

○Results of Radioactive Material Monitoring of Aquatic Organisms (Location G in Lake Hayama)

< Location G in Lake Hayama: Samples collected >

Items Locations	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
G-1	○	○	○	○	○	○
G-2	—	○	—	—	○	—
G-3	○	○	—	—	○	—
G-4	—	○	—	—	○	—
G-5	○	○	○	—	○	—

< Location G in Lake Hayama: 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	Odor	Contaminants	Water depth (m)	Secchi disk depth (m)	
G-1	37.734340°	140.809690°	2013/8/27	11:20	11:40	27.5	23.5	Sand/sediment	7.5Y4/2	None	Plant	5.2	3.2	
G-2	37.725833°	140.821383°		—	—	9:52	—	21.5	Sand gravel	7.5Y4/1	None	Plant	7.2	3.6
G-3	37.729433°	140.831667°		9:05	9:20	26.7	23.1	Ooze	5Y4/2	None	None	5.2	4.0	
G-4	37.738200°	140.803450°		—	—	14:00	—	23.0	Sand/gravel/sediment	2.5Y4/2	None	Plant	0.4	0.4
G-5	37.733880°	140.808300°		10:45	11:05	27.6	21.8	Sand/sediment	5Y5/2	None	Plant	5.5	3.3	

\*Show transparency (cm).

< Location G in Lake Hayama: General survey items/Analysis of radioactive materials Water >

Items Locations	Latitude and longitude of the location		Survey date and time		pH	BOD (mg/L)	COD (mg/L)	DO (mg/L)	Electrical conductivity (mS/m)	Salinity	TOC (mg/L)	SS (mg/L)	Turbidity (FNU)	Cs-134 (Bq/L)	Cs-137 (Bq/L)	Sr-90 (Bq/L)
	Latitude	Longitude	Date	Time												
G-1 (Surface layer)	37.734340°	140.809690°	2013/8/27	11:20	7.8	1.2	5.9	8.7	7.5	0.04	2.3	3	2.4	0.037	0.078	—
G-1 (Deep layer)					7.6	1.6	6.3	8.8	7.8	0.04	2.2	4	2.9	0.045	0.094	0.0018
G-3 (Surface layer)	37.729433°	140.831667°		9:05	8.7	1.0	6.8	10.2	7.5	0.04	2.9	2	2.0	0.028	0.063	—
G-3 (Deep layer)					8.5	1.2	6.3	9.5	7.7	0.04	2.8	3	2.5	0.030	0.063	—
G-5 (Surface layer)	37.733880°	140.808300°		10:45	8.4	1.2	6.4	8.5	7.5	0.04	2.7	3	2.5	0.028	0.063	—
G-5 (Deep layer)			7.7		1.3	6.2	8.2	7.6	0.04	2.2	3	2.8	0.033	0.072	—	

< Location G in Lake Hayama: General survey items/Analysis of radioactive materials Sediment >

Items Locations	Latitude and longitude of the location		Survey date and time		pH	Redox potential E <sub>NHE</sub> (mV)	Water content (%)	IL (%)	TOC (mg/g-dry)	Soil particle density (g/cm <sup>3</sup> )	Grain size distribution						Median grain diameter (mm)	Maximum grain diameter (mm)	Cs-134 (Bq/kg-dry)	Cs-137 (Bq/kg-dry)	Sr-90 (Bq/kg-dry)
	Latitude	Longitude	Date	Time							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) (%)					
G-1	37.734340°	140.809690°	2013/8/27	11:40	7.2	111	76.8	26.7	80	2.406	0	0.3	1.8	21.8	29.9	46.2	0.0099	2	5,400	12,000	8.8
G-2				9:52	6.6	75	54.4	11.1	13.2	18.1	28.3	19	2,600	5,500	—						
G-3				9:20	6.6	46	43.9	6.4	13	2,677	14.7	11.9	17.3	17.1	16.9	22.1	0.17	9.5	860	1,900	—
G-4				14:00	7.2	127	33.1	3.6	4	2,682	4.0	12.2	46.5	20.5	8.6	8.2	0.35	9.5	2,000	4,200	—
G-5				11:05	6.6	126	77.2	22.4	110	2,349	0	0.5	2.3	13.6	33.5	50.1	0.0049	2	12,000	26,000	—

