

OResults of Radioactive Material Monitoring of Aquatic Organisms (Location H in Lake Akimoto)

<Location H in Lake Akimoto: Samples collected>

Items	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
H-2	○	○	○	○	○	○

<Location H in Lake Akimoto: 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)
H-2(Surface layer)	37.6616°	140.1226°	2019/8/27	08:58	09:10	22.7	14.5	Ooze	7.5Y 5/2	Plant pieces	6.9	2.5
H-2(Bottom layer)						17.3						

<Location H in Lake Akimoto: 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)	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)												
H-2(Surface layer)	37.6616°	140.1226°	2019/8/27	08:58	7.2	0.7	4.0	7.9	5.7	0.03	2.0	2	2.0	N.D.(0.0016)	0.011	-
H-2(Bottom layer)					6.6	1.2	4.8	8.1	7.0	0.04	1.7	15	12.0	0.0045	0.070	0.0023

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

<Location H in Lake Akimoto: General survey items/Analysis of radioactive materials Sediment>

Items	Latitude and longitude of the location		Survey date and time		pH	Redox potential E _{N,H₂E} (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)			
H-2	37.6616°	140.1226°	2019/8/27	09:10	6.8	48	75.7	13.6	44.3	2.459	0.0	0.0	0.2	0.3	35.2	64.3	0.0026	2.0	160	2100	1.4

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

<Location H in Lake Akimoto: 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	
H-1 H-2 H-3	In the lake	37.6575° 37.6616° 37.6653°	140.1264° 140.1226° 140.1329°	2019/8/27	Algae/plant	-	-	-	-	Plankton (Planktonic algae)	-	0.012	-	-	-	N.D.	N.D.(2.6)	N.D.(2.3)	-
				2019/9/3	Arthropoda	Malacostraca	Decapoda	Astacidae	<i>Pacifastacus leniusculus trowbridgii</i>	Signal crayfish	10	0.40	Imago	-	-	28.9	1.9	27	8.0
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	12	2.6	Mature fish	Obscure digesta	Viscera removed	59.0	3.0	56	0.70
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus</i>	Carassius auratus langsdorffii	4	3.4	Mature fish	Obscure digesta	Viscera removed	31.0	2.0	29	1.3
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus	8	2.3	Immature fish,Mature fish	Obscure digesta	Viscera removed	45.0	3.0	42	1.1
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	<i>Hypomesus nipponensis</i>	Japanese smelt	59	0.17	Immature fish,Mature fish	-	-	8.04	0.54	7.5	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Salvelinus leucomaenis</i>	Char	9	1.3	Mature fish	Japanese smelt	Viscera removed	27.6	1.6	26	0.33
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou masou</i>	Seema	4	1.2	Immature fish	Japanese smelt	Viscera removed	21.2	1.2	20	0.31
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass	13	2.8	Immature fish	Common prawn,Japanese smelt	Viscera removed	34.6	1.6	33	0.96
H-3	Inflowing rivers	37.6653°	140.1329°	2019/8/27	Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.26	-	-	-	28.4	2.4	26	-
H-4	Within the lake and rivers in the vicinity	37.6551°	140.1181°	2019/8/27	Algae/plant	Monocotyledoneae	Alismatales	Hydrocharitaceae	<i>Elodea nuttallii</i>	Western waterweed	-	0.30	-	-	-	6.89	0.59	6.3	-
				2019/8/26	Arthropoda	Insecta	Odonata	Corduliidae	<i>Somatochlora uchidai</i>	<u>Somatochlora uchidai</u>	113	0.014	Larva(Dragonfly larva)	-	-	3.2	N.D.(2.4)	3.2	-
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Trigomphus melampus</i>	Trigomphus melampus									
					Arthropoda	Insecta	Odonata	Aeshnidae	<i>Aeshna juncea</i>	Common hawker									
					Vertebrata	Amphibia	Anura	-	-	Frog	90	0.058	Larva(Tadpole)	-	-	56.9	3.9	53	-
					Vertebrata	Amphibia	Anura	Ranidae	<i>Rana ornativentris</i>	Montane brown frog	7	0.028	Imago	-	-	5.9	N.D.(1.7)	5.9	-
					Vertebrata	Amphibia	Anura	Glandirana	<i>Glandirana rugosa</i>	Wrinkled frog									
					Vertebrata	Amphibia	Caudata	Hynobiidae	<i>Hynobius nigrescens</i>	Blacked salamander	45	0.033	Larva	-	-	5.7	N.D.(1.8)	5.7	-

*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.