

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

<Location L off Soma City: Samples collected>

Items	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	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°	2019/6/19	11:32	11:45	21.8	20.5	Sand	7.5Y3/1	Shell fragments	1.0	>1.0

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

Items	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)	(mS/m)		(mg/L)	(mg/L)	(FNU)	(Bq/L)	(Bq/L)	(Bq/L)
L-2	37.8155°	140.9763°	2019/6/19	11:32	8.1	0.7	4.6	8.7	4290	28.31	2.1	17	8.2	N.D.(0.0017)	0.030	0.0011

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	Latitude and longitude of the location		Survey date and time		pH	Redox potential E _{NHE} (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)			
Locations																								
L-2	37.8155°	140.9763°	2019/6/19	11:45	7.8	285	23.5	0.9	1.2	2.728	0.5	2.7	76.5	18.9	1.4		0.34	4.8	0.45	6.5	N.D.(0.12)			

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°	2019/6/19	Algae/plant	-	-	-	-	Plankton (Planktonic algae)	-	0.0086	-	-	-	5.2	N.D.(4.9)	5.2	-
					Algae/plant	Chlorophyceae	Ulvales	Ulvaceae	<i>Ulva pertusa</i>	Ulva pertusa	-	0.25	-	-	-	1.3	N.D.(0.36)	1.3	-
					Annelida	Polychaeta	Eunicida	Lumbrineridae	<i>Lumbrineridae</i>	Lumbrineridae	383	0.35	Juvenile,Imago	-	-	4.4	N.D.(0.37)	4.4	-
					Annelida	Polychaeta	Phyllodocida	Nereididae	<i>Hediste sp.</i>	Hediste									
					Annelida	Polychaeta	Spionida	Cirratulidae	<i>Cirratulida</i>	Polychaeta									
					Arthropoda	Malacostraca	Decapoda	Alpheidae	<i>Alpheidae</i>	Alpheidae									
					Arthropoda	Malacostraca	Decapoda	Palaemonidae	<i>Palaemon macrodactylus</i>	Palaemon macrodactylus	94	0.045	Juvenile,Imago	-	-	N.D.	N.D.(0.89)	N.D.(0.92)	-
					Arthropoda	Malacostraca	Decapoda	Varunidae	<i>Hemigrapsus sp.</i>	Hemigrapsus	158	0.18	Juvenile	-	-	2.0	N.D.(0.66)	2.0	-
					Mollusca	Bivalvia	Veneroida	Veneridae	<i>Ruditapes philippinarum</i>	Japanese littleneck	129	0.16	Juvenile,Imago	-	Molluscous part	1.1	N.D.(0.49)	1.1	-
					Vertebrata	Osteichthyes	Perciformes	Pholidae	<i>Pholis crassispina</i>	Pholis crassispina	24	0.046	Immature fish,Mature fish	-	-	1.0	N.D.(1.2)	1.0	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Tridentiger trigonocephalus</i>	Chameleon goby	94	0.16	Immature fish	-	-	0.94	N.D.(0.40)	0.94	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Acentrogobius virgatus</i>	Acentrogobius virgatus									
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Gobiidae</i>	Gobiidae									
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Favonigobius gymnauchen</i>	Favonigobius gymnauchen									
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Luciogobius guttatus</i>	Flatheaded goby									
					Vertebrata	Osteichthyes	Perciformes	Mugilidae	<i>Mugil cephalus cephalus</i>	Flathead mullet	653	0.85	Immature fish	-	-	1.2	N.D.(0.93)	1.2	N.D.(0.020)
					Vertebrata	Osteichthyes	Tetraodontiformes	Tetraodontidae	<i>Takifugu niphobles</i>	Takifugu niphobles	2	0.21	Mature fish	Ragworm	Viscera removed	1.0	N.D.(0.65)	1.0	-

*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 organism 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.