

## (News Release)

# The Results of Radioactive Material Monitoring of the Surface Water Bodies Within Ibaraki Prefecture (August 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 August 1-28, 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

77 environmental reference points, etc. in the surface water bodies within Ibaraki Prefecture  
(Rivers: 53 locations, Lakes and headwaters: 19 locations, Coasts: 5 locations)

#### (2) Survey Method

- Measurement of concentrations of radioactive materials (radioactive cesium (Cs-134 and Cs-137)) 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 (May-June 2013))

#### (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, levels of both the rivers and lakes/headwaters measured were around 1,000Bq/kg or below for most of the locations (coasts: around 50Bq/kg or below), and have declined or remained constant.

(Rivers)

Cs-134+Cs-137: ND-4,200Bq/kg (dried mud) (\*11-4,100Bq/kg (dried mud))

(Lakes and headwaters)

Cs-134+Cs-137: ND-5,400Bq/kg (dried mud) (\*18-5,100Bq/kg (dried mud))

(Coasts)

Cs-134+Cs-137: ND-42Bq/kg (dried mud) (\*ND-42Bq/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	37 (36)	11 (9)	1 (4)	2 (3)	1 (0)	0 (0)	1 (1)	53 (53)
Lakes and headwaters	10(10)	6 (5)	1 (2)	0 (0)	0 (0)	1 (1)	1 (1)	19 (19)
Coasts	5 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	5 (5)

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

(Rivers)

Cs-134+Cs-137: ND-9,700Bq/kg (dry) (\*ND-7,200Bq/kg (dry))

Spatial dose: 0.03-0.29 $\mu$ Sv/h

(Lakes and headwaters)

Cs-134+Cs-137: 20-4,600Bq/kg (dry) (\*19-4,800Bq/kg (dry))

Spatial dose: 0.05-0.18 $\mu$ 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., 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.

## ○River: Water Quality Monitoring Results

(Annex)

