

OResults of Radioactive Material Monitoring of Aquatic Organisms (Lake Inawashiro (north lakeside) I / Lake Inawashiro (south lakeside) J)

<Lake Inawashiro (north lakeside) I / Lake Inawashiro (south lakeside) J: Samples collected>

Items	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
J-1	○	○	○	○	○	○

<Lake Inawashiro (north lakeside) I / Lake Inawashiro (south lakeside) J: 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)
J-1(Surface layer)	37.4203°	140.1008°	2022/8/25	14:30	15:20	26.0	25.9	Sand gravel	7.5Y4/2	Waterweed,Corbicula	3.7	>3.7
J-1(Bottom layer)						25.9						

<Lake Inawashiro (north lakeside) I / Lake Inawashiro (south lakeside) J: General survey items/Analysis of radioactive materials`Water>

Items	Latitude and longitude of the location		Survey date and time		pH	BOD	COD	DO	Electric conductivity	Salinity	TOC	SS	Turbidity	Cs-134	Cs-137	Sr-90
	Latitude	Longitude	Date	Time (water)		(mg/L)	(mg/L)	(mg/L)	(mS/m)		(mg/L)	(mg/L)	(FNU)	(Bq/L)	(Bq/L)	(Bq/L)
J-1(Surface layer)	37.4203°	140.1008°	2022/8/25	14:30	7.0	0.5	1.5	8.6	11.2	0.06	0.8	<1	0.4	N.D.(0.0015)	0.0043	-
J-1(Bottom layer)					7.1	1.2	2.5	8.5	11.4	0.06	1.4	<1	1.0	N.D.(0.0015)	0.0048	0.00073

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

<Lake Inawashiro (north lakeside) I / Lake Inawashiro (south lakeside) J: General survey items/Analysis of radioactive materials`Sediment>

Items	Latitude and longitude of the location		Survey date and time		pH	Redox potential	Water content	IL	TOC	Soil particle density	Grain size distribution								Cs-134	Cs-137	Sr-90
	Latitude	Longitude	Date	Time (sediment)		E _{NH,HE} (mV)	(%)	(%)	(mg/g-dry)	(g/cm ³)	Gravel (2-75mm) (%)	Course 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)			
J-1	37.4203°	140.1008°	2022/8/25	15:20	6.5	397	27.8	2.0	5.6	2.690	2.2	5.6	29.5	43.0	14.8	4.9	0.18	9.5	1.7	55	0.15

