

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>

Locations	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>

Locations	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°	2023/8/23	10:03	10:35	27.7	27.4	Sand	7.5Y6/2	Tape grass,Freshwater clam	3.4	>3.4
J-1(Bottom layer)				10:05		27.4						

<Lake Inawashiro (north lakeside) I / Lake Inawashiro (south lakeside) J: 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)	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)												
J-1(Surface layer)	37.4203°	140.1008°	2023/8/23	10:03	6.9	<0.5	1.7	8.0	11.7	0.06	0.8	<1	0.4	N.D.(0.0014)	0.0044	-
J-1(Bottom layer)				10:05	6.9	<0.5	2.4	8.5	11.8	0.06	1.1	<1	0.6	N.D.(0.0013)	0.0039	0.00068

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>

Locations	Latitude and longitude of the location		Survey date and time		pH	Redox potential E _{N,H,E} (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)			
J-1	37.4203°	140.1008°	2023/8/23	10:35	6.9	434	22.5	0.9	1.9	2.810	2.5	3.7	45.4	43.8	1.2	3.4	0.26	9.5	0.27	18	N.D.(0.12)

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°	2023/8/23	Arthropoda	Insecta	Odonata	Corduliidae	<u>Macromia amphigena amphigena</u>	Dragonfly	23	0.013	Larva (Dragonfly larva)	-	-	N.D.	N.D.(2.7)	N.D.(2.3)	-
					Arthropoda	Insecta	Odonata	Gomphidae	<u>Sieboldius albardae</u>	Dragonfly									
					Arthropoda	Insecta	Odonata	Gomphidae	<u>Asiagomphus melaenops</u>	Dragonfly									
					Arthropoda	Malacostraca	Decapoda	Cambaridae	<u>Procambarus clarkii</u>	Red swamp crawfish	8	0.12	Imago	-	-	2.8	N.D.(0.48)	2.8	-
					Arthropoda	Malacostraca	Decapoda	Astacidae	<u>Pacifastacus leniusculus</u>	Signal crayfish	29	0.16	Juvenile,Imago	-	-	2.5	N.D.(0.43)	2.5	-
					Arthropoda	Malacostraca	Decapoda	Palaemonidae	<u>Palaemon paucidens</u>	Lake prawn	163	0.072	Juvenile,Imago	-	-	3.3	N.D.(0.78)	3.3	-
					Mollusca	Gastropoda	Discopoda	Pleuroceridae	<u>Semisulcospira libertina</u>	Freshwater snail	19	0.0086	Juvenile,Imago	-	Molluscous part	3.7	N.D.(3.7)	3.7	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<u>Opsariichthys platypus</u>	Pale break	4	0.056	Immature fish, Mature fish	-	-	2.8	N.D.(0.95)	2.8	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<u>Acheilognathus rhombeus</u>	Acheilognathus	3	0.048	Immature fish	-	-	1.6	N.D.(1.1)	1.6	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<u>Gnathopogon elongatus elongatus</u>	Field gudgeon	22	0.13	Immature fish, Mature fish	-	-	2.9	N.D.(0.59)	2.9	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<u>Tanakia lanceolata</u>	Slender bitterling	44	0.058	Immature fish, Mature fish	-	-	2.0	N.D.(0.94)	2.0	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<u>Gymnogobius urotaenia</u>	Floating goby	102	0.30	Immature fish	-	-	3.2	N.D.(0.39)	3.2	-
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<u>Silurus asotus</u>	Amur catfish	3	0.64	Immature fish	Freshwater clam, <u>Radix auricularia japonica</u> , <u>Tanakia lanceolata</u> , Rhinogobius	Viscera removed	3.1	N.D.(0.31)	3.1	-
J-1 (south lakeside)	Within the lake and around the Oninuma	37.4203°	140.1008°	2023/8/23	Coarse Particulate Organic Matter	-	-	-	-	Water-bottom leaf litter	-	0.24	-	-	-	7.7	N.D.(0.79)	7.7	-
				2023/8/22	Algae/plant	-	-	-	-	Plankton (Planktonic algae)	-	0.019	-	-	-	N.D.	N.D.(2.1)	N.D.(1.6)	-
				2023/8/23	Algae/plant	Monocotyledoneae	Alismatales	Hydrocharitaceae	<u>Elodea nuttallii</u>	Esthwaite waterweed	-	0.27	-	-	-	3.4	N.D.(0.69)	3.4	-
					Arthropoda	Insecta	Odonata	Corduliidae	<u>Epophthalmia elegans</u>	Dragonfly	58	0.027	Larva (Dragonfly larva)	-	-	2.7	N.D.(1.3)	2.7	-
					Arthropoda	Insecta	Odonata	Libellulidae	<u>Deileta phaon</u>	Frosted skimmer									
					Arthropoda	Insecta	Odonata	Aeshnidae	<u>Anax parthenope julius</u>	Jumbo dragonfly									
					Arthropoda	Malacostraca	Decapoda	Palaemonidae	<u>Palaemon paucidens</u>	Lake prawn	372	0.19	Imago	-	-	7.5	N.D.(0.58)	7.5	-
					Mollusca	Bivalvia	Unionoida	Unionidae	<u>Beringiana japonica</u>	Pond mussel	14	0.83	Imago	-	Molluscous part	0.50	N.D.(0.26)	0.50	-
					Mollusca	Gastropoda	Architaenioglossa	Viviparidae	<u>Sinotaia histrica</u>	Mud snail	30	0.031	Juvenile,Imago	-	Molluscous part	4.9	N.D.(1.7)	4.9	-
					Mollusca	Gastropoda	Architaenioglossa	Viviparidae	<u>Cipangopaludina chinensis laeta</u>	Mud snail	1	0.020	Imago	-	Molluscous part	6.7	N.D.(2.1)	6.7	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<u>Carassius</u> sp.	Silver crucian carp	14	3.8	Mature fish	Obscure digesta	Viscera removed	16	N.D.(1.2)	16	0.45
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<u>Cyprinus carpio</u>	Common carp	1	1.0	Mature fish	Obscure digesta	Viscera removed	1.4	N.D.(0.33)	1.4	0.21
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<u>Hemibarbus barbus</u>	Barbel steed	2	1.7	Mature fish	Obscure digesta	Viscera removed	20	N.D.(1.4)	20	0.39
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<u>Micropterus dolomieu dolomieu</u>	Smallmouth bass	3	1.6	Mature fish	Empty stomach	Viscera removed	15	N.D.(1.4)	15	0.26
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<u>Gymnogobius urotaenia</u>	Floating goby	10	0.024	Immature fish	-	-	7.8	N.D.(1.5)	7.8	-
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<u>Silurus asotus</u>	Amur catfish	1	0.92	Mature fish	Empty stomach	Viscera removed	20	N.D.(3.5)	20	0.22

*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.