No.	Sampling point			Sampling date	Weather	Full depth (m)	General items					Radioactive material concentrations (Bq/L)		Remarks	
	Water body		Point				Sampling depth (m)	Transparency (cm)	Electrical conductivity (mS/m)	SS (mg/L)	Turbidity	Radioactive cesium			
												Cs-134	Cs-137		
1	Taga River System	Satonegawa River	Yamagoyabashi Bridge	Kitaibarakishi City	2013/8/26	Sunny	0.3	0.0	>100	13	13	2	<1	<1	
2			Murayamabashi Bridge		2013/8/26	Sunny	0.4	0.0	>100	21	2	2	<1	<1	
3			Kurabeishi		2013/8/26	Sunny	0.4	0.0	>100	6	<1	1	<1	<1	
4		Hanazonogawa River	Isonarebashi Bridge		2013/8/27	Sunny	0.7	0.0	72	18	11	2	<1	<1	
5			Okitagawa River	Takahagishi City	2013/8/26	Sunny	0.5	0.0	>100	7	2	1	<1	<1	
6			Sakaebashi Bridge		2013/8/27	Sunny	0.5	0.0	60	13	6	4	<1	<1	
7			Hananukigawa River	Takahagishi City	2013/8/27	Sunny	0.3	0.0	85	12	7	2	<1	<1	
8	Kujigawa River System	Kujigawa River	Yamagata	Hitachimiyashi City	2013/8/27	Sunny	0.3	0.0	90	13	2	1	<1	<1	
9			Sakakibashi Bridge	Hitachishi City/Tokaimura Village	2013/8/27	Sunny	0.5	0.0	44	14	17	6	<1	<1	
10	Nakagawa River System	Nakagawa River	Noguchi	Hitachiomiyashi City/Shirosatomachi Town	2013/8/28	Sunny	0.4	0.0	>100	16	2	1	<1	<1	
11			Shimokunii	Mitoshi City	2013/8/28	Sunny	0.5	0.0	92	16	3	2	<1	<1	
12			Katsutabashi Bridge	Mitoshi City/Hitchinakashi City	2013/8/28	Sunny	3.6	0.0	80	36	2	3	<1	<1	
13		Nakamarugawa River	Yanagisawabashi Bridge	Hitachinakashi City	2013/8/28	Sunny	1.2	0.0	44	112	12	7	<1	<1	
14		Hinumagawa River	Hinumamaekawa River	Nagaokabashi Bridge	2013/8/19	Cloudy	0.3	0.0	60	26	14	3	<1	<1	
15			Hinumagawa River	Takahashi	2013/8/19	Cloudy	0.5	0.0	50	26	16	2	<1	<1	
16			Kanseigawa River	Kanseibashi Bridge	2013/8/19	Sunny	0.2	0.0	54	26	6	2	<1	<1	
17			Daiyagawa River	Oyabashi Bridge	2013/8/19	Sunny	0.3	0.0	53	36	19	3	<1	<1	
18		Hinumagawa River	Hinumabashi Bridge	Mitoshi City/Oaraimachi Town	2013/8/19	Sunny	0.5	0.0	33	2300	30	6	<1	<1	
19	Kitaura Lake	Hokotagawa River	Asahibashi Bridge	Hokotashi City	2013/8/21	Sunny	0.9	0.0	62	34	7	4	<1	<1	
20			Tomegawa River		2013/8/21	Sunny	0.2	0.0	52	28	10	4	<1	<1	
21			Taiyogawa River		2013/8/6	Cloudy	0.2	0.0	80	28	4	3	<1	<1	
22		Takedagawa River	Uchijukukobashi Bridge	Namegatashi City	2013/8/21	Cloudy	0.2	0.0	70	30	15	4	<1	<1	
23		Yamadagawa River	Nioroshibashi Bridge		2013/8/21	Cloudy	0.3	0.0	35	38	17	8	<1	<1	
24		Kurakawa River	Kurakawabashi Bridge		2013/8/21	Cloudy	0.5	0.0	41	29	21	9	<1	<1	
25		Gantsugawa River	JA Yokohashi		2013/8/21	Cloudy	0.2	0.0	63	32	9	3	<1	<1	
26		Nagaregawa River	Suhobashi Bridge	Kashimashi City	2013/8/6	Cloudy	0.2	0.0	95	40	18	3	<1	<1	
