

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

< Location H in Lake Akimoto: Samples collected >

Locations	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
H-1	○	○	○	-	○	-
H-2	-	○	-	-	○	-
H-3	○	○	○	○	○	○
H-4	-	○	-	-	○	-
H-5	○	○	○	-	○	-

< Location H in Lake Akimoto: 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)	
H-1(Surface layer)	37.6575°	140.1264°	2015/12/1	10:38	10:49	7.9	7.8	Ooze	7.5Y 4/1	None	12.5	3.1	
H-1(Deep layer)	37.6575°	140.1264°		10:38		7.7							
H-2	37.6616°	140.1226°		-		10:56	7.5	Ooze	7.5Y 3/2	Plant	-	-	
H-3(Surface layer)	37.6653°	140.1329°		10:07	10:25	7.8	8.0	Sand sediment	7.5Y 5/3	Plant	10.5	3.3	
H-3(Deep layer)	37.6653°	140.1329°		10:07		7.7							
H-4	37.6551°	140.1181°		-	11:19	-	8.0	Ooze	7.5Y 4/1	Elodea nuttallii	-	-	
H-5(Surface layer)	37.6523°	140.1568°		09:07	09:35	8.0	7.4	Sand sediment	7.5Y 3/2	Plant	9.5	3.0	
H-5(Deep layer)	37.6523°	140.1568°		09:07		8.0							

< Location H in Lake Akimoto: 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)												
H-1(Surface layer)	37.6575°	140.1264°	2015/12/1	10:38	7.4	0.7	3.1	9.6	5.0	0.03	1.3	2	1.5	0.0037	0.014	-
H-1(Deep layer)	37.6575°	140.1264°		10:38	7.2	0.6	3.3	9.8	5.0	0.03	1.3	2	1.5	0.0046	0.018	-
H-3(Surface layer)	37.6653°	140.1329°		10:07	7.2	1.2	4.4	9.8	4.9	0.03	1.3	3	1.5	0.0064	0.022	-
H-3(Deep layer)	37.6653°	140.1329°		10:07	7.1	1.2	4.0	10.3	5.0	0.03	1.4	3	1.6	0.0020	0.0092	0.0016
H-5(Surface layer)	37.6523°	140.1568°		9:07	7.2	0.8	3.1	9.8	5.0	0.03	1.3	2	1.4	0.0023	0.010	-
H-5(Deep layer)	37.6523°	140.1568°		9:07	7.1	1.9	3.4	10.0	5.0	0.03	1.7	2	1.6	0.0051	0.021	-

< Location H in Lake Akimoto: 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
H-1	37.6575°	140.1264°	2015/12/1	10:49	6.6	43	64.4	7.6	23.8	2.544	0.0	0.0	0.1	0.4	65.0	34.5	0.0087	0.85	51	250	-
H-2	37.6616°	140.1226°		10:56	6.7	38	74.9	12.5	37.0	2.424	0.7	0.2	0.4	0.4	60.0	38.3	0.0077	4.8	150	740	-
H-3	37.6653°	140.1329°		10:25	6.4	59	72.5	20.7	54.9	2.353	0.0	0.4	0.3	17.5	59.4	22.4	0.021	2.0	260	1200	2.6
H-4	37.6551°	140.1181°		11:19	6.8	31	73.3	10.5	44.0	2.435	12.2	2.7	3.5	6.4	40.1	35.1	0.012	19	400	1700	-
H-5	37.6523°	140.1568°		9:35	6.3	47	67.9	10.3	29.3	2.512	0.0	-	0.5	33.1	41.6	24.8	0.041	0.85	330	1600	-

< Location H in Lake Akimoto: 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)	Note			Radioactive cesium (Bq/kg-wet)		Sr-90 (Bq/kg-wet)			
		Latitude	Longitude										Growth stage	Stomach contents	Measurement site	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°	2015/12/1	Arthropod	Malacostraca	Decapoda	Astacidae	<i>Pacifastacus leniusculus</i>	Signal crayfish	32	1.8	Imago	-	-	-	6.6	31	8.4		
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius sp.</i>	Carassius auratus langsdorffii	8	2.2	Mature fish (4.7-year-old)	Amorphous residue	Viscera removed	16	67	1.0			
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	1	2.6	Mature fish (5-year-old)	Empty stomach	Viscera removed	4.3	20	0.77			
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus	4	3.2	Mature fish (4.6-year-old)	Amorphous residue	Viscera removed	12	55	1.1			
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Salvelinus leucomaenis</i>	Char	6	2.3	Mature fish (2.4-year-old)	Amorphous residue	Viscera removed	7.8	35	0.38			
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus nasou masou</i>	Seama	1	1.1	Mature fish (4-year-old)	Fish	Viscera removed	12	48	0.24			
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Salmonella</i>	Yamame trout	3	0.33	Immature fish (1-year-old)/Mature fish (3-year-old)	Japanese smelt, Aquatic insects	Viscera removed	4.9	23	-			
					Vertebrata	Osteichthyes	Osmeriformes	Osmeridae	<i>Hypomesus nipponensis</i>	Japanese smelt	58	0.30	Immature fish (0-year-old)/Mature fish (1-year-old)	Plankton	Viscera removed	2.2	9.5	-			
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu dolomieu</i>	Small mouth bass	7	5.6	Mature fish (3-year-old)	Fish	Viscera removed	13	62	1.0			
										Particulate Organic Matter	-	-	-	Bottom fallen leaves	-	0.12	-	-	-	6.4	27
H-3 H-4	Inflowing rivers Within the lake and rivers in the vicinity	37.6653° 37.6551°	140.1329° 140.1181°	2015/12/1	Phycophyta	-	-	-	-	Plankton (Planktonic algae)	-	0.030	-	-	-	-	8.3	35	-		
					Angiospermae	Monocotyledonae	-	Hydrocharitaceae	<i>Elodea nuttallii</i>	Western Waterweed	-	0.31	-	-	-	-	-	8.6	39	-	
					Arthropod	Insecta	Trichoptera	Stenoprygidae	-	Semblis Fabricius	14	0.0049	Larva	-	-	-	-	-	N.D.(8.5)	N.D.(7.5)	-
					Arthropod	Insecta	Odonata	Cordulegastriidae	<i>Anotogaster sieboldii</i>	Anotogaster sieboldii	17	0.025	Larva (dragonfly larva)	-	-	-	-	-	5.6	21	-
					Mollusca	Gastropoda	Sorbeoconcha	Pleuroceridae	<i>Semisulcospira libertina</i>	Semisulcospira libertina	36	0.0075	Imago	-	-	-	-	-	N.D.(5.5)	7.4	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Phoxinus lagowskii steindachneri</i>	Amur Minnow	8	0.014	Immature fish (0.1-year-old)	-	-	-	-	-	N.D.(3.4)	9.5	-
					Vertebrata	Amphibia	Anura	Ranidae	<i>Rana ornativentris</i>	Montane brown frog	6	0.14	Imago	-	-	-	-	-	9.7	42	-

*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.