

Nuclide Analysis Results from Fish and Shellfish
<Sampled from the Ocean Area within a 20km Radius of the Fukushima Daiichi Nuclear Power Station>
 Samples collected in the first quarter of FY2019

[Measurement results for Sr-90 (Half-life: Approx. 29 years) in fish and shellfish]

Name of Sample (Region)	Place of Sampling (Place No.)	Date of Sampling	Radioactivity Concentration [Bq/kg(Raw)] (Half-life)	
			Sr-90 ^{*1} (Approx. 29 years)	Reference ^{*1} (Sum of Cs-134 and Cs-137)
Stingray (whole) *2	About 1km Offshore of Ota River (T-S1)	June 20, 2019	0.026	8.8
Common skate (whole) *2	About 2km Offshore of Fukushima Daini NPS (T-S7)	April 9, 2019	0.21	7.2
Marbled sole (whole) *3	About 2km Offshore of Fukushima Daini NPS (T-S7)	April 9, 2019	0.31	5.8
Greenling (whole) *3	Around 2km Offshore of Fukushima Daini NPS (T-S7)	May 28, 2019	0.01	5.1
Black rockfish (whole) *2	Around 2km Offshore of Fukushima Daini NPS (T-S7)	May 28, 2019	(1st meas.) 54 ^{*4} (2nd meas.) 52	^{*5} 101.7

*1 Edible parts (muscles) of fish were used to measure Cs. Whole fish (except for internal organs) including bones, which are not edible, were used to measure Sr.

Reference value (on and after April 1, 2012) Sum of radioactivity concentrations for Cs-134 and Cs-137: 100Bq/kg.

*2 The Sr-90 analysis was conducted by KANSO CO., LTD.

*3 The Sr-90 analysis was conducted by Kyushu Environmental Evaluation Association.

*4 Highest recorded measurements by TEPCO. The same sample was used for the 1st and 2nd measurements

*5 Measurements compared with reference value (100 Bq/kg) to two significant digits.

This measurement result equals 100Bq/kg when rounded to two significant digits, and does not exceed the reference value.

Measurement results from black rockfish sampled from the ocean area within a 20km radius of the Fukushima Daiichi Nuclear Power Station (follow-up report)



- The nuclide analysis results of black rockfish sampled from the ocean area within a 20km radius of the Fukushima Daiichi NPS on May 28, 2019 according to the comprehensive monitoring plans are as follows:
([Results on Cs concentrations were announced on June 4.](#))

Cs-134	Cs-137	Cs (Sum)	Sr-90	
			(1st)	(2nd)
6.7	95	101.7	54	52

(Bq/kg(raw))

- ✓ When measuring Cs edible parts of the fish (muscles) were used.
- ✓ When measuring Sr whole fish (except for internal organs) including bones were used.
- ✓ The five samples with the highest Cs concentration are used to measure Sr every quarter.

- At the Fukushima Daiichi NPS countermeasures* for preventing fish from moving into and out of the port area have been intensified. The concentrations of radioactive substances in all fish and shellfish sampled within a 20km radius of the power station after the aforementioned black rockfish were sampled were far lower than the limiting values for shipping.

* The rockfish net (Mesh size: Approx. 8cm), which is one of three fixed gill nets set at the port entrance, was lengthened from approx. 60m to approx. 120m.

- Nuclide analysis results for fish and shellfish from the ocean area within a 20km radius of the power station and from inside the port area will continue to be released as they are obtained.



- ◆ If an adult eats 200g of the aforementioned black rockfish, the dose from Cs (in muscles only) would be 0.3μSv and the dose from Sr (in muscles and bones, which are not edible) would be 0.3μSv, thereby bringing the total dose to approximately 0.6μSv (equivalent to 1/80 of a single chest X-ray (around 50μSv)). If an adult eats only the edible parts (muscles) of the aforementioned black rockfish, the dose from Sr would be lower than the value mentioned above, because Sr accumulates mainly in the bones.

- ◆ TEPCO has conducted approximately 150 Sr-90 analyses to date and all the results have been 10Bq/kg or lower, except for the aforementioned black rockfish and black sea bream sampled on Jan. 28, 2017 (30Bq/Kg(raw)).

- ◆ The emergency environmental radiation monitoring of black rockfish carried out by the Fukushima Prefectural Fisheries and Marine Science Research Center from June 4 to July 19 in light of the high concentrations detected in the aforementioned black fish found that Cs concentrations in all 23 samples that were taken were below detectable limits.*

* According to materials for the 4th meeting of FY2019 of the Fukushima Prefecture Fisheries Co-operative Association Presidents



Black rockfish
Sampled from an area about 2km offshore of Fukushima Daini (T-S7) on May 28, 2019