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

<Lake Inawashiro (north lakeside) I / Lake Inawashiro (south lakeside) J: 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	
I-1 I-2 (north lakeside)	Within the lake and Nagase River	37.5047° 37.4995°	140.1143° 140.1409°	2022/8/24	Arthropoda	Malacostraca	Decapoda	Astacidae	<i>Pacifastacus leniusculus trowbridgii</i>	Signal crayfish	5	0.021	Juvenile,Imago	-	-	3.5	N.D.(1.9)	3.5	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	5	0.034	Immature fish	-	-	4.4	N.D.(1.4)	4.4	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Opsarichthys platypus</i>	Pale chub	6	0.064	Immature fish, Mature fish	-	-	3.0	N.D.(1.0)	3.0	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Acheilognathus rhombeus</i>	<i>Acheilognathus rhombeus</i>	12	0.031	Immature fish	-	-	1.9	N.D.(1.5)	1.9	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus langsdorffii</i>	<i>Carassius auratus langsdorffii</i>	5	0.041	Immature fish	-	-	4.2	N.D.(1.1)	4.2	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	2	0.010	Immature fish	-	-	N.D.	N.D.(3.5)	N.D.(2.9)	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	<i>Hemibarbus barbus</i>	2	3.4	Mature fish	Obscure digesta	Viscera removed	9.3	N.D.(1.4)	9.3	0.37
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Slender bitterling</i>	<i>Slender bitterling</i>	5	0.016	Immature fish, Mature fish	-	-	2.1	N.D.(2.3)	2.1	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Gymnogobius urotaenia</i>	Goby	99	0.25	Immature fish	-	-	3.9	N.D.(0.51)	3.9	-
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	1	1.0	Mature fish	Fish,Common prawn,Moth(larva)	Viscera removed	12	N.D.(1.3)	12	0.24
					Vertebrata	Amphibia	Anura	Glandirana	<i>Glandirana rugosa</i>	Wrinkled frog	1	0.012	Imago	-	-	3.2	N.D.(2.2)	3.2	-
				2022/8/25	Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.21	-	-	-	N.D.	N.D.(0.31)	N.D.(0.29)	-
J-1 (south lakeside)	Within the lake and around the Oninuma	37.4203°	140.1008°	2022/8/25	Algae/plant	-	-	-	-	Plankton (Planktonic algae)	-	0.0055	-	-	-	N.D.	N.D.(5.6)	N.D.(5.5)	-
				2022/8/24	Algae/plant	Dicotyledoneae	Nymphaeales	Nymphaeaceae	<i>Nuphar japonicum</i>	Cow lily	-	0.27	-	-	-	0.99	N.D.(0.25)	0.99	-
					Algae/plant	Dicotyledoneae	Solanales	Menyanthaceae	<i>Nymphoides peltata</i>	Fringed water-lily	-	1.8	-	-	-	0.50	N.D.(0.071)	0.50	-
					Algae/plant	Monocotyledoneae	Alismatales	Hydrocharitaceae	<i>Elodea nuttallii</i>	Western waterweed	-	0.29	-	-	-	8.09	0.49	7.6	-
					Arthropoda	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	<i>Macromia amphigena amphigena</i>	20	0.0097	Larva (Dragonfly larva)	-	-	3.9	N.D.(2.8)	3.9	-
					Arthropoda	Insecta	Odonata	Cordulegastridae	<i>Anotogaster sieboldii</i>	<i>Anotogaster sieboldii</i>									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Asiagomphus melaenops</i>	<i>Asiagomphus melaenops</i>									
					Arthropoda	Insecta	Odonata	Libellulidae	<i>Sympetrum sp.</i>	<i>Sympetrum sp.</i>									
					Arthropoda	Insecta	Odonata	Aeshnidae	<i>Anax parthenope julius</i>	<i>Anax parthenope julius</i>									
					Mollusca	Gastropoda	Architaenioglossa	Viviparidae	<i>Cipangopaludina japonica</i>	Japanese mysterysnail	30	0.064	Juvenile	-	Molluscous part	N.D.	N.D.(0.98)	N.D.(0.93)	-
					Mollusca	Gastropoda	Discopoda	Pleuroceridae	<i>Semisulcospira libertina</i>	Juvenile,Imago	18	0.0084	Juvenile,Imago	-	Molluscous part	N.D.	N.D.(5.0)	N.D.(3.3)	-
				2022/8/25	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus langsdorffii</i>	<i>Carassius auratus langsdorffii</i>	3	0.91	Mature fish	Obscure digesta	Viscera removed	13	N.D.(1.2)	13	-
				2022/8/26	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus langsdorffii</i>	<i>Carassius auratus langsdorffii</i>	3	1.0	Mature fish	Obscure digesta	Viscera removed	20	N.D.(1.5)	20	0.44
				2022/8/25	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	2	1.6	Mature fish	Obscure digesta	Viscera removed	6.7	N.D.(0.82)	6.7	0.47
				2022/8/26	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	1	1.5	Mature fish	Obscure digesta	Viscera removed	1.4	N.D.(0.32)	1.4	0.28
				2022/8/25	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	<i>Hemibarbus barbus</i>	1	1.3	Mature fish	Obscure digesta	Viscera removed	39	N.D.(1.3)	39	0.51
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	<i>Hemibarbus barbus</i>	1	1.3	Mature fish	Obscure digesta	Viscera removed	11	N.D.(1.3)	11	0.61
				2022/8/24	Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	<i>Misgurnus anguillicaudatus</i>	Oriental weatherfish	135	0.59	Immature fish, Mature fish	-	-	0.59	N.D.(0.26)	0.59	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout	1	0.070	Immature fish	-	-	0.92	N.D.(0.76)	0.92	-
				2022/8/25	Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass	3	1.5	Immature fish, Mature fish	Common prawn,Japanese smelt	Viscera removed	18	N.D.(1.2)	18	0.27
					Vertebrata	Osteichthyes	Perciformes	Actinopterygii	<i>Channa argus</i>	Snakehead	1	1.3	Mature fish	Fish	Viscera removed	21	N.D.(1.2)	21	0.75
				2022/8/26	Vertebrata	Osteichthyes	Perciformes	Actinopterygii	<i>Channa argus</i>	Snakehead	1	1.5	Mature fish	Fish	Viscera removed	28	N.D.(1.2)	28	0.58
				2022/8/24	Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Gymnogobius urotaenia</i>	Goby	8	0.12	Immature fish, Mature fish	-	-	2.0	N.D.(0.50)	2.0	-
				2022/8/26	Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	2	1.3	Mature fish	Common prawn	Viscera removed	23	N.D.(1.3)	23	0.28
					Vertebrata	Amphibia	Anura	-	-	Frog	30	0.019	Larva(Tadpole)	-	-	39	N.D.(7.0)	39	-
				2022/8/24	Vertebrata	Amphibia	Anura	Glandirana	<i>Glandirana rugosa</i>	Wrinkled frog	10	0.11	Imago	-	-	1.5	N.D.(0.76)	1.5	-
					Vertebrata	Amphibia	Anura	Pelophylax	<i>Pelophylax porosus porosus</i>	Tokyo daruma pond frog									
					Vertebrata	Amphibia	Caudata	Salamandridae	<i>Cynops pyrrhogaster</i>	<i>Cynops pyrrhogaster</i>	36	0.19	Imago	-	-	0.62	N.D.(0.40)	0.62	-

*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.