

Radiation still high in Fukushima fish

- 16:35 25 October 2012 by [Michael Slezak](#)

Levels of radioactive caesium in fish around Fukushima are as high now as they were a year ago. That suggests there may be an unknown source of continued contamination.

However, researchers are saying consumers should not be overly concerned.

The new finding emerged when [Ken Buesseler](#) from Woods Hole Oceanographic Institution in Massachusetts in the US analysed data from almost 9000 fish samples, over a year after [the meltdown at Japan's Fukushima Daiichi power plant](#). He found the amount of caesium-134 in the fish has not decreased in the last year. Since the isotope has a half-life of only two years, Buesseler concluded caesium-134 must still be leaking into their environment.

Levels were highest among bottom-dwelling fish, suggesting the contamination is associated with the seafloor. Possible sources are contaminated groundwater or the water used to cool the reactors, both of which could be leaking into the ocean. A third possibility is that caesium has collected in the sediment in the seafloor and is being slowly released into the water, he says.

"There's no doubt there's a continued source of contamination," Buesseler says.

[Mitsuo Uematsu](#), of the University of Tokyo, says this makes sense. Rivers wash contaminated sediments into the ocean, which, along with plankton and other organisms that can collect caesium, sink and create a reservoir on the seafloor, he explains.

Temperature link?

Not everyone is convinced, however. Geochemist Michio Aoyama at [Japan's Meteorological Research Institute](#) says that since caesium-134 levels also remain elevated in fish higher up in the water column, seafloor contamination can't be the whole story.

Aoyama says there is no evidence contaminated groundwater is leaking into the ocean and the level of caesium coming from water used to cool the reactors is known to be very low.

He has his own theory that he and others are hoping to test: there's some evidence fish have a higher concentration of caesium in the summer, suggesting warm weather is connected to higher concentrations.

'Not a cause for concern'

Surprisingly, perhaps, Buesseler doesn't think his finding should alarm consumers. New Japanese regulations are so stringent that many fish consumed around the world naturally contain much higher levels of other radioactive isotopes.

"You hear people saying 'any caesium is bad'. Well, you can't really say that when we're eating fish that have natural levels of potassium-40 in them that are 10 times higher and not considered a health risk," says Buesseler.

Buesseler says the strict regulations, introduced in the aftermath of the disaster at Fukushima, were a reasonable attempt to bolster public confidence in approved seafood. But he worries

they had the opposite effect, making them too wary.

Uematsu agrees some Japanese consumers are more worried about caesium contamination than they need to be.

"It doesn't mean we shouldn't be concerned about these man-made radionuclides but we should put it in the context of these [other] sources of man-made and natural isotopes we are exposed to," says Buessler.

Journal Reference: *Science*, doi: 10.1126/science.1228250