

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

< Location H in Lake Akimoto: Samples collected >						
Items	General items		Radioactive materials			
Locations	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 >												
Items	Latitude and longitude of the location		Survey date and time			Water	Sediment				Other	
Locations	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°	2015/8/27	13:30	22.2	-	-	-	-	-	-	-
H-1(Deep layer)	37.6575°	140.1264°		13:30	13:39	22.2	10.7	Ooze	7.5Y 4/1	Plant	12.4	4.2
H-2	37.6616°	140.1226°		-	14:15	-	13.4	Ooze	7.5Y 4/1	Plant	-	-
H-3(Surface layer)	37.6653°	140.1329°		13:46	22.2	-	17.5	Ooze with sand	7.5Y 4/2	Plant	7.8	4.8
H-3(Deep layer)	37.6653°	140.1329°		13:46	13:57	20.7	-	-	-	-	-	-
H-4	37.6551°	140.1181°		-	14:26	-	20.7	Ooze	7.5Y 5/1	Elodea nuttallii	-	-
H-5(Surface layer)	37.6523°	140.1568°		13:04	21.4	-	17.6	Ooze	7.5Y 3/2	Plant	5.9	4.5
H-5(Deep layer)	37.6523°	140.1568°		13:04	13:13	21.0	-	-	-	-	-	-

< Location H in Lake Akimoto: General survey items/Analysis of radioactive materials Water >																
Items	Latitude and longitude of the location		Survey date and time													
Locations	Scheduled latitude	Scheduled longitude	Date	Time (water)	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)
H-1(Surface layer)	37.6575°	140.1264°	2015/8/27	13:30	7.3	0.6	2.8	8.8	5.8	0.03	1.2	2	2.1	0.0060	0.026	-
H-1(Deep layer)	37.6575°	140.1264°		13:30	6.7	<0.5	2.9	5.7	4.3	0.03	1.3	2	1.5	0.0032	0.012	-
H-3(Surface layer)	37.6653°	140.1329°		13:46	7.3	<0.5	2.5	8.4	5.7	0.04	1.1	2	1.1	0.0041	0.015	-
H-3(Deep layer)	37.6653°	140.1329°		13:46	7.2	<0.5	2.4	8.1	5.6	0.03	1.0	2	1.5	0.0049	0.014	0.0011
H-5(Surface layer)	37.6523°	140.1568°		13:04	7.3	0.5	2.6	8.5	5.7	0.03	1.1	2	1.5	0.0048	0.018	-
H-5(Deep layer)	37.6523°	140.1568°		13:04	7.3	<0.5	2.4	8.3	5.7	0.05	1.3	1	1.3	0.0050	0.018	-

Location H in Lake Akimoto: General survey items/Analysis of radioactive materials										Sediment >												
Items			Survey date and time		Grain size distribution															Cs-134 (Bq/kg-dry)	Cs-137 (Bq/kg-dry)	Sr-90 (Bq/kg-dry)
Locations	Scheduled latitude	Scheduled longitude	Date	Time (sediment)	pH	Redox potential EN,H.E (mV)	Water content (%)	IL (%)	TOC (mg/g-dry)	Soil particle density (g/cm3)	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°	2015/8/27	13:39	6.6	39	62.6	9.2	23.2	2.590	0.0	0.1	0.1	0.9	62.3	36.6	0.0088	2.0	19	68	-	
H-2	37.6616°	140.1226°		14:15	6.7	25	77.5	13.8	41.7	2.494	0.0	0.0	0.1	0.1	39.0	60.8	0.0025	2.0	330	1300	-	
H-3	37.6653°	140.1329°		13:57	6.4	26	71.3	16.1	56.2	2.459	0.0	0.1	0.1	9.5	42.6	47.7	0.0063	2.0	490	2100	1.2	
H-4	37.6551°	140.1181°		14:26	6.4	-32	64.7	8.2	31.2	2.578	0.0	0.4	1.1	6.4	44.8	47.3	0.0061	2.0	91	410	-	
H-5	37.6523°	140.1568°		13:13	6.6	-10	58.4	8.5	33.1	2.608	0.0	0.0	0.3	14.9	44.9	39.9	0.013	2.0	250	970	-	

< 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°	2015/8/26	Arthropod	Malacostraca	Decapoda	Astacidae	<i>Pacifastacus leniusculus</i>	Signal crayfish	44	1.7	Imago	-	-	-	8.8	34	7.7
					Vertebrata	Osteichthyes	Osmeriformes	Osmeridae	<i>Hypomesus nipponensis</i>	Japanese smelt	65	0.29	Mature fish (1-year-old)	Cladocera	Viscera removed	3.3	15	-	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	8	0.81	Mature fish (4-year-old)	Amorphous residue	Viscera removed	8.6	33	-	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius sp.</i>	<i>Carassius auratus langsdorfii</i>	7	2.2	Mature fish (6-year-old)	Amorphous residue	Viscera removed	14	57	1.2	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus	10	2.9	Mature fish (3-year-old)	Amorphous residue	Viscera removed	9.2	42	1.0	
				2015/9/10	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	1	2.1	Mature fish (5-year-old)	Empty stomach	Viscera removed	7.8	34	1.1	
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Salvelinus leucomaenis</i>	Char	4	1.5	Mature fish (3-year-old)	Japanese smelt	Viscera removed	10	46	0.34	
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou masou</i>	Seema	2	1.2	Mature fish (3-year-old)	Empty stomach	Viscera removed	8.2	33	-	
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Lepomis macrochirus macrochirus</i>	Bluegill	7	0.46	Mature fish (3-year-old)	Shrimp, Western Waterweed	Viscera removed	9.3	38	-	
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu dolomieu</i>	Small mouth bass	7	2.9	Mature fish (3-year-old)	Japanese smelt, Common prawn, Signal crayfish	Viscera removed	13	61	1.2	
H-3	Inflowing rivers	37.6653°	140.1329°	2015/8/27	Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.21	-	-	-	20	88	-	
H-4	Within the lake and rivers in the vicinity	37.6551°	140.1181°		Phycophyta	-	-	-	-	Plankton (Planktonic algae)	-	0.016	-	-	-	-	25	97	-
					Angiospermae	Monocotyledoneae	-	Hydrocharitaceae	<i>Elodea nuttallii</i>	Western Waterweed	-	0.24	-	-	-	-	37	160	-
					Arthropod	Insecta	Odonata	Cordeulagastridae	<i>Anotogaster sieboldii</i>	Anotogaster sieboldii	15	0.018	Larva (dragonfly larva)	-	-	-	N.D.(2,4)	9.2	-
					Mollusca	Gastropoda	Sorbeoconcha	Pleuroceridae	<i>Semisulcospira libertina</i>	Semisulcospira libertina	30	0.022	Imago	-	Molluscan body	5.6	16	-	
					Vertebrata	Amphibia	Anura	-	Tadpole	-	9	0.0086	Larva (tadpoles)	-	-	7.6	26	-	
					Vertebrata	Amphibia	Caudata	Salamandridae	<i>Cynops pyrrhogaster</i>	Cynops pyrrhogaster	3	0.021	Imago	-	-	4.1	10	-	

*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.