27	Tonewakura River	Sonobegawa River	Sonobeshimbashi Bridge	Omitamashi City	2013/8/1	Cloudy	0.8	0.0	33	24	22	12	<1	<1	
28		Sannogawa River	Tokorobashi Bridge		2013/8/1	Cloudy	1.3	0.0	27	36	32	11	<1	<1	
29		Koisegawa River	Heiwabashi Bridge	Ishikoshi City	2013/8/1	Cloudy	0.8	0.0	51	24	13	7	<1	<1	
30		Kajinashigawa River	Kamishukubashi Bridge	Namegatashi City	2013/8/1	Cloudy	1.0	0.0	38	31	13	9	<1	<1	
31		Hishikigawa River	Hishikibashi Bridge		2013/8/1	Cloudy	0.6	0.0	39	28	11	7	<1	<1	
32		Ichinosegawa River	Kawanakabashi Bridge	Kasumigaurashi City	2013/8/1	Cloudy	1.1	0.0	54	26	10	5	<1	<1	
33		Sakaigawa River	Sakaibashi Bridge/National Route 354	Tsuchiurashi City	2013/8/2	Cloudy	0.4	0.0	69	38	8	3	<1	<1	
34		Shinkawa River	Shintenbashi Bridge		2013/8/2	Cloudy	2.5	0.0	34	27	14	8	<1	<1	
35		Sakuragawa River	Eiribashi Bridge	Tsuchiurashi City/Tsukubashi City	2013/8/2	Cloudy	0.4	0.0	45	23	12	5	<1	<1	
36		Bizengawa River	Bizengawabashi Bridge	Tsuchiurashi City	2013/8/2	Cloudy	1.0	0.0	35	27	18	8	<1	<1	
37		Hanamurogawa River	Shinwabashi Bridge		2013/8/2	Cloudy	0.2	0.0	64	28	16	6	<1	<1	
38	Syotem	Seimeigawa River	Katsuhashi Bridge	Arimachi Town	2013/8/16	Sunny	0.4	0.0	31	34	11	8	<1	<1	
39		Onogawa River	Okuharahohashi Bridge	Ryugasakisaki City/Ushikushi City	2013/8/16	Sunny	0.5	0.0	33	29	18	10	<1	<1	
40		Shintonegawa River	Shintonebashi Bridge	Inashikishi City	2013/8/6	Cloudy	1.2	0.0	13	51	16	12	<1	<1	
41		Hitachitonegawa River	Horinouchibashi Bridge	Itakoshi City	2013/8/6	Cloudy	0.6	0.0	27	38	17	8	<1	<1	
42		Maekawa River	Ayamebashi Bridge		2013/8/6	Cloudy	2.6	0.0	23	52	24	12	<1	<1	
43	Kinugawa River	Kawashimabashi Bridge	Chikuseishi City		2013/8/15	Sunny	0.3	0.0	>100	19	2	1	<1	<1	
44		Takishitabashi Bridge	Moriyashi City		2013/8/16	Sunny	0.6	0.0	51	22	10	3	<1	<1	
45		Tagawa River	Tagawabashi Bridge	Chikuseishi City	2013/8/15	Sunny	0.4	0.0	76	23	5	1	<1	<1	
46		Kokaigawa River	Kurokobashi Bridge		2013/8/15	Sunny	0.4	0.0	30	22	7	4	<1	<1	
47		Fuminakibashi Bridge	Torideshi City		2013/8/20	Sunny	3.2	0.0	55	20	6	5	<1	<1	
48	Kokaigawa River	Yatagawa River	Maruyamabashi Bridge		2013/8/20	Sunny	1.3	0.0	34	27	14	10	<1	<1	
49		Nishiyatagawa River	Sakaimatsuhashi Bridge	Tsukubashi City	2013/8/20	Sunny	1.2	0.0	30	24	11	9	<1	<1	
50		Inarigawa River	Ogukibashi Bridge		2013/8/20	Sunny	0.9	0.0	79	25	6	9	<1	<1	
51		Kurihashi Bridge	Kogashi City		2013/8/15	Sunny	0.4	0.0	67	19	6	3	<1	<1	
52		Tonegawa River	Fukawa	Tonomachi Town	2013/8/16	Sunny	0.5	0.0	49	21	12	5	<1	<1	
53		Sawara	Inashikishi City		2013/8/6	Cloudy	0.2	0.0	38	26	13	7	<1	<1	

