

(Press Release)  
The Results of Radioactive Material Monitoring of the Surface Water Bodies  
within Ibaraki Prefecture  
(2<sup>nd</sup> Time)

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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 17-25 (2<sup>nd</sup> Time) 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

52 environmental reference points, etc. in the surface water bodies within Ibaraki Prefecture  
(Rivers: 35 locations, Lakes and headwaters: 12 locations, Coasts: 5 locations)

(2) Survey Method

- Measurement of concentrations of radioactive materials (radioactive iodine (I-131), 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)

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

Radioactive iodine (I-131): Not detectable (ND) at any location (\*ND at any location)

Radioactive cesium (Cs-134, Cs-137): ND at any location. (\*ND at any location)

\*“Regulatory Guide: Emergency Preparedness for Nuclear Facilities (Nuclear Safety Commission)”  
Standards for Restrictions on the Intake of Food and Drink (Drinking Water)

Radioactive iodine (I-131): 300Bq/kg or more

Radioactive cesium (total for Cs-134 + Cs-137): 200Bq/kg or more

(2) Sediment

- Radioactive iodine (I-131): ND at any location (Lower detection limit: 30Bq/kg (dried mud))  
(\* ND at any location)
- Radioactive cesium  
(Rivers)  
Cs-134: ND-2,400Bq/kg (dried mud) (Lower detection limit: 10Bq/kg (dried mud))

Cs-137: ND-3,400Bq/kg (dried mud) (Lower detection limit: 10Bq/kg (dried mud))  
(\* Cs-134: ND-2,600Bq/kg, Cs-137: ND-3,000Bq/kg)

(Lakes and headwaters)

Cs-134: 52-530Bq/kg (dried mud) (Lower detection limit: 10Bq/kg (dried mud))

Cs-137: 91-770Bq/kg (dried mud) (Lower detection limit: 10Bq/kg (dried mud))

(\* Cs-134: ND-850Bq/kg, Cs-137: 37-990Bq/kg)

(Coasts)

Cs-134: ND-100Bq/kg (dried mud) (Lower detection limit: 10Bq/kg (dried mud))

Cs-137: 11-130Bq/kg (dried mud) (Lower detection limit: 10Bq/kg (dried mud))

(\* Cs-134: ND-76Bq/kg, Cs-137: ND-97Bq/kg)

(3) Surrounding Environment

- Radioactive iodine (I-131): ND at any location (Lower detection limit: 30Bq/kg (dry))

- Radioactive cesium

(Rivers)

Cs-134: 32-4,000Bq/kg (dry)

Cs-137: 56-5,400Bq/kg (dry)

(\* Cs-134: 53-4,800Bq/kg, Cs-137: 61-5,200Bq/kg)

(Lakes and headwaters)

Cs-134: 21-360Bq/kg (dry)

Cs-137: 37-470Bq/kg (dry)

(\* Cs-134: 22-1,400Bq/kg, Cs-137: 22-1,600Bq/kg)

- Spatial dose

(Rivers) 0.08-0.38 $\mu$ Sv/h

(Lakes and headwaters) 0.06-0.19 $\mu$ Sv/h

(Annex for details)

(Map attached)

Future Plans

In coordination with relevant organizations, MOE intends to continue to measure radioactive materials in water, sediment, etc. in rivers, lakes, etc. in Fukushima Prefecture, its neighboring prefectures, etc.