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

< Location G in Lake Hayama: Analysis items Aquatic organisms >

Location	Latitude and longitude of the location		Sampling Date	Division	Class	Order	Family	Species name	English name	Population	Sample weight (kg-wet)	Note		Cs-134 (Bq/kg-wet)	Cs-137 (Bq/kg-wet)	Sr-90 (Bq/kg-wet)			
	Latitude	Longitude										Growth stage	Stomach contents						
G-1	37.734340°	140.809690°	2013/8/30	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus</i>	Carassius auratus langsdorfii	2	2.3	4-year-old fish	Some (details unknown)	170	360	1.1			
G-2	37.725833°	140.821383°	2013/8/31	Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus mykiss</i>	Rainbow trout	1	1.1	4-year-old fish	Some (details unknown)	84	180	—			
G-3	37.729433°	140.831667°	2013/9/4	Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass (large)	2	1.0	2-year-old fish	Small fish	240	530	—			
G-4	37.738200°	140.803450°	2013/8/27	Algae/plant	—	—	—	—	Attached algae	—	0.033	—	—	470	1,000	—			
				Algae/plant	—	—	—	—	—	Floating algae	—	0.029	—	—	—	7.9	18	—	
				Angiospermae	Monocotyledonae	Najadales	Potamogetonaceae	<i>Potamogeton pusillus</i>	—	0.076	—	Small pondweed	—	—	—	7.1	15	—	
				Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	<u>Stenopsyche marmorata</u>	115	0.015	Larva	—	—	—	460	970	—	
				Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche sauteri</i>	<u>Parastenopsyche sauteri</u>	—	—	—	—	—	—	—	—	—	—
				Arthropod	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	<u>Macromia amphigena</u>	—	—	—	—	—	—	—	—	—	—
				Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius nanus</i>	<u>Davidius nanus</u>	—	—	—	—	—	—	—	—	—	—
				Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	<u>Davidius</u>	—	—	—	—	—	—	—	—	—	—
				Arthropod	Insecta	Odonata	Gomphidae	<i>Nihonogomphus viridis</i>	<u>Nihonogomphus viridis</u>	85	0.019	Larva	—	—	—	34	70	—	
				Arthropod	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	<u>Sieboldius albardae</u>	—	—	—	—	—	—	—	—	—	—
				Arthropod	Insecta	Odonata	Gomphidae	<i>Stylogomphus suzukii</i>	<u>Stylogomphus suzukii</u>	—	—	—	—	—	—	—	—	—	—
				Arthropod	Insecta	Odonata	Aeshmidae	<i>Anax nigrofasciatus nigrofasciatus</i>	<u>Anax nigrofasciatus nigrofasciatus</u>	—	—	—	—	—	—	—	—	—	—
				Arthropod	Insecta	Megaloptera	Corydalidae	<i>Protohermes grandis</i>	<u>Protohermes grandis</u>	35	0.019	Larva	—	—	—	31	66	—	
				Arthropod	Malacostraca	Decapoda	Atyidae	<i>Atyidae</i>	<u>Freshwater shrimp</u>	129	0.027	Imago	—	—	—	97	210	—	
				Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius flumineus</i>	<u>Rhinogobius flumineus</u>	20	0.023	Imago	Insects (aquatic insects)	—	—	66	140	—	
Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	<u>Japanese dace</u>	14	0.16	1-year-old fish	Some (details unknown)	—	—	88	190	—					
Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	<u>Yamame trout</u>	7	0.042	Yearling fish	Insects (aquatic insects)	—	—	64	140	—					
Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	<u>Small mouth bass (small)</u>	2	0.20	1-year-old fish	Insects (aquatic insects)	—	—	130	300	—					
				Coarse particulate organic matters	—	—	—	—	CPOMs(fallen leaves)	—	0.36	—	—	190	400	—			

Note 1) When multiple types of aquatic organisms were collected, a sample was prepared by mixing them.

Note 2) For species with stomach contents as indicated in the note column, all stomach contents were removed for conducting the analysis.

Note 3) Underlined names in the English name column indicate species largest in number in the respective samples.

Note 4) A statement in red in the "Growth stage" column shows the age assessed based on squama or otolith.

Note 5) N.D. means to be below the detection limit.