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

• Radioactive materials concentrations contain some measurement errors but are not noted here.

## ○River: 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				Mud sampling depth (cm)	Mud content %	Property	Radioactive cesium				
	Cs-134	Cs-137	Total											
1	Taga River System	Satonegawa River	Yamagabayashi Bridge	Kitaibarakishi City	2013/8/26	Sunny	0.3	8	79	Sand	27	54	81	
2			Murayamabashi Bridge		2013/8/26	Sunny	0.4	8	79	Sand/gravel	37	79	116	
3			Kurabeishi		2013/8/26	Sunny	0.4	8	83	Gravel/sand	12	33	45	
4		Hanazonogawa River	Isonarebashi Bridge		2013/8/27	Sunny	0.7	8	81	Gravel/sand	15	23	38	
5		Okitawaga River	Sakacabashi Bridge		2013/8/26	Sunny	0.5	8	80	Gravel/sand	<10	21	21	
6		Sakaiabashi Bridge	Kitaibarakishi City		2013/8/27	Sunny	0.5	8	81	Sand/gravel	22	46	68	
7		Hananukigawa River	Shinhananukubashi Bridge		2013/8/27	Sunny	0.3	8	78	Sand/gravel	33	82	115	
8	Kujigawa River System	Kujigawa River	Yamagata	Hitachimiyashi City/Tokaimura Village	2013/8/27	Sunny	0.3	8	80	Sand/silt	25	69	94	
9			Sakakibashi Bridge		2013/8/27	Sunny	0.5	8	62	Silt/sand	36	75	111	
10		Nakagawa River	Noguchi		2013/8/28	Sunny	0.4	8	71	Sand	<10	15	15	
11			Shimokunii		2013/8/28	Sunny	0.5	8	67	Sand/silt	35	96	131	
12			Katsutabashi Bridge		2013/8/28	Sunny	3.6	8	40	Silt	200	400	600	
13			Nakamarugawa River		2013/8/28	Sunny	1.2	8	43	Silt/gravel	250	630	880	
14	Nakagawa River System	Hinumagawa River	Hinumamaekawa River	Ibarakimachi Town	2013/8/19	Cloudy	0.3	8	82	Sand/gravel	25	65	90	
15			Hinumagawa River		2013/8/19	Cloudy	0.5	8	82	Gravel/sand	12	27	39	
16			Kanseigawa River		2013/8/19	Sunny	0.2	7	83	Gravel/sand	26	56	82	
17			Daiyagawa River		2013/8/19	Sunny	0.3	8	80	Gravel/sand	100	210	310	
18			Hinumabashi Bridge		2013/8/19	Sunny	0.5	8	81	Sand/silt	140	290	430	
19	Kitaura Lake	Hinumagawa River	Hokotagawa River	Hitachinakashi City	2013/8/21	Sunny	0.9	8	69	Sand	52	130	182	
20			Tomoegawa River		2013/8/21	Sunny	0.2	8	29	Silt	180	420	600	
21			Taiyogawa River		2013/8/21	Cloudy	0.2	6	81	Sand	100	220	320	
22			Takedagawa River		2013/8/21	Cloudy	0.2	8	74	Sand/gravel	80	180	260	
23			Yamadagawa River		2013/8/21	Cloudy	0.3	8	77	Sand/gravel	43	100	143	
24			Kurakawa River		2013/8/21	Cloudy	0.5	8	82	Sand/gravel	32	68	100	
25			Gantsugawa River		2013/8/21	Cloudy	0.2	8	81	Sand	55	140	195	
26		Kasumigaura Lake	Nagaregawa River	Kashimashi City	2013/8/6	Cloudy	0.2	5	83	Sand/silt	120	220	340	
27			Sonobegawa River		2013/8/1	Cloudy	0.8	8	37	Silt/sand	160	410	570	
28			Sannogawa River		2013/8/1	Cloudy	1.3	8	82	Sand/gravel	260	560	820	
29			Koisegawa River		2013/8/1	Cloudy	0.8	8	78	Sand	38	97	135	
30			Kajinashigawa River	Namegatashi City	2013/8/1	Cloudy	1.0	8	80	Sand/gravel	53	110	163	
31			Hishikigawa River		2013/8/1	Cloudy	0.6	8	76	Sand/gravel	170	360	530	
32			Ichinosegawa River		2013/8/1	Cloudy	1.1	8	64	Silt/sand	220	430	650	
33	Tonegawa River		Sakaigawa River		2013/8/2	Cloudy	0.4	8	79	Sand/gravel	74	150	224	
34			Shinkawa River		2013/8/2	Cloudy	2.5	8	22	Silt	1,300	2,900	4,200	
35			Sakuragawa River		2013/8/2	Cloudy	0.4	8	70	Sand/silt	19	33	52	
36			Bizengawa River		2013/8/2	Cloudy	1.0	8	67	Sand/gravel	560	1,300	1,860	
37			Hanamurogawa River		2013/8/2	Cloudy	0.2	8	75	Sand/gravel	250	540	790	
38			Seimeigawa River		2013/8/16	Sunny	0.4	8	70	Sand/silt	370	800	1,170	
39			Onogawa River		2013/8/16	Sunny	0.5	8	60	Sand/silt	270	640	910	
40			Shintonegawa River		2013/8/16	Cloudy	1.2	7	58	Silt/sand	110	240	350	
41	Hitachionegawa River	Yorokoshigawa River	Horinouchibashi Bridge	Itakoshi City	2013/8/6	Cloudy	0.6	5	30	Silt	180	350	530	
42			Ayamebashi Bridge		2013/8/6	Cloudy	2.6	8	46	Silt/sand	110	320	430	
43		Kinugawa River	Kinugawa River	Chikuseishi City	2013/8/15	Sunny	0.3	8	83	Sand/gravel	<10	<10	-	
44			Takishitabashi Bridge		2013/8/16	Sunny	0.6	8	63	Sand/silt	28	55	83	
45			Tagawa River		2013/8/15	Sunny	0.4	8	85	Sand/gravel	10	30	40	
46	Kokaigawa River	Kokaigawa River	Kurokobashi Bridge	Torideshi City	2013/8/15	Sunny	0.4	8	50	Silt/sand	110	190	300	
47			Fumimakibashi Bridge		2013/8/20	Sunny	3.2	8	82	Sand	23	50	73	
48		Nishiyatagawa River	Yatagawa River	Tsukubashi City	2013/8/20	Sunny	1.3	8	43	Silt	510	1,100	1,610	
49			Sakaimatsuhashi Bridge		2013/8/20	Sunny	1.2	8	32	Silt	190	440	630	
50			Inarigawa River		2013/8/20	Sunny	0.9	8	56	Silt/sand	650	1,500	2,150	
51	Tonegawa River	Kurihashi Bridge	Kogashi City	Tonemachi Town	2013/8/15	Sunny	0.4	8	80	Sand/silt	13	42	55	
52			Fukawa		2013/8/16	Sunny	0.5	8	68	Sand/silt	51	120	171	
53		Sawara	Inashikishi City	2013/8/6	Cloudy	0.2	5	89	Gravel/sand	29	72	101		

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

\* Radioactive materials concentrations contain some measurement errors but are not noted here.

