

(News Release)  
The Results of Radioactive Material Monitoring of the Surface Water Bodies  
within Miyagi Prefecture  
(April-June 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 Miyagi Prefecture during the period of April 23-June 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

71 environmental reference points, etc. in the surface water bodies within Miyagi Prefecture  
(Rivers: 43 locations, Lakes: 21 locations, Coasts: 7 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 (January-March 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, the levels of both the rivers and lakes/headwaters measured were around 1,000Bq/kg or below at most of the locations (coasts: 500Bq/kg or below), and have generally remained constant or had a declining tendency.

(Rivers)

Cs-134 + Cs-137: ND-1,750Bq/kg (dried mud) (\*ND-2,270Bq/kg (dried mud))

(Lakes and headwaters)

Cs-134 + Cs-137: 88-2,930Bq/kg (dried mud) (\*320-1,670Bq/kg (dried mud))

(Coasts)

Cs-134 + Cs-137: 10-1,030Bq/kg (dried mud) (\*ND-1,530Bq/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	45 (34)	5 (6)	1 (2)	1 (0)	0 (1)	0 (0)	0 (0)	52 (44)
Lakes and headwaters	13 (2)	4 (0)	2 (0)	1 (1)	0 (0)	1 (0)	0 (0)	21 (3)
Coasts	6 (27)	0 (0)	1 (1)	0 (1)	0 (0)	0 (0)	0 (0)	7 (29)

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

(Rivers)

Cs-134 + