

OResults 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-3	○	○	-	-	○	-
G-4	-	○	-	-	○	-
G-5	○	○	○	-	○	-

<Location G in Lake Hayama: Site measurement item>

Locations	Latitude and longitude of the location		Survey date and time			Water	Sediment			Other		
	Scheduled latitude	Scheduled longitude	Date	Time (water)	Time (sediment)	Water temperature (degrees C)	Sediment temperature (degrees C)	Property	Color	Contaminants	Water depth (m)	Transparency (m)
G-1 (Surface layer)	37.7321°	140.8127°	2015/6/24	10:30	10:48	23.5	21.4	Sediment	7.5Y 3/2	Plant	4	2.5
G-1 (Deep layer)				-	12:15	23.4						
G-2	37.7267°	140.8223°		-	-	24.4	9.1	Ooze	7.5Y 3/2	None	-	-
G-3 (Surface layer)	37.7302°	140.8307°		12:45	13:01	20.3	16.8	Ooze with sand gravel	7.5Y 4/2	Plant	7.8	3.5
G-3 (Deep layer)				-	8:20	-						
G-4	37.7382°	140.8035°	-	-	23.5	20.5	Sediment	7.5Y 3/2	Plant	3.5	2.5	
G-5 (Surface layer)	37.7341°	140.8088°	10:19	11:05	23.4							
G-5 (Deep layer)			-	-	-	-	-	-	-	-	-	-

<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)	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)
	Scheduled latitude	Scheduled longitude	Date	Time (water)												
G-1 (Surface layer)	37.7321°	140.8127°	2015/6/24	10:30	7.5	1.1	3.9	9.3	6.7	0.04	2.1	4	2.6	0.014	0.050	-
G-1 (Deep layer)				-	7.5	0.9	4	8.1	6.8	0.04	2.2	3	2.8	0.012	0.050	0.0015
G-3 (Surface layer)	37.7302°	140.8307°		12:45	7.6	<0.5	3.7	9.3	6.7	0.04	2	2	1.6	0.015	0.055	-
G-3 (Deep layer)				-	7.2	0.7	3.7	8	7.2	0.04	2.2	2	1.8	0.014	0.049	-
G-5 (Surface layer)	37.7341°	140.8088°		10:19	7.9	1	3.9	9.2	6.9	0.04	2.1	4	2.8	0.016	0.055	-
G-5 (Deep layer)			-	7.6	1.1	4	8.3	7.3	0.04	2.2	4	3.4	0.017	0.063	-	

<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 EN.H.E (mV)	Water content (%)	IL (%)	TOC (mg/g-dry)	Soil particle density (g/cm3)	Grain size distribution							Cs-134 (Bq/kg-dry)	Cs-137 (Bq/kg-dry)	Sr-90 (Bq/kg-dry)	
	Scheduled latitude	Scheduled 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 (0.005-0.0075mm) (%)	Clay (Less than 0.005mm) (%)	Median grain diameter				Maximum grain diameter
G-1	37.7321°	140.8127°	2015/6/24	10:48	6.6	119	73	17.9	50.9	2.269	1.9	1.8	3.4	26.2	22.5	44.2	0.011	4.75	3100	12000	4.6
G-2	37.7267°	140.8223°		12:15	6.7	31	71.2	14.9	41	2.418	0.1	0	0.3	1.5	43	55.1	0.0036	4.75	4000	15000	-
G-3	37.7302°	140.8307°		13:01	6.6	64	49.1	8.4	22	2.544	14.2	8.3	13.2	12.6	24.9	26.8	0.054	19	770	3200	-
G-4	37.7382°	140.8035°		8:20	6.8	194	26.4	2.9	2.1	2.662	14.4	26.2	46.8	6.2	2.1	4.3	0.72	19	510	2000	-
G-5	37.7341°	140.8088°		11:05	6.6	81	76.5	23.3	78.5	2.262	0.9	0.7	1.6	13.3	36.4	47.1	0.0077	4.75	4000	15000	-

