

## (News Release)

# The Results of Radioactive Material Monitoring of the Surface Water Bodies within Ibaraki Prefecture (February-March Samples)

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In accordance with the Comprehensive Radiation Monitoring Plan determined by the Monitoring Coordination Meeting, the Ministry of the Environment (MOE) is continuing to monitor radioactive materials in water environments (surface water bodies (rivers, lakes and headwaters, and coasts), etc.).

Samples taken from the surface water bodies of Ibaraki Prefecture during the period of February 7-March 8, 2013 have been measured as part of MOE's efforts to monitor radioactive materials; the results have recently been compiled and are released here.

The monitoring results of radioactive materials in surface water bodies carried out to date can be found at the following web page: <http://www.env.go.jp/jishin/rmp.html#monitoring>

### 1. Survey Overview

#### (1) Survey Locations

64 environmental reference points, etc. in the surface water bodies within Ibaraki Prefecture  
(Rivers: 47 locations, Lakes and headwaters: 12 locations, Coasts: 5 locations)

#### (2) Survey Method

- Measurement of concentrations of radioactive materials (radioactive cesium (Cs-134 and Cs-137), etc.) in water and sediment
- Measurement of concentrations of radioactive materials and spatial dose-rate in soil in the surrounding environment of water and sediment sample collection points (river terraces, etc.)

### 2. Outline of Results (\* denotes the results of the previous survey (October-December 2012))

#### (1) Water Quality (Lower detection limit: 1Bq/L)

Cs-134+ Cs-137: Not detectable (ND) at any location (\* ND at any location)

#### <Reference>

Specification and Standards for Food, Food Additives, etc. in accordance with the Food Sanitation Act (Drinking Water) (Ministry of Health, Labour and Welfare Public Notice No.130, March 15, 2012)  
Radioactive cesium (total for Cs-134+Cs-137): 10Bq/kg

Target value for radioactive materials in tap water (management target for water supply facilities) (March 5, 2012; 0305 Notice No.1 from the Director of the Water Supply Division, Health Service Bureau, Ministry of Health, Labour and Welfare)

Radioactive cesium (total for Cs-134+Cs-137): 10Bq/kg

(2) Sediment (Lower detection limit: 10Bq/kg (dried mud))

Overall, the levels of both the rivers and lakes/headwaters measured were around 1,000Bq/kg or below for most of the locations (coasts: 100Bq/kg or below), and have generally remained constant or had a declining tendency.

(Rivers)

Cs-134+Cs-137: 13-3,500Bq/kg (dried mud) (\*ND-4,100Bq/kg (dried mud))

(Lakes and headwaters)

Cs-134+Cs-137: 93-1,300Bq/kg (dried mud) (\*93-1,210Bq/kg (dried mud))

(Coasts)

Cs-134+Cs-137: ND-49Bq/kg (dried mud) (\*ND-52Bq/kg (dried mud))

<Reference> Number of locations by radioactive cesium concentration (500Bq/kg)

Numbers in ( ) denote results measured on the previous occasion.

	500 or below	501 -1,000	1,001 -1,500	1,501 -2,000	2,001 -2,500	2,501 -3,000	3,001 or more	Total
Rivers	33 (38)	8 (10)	2 (0)	0 (2)	2 (1)	0 (1)	1 (1)	46 (53)
Lakes and headwaters	8 (9)	3 (2)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	12 (12)
Coasts	5 (15)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	5 (15)

(3) Surrounding Environment (Lower detection limit: 10Bq/kg (dry))

(Rivers)

Cs-134+Cs-137: 56-3,100Bq/kg (dry) (\*17-3,500Bq/kg (dry))

Spatial dose: 0.06-0.26 $\mu$ Sv/h

(Lakes and headwaters)

Cs-134+Cs-137: 11-600Bq/kg (dry) (\*46-4,400Bq/kg (dry))

Spatial dose: 0.06-0.16 $\mu$ Sv/h

(Annex for details)  
(Map attached)

Future Plans

MOE intends to continue to measure radioactive materials in water, sediment, etc. in rivers, lakes, etc. in FY2013, since concentrations of radioactive materials seem to show fluctuations, depending on locations, due to minor differences in sampling points or properties of samples of each survey.