# ○River: Water Quality Monitoring Results

No.	Sampling point				Sampling date	Weather	Air temperature °C	Full depth m	General items					Concentration of radioactive material Bq/L			Remarks		
	Water body	Point	Municipality	Water temperature °C					Sampling depth m	Transparency cm	Electrical conductivity mS/m	SS mg/L	Turbidity	Radioactive iodine	Radioactive cesium				
I-131					Cs-134	Cs-137													
1	Taga River System	Satonegawa River	Yamagoyabashi Bridge	Kitabarakishi City	2012/2/25	Rain	4.0	0.40	6.1	0.0	15	13.8	30	48	<1	<1	<1	<1	
2		Satonegawa River	Murayamabashi Bridge	Kitabarakishi City	2012/2/25	Rain	2.8	0.50	4.8	0.0	100 or more	21.6	2	2.5	<1	<1	<1	<1	
3		Hanazonogawa River	Kurabeishi	Kitabarakishi City	2012/2/25	Rain	2.2	0.30	2.6	0.0	100 or more	6.7	<1	0.6	<1	<1	<1	<1	
4		Hanazonogawa River	Isonarebashi Bridge	Kitabarakishi City	2012/2/25	Rain	2.6	0.40	4.4	0.0	100 or more	38.1	3	3.7	<1	<1	<1	<1	
5		Okitagawa River	Sakaebashi Bridge	Takahagishi City	2012/2/23	Cloudy	10.1	0.50	5.4	0.0	55	6.3	12	6.7	<1	<1	<1	<1	
6		Okitagawa River	Sakaibashi Bridge	Kitabarakishi City	2012/2/24	Sunny	8.9	0.60	7.2	0.0	100 or more	12.3	3	3.0	<1	<1	<1	<1	
7		Hananugigawa River	Shinhananukibashi Bridge	Takahagishi City	2012/2/23	Cloudy	11.0	0.50	8.4	0.0	20	14.3	20	18	<1	<1	<1	<1	
8	Kujigawa River System	Kujigawa River	Yamagata	Hitachiomiya City	2012/2/23	Rain	4.6	0.50	4.9	0.0	100 or more	13.7	<1	0.8	<1	<1	<1	<1	
9		Kujigawa River	Sakakibashi Bridge	Hitachishi City/Tokaimura Village	2012/2/25	Rain	4.2	0.50	6.1	0.0	42	15.5	8	7.6	<1	<1	<1	<1	
10	Nakagawa River System	Nakagawa River	Nakagawa River	Noguchi	Hitachiomiya City/Shinotsunomachi Town	2012/2/23	Rain	5.3	0.40	7.1	0.0	100 or more	18.7	1	1.3	<1	<1	<1	<1
11			Nakagawa River	Shimokunii	Mitoshi City	2012/2/25	Rain	4.0	0.30	8.0	0.0	41	19.7	4	4.1	<1	<1	<1	<1
12			Nakagawa River	Katsutabashi Bridge	Mitoshi City/Hitachinakashi City	2012/2/25	Rain	4.2	0.50	8.4	0.0	52	432.0	6	6.5	<1	<1	<1	<1
13			Nakamarugawa River	Yanagisawabashi Bridge	Hitachinakashi City	2012/2/20	Clear	9.6	0.30	8.5	0.0	55	195.1	5	6.1	<1	<1	<1	<1
14		Hinumagawa River	Hinumabashi Bridge	Mitoshi City/Oaraimachi Town	2012/2/24	Sunny	11.7	0.60	8.4	0.0	34	2100.0	5	5.3	<1	<1	<1	<1	
15	Tonegawa River System	Kitaura Lake	Hokotagawa River	Asahibashi Bridge	Hokotashi City	2012/2/20	Clear	9.1	0.90	9.9	0.0	72	41.3	9	8.0	<1	<1	<1	<1
16			Tomoegawa River	Shintomoegawabashi Bridge	Hokotashi City	2012/2/20	Clear	9.5	0.30	10.6	0.0	100 or more	33.9	6	4.8	<1	<1	<1	<1
