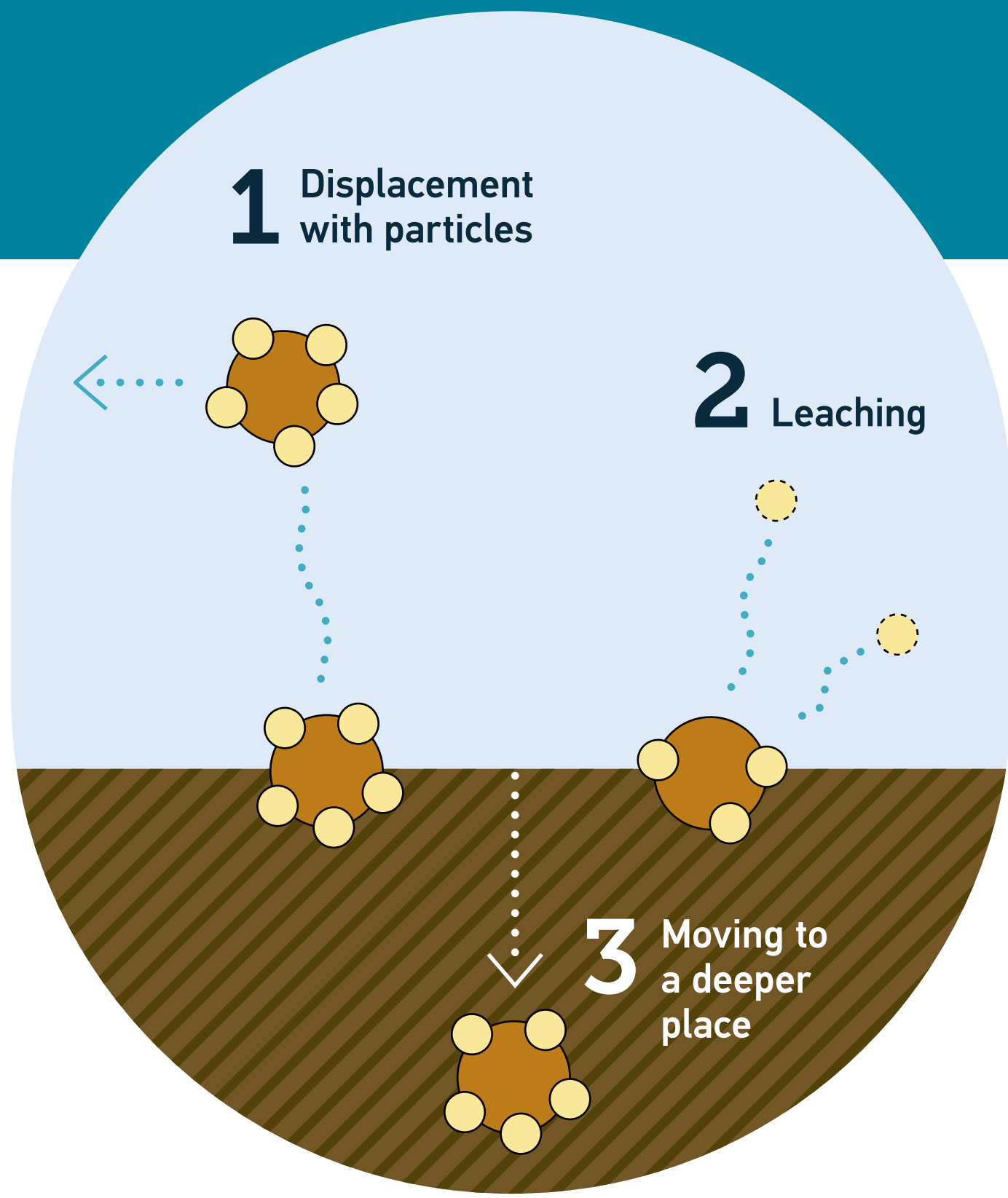