## ORiver: Water Quality Monitoring Results

(Annex)

No.	Sampling point			Sampling date	Weather	Full depth m	General items					Concentration of radioactive material Bq/L			Remarks	
	Water body		Point				Sampling depth m	Transparency cm	Electrical conductivity mS/m	SS mg/L	Turbidity	Radioactive iodine I-131	Radioactive cesium Cs-134	Radioactive cesium Cs-137		
1	Taga River System	Satonegawa River	Yamagoyabashi Bridge	Kitaibarakishi City	2013/2/7	Sunny	0.3	0.0	>100	13	<1	2	<1	<1	<1	
2			Munayamabashi Bridge		2013/2/7	Cloudy	0.3	0.0	>100	25	<1	1	<1	<1	<1	
3			Kurabeishi		2013/2/7	Sunny	0.3	0.0	>100	10	6	2	<1	<1	<1	
4			Isonarebashi Bridge		2013/2/8	Sunny	0.2	0.0	90	67	2	2	<1	<1	<1	
5		Hanazonogawa River	Sakaeishi Bridge		2013/2/7	Cloudy	0.4	0.0	>100	8	<1	0	<1	<1	<1	
6			Sakabashi Bridge		2013/2/8	Sunny	0.3	0.0	>100	16	<1	1	<1	<1	<1	
7			Hananukigawa River		2013/2/8	Sunny	0.2	0.0	>100	18	1	1	<1	<1	<1	
8	Kujigawa River System	Kujigawa River	Yamagata		2013/2/7	Cloudy	1.3	0.0	>100	16	1	1	<1	<1	<1	
9			Sakakibashi Bridge		2013/2/8	Sunny	0.5	0.0	94	18	7	2	<1	<1	<1	
10			Noguchi		2013/2/7	Sunny	0.4	0.0	>100	20	1	1	<1	<1	<1	
11	Nakagawa River	Nakagawa River	Shimokuni	Mitoshi City	2013/2/7	Sunny	0.5	0.0	>100	21	3	1	<1	<1	<1	
12			Katsutabashi Bridge		2013/2/7	Sunny	4.5	0.0	>100	379	<1	1	<1	<1	<1	
13			Nakamarugawa River		2013/2/7	Sunny	1.4	0.0	67	291	3	4	<1	<1	<1	
14			Hinumagawa River		2013/2/7	Cloudy	0.4	0.0	>100	2790	4	3	<1	<1	<1	
15	Tonogawa River	Tonogawa River	Asahibashi Bridge	Hokotashi City	2013/2/8	Cloudy	1.2	0.0	>100	41	4	2	<1	<1	<1	
16			Tomoeogawa River		2013/2/8	Cloudy	0.4	0.0	85	32	6	3	<1	<1	<1	
17			Tayogawa River		2013/2/8	Cloudy	0.3	0.0	>100	29	2	2	<1	<1	<1	
18			Takedagawa River		2013/2/8	Sunny	0.3	0.0	>100	32	<1	1	<1	<1	<1	
19			Uchijukubashi Bridge		2013/2/14	Cloudy	0.3	0.0	12	33	30	33	<1	<1	<1	
20			Yamadagawa River		2013/2/14	Cloudy	0.5	0.0	93	36	4	2	<1	<1	<1	
21			Kurakawabashi Bridge		2013/2/14	Cloudy	0.2	0.0	63	36	3	3	<1	<1	<1	
22			Gantsugawa River		JA: Yokohashi	Rain	0.2	0.0	>100	51	2	2	<1	<1	<1	
23			Nagaregawa River		2013/2/15	Rain	0.2	0.0	>100	51	2	2	<1	<1	<1	
24			Sonobegawa River		2013/2/13	Sunny	1.3	0.0	27	33	16	10	<1	<1	<1	
25	River R	Kasumigaura Lake	Sanrogawa River	Ishikoshi City/Omitamashi City	2013/2/13	Sunny	0.6	0.0	33	24	9	6	<1	<1	<1	
26			Koisegawa River		2013/2/13	Sunny	0.6	0.0	30	37	10	7	<1	<1	<1	
27			Kajinashigawa River		2013/2/13	Sunny	0.5	0.0	30	37	48	18	<1	<1	<1	
28			Hishikigawa River		2013/2/13	Sunny	0.4	0.0	24	22	33	12	<1	<1	<1	
29			Ichinogawa River		2013/2/13	Sunny	1.3	0.0	18	27	40	26	<1	<1	<1	
30			Kawanakabashi Bridge/National Route 354		2013/2/12	Cloudy	0.4	0.0	18	52	11	11	<1	<1	<1	
31			Shinkawa River		2013/2/12	Cloudy	1.5	0.0	36	48	6	6	<1	<1	<1	
32			Sakuragawa River		2013/2/13	Sunny	0.5	0.0	32	31	8	6	<1	<1	<1	
33			Eiribashi Bridge		2013/2/12	Cloudy	1.5	0.0	30	41	8	6	<1	<1	<1	
34			Bizengawabashi Bridge		2013/2/12	Cloudy	0.4	0.0	70	41	2	3	<1	<1	<1	
35	Systraem	Hitachitonegawa River	Hanannogawa River	Tsuchiurashi City	2013/2/12	Cloudy	0.4	0.0	70	41	2	3	<1	<1	<1	
36			Seimeigawa River		2013/2/12	Cloudy	0.4	0.0	60	47	6	5	<1	<1	<1	
37			Onogawa River		2013/2/12	Cloudy	0.4	0.0	68	52	4	3	<1	<1	<1	
38			Shintonegawa River		2013/2/14	Cloudy	2.0	0.0	46	68	7	7	<1	<1	<1	
39			Yorokoshigawa River		2013/2/14	Cloudy	0.4	0.0	32	40	21	13	<1	<1	<1	
40			Maekawa River		2013/2/15	Cloudy	2.5	0.0	28	46	15	12	<1	<1	<1	
41			Kinugawa River		2013/2/12	Cloudy	0.7	0.0	>100	20	2	1	<1	<1	<1	
42			Kawashimabashi Bridge		2013/2/13	Sunny	0.5	0.0	53	26	12	5	<1	<1	<1	
43			Takishatabashi Bridge		2013/2/13	Sunny	0.5	0.0	53	26	12	5	<1	<1	<1	
44			Tagawa River		2013/2/12	Cloudy	0.2	0.0	91	36	3	2	<1	<1	<1	
45	Kokaigawa River	Inarigawa River	Kurokobashi Bridge	Chikuseishi City	2013/2/12	Cloudy	0.5	0.0	74	31	6	4	<1	<1	<1	
46			Fumimakibashi Bridge		2013/2/13	Sunny	1.2	0.0	60	29	11	6	<1	<1	<1	
47			Ogukibashi Bridge		2013/2/13	Sunny	0.5	0.0	48	21	5	5	<1	<1	<1	
	Tonegawa River		Tonegawa River		2013/2/13	Sunny	0.2	0.0	63	32	6	4	<1	<1	<1	
	Fukawa		Sawara		2013/2/15	Rain	0.4	0.0	31	40	22	13	<1	<1	Unable to collect samples due to construction	