17		Kasumigaura Lake	Sannogawa River	Tokorobashi Bridge	Ishiohoshi City/Omitamashi City	2012/2/20	Clear	11.4	0.60	9.2	0.0	100 or more	75.0	3	4.4	<1	<1	<1	<1
18			Hishikigawa River	Hishikibashi Bridge	Kasumigaurashi City	2012/2/20	Clear	9.2	0.20	3.9	0.0	100 or more	47.8	1	2.6	<1	<1	<1	<1
19			Ichinosegawa River	Kawanakabashi Bridge	Kasumigaurashi City	2012/2/20	Clear	9.6	0.90	4.8	0.0	42	31.1	6	8.4	<1	<1	<1	<1
20			Sakaigawa River	Sakaibashi Bridge/National Route 354	Tsuchiurashi City	2012/2/18	Sunny	4.0	0.70	8.9	0.0	100 or more	40.4	4	5.9	<1	<1	<1	<1
21			Shinkawa River	Shintenbashi Bridge	Tsuchiurashi City	2012/2/18	Sunny	4.2	1.80	6.5	0.0	49	37.0	7	9.5	<1	<1	<1	<1
22			Sakuragawa River	Eiribashi Bridge	Tsuchiurashi City/Tsukubashi City	2012/2/18	Sunny	2.8	0.90	5.1	0.0	68	25.8	10	10	<1	<1	<1	<1
23			Bizengawa River	Bizengawabashi Bridge	Tsuchiurashi City	2012/2/18	Sunny	4.4	0.70	5.8	0.0	50	33.8	9	8.6	<1	<1	<1	<1
24			Hanamurogawa River	Shinwabashi Bridge	Tsuchiurashi City	2012/2/18	Sunny	4.8	0.30	7.1	0.0	39	37.7	17	14	<1	<1	<1	<1
25			Seimeigawa River	Katsuhashi Bridge	Amimachi Town	2012/2/21	Clear	14.7	0.30	8.8	0.0	36	31.4	12	13	<1	<1	<1	<1
26			Onogawa River	Okuharaohashi Bridge	Ryugasaki City/Inashikishi City	2012/2/21	Clear	9.1	0.30	8.1	0.0	51	54.2	14	13	<1	<1	<1	<1
27		Kinugawa River	Kinugawa River	Kawashimabashi Bridge	Chikuseishi City	2012/2/17	Sunny	5.6	0.50	7.0	0.0	41	20.1	34	15	<1	<1	<1	<1
28			Kinugawa River	Takishitabashi Bridge	Moriyashi City	2012/2/17	Sunny	5.5	0.40	6.8	0.0	100 or more	25.5	3	3.4	<1	<1	<1	<1
29	Tagawa River		Tagawabashi Bridge	Chikuseishi City	2012/2/17	Sunny	4.4	0.40	9.0	0.0	100 or more	36.2	5	3.3	<1	<1	<1	<1	
30	Kokaigawa River	Kokogawa River	Kurokobashi Bridge	Chikuseishi City	2012/2/17	Sunny	5.6	0.50	7.2	0.0	72	28.8	7	9.2	<1	<1	<1	<1	
31		Kokaigawa River	Fumimabashi Bridge	Ryugasaki City/Torideshi City	2012/2/18	Clear	-1.0	0.40	4.2	0.0	65	29.8	7	6.9	<1	<1	<1	<1	
32		Inarigawa River	Ogukibashi Bridge	Tsukubashi City	2012/2/17	Sunny	4.4	0.78	7.2	0.0	100 or more	29.8	2	3.0	<1	<1	<1	<1	
33	Tonegawa River	Tonegawa River	Kurihashi Bridge	Kogashi City	2012/2/17	Sunny	3.2	0.40	6.2	0.0	50	42.1	5	6.5	<1	<1	<1	<1	
34		Tonegawa River	Fukawa	Tonemachi Town	2012/2/21	Clear	12.8	0.20	6.1	0.0	67	35.5	8	8.0	<1	<1	<1	<1	
35		Tonegawa River	Sawara	Inashikishi City	2012/2/21	Clear	5.5	0.40	5.2	0.0	34	42.3	20	24	<1	<1	<1	<1	

