

Results of Radioactive Material Monitoring of Aquatic Organisms (Location L off Soma City)

<Location L off Soma City: Samples collected>

Items Locations	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
L-2	○	○	○	○	○	○

<Location L off Soma City: Site measurement item>

Items Locations	Latitude and longitude of the location		Survey date and time			Water	Sediment				Other	
	Latitude	Longitude	Date	Time (water)	Time (sediment)	Water temperature (degrees C)	Sediment temperature (degrees C)	Property	Color	Contaminants	Water depth (m)	Secchi disk depth (m)
L-2	37.8155°	140.9763°	2018/6/4	11:25	11:48	22.5	22.1	Sand	7.5Y3/1	Shell fragments	0.8	>0.8

<Location L off Soma City: General survey items/Analysis of radioactive materials Water>

Items Locations	Latitude and longitude of the location		Survey date and time		pH	BOD	COD	DO	Electric conductivity	Salinity	TOC	SS	Turbidity	Cs-134	Cs-137	Sr-90
	Latitude	Longitude	Date	Time (water)		(mg/L)	(mg/L)	(mg/L)	(nS/m)		(mg/L)	(mg/L)	(FNU)	(Bq/L)	(Bq/L)	(Bq/L)
L-2	37.8155°	140.9763°	2018/6/4	11:25	8.1	0.9	3.2	8.5	4640	31.69	1.9	6	3.5	0.0025	0.031	0.00081

Note) N.D. means to be below the detection limit and figures in parentheses show the detection limit.

<Location L off Soma City: General survey items/Analysis of radioactive materials Sediment>

Items Locations	Latitude and longitude of the location		Survey date and time		pH	Redox potential E _h (mV)	Water content (%)	IL (%)	TOC (mg/g-dry)	Soil particle density (g/cm ³)	Grain size distribution						Cs-134 (Bq/kg-dry)	Cs-137 (Bq/kg-dry)	Sr-90 (Bq/kg-dry)		
	Latitude	Longitude	Date	Time (sediment)							Gravel (2-75mm) (%)	Coarse sand (0.85-2mm) (%)	Medium sand (0.25-0.85mm) (%)	Fine sand (0.075-0.25mm) (%)	Silt (0.005-0.075mm) (%)	Clay (Less than 0.005mm) (%)				Median grain diameter (mm)	Maximum grain diameter (mm)
L-2	37.8155°	140.9763°	2018/6/4	11:48	7.7	204	19.8	1.7	0.9	2.724	1.6	6.8	81.2	8.6	1.8	0.43	9.5	0.50	5.0	N.D.(0.14)	

Note) N.D. means to be below the detection limit and figures in parentheses show the detection limit.