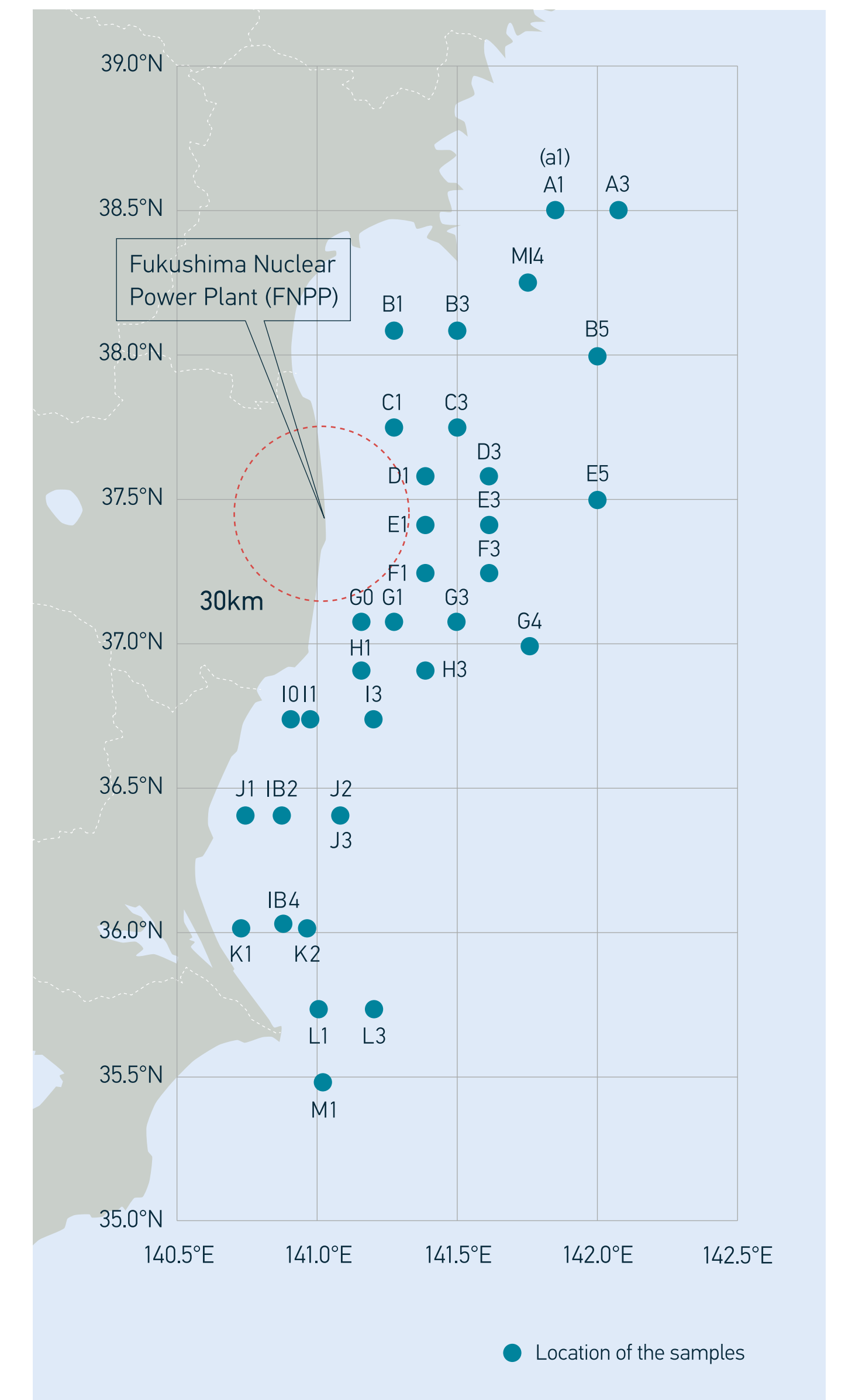
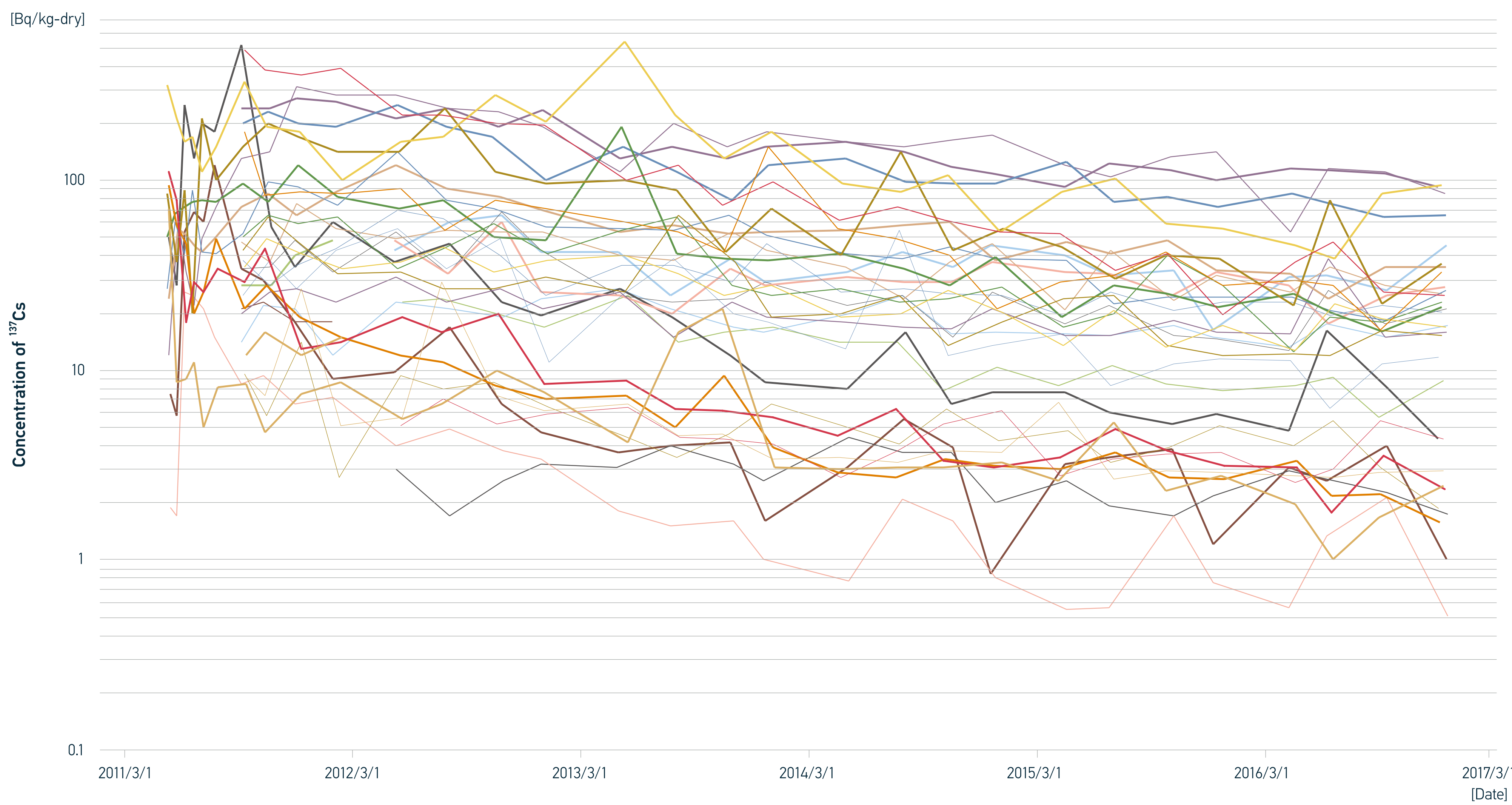
## RADIOACTIVE CONTAMINATION OF MARINE SEDIMENT