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

# ○River: Sediment Monitoring Results

No.	Sampling point				Sampling date	Weather	Air temperature ℃	General items				Concentration of radioactive material Bq/kg (dried mud)			Remarks	
	Water body	Point	Municipality	Mud temperature ℃				Mud sampling depth cm	Mud content %	Property	Radioactive iodine I-131	Radioactive cesium				
												Cs-134	Cs-137			
1	Taga River System	Satonegawa River	Yamagoyabashi Bridge	Kitaibarakishi City	2012/2/25	Rain	4.0	6.2	5	79.8	Sand	<30	310	450		
2		Satonegawa River	Murayamabashi Bridge	Kitaibarakishi City	2012/2/25	Rain	2.8	5.0	5	76.0	Sand with gravel	<30	190	260		
3		Hanazonogawa River	Kurabeishi	Kitaibarakishi City	2012/2/25	Rain	2.2	2.4	5	78.4	Sand with gravel	<30	58	86		
4		Hanazonogawa River	Isonarebashi Bridge	Kitaibarakishi City	2012/2/25	Rain	2.6	4.4	5	78.4	Sand with gravel	<30	44	59		
5		Okitagawa River	Sakaebashi Bridge	Takahagishi City	2012/2/23	Cloudy	10.1	4.9	5	76.6	Sand with gravel	<30	120	190		
6		Okitagawa River	Sakaibashi Bridge	Kitaibarakishi City	2012/2/24	Sunny	8.9	7.8	5	70.9	Sand	<30	310	440		
7		Hananukigawa River	Shinhananukibashi Bridge	Takahagishi City	2012/2/23	Cloudy	11.0	7.5	5	74.0	Sand with silt	<30	160	240		
8	Kujigawa River System	Kujigawa River	Yamagata	Hitachiomiyaishi City	2012/2/23	Rain	4.6	5.1	5	65.2	Sand with silt	<30	70	87		
9		Kujigawa River	Sakacibashi Bridge	Hitachishi City/Tokaimura Village	2012/2/25	Rain	4.2	6.5	5	64.3	Sand	<30	20	24		
10	Nakagawa River System	Nakagawa River	Nakagawa River	Noguchi	Hitachiomiyaishi City/Shirosatomachi Town	2012/2/23	Rain	5.3	7.0	5	82.4	Sand with gravel	<30	21	31	
11			Nakagawa River	Shimokunii	Mitoshi City	2012/2/25	Rain	4.0	8.3	5	69.9	Sand with gravel	<30	30	48	
12			Nakagawa River	Katsutabashi Bridge	Mitoshi City/Hitachinakashi City	2012/2/25	Rain	4.2	8.1	5	74.8	Sand with gravel	<30	23	37	
13			Nakamarugawa River	Yanagisawabashi Bridge	Hitachinakashi City	2012/2/20	Clear	9.6	8.4	5	45.6	Sand with silt	<30	810	1,000	
14		Hinumagawa River	Hinumagawa River	Mitoshi City/Oaraimachi Town	2012/2/24	Sunny	11.7	9.1	5	75.5	Silt with gravel	<30	240	330		
15	Tonegawa River System	Kitaura Lake	Hokotagawa River	Asahibashi Bridge	Hokotashi City	2012/2/20	Clear	9.1	10.2	10	58.9	Silt with sand	<30	160	230	
16			Tomogawa River	Shintomogawabashi Bridge	Hokotashi City	2012/2/20	Clear	9.5	9.8	5	67.4	Sand with silt	<30	300	390	
17		Kasumigaura Lake	Sannogawa River	Tokorobashi Bridge	Ishikashi City/Omitamashi City	2012/2/20	Clear	11.4	8.9	5	57.2	Silt with sand	<30	850	1,100	
18			Hishikigawa River	Hishikibashi Bridge	Kasumigaurashi City	2012/2/20	Clear	9.2	3.9	5	73.3	Sand with gravel	<30	460	610	
19			Ichinosegawa River	Kawanakabashi Bridge	Kasumigaurashi City	2012/2/20	Clear	9.6	7.3	10	56.4	Silt with sand	<30	640	900	
20			Sakaigawa River	Sakaibashi Bridge/National Route	Tsuchiurashi City	2012/2/18	Sunny	4.0	8.7	3	82.5	Sand with gravel	<30	310	450	
21			Shinkawa River	Shintenbashi Bridge	Tsuchiurashi City	2012/2/18	Sunny	4.2	6.4	10	22.0	Silt	<30	1,800	2,600	
22			Sakuragawa River	Eiribashi Bridge	Tsuchiurashi City/Tsukubashi City	2012/2/18	Sunny	2.8	5.2	5	70.7	Silt with sand	<30	56	80	
23			Bizengawa River	Bizengawabashi Bridge	Tsuchiurashi City	2012/2/18	Sunny	4.4	5.7	3	69.9	Sand with gravel	<30	98	130	
24			Hanamurogawa River	Shinwabashi Bridge	Tsuchiurashi City	2012/2/18	Sunny	4.8	6.9	3	79.9	Sand with gravel	<30	340	480	
25	Seimeigawa River	Katsuhashi Bridge	Amimachi Town	2012/2/21	Clear	14.7	8.9	3	27.5	Silt with sand	<30	2,400	3,400			
26	Onogawa River	Okuharaohashi Bridge	Ryugasakishi City/Inashikishi City	2012/2/21	Clear	9.1	8.8	3	65.7	Sand with silt	<30	90	130	(Samples collected near the previous point.)		
27	Kinugawa River	Kinugawa River	Kawashimabashi Bridge	Chikuseishi City	2012/2/17	Sunny	5.6	7.2	3	75.3	Sand with gravel	<30	<10	<10		
28		Kinugawa River	Takishitabashi Bridge	Moriyashi City	2012/2/17	Sunny	5.5	7.2	3	74.0	Sand with gravel	<30	82	120		
29		Tagawa River	Tagawabashi Bridge	Chikuseishi City	2012/2/17	Sunny	4.4	9.0	3	70.4	Sand with silt	<30	81	120		
30	Kokaigawa River	Kokaigawa River	Kurokobashi Bridge	Chikuseishi City	2012/2/17	Sunny	5.6	7.4	3	74.2	Silt with sand	<30	59	83		
31		Kokaigawa River	Fumimakibashi Bridge	Ryugasakishi City/Torideshi City	2012/2/18	Clear	-1.0	4.0	3	54.7	Gravel/silt with sand	<30	120	190		
32		Inarigawa River	Ogukibashi Bridge	Tsukubashi City	2012/2/17	Sunny	4.4	8.0	3	81.6	Sand with gravel	<30	510	680		
33	Tonegawa River	Tonegawa River	Kurihashi Bridge	Kogashi City	2012/2/17	Sunny	3.2	5.6	3	65.2	Silt with sand	<30	70	89		
34		Tonegawa River	Fukawa	Tonemachi Town	2012/2/21	Clear	12.8	8.2	5	59.6	Silt with sand	<30	130	200		
35		Tonegawa River	Sawara	Inashikishi City	2012/2/21	Clear	5.5	6.1	5	73.3	Sand	<30	140	190		