\* Sampling points for rivers are listed from north to south, and for different points along the river, from upstream to downstream.

## ORiver: Sediment Monitoring Results

No.	Sampling point			Sampling date	Weather	Full depth m	General items			Concentration of radioactive material Bq/kg (dried mud)				Remarks
	Water body	Point	Municipality				Mud sampling depth cm	Mud content %	Property	Radioactive iodine I-131	Cs-134	Radioactive cesium Cs-137	Total	
1	Taga River System	Satonegawa River	Yamagoyabashi Bridge	Kitaibarakishi City	2013/3/7	Sunny	0.30	3	90	Gravel	<30	35	70	105
2			Murayamabashi Bridge		2013/2/7	Cloudy	0.25	3	77	Sand	<30	160	300	460
3		Hanazonogawa River	Kurabeishi		2013/2/7	Sunny	0.25	5	93	Sand	<30	22	44	66
4			Isonarebashi Bridge		2013/2/8	Sunny	0.20	2	89	Sand	<30	18	32	50
5		Sakaebashi Bridge	Takahagishi City	Kitaibarakishi City	2013/2/7	Cloudy	0.40	5	93	Sand	<30	<10	14	14
6		Okitagawa River	Sakaebashi Bridge		2013/2/8	Sunny	0.30	5	87	Sand	<30	66	120	186
7		Hananukigawa River	Shinhananukibashi Bridge		2013/2/8	Sunny	0.20	5	91	Sand	<30	40	62	102
8	Kujigawa River System		Kujigawa River	Yamagata	Hitachimiyashi City	2013/2/7	Cloudy	1.30	3	Sand	<30	40	71	111
9			Sakakibashi Bridge	Hitachishi City/Tokaimura Village	2013/2/8	Sunny	0.50	3	62	Sand	<30	43	92	135
10	Nakagawa River System	Nakagawa River	Noguchi	Hitachimiyashi City/Shirostromachi Town	2013/2/7	Sunny	0.40	2	94	Sand	<30	<10	13	13
11			Shimokuni	Mitoshi City	2013/2/7	Sunny	0.50	3	77	Sand	<30	86	160	246
12			Katsutabashi Bridge	Mitoshi City/Hitachinakashi City	2013/2/7	Sunny	4.50	5	69	Silt	<30	120	220	340
13		Nakamarugawa River	Yanagisawabashi Bridge	Hitachinakashi City	2013/2/7	Sunny	1.40	10	63	Silt	<30	310	580	890
14		Hinumagawa River	Hinumabashi Bridge	Mitoshi City/Oaraimachi Town	2013/2/7	Cloudy	0.40	2	85	Gravel/silt	<30	200	360	560
15	Kitaura Lake	Hokotagawa River	Asahibashi Bridge	Hokotashi City	2013/2/8	Cloudy	1.20	5	67	Silt	<30	130	250	380
16		Tomoegawa River	Shintomogawabashi Bridge		2013/2/8	Cloudy	0.40	5	86	Sand	<30	59	100	159
17		Taiyogawa River	Tazukabashi Bridge		2013/2/8	Cloudy	0.30	2	90	Sand	<30	62	110	172
18		Takedagawa River	Uchijukuhashi Bridge		2013/2/8	Sunny	0.25	5	90	Sand	<30	80	150	230
19		Yamadagawa River	Nioroshibashi Bridge		2013/2/14	Cloudy	0.30	5	80	Sand/silt	<30	60	130	190
20		Kurakawa River	Kurakawabashi Bridge	Namegataishi City	2013/2/14	Cloudy	0.50	2	89	Gravel/sand	<30	63	120	183
21		Gantsugawa River	JA Yokohashi		2013/2/14	Cloudy	0.20	4	89	Sand	<30	56	110	166
22		Nagaregawa River	Suhobashi Bridge		2013/2/15	Rain	0.20	2	86	Sand	<30	130	240	370
23	Kawagawa River	Sonobeshinbashi Bridge	Omitamashi City	2013/2/13	Sunny	1.30	3	50	Silt	<30	320	590	910	
