

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

< Location G in Lake Hayama: Samples collected >

Items	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	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)
G-1	37.7342°	140.8101°	2014/12/8	11:07	11:22	10.1	8.9	Ooze	7.5Y3/2	Plant	6.1	3.8
G-2	37.7253°	140.8205°		—	12:46	—	7.9	Ooze	7.5Y3/1	Plant	—	—
G-3	37.7292°	140.8315°	2014/12/7	14:40	14:54	10.6	10.7	Soft sand with gravel	7.5Y3/1	Plant	6.9	3.8
G-4	37.7382°	140.8041°		—	12:30	—	4.9	Sand/gravel	7.5Y4/3	None	—	—
G-5	37.7342°	140.8088°	2014/12/8	10:33	10:49	10.1	7.8	Sand/gravel/sediment	7.5Y4/3	Plant	6.0	4.0

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

Items	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)	37.7342°	140.8101°	2014/12/8	11:07	7.2	-0.5	3.5	10.3	6.7	0.04	1.6	2	1.3	0.016	0.047	—
G-1 (Deep layer)				7.3	-0.5	3.8	10.7	6.7	0.04	1.6	2	1.5	0.016	0.048	0.0014	
G-3 (Surface layer)	37.7292°	140.8315°	2014/12/8	14:40	7.3	-0.5	3.7	10.4	6.8	0.04	1.6	3	1.5	0.018	0.055	—
G-3 (Deep layer)				7.3	-0.5	3.6	10.5	6.8	0.04	1.7	1	1.3	0.017	0.055	—	
G-5 (Surface layer)	37.7342°	140.8088°	2014/12/8	10:33	7.4	-0.5	3.4	10.2	6.8	0.04	1.7	2	1.2	0.018	0.054	—
G-5 (Deep layer)				7.3	0.5	3.3	10.6	6.8	0.04	1.7	2	1.3	0.018	0.059	—	

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

Items	Latitude and longitude of the location		Survey date and time		pH	Redox potential E _{NHLE} (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							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)
G-1	37.7342°	140.8101°	2014/12/8	11:22	7.1	133	76.9	20.0	81.1	2.394	0.0	0.0	0.6	5.0	67.4	27.0	0.014	2	4,900	16,000	6.1
G-2	37.7253°	140.8205°		12:46	7.0	122	74.6	13.2	42.0	2.502	0.0	0.2	1.4	4.8	39.8	53.8	0.0041	2	2,600	8,700	—
G-3	37.7292°	140.8315°	2014/12/7	14:54	7.2	146	52.0	7.8	16.6	2.630	12.3	10.6	16.9	13.1	22.6	24.5	0.11	19	870	2,800	—
G-4	37.7382°	140.8041°		12:30	7.0	268	20.5	1.4	1.8	2.694	10.0	52.9	32.2	2.5	1.2	1.2	1.0	9.5	390	1,300	—
G-5	37.7342°	140.8088°	2014/12/8	10:49	6.9	189	43.2	5.6	11.8	2.627	30.1	25.5	22.2	5.8	4.8	11.6	1.0	19	710	2,400	—

Note) N.D. means to be below the detection limit and figures in parentheses show 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	Measurement site									
G-1, G-2, G-3	In the lake	140.8101° 140.8205° 140.8315°	2014/12/1	Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus mykiss</i>	Rainbow trout	1	0.68	Mature fish	Empty stomach	Viscera removed	10	28	—						
			2014/12/7	Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass	1	0.67	Mature fish	Empty stomach	Viscera removed	320	1,000	—						
			2014/12/8	Algae/plant	—	—	—	—	Plankton (singular plankton)	Considerable number	0.014	—	—	—	—	N.D.(2.1)	4.5	—					
G-4	Inflowing rivers	37.7382°	140.8041°	2014/12/7	Algae/plant	—	—	—	—	River bottom materials (incl. algae)	Considerable number	0.066	—	—	—	140	490	—					
					Arthropod	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	<i>Macromia amphigena</i>	27	0.012	larva (dragonfly larva)	—	—	—	36	130	—				
					Arthropod	Insecta	Odonata	Cordulegastridae	<i>Anotogaster sieboldii</i>	<i>Anotogaster sieboldii</i>													
					Arthropod	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	Albardae													
					Arthropod	Insecta	Odonata	Gomphidae	<i>Stylogomphus suzukii</i>	Stylogomphus suzukii													
					Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius fujiana</i>	<i>Davidius fujiana</i>													
					Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius nanus</i>	<i>Davidius nanus</i>													
					Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	<i>Davidius</i>													
					Arthropod	Insecta	Odonata	Gomphidae	<i>Asiagomphus melanoops</i>	<i>Asiagomphus melanoops</i>													
					Arthropod	Insecta	Odonata	Aeshnidae	<i>Boyeria maclachlani</i>	<i>Boyeria maclachlani</i>													
					Arthropoda	Malacostraca	Decapoda	Atyidae	<i>Paratya improvisa</i>	Freshwater shrimp										163	0.040	Imago	—
Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	20	0.012	Immature fish	—	—										—	9.7	31	—
coarse particulate organic matters	—	—	—	—	—	—	—	—	Considerable number	0.29	—	—	—	57	190	—							

*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 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: A statement in red in the "Growth stage" column shows the age assessed based on squama or otolith

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

*7: 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.

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

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