\*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

Sampling point				Sampling date	Weather	Temperature °C	Left bank					Right bank					Remarks			
No.	Water body	Point	Municipality				Property	Concentration of radioactive material Bq/kg			Air dose μSv/h	Property	Concentration of radioactive material Bq/kg/dry			Air dose μSv/h				
								Radioactive iodine I-131	Radioactive cesium Cs-134	Radioactive cesium Cs-137			Radioactive iodine I-131	Radioactive cesium Cs-134	Radioactive cesium Cs-137					
1	Taga River System	Satonegawa River	Yamagoyabashi Bridge	Kitabarakishi City	2012/2/25	Rain	4.0	Loamy	<30	180	270	0.38	Loamy	<30	300	410	0.31			
2		Satonegawa River	Murayamabashi Bridge	Kitabarakishi City	2012/2/25	Rain	2.8	Sandy	<30	810	1,100	0.18	Loamy	<30	110	150	0.15			
3		Hanazonogawa River	Kurabeishi	Kitabarakishi City	2012/2/25	Rain	2.2	Loamy	<30	32	56	0.15	Loamy	<30	350	420	0.15	(Due to snow on the ground on the right bank, sample was collected near the previous point.)		
4		Hanazonogawa River	Isonarebashi Bridge	Kitabarakishi City	2012/2/25	Rain	2.6	Loamy	<30	550	710	0.20	Loamy	<30	390	520	0.20			
5		Okitagawa River	Sakaebashi Bridge	Takahagishi City	2012/2/23	Cloudy	10.1	Sandy	<30	150	210	0.12	Sandy	<30	88	120	0.11	(Samples collected near the previous point on the left bank)		
6		Okitagawa River	Sakaibashi Bridge	Kitabarakishi City	2012/2/24	Sunny	8.9	Loamy	<30	320	450	0.22	Loamy	<30	410	560	0.23			
7		Hananukigawa River	Shinhananukibashi Bridge	Takahagishi City	2012/2/23	Cloudy	11.0	Loamy	<30	660	960	0.23	Loamy	<30	880	1,200	0.26			
8	Kujigawa River System	Kujigawa River	Yamagata	Hitachiomiya City	2012/2/23	Rain	4.6	Loamy	<30	130	190	0.13	Sandy	<30	82	100	0.11			
9		Kujigawa River	Sakakibashi Bridge	Hitachibashi City/Tokaimura Village	2012/2/25	Rain	4.2	Sandy	<30	130	180	0.11	Loamy	<30	160	200	0.13			
10	Nakagawa River System	Nakagawa River	Noguchi	Hachioiyashi City/Shirostomachi Town	2012/2/23	Rain	5.3	Sandy	<30	110	150	0.12	Sandy	<30	170	230	0.12			
11		Nakagawa River	Shimokunii	Mitoshi City	2012/2/25	Rain	4.0	Loamy	<30	320	420	0.14	Loamy	<30	300	470	0.17	(Samples collected near the previous point on the left bank)		
12		Nakagawa River	Katsutabashi Bridge	Mitoshi City/Hitachinakashi City	2012/2/25	Rain	4.2	Loamy	<30	180	240	0.12	Loamy	<30	290	390	0.14			
13		Nakamarugawa River	Yanagisawabashi Bridge	Hitachinakashi City	2012/2/20	Clear	9.6	Loamy	<30	430	600	0.10	Loamy	<30	180	250	0.08			
14		Hinumagawa River	Hinumabashi Bridge	Mitoshi City/Oaraimachi Town	2012/2/24	Sunny	11.7	Loamy	<30	220	300	0.20	Loamy	<30	750	1,000	0.17			
15	Tonegawa River System	Kitaura Lake	Hokotagawa River	Hokotashi City	2012/2/20	Clear	9.1	-	-	-	-	-	-	-	-	-	-	(Soil not exposed)		
16		Kasumigaura Lake	Tomogawa River	Shintomogawabashi Bridge	Hokotashi City	2012/2/20	Clear	9.5	Loamy	<30	700	1,000	0.14	Loamy	<30	490	620	0.15		
17			Sannogawa River	Tokorobashi Bridge	Ishikashi City/Omitamashi City	2012/2/20	Clear	11.4	Loamy	<30	210	310	0.17	Loamy	<30	310	450	0.16		
18			Hishikigawa River	Hishikibashi Bridge	Kasumigaurashi City	2012/2/20	Clear	9.2	Loamy	<30	380	480	0.17	Loamy	<30	810	1,000	0.19		
19			Ichinosegawa River	Kawanakabashi Bridge	Kasumigaurashi City	2012/2/20	Clear	9.6	Loamy	<30	230	310	0.13	Loamy	<30	260	370	0.13		
20			Sakaigawa River	Sakaibashi Bridge/National Route 35	Tsuchiurashi City	2012/2/18	Sunny	4.0	Loamy	<30	840	1,200	0.23	Loamy	<30	250	340	0.18		
21			Shinkawa River	Shintenbashi Bridge	Tsuchiurashi City	2012/2/18	Sunny	4.2	Loamy	<30	490	690	0.17	Loamy	<30	890	1,100	0.15		
22			Sakuragawa River	Eiribashi Bridge	Tsuchiurashi City/Tsukubashi City	2012/2/18	Sunny	2.8	Loamy	<30	230	320	0.12	Loamy	<30	440	730	0.11		
23			Bizengawa River	Bizengawabashi Bridge	Tsuchiurashi City	2012/2/18	Sunny	4.4	Loamy	<30	550	760	0.15	Loamy	<30	460	580	0.16		
24			Hanamurogawa River	Shinwabashi Bridge	Tsuchiurashi City	2012/2/18	Sunny	4.8	Loamy	<30	510	760	0.26	Loamy	<30	380	520	0.23		
25			Seimeigawa River	Katsuhashi Bridge	Amimachi Town	2012/2/21	Clear	14.7	Loamy	<30	440	630	0.25	Loamy	<30	850	1,100	0.27		
26			Onogawa River	Okuharaohashi Bridge	Ryugasakashi City/Inashikishi City	2012/2/21	Clear	9.1	Loamy	<30	360	490	0.25	Loamy	<30	530	780	0.24		
27			Kinugawa River	Kinugawa River	Kawashimabashi Bridge	Chikuseishi City	2012/2/17	Sunny	5.6	Sandy	<30	130	160	0.11	Sandy	<30	130	220	0.10	
28				Kinugawa River	Takishitabashi Bridge	Moriyashi City	2012/2/17	Sunny	5.5	Loamy	<30	340	430	0.20	Loamy	<30	430	590	0.17	
29				Tagawa River	Tagawabashi Bridge	Chikuseishi City	2012/2/17	Sunny	4.4	Loamy	<30	57	81	0.09	Loamy	<30	130	230	0.08	
30	Kokaigawa River	Kokaigawa River	Kurokobashi Bridge	Chikuseishi City	2012/2/17	Sunny	5.6	Loamy	<30	130	200	0.09	Loamy	<30	120	160	0.10			
31		Kokaigawa River	Fumimakibashi Bridge	Ryugasakashi City/Toridashi City	2012/2/18	Clear	-1.0	Loamy	<30	1500	2100	0.15	Loamy	<30	480	690	0.17			
32		Inarigawa River	Ogukibashi Bridge	Tsukubashi City	2012/2/17	Sunny	4.4	Loamy	<30	620	840	0.18	Loamy	<30	4,000	5,400	0.22			
33	Tonegawa River	Tonegawa River	Kurihashi Bridge	Kogashi City	2012/2/17	Sunny	3.2	Loamy	<30	92	120	0.09	Loamy	<30	59	71	0.09			
34		Tonegawa River	Fukawa	Tonemachi Town	2012/2/21	Clear	12.8	Loamy	<30	660	900	0.23	Loamy	<30	180	250	0.22			
35		Tonegawa River	Sawara	Inashikishi City	2012/2/21	Clear	5.5	Loamy	<30	110	170	0.09	Loamy	<30	650	940	0.12			