24		Sannogawa River	Tokorobashi Bridge	Ishikashi City/Omitamashi City	2013/2/13	Sunny	0.60	2	73	Sand/silt	<30	520	950	1,470
25		Koisegawa River	Heiwabashi Bridge	Ishikashi City	2013/2/13	Sunny	0.60	4	83	Sand/silt	<30	70	140	210
26		Kajinashigawa River	Kamishukubashi Bridge	Namegataishi City	2013/2/13	Sunny	0.50	5	74	Sand	<30	86	140	226
27		Hishikigawa River	Hishikibashi Bridge	Kasumigauraishi City	2013/2/13	Sunny	0.40	3	80	Sand	<30	220	410	630
28		Ichinosegawa River	Kawanakabashi Bridge	Tsuchiurashi City	2013/2/13	Sunny	1.30	5	76	Silt	<30	260	470	730
29		Sakajigawa River	Sakabashi Bridge/National Route 354		2013/2/12	Cloudy	0.40	4	87	Gravel/sand	<30	50	110	160
30		Shinkawa River	Shimtenbashi Bridge		2013/2/12	Cloudy	1.50	5	47	Silt	<30	840	1,500	2,340
31		Sakurajigawa River	Eribashi Bridge	Tsuchiurashi City/Tsukubashi City	2013/2/13	Sunny	0.50	4	63	Silt	<30	48	80	128
32		Bizengawa River	Bizengawabashi Bridge	Tsuchiurashi City	2013/2/12	Cloudy	1.50	5	59	Sand/silt	<30	750	1,400	2,150
33	Hitachionegawa River	Hanamurogawa River	Shinwabashi Bridge	Tsuchiurashi City	2013/2/12	Cloudy	0.40	3	88	Gravel/sand	<30	190	380	570
34		Seimeigawa River	Katsuhashi Bridge	Arimachi Town	2013/2/12	Cloudy	0.40	1	57	Sand/silt	<30	1,200	2,300	3,500
35		Onogawa River	Okuharaohashi Bridge	Ryuugasaki City/Inashikishi City	2013/2/12	Cloudy	0.40	3	65	Sand	<30	350	640	990
36		Shintonegawa River	Shintonebashi Bridge	Inashikishi City	2013/2/14	Cloudy	2.00	6	64	Sand/silt	<30	150	290	440
37		Yorokoshigawa River	Horinouchibashi Bridge	Itakoshi City	2013/2/14	Cloudy	0.40	3	66	Gravel/sand	<30	72	150	222
38		Maekawa River	Ayamebashi Bridge	Itakoshi City	2013/2/15	Cloudy	2.50	5	68	Silt	<30	200	380	580
39	Kinugawa River	Kinugawa River	Kawashimabashi Bridge	Chikuseishi City	2013/2/12	Cloudy	0.70	4	82	Sand	<30	<10	14	14
40			Takishitabashi Bridge	Moriyashi City	2013/2/13	Sunny	0.50	3	59	Sand/silt	<30	99	190	289
41		Tagawa River	Tagawabashi Bridge	Chikuseishi City	2013/2/12	Cloudy	0.20	2	84	Sand/gravel	<30	16	38	54
42		Kokaigawa River	Kurokobashi Bridge	Chikuseishi City	2013/2/12	Cloudy	0.50	3	62	Sand/silt	<30	92	170	262
43			Fumimakibashi Bridge	Ryuugasaki City/Tordeshi City	2013/2/13	Sunny	1.20	4	86	Sand	<30	25	50	75
44		Inarigawa River	Oeukibashi Bridge	Tsukubashi City	2013/2/13	Sunny	0.50	3	80	Gravel/sand	<30	440	810	1,250
45			Kurihashi Bridge	Kogashi City	2013/2/13	Sunny	0.20	5	87	Sand	<30	<10	22	22
46	Tonegawa River	Tonegawa River	Fukawa	Tonomachi Town	2013/2/13	Sunny	-	-	-	-	-	-	-	-
47			Sawara	Inashikishi City	2013/2/15	Rain	0.40	4	66	Sand/silt	<30	86	170	256

\*Sampling points for rivers are listed from north to south, and for different points along the river, from upstream to downstream.