<Location L off Soma City: Analysis items Aquatic organisms>

Locations	Sampling point	Latitude and longitude of the location		Sampling date	Division	Class	Order	Family	Scientific name	English name	Population	Sample weight (kg-wet)	Note			Radioactive cesium (Bq/kg-wet)			Sr-90 (Bq/kg-wet)		
		Latitude	Longitude										Growth stage	Stomach contents	Measurement site	Total	Cs-134	Cs-137			
L-1 L-2 L-3	Matsukawaura Lagoon	37.8210° 37.8155° 37.8217°	140.9610° 140.9763° 140.9765°	2018/6/4	Algae/plant	-	-	-	-	Plankton (Planktonic algae)	-	0.012	-	-	-	22.9	2.9	20	-		
					Algae/plant	Monocotyledoneae	Najadales	Zosteraceae	<i>Zostera marina</i>	Eel grass	-	0.23	-	-	-	-	N.D.	N.D.(0.33)	N.D.(0.30)	-	
				Algae/plant	Chlorophyceae	Ulvales	Ulvaceae	<i>Ulva pertusa</i>	Ulva pertusa	-	0.29	-	-	-	-	-	3.0	N.D.(0.26)	3.0	-	
				2018/6/2	Annélida	Polychaeta	Eunicida	Eunicidae	<i>Polychaeta</i>	Polychaeta	-	-	-	-	-	-	-	-	-	-	-
					Annélida	Polychaeta	Phyllodocida	Nereididae	<i>Hediste sp.</i>	<i>Hediste</i>	281	0.076	Imago	-	-	-	-	5.91	0.41	5.5	-
					Arthropoda	Malacostraca	Decapoda	Alpheidae	<i>Alpheidae</i>	Alpheidae	27	0.042	Juvenile, Imago	-	-	-	-	1.6	N.D.(1.0)	1.6	-
					Arthropoda	Malacostraca	Decapoda	Palaemonidae	<i>Palaemon sp.</i>	Palaemon	61	0.033	Juvenile, Imago	-	-	-	-	2.1	N.D.(1.5)	2.1	-
				2018/6/4	Arthropoda	Malacostraca	Decapoda	Varunidae	<i>Hemigrapsus sp.</i>	Hemigrapsus	134	0.39	Juvenile, Imago	-	-	-	-	3.94	0.64	3.3	-
					Arthropoda	Malacostraca	Decapoda	Varunidae	<i>Eriocheir japonica</i>	Japanese mitten crab	1	0.12	Imago	-	-	-	-	4.1	N.D.(0.66)	4.1	-
					Mollusca	Bivalvia	Ostreoida	Ostreidae	<i>Crassostrea gigas</i>	Oyster	6	0.15	Imago	-	-	-	-	0.99	N.D.(0.43)	0.99	-
					Mollusca	Bivalvia	Veneroida	Veneridae	<i>Ruditapes philippinarum</i>	Japanese littleneck	30	0.16	Imago	-	-	-	-	1.2	N.D.(0.40)	1.2	-
				2018/6/3	Vertebrata	Osteichthyes	Scorpaeniformes	Hexagrammidae	<i>Hexagrammos otakii</i>	Fat greenling	3	0.087	Immature fish	Ragworm	Viscera removed	N.D.	N.D.(0.92)	N.D.(0.80)	-	-	
					Vertebrata	Osteichthyes	Scorpaeniformes	Hexagrammidae	<i>Hexagrammos agrammus</i>	Hexagrammos agrammus	3	0.052	Immature fish	Gammarus, Skeleton shrimp	Viscera removed	N.D.	N.D.(0.96)	N.D.(0.88)	-	-	
					Vertebrata	Osteichthyes	Scorpaeniformes	Scorpaenidae	<i>Sebastes cheni</i>	Rockfish	5	0.14	Immature fish	Mysidae, Fish	Viscera removed	0.69	N.D.(0.67)	0.69	-		
					Vertebrata	Osteichthyes	Perciformes	Pholidae	<i>Pholis crassispina</i>	Pholis crassispina	30	0.057	Immature fish, Mature fish	-	-	-	N.D.	N.D.(1.1)	N.D.(0.95)	-	
				2018/6/2	Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Tridentiger trigonocephalus</i>	Chameleon goby	-	-	-	-	-	-	-	-	-	-	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Acentrogobius virgatus</i>	Acentrogobius virgatus	56	0.10	Immature fish	-	-	-	-	2.7	N.D.(0.63)	2.7	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Favonigobius gymnauchen</i>	<u>Favonigobius gymnauchen</u>	-	-	-	-	-	-	-	-	-	-	-
					Vertebrata	Osteichthyes	Perciformes	Mugilidae	<i>Mugil cephalus cephalus</i>	Flathead mullet	17	0.042	Immature fish	-	-	-	-	8.3	N.D.(1.3)	8.3	-
				2018/6/3	Vertebrata	Osteichthyes	Perciformes	Sebastidae	<i>Sebastes schlegelii</i>	Black rockfish	2	0.086	Immature fish	Crab	Viscera removed	0.92	N.D.(0.88)	0.92	-		
2018/6/2	Vertebrata	Osteichthyes	Tetraodontiformes	Tetraodontidae	<i>Takifugu niphobles</i>	Takifugu niphobles	1	0.093	Mature fish	Crab	Viscera removed	0.97	N.D.(0.84)	0.97	-						

*1: Organisms were collected in or around the targeted water areas.

*2: When multiple types of aquatic organisms were collected, a sample was prepared by mixing them.

*3: For a sample made of multiple types of aquatic organisms, the English name of the dominant one largest in number is underlined.

*4: Basically, measurement was conducted for all organisms samples. Viscera (stomach and bowels) were removed for the measurement when possible so that undigested food and sediments, etc. in the digestive system would be excluded.

*5: Plankton (suspended algae) is the residue remaining after the filtration of lake water or seawater with a plankton net (40µm-mesh).

*6: River bottom materials (incl. algae) are algae, etc. that were scratched off stones with a brush, etc. and may include very fine particles such as inorganic silt and clay.

*7: N.D. means to be below the detection limit and figures in parentheses show the detection limit.

*8: Activity concentrations include counting errors, but the details are omitted here.