

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

<Location G in Lake Hayama: Samples collected>

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

<Location G in Lake Hayama: Site measurement item>

Locations	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(Surface layer)		37.7321°	140.8127°	2023/12/5	10:41	10:50	11.3	10.5	Ooze	7.5Y4/1	Plant pieces	6.8	1.9
G-1(Bottom layer)	10:45				10.5								
G-2(Surface layer)		37.7267°	140.8223°		10:00	10:15	11.6	11.5	Sediment with sand	7.5Y4/1	Plant pieces	2.8	1.9
G-2(Bottom layer)	10:06												
G-4		37.7382°	140.8035°	12:30	12:30	6.2	6.2	Sand	7.5Y6/3	Plant pieces	0.3	>1.0	

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

Locations	Items	Latitude and longitude of the location		Survey date and time		pH	BOD (mg/L)	COD (mg/L)	DO (mg/L)	Electric 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 (water)												
G-1(Surface layer)		37.7321°	140.8127°	2023/12/5	10:41	7.3	0.6	3.7	9.1	9.0	0.05	1.8	3	3.4	N.D.(0.0015)	0.026	-
G-1(Bottom layer)	10:45				7.3	0.7	3.3	8.8	8.9	0.05	1.8	4	3.5	N.D.(0.0014)	0.030	0.00091	
G-2(Surface layer)		37.7267°	140.8223°		10:00	7.3	0.7	3.5	8.8	8.9	0.05	1.9	4	3.9	N.D.(0.0014)	0.034	-
G-2(Bottom layer)	10:06				7.3	0.8	3.7	9.0	8.9	0.05	1.9	5	4.5	N.D.(0.0015)	0.042	-	
G-4		37.7382°	140.8035°	12:30	7.5	0.5	1.9	12.4	8.7	0.05	1.0	<1	0.4	N.D.(0.0012)	0.0035	-	

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

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

Locations	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)			
												0.0	0.2	1.9	6.3	67.2	24.4	0.022	2.0			
G-1		37.7321°	140.8127°	2023/12/5	10:50	7.2	179	47.1	12.4	35.0	2.560	0.0	0.2	1.9	6.3	67.2	24.4	0.022	2.0	36	1800	2.1
G-2		37.7267°	140.8223°		10:15	7.0	231	32.4	5.5	14.0	2.600	8.5	5.5	12.6	22.4	39.2	11.8	0.072	19	18	880	-
G-4		37.7382°	140.8035°		12:30	7.5	475	19.9	2.1	1.8	2.680	8.4	32.7	46.1	6.2	2.8	3.8	0.71	9.5	5.1	190	-

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>

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	
G-1	In the lake	37.7321°	140.8127°	2023/12/5	Algae/plant	-	-	-	-	Plankton (Planktonic algae)	-	0.018	-	-	-	22	N.D.(1.8)	22	-
G-2					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu dolomieu</i>	Smallmouth bass	9	2.4	Immature fish	Japanese smelt	Viscera removed	50	N.D.(1.6)	50	-
G-3					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	1	1.3	Mature fish	Empty stomach	Viscera removed	122.4	2.4	120	-
G-4	Inflowing rivers	37.7382°	140.8035°	2023/12/4	Algae/plant	-	-	-	-	Sediment deposited on riverbed (Including algae)	-	0.0075	-	-	-	61	N.D.(1.1)	61	-
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	Caddisfly	221	0.024	Larva	-	-	17	N.D.(2.2)	17	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Pseudaspius hakonensis</i>	Japanese dace	38	0.19	Immature fish	-	-	7.1	N.D.(0.98)	7.1	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou masou</i>	Masu salmon	7	0.17	Immature fish	Aquatic insect	Viscera removed	14	N.D.(1.9)	14	-
					Coarse Particulate Organic Matter	-	-	-	-	-	Water-bottom leaf litter	-	0.23	-	-	-	21	N.D.(1.4)	21

*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.