## ○River: Surrounding Environment Monitoring Results

No.	Sampling point			Sampling date	Weather	Left bank						Right bank						Remarks			
	Water body	Point	Municipality			Property	Concentration of radioactive material Bq/kg (dry)				Air dose $\mu$ Sv/h	Property	Concentration of radioactive material Bq/kg (dry)				Air dose $\mu$ Sv/h				
							Radioactive iodine I-131	Cs-134	Radioactive cesium Cs-137	Total			Radioactive iodine I-131	Cs-134	Radioactive cesium Cs-137	Total					
1	Taga River System	Satonegawa River	Yamagoya Bridge	2013/2/7	Sunny	Loamy/skeletal	<30	1,100	2,000	3,100	0.25	Loamy	<30	680	1,200	1,880	0.25	Unable to collect samples due to snow on the ground			
2		Muramamabashi Bridge	Kurabeshi	2013/2/7	Cloudy	Loamy	<30	710	1,300	2,010	0.15	Loamy	<30	1,000	1,900	2,900	0.15				
4		Hanazonogawa River	Kurabeshi Bridge	2013/2/8	Sunny	Loamy	<30	180	280	420	0.13	Loamy	<30	400	700	1,140	0.14				
5		Sakakibashi Bridge	Takashimashi City	2013/2/8	Sunny	Loamy	<30	1	1	2	-	Loamy/sandy	<30	170	310	480	0.08				
6		Sakakibashi Bridge	Kitaibaraki City	2013/2/8	Sunny	Loamy	<30	460	820	1,280	0.15	Loamy	<30	200	390	590	0.16				
7		Hanankugawa River	Shinhananukabashi Bridge	2013/2/8	Sunny	Loamy	<30	230	410	640	0.16	Loamy	<30	320	610	930	0.15				
8	Kujigawa River System	Kujigawa River	Yamagata	2013/2/7	Cloudy	Loamy	<30	72	140	212	0.11	Sandy/skeletal	<30	18	38	56	0.09	Unable to collect samples due to snow on the ground			
9		Sakakibashi Bridge	Hitachioyoshi City	2013/2/8	Sunny	Loamy/sandy	<30	81	140	221	0.11	Loamy	<30	340	590	930	0.12				
10		Nakagawa River	Noguchi	2013/2/7	Sunny	Loamy	<30	230	400	630	0.10	Loamy/clavish	<30	130	210	360	0.13				
11		Nakagawa River	Shimukuni	2013/2/7	Sunny	Loamy	<30	120	210	360	0.09	Loamy/clavish	<30	290	520	830	0.13				
12		River	Kurabeshi Bridge	2013/2/7	Sunny	Loamy	<30	110	200	310	0.09	Loamy/skeletal	<30	160	310	470	0.09				
13		System	Nakanaruigawa River	Yanagisawabashi Bridge	2013/2/7	Sunny	Loamy	<30	290	550	840	0.10	Loamy	<30	51	93	144	0.12			
14		Hinomugewa River	Hinumebashi Bridge	2013/2/7	Cloudy	Loamy	<30	570	1,100	1,670	0.17	Loamy/skeletal	<30	410	760	1,170	0.14				
15		Hokotogawa River	Aisahibashi Bridge	2013/2/8	Cloudy	-	-	-	-	-	-	-	-	-	-	-	-	0.09 Soil not exposed			
16		Tomegawa River	Shintenmengawabashi Bridge	2013/2/7	Cloudy	Loamy	<30	120	260	380	0.12	Loamy	<30	460	820	1,290	0.13				
17		Tanigawa River	Uchimukabashi Bridge	2013/2/8	Sunny	Loamy	<30	200	390	590	0.12	Loamy/skeletal	<30	140	270	410	0.13				
18	T o	Kitauna Lake	Takadogawa River	Uchimukabashi Bridge	2013/2/8	Sunny	Loamy	<30	290	530	820	0.12	Loamy	<30	610	1,100	1,710	0.12	Soil not exposed		
19	n	Yamadogawa River	Niemonshibashi Bridge	2013/2/14	Cloudy	Loamy/skeletal	<30	260	490	750	0.12	Loamy/skeletal	<30	450	800	1,250	0.13				
20	m	Kurakawa River	Kurakawabashi Bridge	2013/2/14	Cloudy	Loamy/skeletal	<30	130	280	410	0.13	Loamy/skeletal	<30	110	200	310	0.11				
21	e	Gantogawa River	JA Yokohashi	2013/2/14	Cloudy	Loamy/skeletal	<30	160	280	440	0.14	Loamy/skeletal	<30	290	520	810	0.14				
22	s	Ugajigawa River	Kurokobashi Bridge	2013/2/14	Rain	Loamy	<30	1	1	1	0.07	-	-	-	-	-	-				
