

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

<Location G in Lake Hayama: Samples collected>

Locations	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	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)	37.7348°	140.8102°	2024/8/22	11:00	11:00	28.2	20.0	Sediment	5Y4/2	Plant pieces	11.4	2.2
G-1(Bottom layer)						21.8						
G-2(Surface layer)	37.7267°	140.8223°		10:30	10:30	28.1	22.8	Sand sediment	5Y3/2	Gravel,Plant pieces,Leaves	5.1	2.2
G-2(Bottom layer)						24.7						
G-4	37.7382°	140.8035°		13:50	13:50	23.3	23.1	Gravel	7.5Y5/3	None	0.3	>0.5

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

Locations	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)	37.7348°	140.8102°	2024/8/22	11:00	8.2	2.4	5.6	10.4	8.2	0.04	2.6	3	2.6	N.D.(0.0014)	0.014	-
G-1(Bottom layer)					7.6	1.6	4.9	8.3	8.4	0.05	2.4	3	2.3	N.D.(0.0014)	0.013	0.0010
G-2(Surface layer)	37.7267°	140.8223°		10:30	8.3	1.5	5.5	10.0	8.0	0.04	2.7	2	2.6	N.D.(0.0015)	0.026	-
G-2(Bottom layer)					6.8	1.0	3.9	1.0	8.2	0.05	1.9	6	5.9	N.D.(0.0015)	0.041	-
G-4	37.7382°	140.8035°		13:50	7.6	<0.5	2.9	8.3	8.5	0.05	1.4	1	0.8	N.D.(0.0014)	0.014	-

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	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 (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)
G-1	37.7348°	140.8102°	2024/8/22	11:00	6.9	235	62.5	15.5	57.0	2.480	0.0	0.0	0.2	7.9	70.1	21.8	0.026	2.0	18	1600	2.2
G-2	37.7267°	140.8223°		10:30	6.9	253	37.4	6.0	13.0	2.570	1.1	1.2	5.0	36.0	45.0	11.7	0.062	9.5	9.9	670	-
G-4	37.7382°	140.8035°		13:50	7.5	338	22.7	2.6	1.6	2.650	35.0	27.7	28.0	7.4	1.9	1.3	9.5	2.7	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 G-2 G-3	In the lake	37.7348° 37.7267° 37.7302°	140.8102° 140.8223° 140.8307°	2024/8/22	Algae/plant	-	-	-	-	Plankton (Planktonic algae)	-	0.032	-	-	-	N.D.	N.D.(1.4)	N.D.(1.2)	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus</i>	<i>Carassius auratus langsdorffii</i>	2	1.9	Mature fish	Obscure digesta	Viscera removed	33	N.D.(1.4)	33	0.93
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	1	2.1	Mature fish	Obscure digesta	Viscera removed	27	N.D.(1.3)	27	0.49
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	1	2.9	Mature fish	Obscure digesta	Viscera removed	40	N.D.(1.3)	40	0.42
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Lepomis macrochirus</i>	Bluegill	93	1.2	Immature fish, Mature fish	-	-	11	N.D.(1.4)	11	0.42
G-4	Inflowing rivers	37.7382°	140.8035°	2024/8/22	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.0031	-	-	-	570	N.D.(54)	570	-
					Arthropoda	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	<i>Macromia amphigena</i>	243	0.17	Larva (Dragonfly larva)	-	-	3.4	N.D.(0.44)	3.4	-
					Arthropoda	Insecta	Odonata	Cordulegastridae	<i>Anotogaster sieboldii</i>	<i>Anotogaster sieboldii</i>									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Stylogomphus suzukii</i>	<i>Stylogomphus suzukii</i>									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Meligomphus viridicostus</i>	<i>Meligomphus viridicostus</i>									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	<i>Sieboldius albardae</i>									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	<i>Davidius</i>									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Sinogomphus flavolimbatu</i>	<i>Sinogomphus flavolimbatu</i>									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Asiagomphus melaeonops</i>	<i>Asiagomphus melaeonops</i>									
					Arthropoda	Insecta	Odonata	Aeshnidae	<i>Planaeschna milnei milnei</i>	<i>Planaeschna milnei milnei</i>									
					Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Protohermes grandis</i>	<i>Protohermes grandis</i>									
					Arthropoda	Malacostraca	Decapoda	Atyidae	<i>Paratya improvisa</i>	Freshwater shrimp	507	0.056	Juvenile, Imago	-	-	11	N.D.(2.3)	11	-
					Mollusca	Gastropoda	Discopoda	Pleuroceridae	<i>Semisulcospira libertina</i>	<i>Semisulcospira libertina</i>	30	0.018	Juvenile, Imago	-	-	6.8	N.D.(2.0)	6.8	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Phoxinus lagowskii steindachneri</i>	Amur minnow	18	0.029	Immature fish	-	-	7.7	N.D.(2.3)	7.7	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	44	0.17	Immature fish	-	-	7.1	N.D.(1.4)	7.1	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Opsarichthys platypus</i>	Pale chub	33	0.30	Immature fish, Mature fish	-	-	13	N.D.(1.6)	13	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	1	4.3	Mature fish	Obscure digesta	Viscera removed	33	N.D.(1.3)	33	1.2
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou masou</i>	Seema	1	0.68	Immature fish	Empty stomach	Viscera removed	39	N.D.(1.2)	39	-
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass	1	0.36	Immature fish	Empty stomach	Viscera removed	20	N.D.(1.5)	20	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius fluvialtilis</i>	<i>Rhinogobius fluvialtilis</i>	87	0.13	Immature fish, Mature fish	-	-	3.7	N.D.(0.55)	3.7	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius flumineus</i>	<i>Rhinogobius flumineus</i>									
Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius sp.</i>	<i>Rhinogobius</i>														
Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	1	0.98	Mature fish	Amur minnow, Pale chub, Large brown cicada	Viscera removed	62	N.D.(2.7)	62	0.54					
Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	2	2.1	Mature fish	Empty stomach	Viscera removed	59.7	1.7	58	0.43					
Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	1	1.3	Mature fish	Empty stomach	Viscera removed	120	N.D.(1.9)	120	0.67					
					Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.21	-	-	72.8	1.8	71	-	

*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.