern Black Sea coast of Turkey in 1992. For fish and shellfish, muscle and soft tissues, respectively, were sampled. The samples were dried, powdered and analyzed by a gamma spectrometer (Tennelec) coupled to a high purity Germanium detector.

The results are given in Table 1. Radioactivity was detected in all samples and varied with species and location. The measured levels of Cs-134, Cs-137 and K-40 ranged between 1-5, 5-21 and 600-3725 Bq/kg dry weight, respectively.

TABLE 1. Radioactivity levels in Selected Samples collected in 1992.

SAMPLES	Cs-134	Cs-137 (Bq/kg dry)	K-40
<b>FISH</b>			
<i>Trachurus mediterraneus</i>	1	5	605
<i>Engraulis encrasicolus ponticus</i>	4	13	900
<i>Mugil saliens</i>	2	11	653
<i>Merlangus merlangius euxinus</i>	4	12	965
<i>Alosa fallax</i>	1	7	1485
<b>SHELLFISH</b>			
<i>Mytilus galloprovincialis</i>	2	11	1840
<i>Patella vulgata</i>	4	10	893
<i>Rapana thomasiana</i>	2	9	600
<b>ALGAE</b>			
<i>Ulva lactuca</i>	5	19	2080
<i>Enteromorpha sp.</i>	3	13	2260
<i>Cystoseria barbata</i>	3	7	1130
<b>SEAGRASS</b>			
<i>Zostera marina</i>	5	21	3725

Comparison of the 1992 results with those of our earlier study showed that the levels of radiocesium in fish, shellfish and algae have decreased considerably. For example the amounts of Cs-137 in *T. mediterraneus*, *M. saliens* and *M. galloprovincialis* were 47, 107 and 130 Bq/kg, respectively, in 1990 and only 5, 11 and 11 Bq/kg in 1992. Also Cs-137 in *Enteromorpha sp.* and *C. barbata*, 35 and 27 Bq/kg in the earlier survey, had decreased to 13 and 7 Bq/kg. The highest concentrations of Cs-137 were found in *U. lactuca* and *Z. marina* while the lowest activity was detected in *T. mediterraneus* and *A. fallax*. It appears from our data that Chernobyl-derived radiocesium has diminished considerably in Turkish coastal waters during the period 1990-1992.

**REFERENCES**

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