23	g	Seonobegawa River	Sontobebimbashi Bridge	2013/2/13	Sunny	Loamy	<30	190	360	550	0.13	Loamy	<30	410	740	1,150	0.11				
24	a	Sanogawa River	Takorobashi Bridge	2013/2/13	Sunny	Loamy	<30	250	460	710	0.14	Loamy	<30	760	1,400	2,160	0.16				
25	w	Korengawa River	Hewabashi Bridge	2013/2/13	Sunny	Loamy	<30	400	730	1,130	0.18	Loamy	<30	250	480	730	0.18				
26	a	Kajimashigawa River	Kamishukubashi Bridge	2013/2/13	Sunny	Loamy	<30	91	170	261	0.11	Loamy/sandy	<30	59	100	159	0.11				
27	i	Hishikigawa River	Hishikibashi Bridge	2013/2/13	Sunny	Loamy	<30	98	170	268	0.13	Loamy	<30	440	810	1,250	0.16				
28	g	Ishikogawa River	Kowandobashi Bridge	2013/2/13	Sunny	Loamy	<30	210	410	620	0.10	Loamy	<30	200	410	650	0.10	Soil not exposed			
29	R	Sakagawa River	Sakakibashi Bridge/National Route 354	2013/2/13	Cloudy	Loamy/skeletal	<30	610	1,100	1,710	0.18	Loamy	<30	350	650	1,000	0.19				
30	r	Shinkawa River	Shinribobashi Bridge	2013/2/13	Cloudy	Loamy	<30	540	970	1,510	0.12	Loamy	<30	140	270	410	0.17				
31	a	Sakuragawa River	Eiribashi Bridge	2013/2/13	Sunny	Loamy	<30	120	240	360	0.12	Loamy	<30	120	220	340	0.11				
32	v	Bizenogawa River	Hizemawabashi Bridge	2013/2/13	Cloudy	Loamy/skeletal	<30	160	290	450	0.14	Loamy/skeletal	<30	250	460	710	0.14				
33	t	Izumino River	Kurokobashi Bridge	2013/2/13	Cloudy	Loamy	<30	1	1	1	0.03	-	-	-	-	-	-				
34	f	Seoniwassa River	Katsushibi Bridge	2013/2/13	Cloudy	Loamy/sandy	<30	380	710	1,090	0.23	Loamy/sandy	<30	710	1,360	2,010	0.26				
35	k	Ousawa River	Okuharabashi Bridge	2013/2/13	Cloudy	Loamy	<30	520	980	1,500	0.14	Loamy	<30	420	760	1,180	0.18				
36	e	Shintonegawa River	Shintonebashi Bridge	2013/2/14	Cloudy	Sandy	<30	370	690	1,060	0.10	Loamy/skeletal	<30	240	450	690	0.11				
37	m	Hitchitongewa River	Horimoubashi Bridge	2013/2/14	Cloudy	Loamy	<30	210	390	600	0.10	Loamy	<30	100	190	290	0.11				
38	S	Macawa River	Kurokobashi Bridge	2013/2/14	Rain	Loamy	<30	54	86	140	0.09	Loamy	<30	210	370	560	0.09	Soil not exposed			
39	y	Kimugawa River	Koshishimebashi Bridge	2013/2/13	Cloudy	Loamy	<30	94	160	254	0.09	Loamy	<30	73	130	203	0.07				
40	t	Tagawa River	Takichitabashi Bridge	2013/2/13	Sunny	Loamy	<30	330	610	940	0.13	Loamy	<30	310	580	870	0.15				
41	s	Kokai-gawa River	Taganabashi Bridge	2013/2/12	Cloudy	Loamy	<30	66	110	176	0.07	Loamy/skeletal	<30	27	48	75	0.07				
42	t	Kokai-gawa River	Kurokobashi Bridge	2013/2/12	Cloudy	Loamy	<30	120	220	340	0.10	Loamy	<30	89	130	239	0.08				
43	e	Inarigawa River	Fumimakibashi Bridge	2013/2/13	Sunny	Loamy	<30	270	510	780	0.14	Loamy	<30	200	340	580	0.13				
44	m	Kurabashi Bridge	Kogishi City	2013/2/13	Sunny	Loamy	<30	230	420	650	0.15	Loamy/skeletal	<30	30	50	80	0.16				
45	m	Tonegawa River	Fukawa	2013/2/13	Sunny	Loamy	<30	230	420	650	0.15	-	-	-	-	-	-	Unable to collect samples due to snow on the ground			
46	m	Sawara	Inashikishi City	2013/2/15	Rain	Loamy	<30	31	47	78	0.06	Loamy/skeletal	<30	380	750	1,110	0.10				

\*Samples for surrounding environment (soil) were generally collected from 5 points in 3m square in the river terrace, etc. and mixed. Depending on the site situation, factors, such as the area of sampling may be much smaller, may cause figures to vary significantly.