Among the radioactive materials leaked, some bonded onto particulate matter deposited on the sea floor. Marine sediment was sampled from a variety of places and the cesium concentration was measured. Although it varies greatly from place to place, the cesium concentration in the marine sediment tends to decrease as a whole. The decline of the concentration can be attributed to (1) displacement with the particles on which cesium is bonded, (2) leaching cesium into sea water, (3) moving into deeper areas.



Mechanism for the decrease of cesium concentration in marine sediments

- Particle of marine sediments
- Radioactive cesium



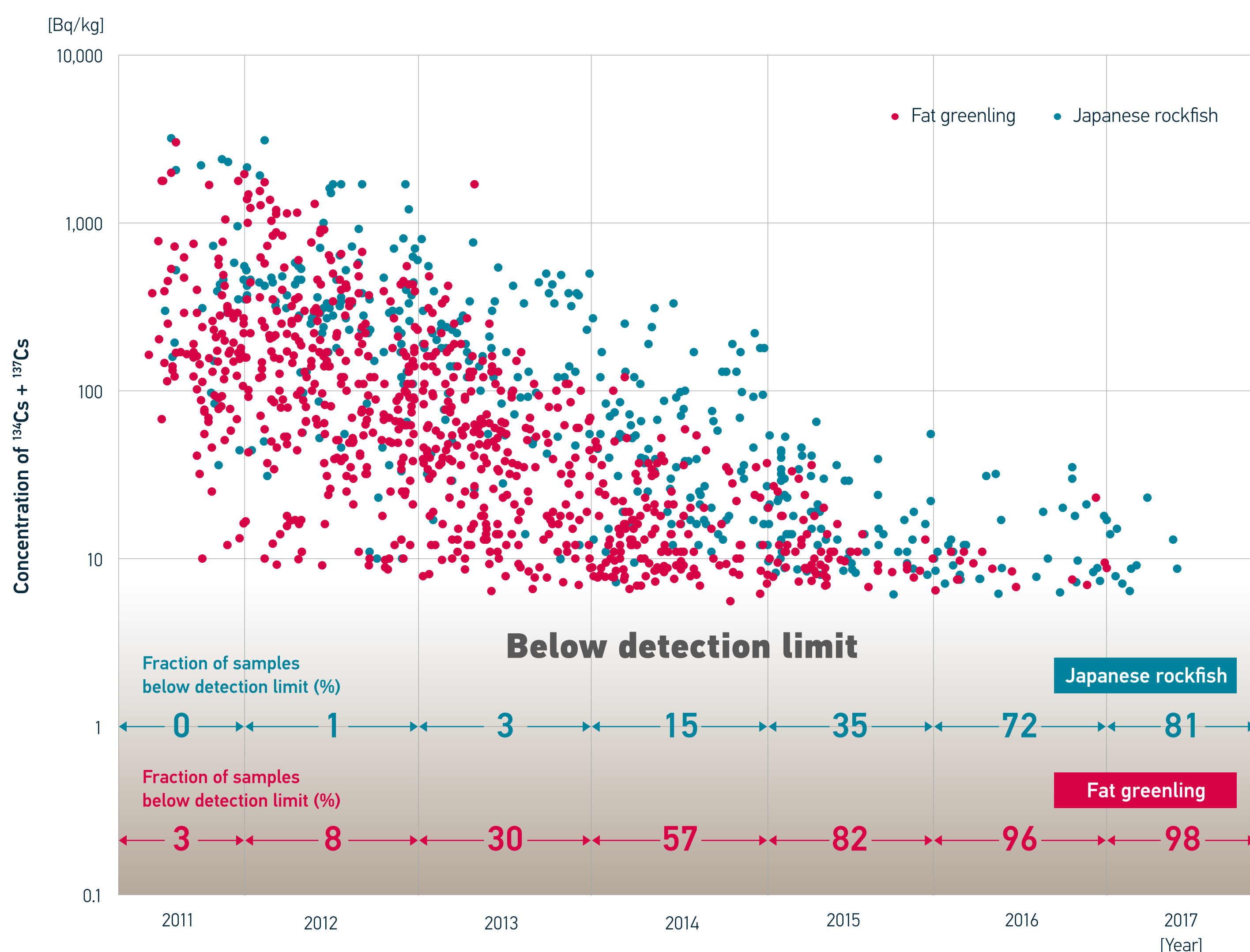
### Changes of radioactivity concentration in marine sediment<sup>\*1</sup>

(Left) Changes of the cesium 137 concentrations in sediments within 3 cm from sea floor are shown for individual sample positions. (Right) Positions of the sampling points of the sediments.

## RADIOACTIVE CONTAMINATION OF MARINE ORGANISMS

Radioactive materials can be assimilated by marine life, and would finally return to our dining table as risk in seafood. Radioactive contamination monitoring of marine organisms off Fukushima has been conducted continuously, and the high concentration found immediately after the accident decreased with time in all kinds of organisms. After 2016, no

marine products exceeded the critical value at which shipping would be prohibited. There was also concern that the contamination of the marine sediment might be concentrated to organisms in the food chain. However, experiments showed that cesium will seldom detach from the sea-floor soil and be absorbed by organisms.



