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Fishes (Sardine and Japanese Anchovy) off the Kashima-Boso Area -- 10 Why Do the Radionuclide Concentrations of Pacific Cod Depend on the Body Size? -- 11 Radiocesium Contamination Histories of Japanese Flounder (*Paralichthys olivaceus*) After the 2011 Fukushima Nuclear Power Plant Accident -- Part IV Mechanisms of Severe Contamination in Fish -- 12 Evaluating the Probability of Catching Fat Greenlings (*Hexagrammos otakii*) Highly Contaminated with Radiocesium off the Coast of Fukushima -- 13 Analysis of the Contamination Process of the Extremely Contaminated Fat Greenling by Fukushima-Derived Radioactive Material -- 14 Contamination Levels of Radioactive Cesium in Fat Greenling Caught at the Main Port of the Fukushima Dai-ichi Nuclear Power Plant -- Part V Freshwater Systems -- 15 Comparison of Radioactive Cesium Contamination of Lake Water, Bottom Sediment, Plankton, and Freshwater Fish Among Lakes of Fukushima Prefecture, Japan, After the Fukushima Fallout -- 16 Radiocesium Concentrations and Body Size of Freshwater Fish in Lake Hayama 1 Year After the Fukushima Dai-ichi Nuclear Power Plant Accident -- 17 Spatiotemporal Monitoring of ¹³⁴Cs and ¹³⁷Cs in Ayu, *Plecoglossus altivelis*, a Microalgae-Grazing Fish, and in Their Freshwater Habitats in Fukushima -- 18 Radiocesium Concentrations in the Muscle and Eggs of Salmonids from Lake Chuzenji, Japan, After the Fukushima Fallout -- 19 Assessment of Radiocesium Accumulation by Hatchery-Reared Salmonids After the Fukushima Nuclear Accident.

Sommario/riassunto

This book presents the results from the Japanese Fisheries Research Agency's 3-year intensive monitoring of radionuclides in a variety of fish, plankton, benthos, and their living environments after the Fukushima Daiichi Nuclear Power Plant (FNPP) accident in March 2011. The book reveals the dynamics of contamination processes in marine and freshwater fish, mediated by the contamination of water, sediments, and food organisms; it also clarifies the mechanisms by which large variations in the level of contamination occurs among individual fish. Most importantly, the book includes a large amount of original measurement data collected in situ and for the first time assesses diffusion of radiocesium across the Pacific using both in situ data and a numerical simulation model. Also introduced are several new approaches to evaluate the impact of the release of radionuclides, including the measurement of radiation emission from an otolith section to identify the main period of contamination in fish. The FNPP accident represents a rare instance where the environmental radioactivity level was elevated steeply through atmospheric fallout and direct discharge of radioactive water into the sea over a short period of time. Replete with precise scientific data, this book will serve as an important resource for research in fields such as fishery science, oceanography, ecology, and environmentology, and also as a solid basis for protecting fisheries from damage resulting from harmful rumors among the general public.
