

Effects of heavy elements in the sludge conveyed by the 2011 tsunami on the recovery of the marine ecosystem

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Abstract

The 2011 tsunami not only caused significant damage, but also drew a large amount of sludge from the bottom of the sea. This may have exerted negative effects on the recovery of the marine ecosystem. Sludge samples were collected from two prefectures (Miyagi and Fukushima prefectures) in 2012. Although the sludge samples on land were found to be still contaminated with heavy elements, their concentrations became lower for most elements. Ten soil and 21 plant samples were collected again after one year (October 10, 2012) from the Tsugaruishi and Orikasa tidelands in the Iwate prefecture. It was found that the soils and plants collected from tidelands are no longer seriously contaminated. Judging from these facts, the negative effects of heavy elements on the recovery of the marine ecosystem in the Sanriku district are not serious, and reconstruction of the culturing industries is promising.