\*Sampling points for rivers are listed from north to south, and for different points along the river, from upstream to downstream.

\*Air dose was measured with a survey meter, TCS-171 or TCS-172 of Hitachi-Aloka Medical, Ltd.

## O Lake and Headwater: Water Quality Monitoring Results

No.	Sampling point Point	Sampling date	Weather	Full depth m	General items					Concentration of radioactive material Bq/L			Remarks	
					Sampling depth m	Secchi disk depth m	Electrical conductivity mS/m	SS mg/L	Turbidity	Radioactive iodine I-131	Radioactive cesium Cs-134	Cs-137		
1	Hinuma Lake	Hiroura	Surface layer	2013/2/20	Sunny	2.7	0.5	2.2	814	3	3	<1	<1	<1
2			Lower layer				1.7		1,188	3	2	<1	<1	<1
3		Miyamae	Surface layer	2013/2/20	Sunny	3.2	0.5	2.2	1,013	2	2	<1	<1	<1
4			Lower layer				2.2		1,165	3	3	<1	<1	<1
5	Kasumigaura Lake	Oyazawa	Surface layer	2013/2/20	Sunny	2.3	0.5	1.8	1,016	3	2	<1	<1	<1
6			Lower layer				1.3		1,290	4	4	<1	<1	<1
7		Offshore of Tamatsukuri	Surface layer	2013/2/20	Sunny	6.9	0.5	0.8	34	10	8	<1	<1	<1
8			Lower layer				5.9		34	10	9	<1	<1	<1
9	Kitaura Lake	Offshore of Kakeuma	Surface layer	2013/2/20	Sunny	2.1	0.5	0.7	34	12	12	<1	<1	<1
10			Lower layer				1.1		34	11	12	<1	<1	<1
11	Hitachitonegawa River	Center of the lake	Surface layer	2013/2/20	Sunny	6.3	0.5	0.8	35	8	8	<1	<1	<1
12			Lower layer				5.3		35	9	8	<1	<1	<1
13	Offshore of Aso	Offshore layer	Surface layer	2013/2/20	Sunny	1.8	0.5	0.7	39	14	11	<1	<1	<1
14			Lower layer				0.8		39	13	11	<1	<1	<1
15	Ushikunuma Lake	Offshore layer	Surface layer	2013/2/20	Sunny	6.9	0.5	0.9	36	9	6	<1	<1	<1
16			Lower layer				5.9		36	12	7	<1	<1	<1
17	Jingubashi Bridge	Surface layer	2013/2/20	Sunny	2.3	0.5	0.6	48	11	9	<1	<1	<1	
18	Sotonasakura Lake	Surface layer	2013/2/20	Sunny	1.9	0.5	0.6	51	12	10	<1	<1	<1	
19	Ikisu	Surface layer	2013/2/20	Sunny	5.1	0.5	0.5	52	13	9	<1	<1	<1	
20	Lower layer						4.1		58	11	9	<1	<1	<1
21	Center of Ushikunuma Lake	Surface layer	2013/2/21	Sunny	1.3	0.5	0.6	20	15	10	<1	<1	<1	
22	Lower layer						1	-	-	-	-	-	-	Collected only from the surface layer due to shallow water