## ○River: Surrounding Environment Monitoring Results

No.	Sampling point			Sampling date	Weather	Left bank			Right bank			Remarks			
						Property	Concentration of radioactive material [Bq/kg (dry)]		Property	Concentration of radioactive material [Bq/kg (dry)]					
	Water body	Point	Municipality				Radioactive cesium Cs-134	Radioactive cesium Cs-137		Radioactive cesium Cs-134	Radioactive cesium Cs-137				
1	Taga River System	Satonegawa River	Yamagoyabashi Bridge	2013/8/26	Sunny	Loamy	2,100	4,500	6,600	0.25	Loamy	3,200	6,500	9,700	0.29
2			Murayamabashi Bridge		Sunny	Loamy	990	2,000	2,990	0.14	Loamy	1,700	3,900	5,600	0.09
3			Kurabeshi		Sunny	Loamy	580	1,300	1,880	0.14	Loamy	470	980	1,450	0.13
4		Hanazonogawa River	Isonarebashi Bridge	2013/8/27	Sunny	Loamy	490	1,000	1,490	0.12	Loamy	470	1,000	1,470	0.19
5			Sakaebashi Bridge	Takahagishi City	Sunny	Sandy	46	88	134	0.09	Loamy	300	650	950	0.08
6			Sakaebashi Bridge	Kitaibaraki City	Sunny	Loamy	550	1,100	1,650	0.16	Loamy	350	750	1,100	0.16
7		Hananukigawa River	Shinanukanubashi Bridge	Takahagishi City	Sunny	Loamy	540	1,200	1,740	0.14	Loamy	640	1,400	2,040	0.11
8	Kujigawa River	Kujigawa River	Yamagata	Hitachiyamishi City	Sunny	Loamy	110	190	300	0.11	Loamy	46	130	176	0.09
9			Sakakibashi Bridge	Hitachishi City/Tokaimura Village	Sunny	Loamy	220	430	650	0.08	Loamy	210	470	680	0.10
10	Nakagawa River System	Nakagawa River	Noguchi	Hitachiyamishi City/Shirosatomachi Town	Sunny	Loamy	260	640	900	0.10	Sandy	36	73	109	0.09
11			Shimokunii	Mitoshi City	Sunny	Loamy	95	210	305	0.07	Loamy	290	680	970	0.12
12			Katsutabashi Bridge	Mitoshi City/Hitachinakashi City	Sunny	Loamy	150	320	470	0.09	Loamy	110	280	390	0.10
13		Nakamarugawa River	Yanagisawabashi Bridge	Hitachinakashi City	Sunny	Loamy	330	670	1,000	0.10	Loamy	130	320	450	0.09
14		Hinumamaekawa River	Nagaokabashi Bridge	Ibarakimachi Town	Cloudy	Loamy	49	100	149	0.08	Loamy	180	380	560	0.12
15		Hinumagawa River	Takabashi		Cloudy	Loamy	30	65	95	0.06	Loamy	250	540	790	0.12
16		Kanseigawa River	Kanseibashi Bridge		Sunny	Loamy	200	460	660	0.09	Loamy	380	800	1,180	0.13
17		Daiyagawa River	Oyabashi Bridge	Hokotashi City	Sunny	-	-	-	-	0.07	-	-	-	0.07	Soil not exposed
18		Hinumagawa River	Hinumabashi Bridge	Mitoshi City/Oraimachi Town	Sunny	Loamy	510	1,100	1,610	0.18	Loamy	430	960	1,390	0.14
19	Kitaura Lake	Hokotagawa River	Asahibashi Bridge	Hokotashi City	Sunny	-	-	-	-	0.06	-	-	-	0.07	Soil not exposed
20		Tomoegawa River	Shintomoegewabashi Bridge		Sunny	Loamy	220	460	680	0.11	Loamy	180	430	610	0.11
21		Taiovogawa River	Tazukabashi Bridge		Cloudy	Loamy	390	770	1,160	0.07	Loamy	120	260	380	0.07
22		Takedagawa River	Uchijukuhoshi Bridge	Namegatashi City	Cloudy	Loamy	160	350	510	0.10	Loamy	270	630	900	0.12
23		Yamadaigawa River	Nioroshihoshi Bridge		Cloudy	Loamy	70	130	200	0.08	Loamy	490	1,100	1,590	0.11
24		Kurakawa River	Kurakawabashi Bridge		Cloudy	Loamy	210	490	700	0.11	Loamy	500	1,000	1,500	0.08
