**Radionuclide contamination of fish of different ecological groups in water bodies within the Chornobyl exclusion zone**

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The results of the assessment of the levels of activity concentration of 90Sr and 137Cs for fish in the Chernobyl Exclusion Zone (CEZ) during period 2010–2024 are presented. The studies were carried out in lakes of western and northwestern radioactive traces that are most contaminated with radionuclides - Azbuchin, Vershina, Glyboke, Yanovsky backwater, as well as in various parts of the Chernobyl NPP cooling pond (CP) and the Pripyat River within the CEZ. The activity concentration (AC) of 137Cs was measured using a γ-spectrometry complex (Mirion Technologies-Canberra, Japan). The AC of 90Sr was determined using a low-background alpha-beta radiometer UMF-2000 and beta radiation energy spectrometer SEB-01-70. The estimated error of radionuclide AC fell within 15-20%. The highest levels of the AC of the main dose-forming radionuclides were noted for fish from lakes Azbuchin, Vershina and Glyboke: 90Sr – 2030-148570 (on average 15960); 137Cs - 930-31859 ​​(4660) Bq/kg. In the Yanovsky backwater, the concentration of 90Sr and 137Cs in fish was, respectively, within the range of 583-8220 (1520) and 340-6040 (1395) Bq/kg. In the CP, the AC of 90Sr and 137Cs was, respectively, 40-359 (119) and 540-11270 (2473) Bq/kg. The lowest concentration of radionuclides, among the studied water bodies, was noted for fish from the Pripyat River within the CEZ: 90Sr – 2-121 (33); 137Cs – 5-293 (71) Bq/kg. The prey fish species of the studied lakes were characterized by AC of 90Sr within the range of 4050-148570 (21328), and 137Cs – 1018-31859 ​​(3749) Bq/kg, while in predatory fish the AC of 90Sr was 2030-31622 (7994), and 137Cs – 930-22044 (6228) Bq/kg. The activity concentration of 90Sr in the fish of the Yanovsky backwater did not exceed 860–4580 (1900) Bq/kg for prey species, and 583-8220 (1140) Bq/kg for predatory ones; the activity concentration of 137Cs in prey species and ichthyophagous fish was, respectively, within the range of 340-3400 (784) and 1030-6040 (2001) Bq/kg. Thus, the AC of 90Sr in prey fish of the stagnant water bodies of the CEZ was 1.6–1.7 times higher than in predatory species, while 137Cs was 2.5-2.6 times lower. Among the studied fish of the CEZ, the highest concentration of 90Sr was noted for the common rudd and Prussian carp. Different fish species in descending order of average AC of 90Sr in the CEZ water bodies form the following series: Prussian carp > common rudd > roach > tench > bream > bleak > asp > perch > pike > pike-perch > wels catfish, and in descending order of 137Cs - perch > pike-perch > pike > asp > wels catfish > bleak > rudd > Prussian carp > roach > bream. The AC of 137Cs in fish of almost all water bodies during the study period continued to decrease regularly. The level of 90Sr concentration in representatives of ichthyofauna of the lakes remained practically at the same level. The exceptions were the hydraulically connected CP and Lake Azbuchin, where the AC of 90Sr in fish tends to increase, which is primarily due to the increase in the AC of radionuclides in the water of these water bodies as a result of the cessation of water supply to the CP since the end of 2014 and the drawdown of water level. The AC of radionuclides in fish of lakes Glyboke, Vershina and Azbuchin during the study period in all cases repeatedly exceeded the permissible levels (PL), according to the standards adopted in Ukraine for fish products - by 58-4245 times for 90Sr and by 6-212 times for 137Cs. The excess of the PL in the fish of the Yanovsky backwater for 90Sr was observed by 16-235 and 137Cs by 2-40 times, and in the CP for 90Sr and 137Cs by 1.4-27.4 and 3.3-33.8 times, respectively. In the fish of the Pripyat River within the CEZ, isolated cases of excess of the PL for 137Cs by 1.2–2.0 and for 90Sr by 1.1-3.5 times were observed for both prey and predatory species. This study was supported by the National Research Foundation of Ukraine (Project No. 2023.03/0156).