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

Location	Sampling point	Latitude and longitude of the location		Sampling Date	Division	Class	Order	Family	Species name	English name	Population	Sample weight (kg-wet)	Growth stage	Note	Measurement site	Radioactive cesium (Bq/kg-wet)		Sr-90 (Bq/kg-wet)					
		Latitude	Longitude													Cs-134	Cs-137						
G-1 G-2 G-3	In the lake	37.7321° 37.7267° 37.7302°	140.8127° 140.8223° 140.8307°	2015/6/24	Phycophyta	-	-	-	-	Plankton (Planktonic algae)	-	0.0037	-	-	-	-	N.D. (7.3)	N.D. (6.6)	-				
				2015/6/25	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Phoxinus lagowskii steindachneri</i>	Amur Minnow	9	0.13	Mature fish (3.5-year old)	Algae	Viscera removed	-	-	1.9	7.8	-			
				2015/6/25	Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou masou</i>	Yamame trout	1	0.039	Mature fish (1-year old)	Terrestrial insects (Bee)	Viscera removed	-	-	4.3	14	-			
				2015/7/7	Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu dolomieu</i>	Small mouth bass	1	0.27	Mature fish (2-year old)	Fish	Viscera removed	-	-	25	100	-			
				2015/6/25	Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus salmoides</i>	Largemouth bass	5	0.28	Mature fish (1-year old)	Obscure digesta	Viscera removed	-	-	18	69	-			
				2015/6/25	Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	1	0.58	Mature fish (7-year old)	Empty stomach	Viscera removed	-	-	140	510	-			
G-4	Inflowing rivers	37.7382°	140.8035°	2015/6/20	Phycophyta	-	-	-	-	Riverbed Deposits (include algae)	-	0.011	-	-	-	-	440	1700	-				
					Arthropod	Insecta	Odonata	Cordulidae	<i>Macromia amphigena amphigena</i>	Macromia amphigena	-	-	-	-	-	-	-	-	-	-	-		
					Arthropod	Insecta	Odonata	Cordulegastriidae	<i>Anisogaster sieboldii</i>	Anisogaster sieboldii	-	-	-	-	-	-	-	-	-	-	-	-	
					Arthropod	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	Sieboldius albardae	-	-	-	-	-	-	-	-	-	-	-	-	
					Arthropod	Insecta	Odonata	Gomphidae	-	Davidius	-	-	-	-	-	-	-	-	-	-	-	-	-
					Arthropod	Insecta	Odonata	Aeshnidae	<i>Boyeria maclachlani</i>	Boyeria maclachlani	-	-	-	-	-	-	-	-	-	-	-	-	
					Arthropoda	Malacostraca	Decapoda	Atyidae	<i>Paratya improvisa</i>	Paratya improvisa	50	0.012	Imago	Freshwater shrimp	-	-	-	-	-	-	26	96	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Phoxinus lagowskii steindachneri</i>	Amur Minnow	3	0.0032	Mature fish (1-year old)	-	-	-	-	-	-	-	19	22	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	3	0.018	Mature fish (2-year old)	-	-	-	-	-	-	-	18	65	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	7	0.0074	Mature fish (1-year old)	-	-	-	-	-	-	-	25	92	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	65	0.0046	Immature fish (0-year old)	-	-	-	-	-	-	-	N.D. (7.6)	9.7	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou masou</i>	Yamame trout	1	0.013	Immature fish (1-year old)	Ephemeroptera	Viscera removed	-	-	-	-	-	55	210	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou masou</i>	Yamame trout	7	0.024	Immature fish (0-year old)	Chironomus	Viscera removed	-	-	-	-	-	15	52	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius fluminis</i>	Rhinogobius fluminis	5	0.012	Mature fish	Ephemeroptera	Viscera removed	-	-	-	-	-	22	88	-
				2015/6/20	Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.17	-	-	-	-	83	320	-				

*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 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: 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.