25		Gantsugawa River	JA Yokohashi		Cloudy	Loamy	490	1,100	1,590	0.09	Loamy	360	770	1,130	0.10
26		Nagaregawa River	Sutohibashi Bridge	Kashimashi City	Cloudy	-	-	-	-	0.08	-	-	-	0.08	Soil not exposed
27		Sonobegawa River	Sonobeshinbashi Bridge	Omitamashi City	Cloudy	Sandy	230	510	740	0.07	Loamy	400	900	1,300	0.09
28		Samogawa River	Totorobashi Bridge	Ishikoshi City	Cloudy	Sandy	880	1,800	2,680	0.08	Sandy	310	680	990	0.11
29		Koisiegawa River	Heiwabashi Bridge		Cloudy	Loamy	430	970	1,400	0.16	Loamy	430	940	1,370	0.12
30		Kajinashigawa River	Kamishukubashi Bridge		Cloudy	Sandy	300	590	890	0.09	Sandy	170	350	520	0.10
31	Kasumigaura Lake	Hishikigawa River	Hishikibashi Bridge	Kasumigaurashi City	Cloudy	Sandy	150	350	500	0.11	Sandy	200	440	640	0.11
32		Ichinosegawa River	Kawanakabashi Bridge	Tsuchiurashi City	Cloudy	Sandy	170	350	520	0.09	Sandy	260	520	780	0.09
33		Sakaigawa River	Sakaibashi Bridge/National Route 354		Cloudy	Sandy	530	1,100	1,630	0.13	Sandy	130	300	430	0.08
34		Shinkawa River	Shintenbashi Bridge		Cloudy	Sandy	560	1,100	1,660	0.10	Sandy	420	880	1,300	0.12
35		Sakuragawa River	Eribashi Bridge	Tsuchiurashi City/Tsukubashi City	Cloudy	Sandy	140	280	420	0.08	Sandy	150	310	460	0.10
36		Bizengawa River	Bizengawabashi Bridge	Tsuchiurashi City	Cloudy	Sandy	430	930	1,360	0.12	Sandy	310	680	990	0.12
37		Hanamurogawa River	Shinwabashi Bridge	Aminamichi Town	Cloudy	Sandy	490	980	1,470	0.17	Sandy	430	880	1,310	0.15
38		Seimeigawa River	Katsuhoshi Bridge		Sunny	Sandy	430	960	1,390	0.18	Sandy	330	660	990	0.14
39		Onogawa River	Okuharaohashi Bridge	Ryugasaki City/Ushikushi City	Sunny	Loamy	350	680	1,030	0.11	Loamy	500	1,200	1,700	0.10
40	Hitachitogewa River	Shintonegawa River	Hironebashi Bridge	Inashikishi City	Cloudy	Loamy	220	440	660	0.10	Loamy	160	360	520	0.11
41		Yorokobigawa River	Hirinebashi Bridge	Itakoshi City	Cloudy	Loamy	170	370	540	0.07	Loamy	110	240	350	0.09
42		Maekawa River	Ayamebashi Bridge	Ishikoshi City	Cloudy	Sandy	70	170	240	0.03	Sandy	65	140	205	0.06
43		Kinugawa River	Kawashimabashi Bridge		Sunny	Loamy	78	130	208	0.09	Loamy	22	71	93	0.08
44		Tagawa River	Tagawabashi Bridge		Sunny	Loamy	370	770	1,140	0.14	Loamy	850	1,800	2,650	0.17
45		Kokaigawa River	Kurokobashi Bridge	Chikusei City	Sunny	Loamy	53	130	183	0.07	Loamy	26	56	82	0.07
46		Fumimakibashi Bridge	Torideshi City	Tsukubashi City	Sunny	Loamy	99	230	329	0.08	Loamy	190	370	560	0.08
47		Yatagawa River	Maruyamabashi Bridge		Sunny	Loamy	380	760	1,140	0.13	Loamy	200	400	600	0.12
48		Nishiyatagawa River	Sakamatushahi Bridge		Sunny	Loamy	550	1,200	1,750	0.09	Loamy	290	660	950	0.12
49	Kokigawa River	Inarigawa River	Ogukibashi Bridge	Tonomachi Town	Sunny	Loamy	210	510	720	0.05	Loamy	300	580	880	0.10
50		Tonegawa River	Kurihashi Bridge	Kogashi City	Sunny	Loamy	410	880	1,290	0.17	Sandy	31	58	89	0.08
51		Fukawa	Tonomachi Town	Sunny	Loamy	66	150	216	0.07	Sandy	15	41	56	0.05	
52		Sawara	Inashikishi City	2013/8/6	Cloudy	Loamy	-	-	-	-	-	-	-	-	
53															