## O Lake and Headwater: Sediment and Surrounding Environment (Lake Shore) Monitoring Results

No.	Sampling point Point	Sampling date	Weather	Full depth m	Sediment							Surrounding environment (lake shore)					Remarks	
					General items			Concentration of radioactive material Bq/kg (dried mud)				Soil						
					Mud sampling depth cm	Mud content %	Property	Radioactive iodine I-131	Radioactive cesium Cs-134	Radioactive cesium Cs-137	Total	Property	Concentration of radioactive material Bq/kg (dry)	Radioactive iodine I-131	Radioactive cesium Cs-134	Radioactive cesium Cs-137	Air dose μSv/h	
1	Hinuma Lake	Hiroura	2013/2/20	Sunny	2.7	5	52	Silt/mud	<30	79	140	219	Loamy/skeletal	<30	<10	111	11	0.16
2		Miyamae	2013/2/20	Sunny	3.2	8	41	Silt	<30	74	110	184	Loamy/skeletal	<30	87	150	237	0.08
3		Oyazawa	2013/2/20	Sunny	2.3	5	41	Silt	<30	210	400	610	Sandy	<30	56	120	176	0.10
4		Offshore of Tamatsukuri	2013/2/20	Sunny	6.9	10	36	Silt	<30	320	570	890	Sandy	<30	46	79	125	0.11
5	Kasumigaura Lake	Offshore of Kakeuma	2013/2/20	Sunny	3.1	10	82	Sand	<30	90	180	270	Sandy	<30	3	3	-	-
6		Center of the lake	2013/2/20	Sunny	6.3	10	29	Clay	<30	100	210	310	Sandy	<30	50	76	126	0.11
7		Offshore of Aso	2013/2/20	Sunny	1.8	10	82	Sand	<30	63	120	183	Sandy	<30	200	400	600	0.10
8		Offshore of Kamaya	2013/2/20	Sunny	6.9	10	31	Silt	<30	210	400	610	Sandy	<30	28	56	84	0.06
9	Kitaura Lake	Jingubashi Bridge	2013/2/20	Sunny	2.3	10	74	Sand	<30	34	61	95	Loamy/sandy	<30	76	130	206	0.07
10		Sotonasakura Lake	2013/2/20	Sunny	1.9	10	79	Sand	<30	30	63	92	Loamy	<30	190	350	540	0.08
11	Hitachitonegawa River	Ikisu	2013/2/20	Sunny	5.1	10	78	Sand	<30	56	86	142	Loamy	<30	92	190	282	0.13
12		Center of Ushikunuma Lake	2013/2/21	Sunny	1.3	5	34	Silt/mud	<30	480	820	1,300	Loamy	<30	92	190	282	0.13

\*Samples for surrounding environment (lake shore) were generally collected from 5 points in 3m square on the lake shore, etc., and mixed. Depending on the site situation, factors, such as the area of sampling may be much smaller, may cause figures to vary significantly.

\*Air dose was measured with a survey meter, TCS-171 or TCS-172 of Hitachi-Aloka Medical, Ltd.

\*Sampling points are listed from north to south.

## ○Coast: Water Quality Monitoring Results

No.	Water body	Sampling point			General items					Concentration of radioactive material Bq/L				Remarks
		Sampling date	Weather	Full depth	Sampling depth m	Secchi disk depth m	Salinity ‰	SS mg/L	Turbidity	Radioactive iodine I-131	Radioactive cesium Cs-134	Radioactive cesium Cs-137		
1	Offshore of Satonegawa River Estuary	Surface layer	2013/2/25	Cloudy	12.0	0.5	7.0	32	4	1	<1	<1	<1	
		Lower layer				11.0		32	6	1	<1	<1	<1	
2	Offshore of Okitagawa River Estuary	Surface layer	2013/2/25	Cloudy	11.4	0.5	7.0	32	4	1	<1	<1	<1	
		Lower layer				10.4		32	7	1	<1	<1	<1	
3	Offshore of Momiyagawa River/Kujigawa River Estuaries	Surface layer	2013/2/25	Sunny	9.9	0.5	3.5	30	6	2	<1	<1	<1	
		Lower layer				8.9		32	8	2	<1	<1	<1	
4	Neighboring water body of Ken-o River	Offshore of Nakagawa River	2013/2/25	Sunny	5.4	0.5	4.0	21	4	2	<1	<1	<1	
		Lower layer				4.4		32	9	2	<1	<1	<1	
5	Offshore of Tonegawa River Estuary	Surface layer	2013/3/8	Sunny	8.5	0.5	3.0	19	7	3	<1	<1	<1	
		Lower layer				7.5		30	8	1	<1	<1	<1	

## ○Coast: Sediment Monitoring Results

No.	Water body	Sampling point			General items			Concentration of radioactive material Bq/kg (dried mud)				Remarks
		Sampling date	Weather	Full depth	Mud sampling depth cm	Mud content %	Property	Radioactive iodine I-131	Radioactive cesium Cs-134	Radioactive cesium Cs-137	Total	
1	Offshore of Satonegawa River Estuary	2013/2/25	Cloudy	12.0	5	92	Sand	<30	<10	<10	-	-
2	Offshore of Okitagawa River Estuary	2013/2/25	Cloudy	11.4	3	90	Sand	<30	12	22	34	-
3	Offshore of Momiyagawa River/Kujigawa River Estuaries	2013/2/25	Sunny	9.9	3	78	Silt	<30	14	35	49	-
4	Neighboring water body of Ken-o River	Offshore of Nakagawa River	2013/2/25	Sunny	5.4	3	93	Sand	<30	<10	<10	-
5	Offshore of Tonegawa River Estuary	2013/3/8	Sunny	8.5	3	84	Sand	<30	<10	<10	-	-

\*Sampling points are listed from north to south.