\* Air dose was measured with a survey meter, TCS-172 or TCS-161 of Hitachi-Aloka Medical, Ltd.

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

## ○Lake and Headwater: Water Quality Monitoring Results

Sampling point			Sampling date	Weather	Air temperature °C	Full depth m	General items					Concentration of radioactive material Bq/L			Remarks	
No.	Point						Water temperature °C	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	2012/2/24	Sunny	4.2	2.8	6.3	0.5	1.6	1764.0	2	5.0	<1	<1	<1	
		1 m from the bottom	-	-	-	-	6.9	1.8	-	2050.0	3	4.1	<1	<1	<1	
2	Hinuma Lake	Miyamae	2012/2/24	Sunny	4.0	3.2	5.5	0.5	1.4	1490.0	6	10	<1	<1	<1	
		1 m from the bottom	-	-	-	-	8.0	2.2	-	2430.0	3	5.1	<1	<1	<1	
3	Hinuma Lake	Oyazawa	2012/2/24	Sunny	5.4	2.3	7.3	0.5	1.2	751.0	10	14	<1	<1	<1	
		1 m from the bottom	-	-	-	-	7.6	1.3	-	2030.0	5	6.6	<1	<1	<1	
4	Kasumigaura Lake	Offshore of Tamatsukuri	2012/2/17	Sunny	5.0	7	5.1	0.5	1.0	27.6	13	18	<1	<1	<1	
		1 m from the bottom	-	-	-	-	4.7	6.0	-	26.6	11	17	<1	<1	<1	
5	Kasumigaura Lake	Offshore of Kakeuma	2012/2/17	Sunny	5.4	2.2	4.8	0.5	0.8	28.0	13	19	<1	<1	<1	
		1 m from the bottom	-	-	-	-	4.8	1.2	-	28.4	12	18	<1	<1	<1	
6	Kasumigaura Lake	Center of the lake	2012/2/17	Sunny	3.6	6.1	4.6	0.5	1.2	29.5	10	16	<1	<1	<1	
		1 m from the bottom	-	-	-	-	4.5	5.1	-	28.5	9	15	<1	<1	<1	
7	Kasumigaura Lake	Offshore of Aso	2012/2/17	Sunny	2.2	2.5	4.5	0.5	0.7	35.1	13	20	<1	<1	<1	
		1 m from the bottom	-	-	-	-	4.5	1.5	-	33.4	13	20	<1	<1	<1	
8	Kitaura Lake	Offshore of Kamaya	2012/2/18	Sunny	1.2	6.7	4.1	0.5	1.8	30.8	4	4.4	<1	<1	<1	
		1 m from the bottom	-	-	-	-	4.3	5.7	-	31.8	4	4.5	<1	<1	<1	
9	Kitaura Lake	Jingubashi Bridge	2012/2/18	Sunny	1.4	2.8	4.4	0.5	1.3	38.2	6	7.5	<1	<1	<1	
		1 m from the bottom	-	-	-	-	4.5	1.8	-	41.9	6	7.0	<1	<1	<1	
10	Hitachitonegawa River	Sotonasakura Lake	2012/2/18	Sunny	2.6	2.5	5.0	0.5	0.7	46.8	16	20	<1	<1	<1	
		1 m from the bottom	-	-	-	-	4.9	1.5	-	50.2	16	21	<1	<1	<1	
11	Hitachitonegawa River	Ikisu	2012/2/18	Sunny	2.2	5.1	5.1	0.5	0.9	49.2	10	15	<1	<1	<1	
		1 m from the bottom	-	-	-	-	5.0	4.1	-	50.9	10	16	<1	<1	<1	
12	Ushikunuma Lake	Center of Ushikunuma Lake	2012/2/18	Clear	-1.0	1.7	4.2	0.5	0.7	29.2	14	14	<1	<1	<1	
		1 m from the bottom	-	-	-	-	4.2	0.7	-	30.2	13	13	<1	<1	<1	