• 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-172B of Hitachi-Aloka Medical Ltd.

• Radioactive materials concentrations contain some measurement errors but are not noted here.

## O Lake and Headwater: Water Quality Monitoring Results

Sampling point				Sampling date	Weather	Full depth (m)	General items					Radioactive material concentrations (Bq/L)		Remarks				
No.							Sampling depth (m)	Secchi disk depth (m)	Electrical conductivity (mS/m)	SS (mg/L)	Turbidity	Radioactive cesium						
												Cs-134	Cs-137					
1	Hinuma Lake	Hiroura	Surface layer	2013/8/13	Sunny	1900/1/2	0.5	1.2	1,100	5	6	<1	<1					
			Lower layer				1.4		1,100	7	5	<1	<1					
2	Kasumigaura Lake	Miyamae	Surface layer	2013/8/13	Sunny	1900/1/3	0.5	1.2	1,019	6	4	<1	<1					
			Lower layer				2.2		1,052	5	4	<1	<1					
3		Oyazawa	Surface layer	2013/8/13	Sunny	1900/1/2	0.5	0.9	737	13	7	<1	<1					
			Lower layer				1.1		739	14	7	<1	<1					
4	Ryujin Dam	Offshore of Tamatsukuri	Surface layer	2013/8/7	Sunny	1900/1/6	0.5	0.5	31	18	15	<1	<1					
			Lower layer				5.9		30	31	26	<1	<1					
5		Offshore of Kakeuma	Surface layer	2013/8/7	Sunny	1900/1/2	0.5	0.6	32	19	14	<1	<1					
			Lower layer				1.0		32	16	14	<1	<1					
6		Center	Surface layer	2013/8/7	Sunny	1900/1/6	0.5	0.7	33	16	11	<1	<1					
			Lower layer				5.3		33	16	14	<1	<1					
7		Offshore of Aso	Surface layer	2013/8/7	Sunny	1900/1/2	0.5	0.5	38	15	14	<1	<1					
			Lower layer				1.3		38	11	15	<1	<1					
8	Mizunuma Dam	Offshore of Kamaya	Surface layer	2013/8/7	Sunny	1900/1/6	0.5	0.8	33	16	12	<1	<1					
			Lower layer				5.8		33	16	10	<1	<1					
9		Jingubashi Bridge	Surface layer	2013/8/7	Sunny	1900/1/2	0.5	0.5	44	23	19	<1	<1					
			Lower layer				1.8		43	19	24	<1	<1					
10	Ushikunuma Lake	Sotonasakaura Lake	Surface layer	2013/8/7	Sunny	1900/1/3	0.5	0.7	76	14	14	<1	<1					
			Lower layer				2.6		76	16	14	<1	<1					
11		Ikisu	Surface layer	2013/8/7	Sunny	1900/1/4	0.5	0.7	113	13	12	<1	<1					
			Lower layer				4.0		114	13	12	<1	<1					
12	Ushikunuma Lake	Center	Surface layer	2013/8/14	Sunny	1900/1/1	0.5	0.6	23	12	14	<1	<1					
			Lower layer				0.8		23	23	14	<1	<1					
13	Mizunuma Dam		Surface layer	2013/8/8	Sunny	1900/1/13	0.5	1.8	6	2	2	<1	<1					
			Lower layer				12.2		9	8	8	<1	<1					
14	Koyama Dam		Surface layer	2013/8/8	Sunny	1900/1/15	0.5	2.1	7	1	2	<1	<1					
			Lower layer				14.1		8	2	2	<1	<1					
15	Hananuki Dam		Surface layer	2013/8/8	Cloudy	1900/1/19	0.5	1.3	6	4	2	<1	<1					
			Lower layer				18.5		9	4	6	<1	<1					
16	Jyuo Dam		Surface layer	2013/8/9	Sunny	1900/1/18	0.5	2.7	13	<1	2	<1	<1					
			Lower layer				17.3		13	4	4	<1	<1					
17	Ryujin Dam		Surface layer	2013/8/9	Sunny	1900/1/19	0.5	1.1	8	4	3	<1	<1					
			Lower layer				18.3		13	6	6	<1	<1					
18	Fujigawa Dam		Surface layer	2013/8/12	Sunny	1900/1/9	0.5	1.8	14	2	2	<1	<1					
			Lower layer				8.9		15	6	5	<1	<1					
19	Iida Dam		Surface layer	2013/8/12	Sunny	1900/1/15	0.5	2.7	10	<1	2	<1	<1					
			Lower layer				14.6		14	13	15	<1	<1					

• Sampling points are listed from north to south.

• Radioactive materials concentrations contain some measurement errors but are not noted here.

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

Sampling point			Sampling date	Weather	Full depth (m)	Sediment						Surrounding environment (lake shore)				Remarks		
						General items			Concentration of radioactive material [Bq/kg (dried mud)]									
						Mud sampling depth (cm)	Mud content %	Property	Radioactive cesium			Property	Soil					
No.			Municipality						Cs-134	Cs-137	Total		Concentration of radioactive material [Bq/kg (dry)]					
									Cs-134	Cs-137	Total		Cs-134	Cs-137	Total	Air dose ( $\mu$ Sv/h)		
1	Hinuma Lake		Ibarakimachi Town	2013/8/13	Sunny	1900/1/2	8	42	Silt	32	82	114	Sandy	460	990	1,450	0.13	
2				2013/8/13	Sunny	1900/1/3	8	25	Silt	14	35	49	Sandy	<10	20	20	0.08	
3				2013/8/13	Sunny	1900/1/2	8	31	Silt	180	360	540	-	-	-	-	- Mad sampling points not determined	
4	Kasumigaura Lake		Namegatashi City	2013/8/7	Sunny	1900/1/6	10	17	Silt·Clay	180	450	630	Sandy	17	45	62	0.06	
5				2013/8/7	Sunny	1900/1/2	3	75	Sand	100	220	320	Sandy	62	120	182	0.10	
6				2013/8/7	Sunny	1900/1/6	10	14	Silt·Clay	240	640	880	-	-	-	-	- Mad sampling points not determined	
7			Inashikishi City	2013/8/7	Sunny	1900/1/2	5	72	Sand/silt	52	87	139	Sandy	75	180	255	0.10	
8	Kitaura Lake			2013/8/7	Sunny	1900/1/6	10	15	Silt	140	270	410	Sandy	250	540	790	0.09	
9				2013/8/7	Sunny	1900/1/2	5	64	Sand/silt	48	88	136	Loamy	22	61	83	0.05	
10	Hitachitonegawa River		Itakoshi City	2013/8/7	Sunny	1900/1/3	4	69	Sand	16	50	66	Loamy	79	180	259	0.06	
11				2013/8/7	Sunny	1900/1/4	3	71	Sand	34	68	102	Loamy	120	260	380	0.07	
12	Ushikunuma Lake			2013/8/14	Sunny	1900/1/1	9	24	Silt	270	580	850	Sandy	110	250	360	0.09	
13			Ryugasaki City	2013/8/8	Sunny	1900/1/13	8	19	Silt	1,700	3,700	5,400	Loamy	280	580	860	0.15	
14				2013/8/8	Sunny	1900/1/15	8	24	Silt	220	470	690	Sandy	320	610	930	0.13	
15				2013/8/8	Cloudy	1900/1/19	8	22	Silt	820	1,700	2,520	Loamy	870	2,000	2,870	0.18	
16			Center	2013/8/9	Sunny	1900/1/18	8	26	Silt	180	340	520	Loamy	1,500	3,100	4,600	0.16	
17				2013/8/9	Sunny	1900/1/19	8	20	Silt	340	670	1,010	Loamy	240	520	760	0.09	
18				2013/8/12	Sunny	1900/1/9	8	36	Silt	150	330	480	Loamy	380	840	1,220	0.14	
19			Kasamashi City	2013/8/12	Sunny	1900/1/15	8	21	Silt	<10	<10	-	Loamy	180	410	590	0.10	

• 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.

• Sampling points are listed from north to south.

• Air dose was measured with a survey meter, TCS-172B of Hitachi-Aloka Medical, Ltd.

• Radio: Mizunuma Dam

## ○Coast: Water Quality Monitoring Results

No.	Water body	Sampling point		Point Point	Weather	Full depth (m)	General items					Radioactive material concentrations (Bq/L)		Remarks				
		Sampling depth (m)	Secchi disk depth (m)				Salinity (%)	SS (mg/L)	Turbidity	Radioactive cesium		Cs-134	Cs-137					
1	Offshore of Satonegawa River Estuary	Surface layer	2013/8/5	Cloudy	1900/1/13	0.5	4.0	28	1	1	<1	<1	<1					
		Lower layer				12.8		31	6	1	<1	<1						
2	Offshore of Okitagawa River Estuary	Surface layer	2013/8/5	Sunny	1900/1/12	0.5	8.5	17	1	1	<1	<1	<1					
		Lower layer				11.8		30	2	1	<1	<1						
3	Offshore of Momiyagawa River/Kujigawa River Estuaries	Surface layer	2013/8/5	Cloudy	1900/1/10	0.5	3.5	23	3	2	<1	<1	<1					
		Lower layer				9.2		31	3	2	<1	<1						
4	Neighboring water body of Ken-o Offshore of Nakagawa River	Surface layer	2013/8/5	Cloudy	1900/1/5	0.5	1.5	6	7	4	<1	<1	<1					
		Lower layer				4.5		24	10	3	<1	<1						
5	Offshore of Tonegawa River Estuary	Surface layer	2013/8/23	Sunny	1900/1/9	0.5	2.3	18	5	4	<1	<1	<1					
		Lower layer				8.1		30	2	1	<1	<1						

• Sampling points are listed from north to south.

• Radioactive materials concentrations contain some measurement errors but are not noted here.

## ○Coast: Sediment Monitoring Results

No.	Koyama Dam	Sampling date	Weather	Full depth (m)	General items		Concentration of radioactive material [Bq/kg (dried m)]	Remarks		
					Mud content %	Property	Radioactive cesium			
							Cs-134	Cs-137	Total	
1	Jyuo Dam	2013/8/5	Cloudy	1900/1/13	79	Sand	11	30	41	
2	Ryujin Dam	2013/8/5	Sunny	1900/1/12	74	Sand	10	18	28	
3	Fujiigawa Dam	2013/8/5	Cloudy	1900/1/10	72	Sand	16	26	42	
4	Iida Dam	2013/8/5	Cloudy	1900/1/5	81	Sand	<10	<10	-	
5	Offshore of Tonegawa River Estuary	2013/8/23	Sunny	1900/1/9	77	Sand	<10	<10	-	

• Sampling points are listed from north to south.

• Radioactive materials concentrations contain some measurement errors but are not noted here.