### Changes of radioactive concentration in fish caught off Fukushima<sup>\*2</sup>

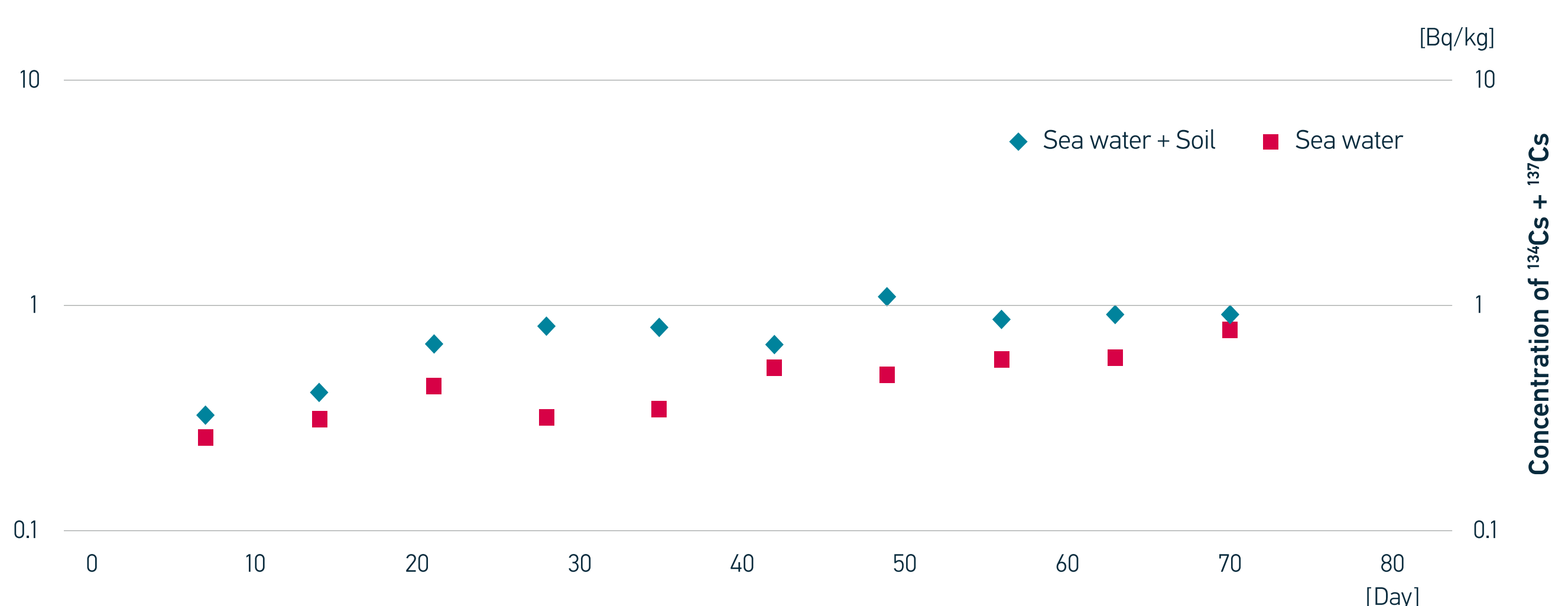
Changes in the concentration of cesium 137 in the edible section of Japanese rockfish and Fat greenling measured by Fukushima. The ratio of the number of samples whose concentration was below the detection limit was also noted.



With sea-floor soil



Without sea-floor soil



### Breeding experiments on fat greenling using contaminated sea-floor soil<sup>\*3</sup>

Fat greenlings were raised by feeding them with rag worms grown in an environment with contaminated sea-floor soil. Change of the radioactivity in their edible portion was measured with a time interval of 7 days. For the experiment, a water vessel with contaminated sea-floor soil and one without soil were used for comparison, and the one with contaminated soil got slightly higher contamination than the one without. In either cases, cesium concentrations were found to be below 1 Bq/kg-wet.

Reference \*1 Marine Ecology Research Institute \*2 Fukushima Prefecture \*3 National Research Institute of Fisheries Science, Japan Fisheries Research and Education Agency