\*Sampling points are listed from north to south.

## ○Coast: Water Quality Monitoring Results

Sampling point			Sampling date	Weather	Air temperature °C	Full depth m	General items					Concentration of radioactive material Bq/L			Remarks	
No.	Water body	Point					Water temperature °C	Sampling depth m	Secchi disk depth m	Salinity	SS mg/L	Turbidity	Radioactive iodine I-131	Radioactive cesium Cs-134 Cs-137		
1	Offshore of Satonegawa River Estuary		2012/2/21	Clear	4.4	13.1	10.0	0.5	9.8	32.8	1	1.4	<1	<1	<1	
		1 m from the bottom	-	-	-	-	10.6	12.1	-	34.0	3	2.7	<1	<1	<1	
2	Offshore of Okitagawa River Estuary		2012/2/21	Clear	5.0	12	10.5	0.5	9.7	33.5	2	1.0	<1	<1	<1	
		1 m from the bottom	-	-	-	-	11.2	11.0	-	34.1	4	1.9	<1	<1	<1	
3	Offshore of Momiyagawa River/Kujigawa River Estuaries		2012/2/21	Clear	9.0	10.1	10.7	0.5	7.3	31.4	2	1.9	<1	<1	<1	
		1 m from the bottom	-	-	-	-	11.0	9.1	-	34.0	3	2.4	<1	<1	<1	
4	Neighboring water body of Ken-o	Offshore of Nakagawa River	2012/2/21	Clear	10.2	5.9	7.9	0.5	3.5	13.6	1	2.7	<1	<1	<1	
		1 m from the bottom	-	-	-	-	10.4	4.9	-	32.7	6	3.4	<1	<1	<1	
5	Offshore of Tonegawa River Estuary		2012/2/20	Clear	7.2	8.2	7.1	0.5	2.4	14.4	5	6.0	<1	<1	<1	
		1 m from the bottom	-	-	-	-	11.2	7.2	-	33.7	23	7.7	<1	<1	<1	

\*Sampling points are listed from north to south.

