

○Results of Radioactive Material Monitoring of Aquatic Organisms (Location M off Iwaki City (Hisanohama))

< Location M off Iwaki City (Hisanohama): Samples collected >

Items Locations	General items		Radioactive materials			
	Water	Sediment	Water(Cs)	Water(Sr)	Sediment(Cs)	Sediment(Sr)
M-1	○	○	○	○	○	○
M-2	○	○	○	○	○	○
M-3	○	○	○	○	○	○
M-4	○	○	○	○	○	○

< Location M off Iwaki City (Hisanohama): Site measurement item >

Items Locations	Survey date and time			Latitude and longitude of the location		Water	Sediment					Other	
	Date	Time(Water)	Time(Sediment)	Latitude	Longitude	Water temperature (degrees C)	Sediment temperature (degrees C)	Property	Color	Odor	Contaminants	Water depth (m)	Transparency (m)
M-1	2012/12/14	—	8:17	37.173617°	141.078800°	—	13.5	Sand	5Y-3/2	None	Shell	42.0	9.5
M-2	2012/12/14	8:41	9:09	37.199600°	141.085300°	14.5	13.3	Sand	10Y-3/2	None	Shell	42.0	10.0
M-3	2012/12/14	—	9:34	37.232417°	141.093517°	—	14.3	Sand	7.5Y-3/2	None	Shell	41.5	12.5
M-4	—	—	—	37.154650°	141.001550°	—	—	—	—	—	—	—	—

< Location M off Iwaki City (Hisanohama): General survey items/Analysis of radioactive materials Water >

Items Locations	Survey date and time		Latitude and longitude of the location		pH	BOD	COD	DO	Electrical conductivity	Salinity	TOC	SS	Turbidity	Cs-134	Cs-137	Sr-90
	Date	Time	Latitude	Longitude		(mg/L)	(mg/L)	(mg/L)	(mS/m)		(mg/L)	(mg/L)	(FNU)	(Bq/L)	(Bq/L)	(Bq/L)
M-2 (Surface layer)	2012/12/14	8:41	37.199600°	141.085300°	8.1	<0.5	0.8	8.3	5.020	34.04	0.8	<1	0.4	0.0079	0.017	—
M-2 (Deep layer)	—	—	—	—	8.1	<0.5	1.4	8.3	5.030	33.82	0.9	4	1.3	0.025	0.044	0.018

< Location M off Iwaki City (Hisanohama): General survey items/Analysis of radioactive materials Sediment >

Items Locations	Survey date and time		Latitude and longitude of the location		pH	Redox potential E <sub>NHE</sub> (mV)	Water content (%)	IL (%)	TOC mg/g-dry	Soil particle density (g/cm3)	Grain size distribution						Cs-134 (Bq/kg-dry)	Cs-137 (Bq/kg-dry)	Sr-90 (Bq/kg-dry)		
	Date	Time	Latitude	Longitude							Gravel	Coarse sand	Medium sand	Fine sand	Silt	Clay				Median grain diameter (mm)	Maximum grain diameter (mm)
											(2-75mm) (%)	(0.85-2mm) (%)	(0.25-0.85mm) (%)	(0.075-0.25mm) (%)	(0.005-0.075mm) (%)	(Less than 0.005mm) (%)					
M-1	2012/12/14	8:17	37.173617°	141.078800°	8.0	133	27.0	2.2	1	2.761	—	1.8	4.4	88.6	2.7	2.5	0.160	2.00	210	360	—
M-2	2012/12/14	9:09	37.199600°	141.085300°	8.0	170	24.8	2.1	1	2.778	—	0.9	3.9	89.6	2.4	3.2	0.160	2.00	140	240	N.D.(<0.21)
M-3	2012/12/14	9:34	37.232417°	141.093517°	8.0	152	23.9	2.5	1	2.765	—	1.4	17.8	79.4	1.4	1.4	0.190	2.00	120	210	—

Note) N.D. means to be below the detection limit.

< Location M off Iwaki City (Hisanohama): Survey items Aquatic organisms >

Location	Sampling Date	Latitude and longitude of the location		Division	Class	Order	Family	Species name	English name	Population	Sample weight (kg-wet)	Cs-134 (Bq/kg-wet)	Cs-137 (Bq/kg-wet)	Sr-90 (Bq/kg-wet)	Note						
		Latitude	Longitude												Growth stage	Stomach contents					
M-1 M-2 M-3 (Hisanohama)	2012/12/14	37.173617°	141.078800°	Echinoderm	Sea Urchin	Sea urchin	Sea urchin	<i>Glyptocidaris crenularis</i>	Tugarumi	78	2.3	26	47	8.7	Adult	—					
				Vertebrata	Osteichthyes	Marbled rockfish	Fat greenling	<i>Hexagrammos otakii</i>	Fat greenling	3	1.7	32	55	0.24	Mature fish	Empty stomach					
				Vertebrata	Osteichthyes	Marbled rockfish	Gurnard	<i>Chelidonichthys spinosus</i>	Gurnard	4	1.5	5.4	7.1	—	Mature fish	Empty stomach					
				Vertebrata	Osteichthyes	Righteye flounder	Righteye flounder	<i>Pleuronectes yokohamae</i>	Marbled sole	3	2.3	20	34	0.11	Mature fish	Empty stomach					
				Vertebrata	Chondrichthyes	Rajiformes	Flounder	<i>Paralichthys olivaceus</i>	Flounder	6	4.5	7.5	13	0.15	Mature fish	Small fish					
				Vertebrata	Osteichthyes	Perciformes	Perciformes	<i>Lateolabrax japonicus</i>	Gastric contents (small fish)	—	0.21	N.D.(<0.84)	N.D.(<0.79)	—	Mature fish	—					
				Vertebrata	Osteichthyes	Perciformes	Perciformes	<i>Lateolabrax japonicus</i>	Japanese sea bass	2	5.0	5.1	9.4	0.040	Mature fish	Empty stomach					
M-4 (Hisanohama)	2012/12/24	37.154650°	141.001550°	Vertebrata	Cartilage fish	Ray	Skate	<i>Okamejei kenoei</i>	Common Skate	3	2.1	52	87	0.23	Mature fish	Empty stomach					
				Brown algae	Phaeophyceae	Sea cabbage	Sea cabbage	<i>Eisenia bicyclis</i>	Eisenia bicyclis	—	1.3	3.0	4.9	—	—	—					
				Echinoderm	Sea Urchin	Loxechinus	Strongylocentrotus	<i>Strongylocentrotus nudus</i>	Northern sea urchin	20	2.0	2.2	3.4	3.3	Adult	—					
				Mollusca	Gastropoda	Archaeogastropoda	Haliotis asinina	<i>Haliotis discus</i>	Abalone (shell)	12	0.70	8.2	15	14	Adult	—					

Note) N.D. means to be below the detection limit.