## ○Lake and Headwater: Sediment Monitoring Results

Sampling point			Sampling date	Weather	Air temperature	Full depth	General items				oncentration of radioactive material Bq/kg (dried mu			Remarks	
No.	Point				°C		m	Mud temperature	Mud sampling depth	Mud content	Property	Radioactive iodine	Radioactive cesium		
	°C	cm			%		I-131	Cs-134	Cs-137						
1	Hinuma Lake	Hiroura	2012/2/24	Sunny	4.2	2.8	9.2	10	39.3	Silt	<30	110	150		
2	Hinuma Lake	Miyamae	2012/2/24	Sunny	4.0	3.2	9.5	10	22.8	Silt	<30	63	99		
3	Hinuma Lake	Oyazawa	2012/2/24	Sunny	5.4	2.3	9.2	10	33.8	Silt	<30	170	250		
4	Kasumigaura Lake	Offshore of Tamatsukuri	2012/2/17	Sunny	5.0	7	5.4	10	17.4	Silt	<30	530	770		
5	Kasumigaura Lake	Offshore of Kakeuma	2012/2/17	Sunny	5.4	2.2	4.9	3	75.3	Sand	<30	180	260		
6	Kasumigaura Lake	Center of the lake	2012/2/17	Sunny	3.6	6.1	5.6	10	15.3	Silt	<30	360	540		
7	Kasumigaura Lake	Offshore of Aso	2012/2/17	Sunny	2.2	2.5	4.8	5	74.8	Sand with silt	<30	100	150		
8	Kitaura Lake	Offshore of Kamaya	2012/2/18	Sunny	1.2	6.7	5.7	10	13.5	Silt	<30	390	610		
9	Kitaura Lake	Jingubashi Bridge	2012/2/18	Sunny	1.4	2.8	5.2	5	61.2	Silt with sand	<30	87	130		
10	Hitachitonegawa River	Sotonasakaura Lake	2012/2/18	Sunny	2.6	2.5	5.3	3	76.6	Sand with silt	<30	52	91		
11	Hitachitonegawa River	Ikisu	2012/2/18	Sunny	2.2	5.1	5.2	3	70.8	Sand	<30	85	120		
12	Ushikunuma Lake	Center of Ushikunuma Lake	2012/2/18	Clear	-1.0	1.7	4.8	10	53.3	Silt with sand	<30	430	590		

\*Sampling points are listed from north to south.

## ○Coast: Sediment Monitoring Results

Sampling point			Sampling date	Weather	Air temperature	Full depth	General items				oncentration of radioactive material Bq/kg (dried mu			Remarks	
No.	Water body	Point			°C		m	Mud temperature	Mud sampling depth	Mud content	Property	Radioactive iodine	Radioactive cesium		
	°C	cm			%		I-131	Cs-134	Cs-137						
1	Offshore of Satonegawa River Estuary		2012/2/21	Clear	4.4	13.1	10.1	10	79.3	Sand	<30	41	53		
2	Offshore of Okitagawa River Estuary		2012/2/21	Clear	5.0	12	10.8	10	81.5	Sand	<30	68	97		
3	Offshore of Momiyagawa River/Kujigawa River Estuaries		2012/2/21	Clear	9.0	10.1	10.2	5	68.2	Sand with silt	<30	100	130		
4	Neighboring water body of Ken-o	Offshore of Nakagawa River	2012/2/21	Clear	10.2	5.9	10.6	10	80.8	Sand with gravel	<30	<10	11		
5	Offshore of Tonegawa River Estuary		2012/2/20	Clear	7.2	8.2	10.2	5	76.9	Sand	<30	<10	12		

\*Sampling points are listed from north to south.

○Lake and Headwater: Surrounding Environment (Lake Shore) Monitoring Results

Sampling point		Sampling date	Weather	Air temperature °C	Property	Soil			Air dose μSv/h	Remarks
No.	Point					Concentration of radioactive material Bq/kg(dry)				
		Radioactive iodine I-131	Radioactive cesium Cs-134 Cs-137							
1	Hinuma Lake Hiroura	2012/2/24	Sunny	4.2	Loamy	<30	270	360	0.19	
2	Hinuma Lake Miyamae	2012/2/24	Sunny	4.0	Loamy	<30	100	140	0.10	(Samples collected near the previous point)
3	Hinuma Lake Oyazawa	2012/2/24	Sunny	5.4	-	-	-	-	-	
4	Kasumigaura Lake Offshore of Tamatsukuri	2012/2/17	Sunny	5.0	Sandy	<30	68	110	0.10	
5	Kasumigaura Lake Offshore of Kakeuma	2012/2/17	Sunny	5.4	Loamy	<30	21	37	0.13	
6	Kasumigaura Lake Center of the lake	2012/2/17	Sunny	3.6	-	-	-	-	-	
7	Kasumigaura Lake Offshore of Aso	2012/2/17	Sunny	2.2	Sandy	<30	72	90	0.08	
8	Kitaura Lake Offshore of Kamaya	2012/2/18	Sunny	1.2	Loamy	<30	300	440	0.11	
9	Kitaura Lake Jingubashi Bridge	2012/2/18	Sunny	1.4	Loamy	<30	78	110	0.06	
10	Hitachionegawa River Sotonasakaura Lake	2012/2/18	Sunny	2.6	Loamy	<30	360	470	0.09	
11	Hitachionegawa River Ikisu	2012/2/18	Sunny	2.2	Loamy	<30	190	290	0.09	
12	Ushikunuma Lake Center of Ushikunuma Lake	2012/2/18	Clear	-1.0	Loamy	<30	340	480	0.17	

\*Air dose was measured with a survey meter, TCS-172 or TCS-161 of Hitachi-Aloka Medical, Ltd.

\*Sampling points are listed from north to south.

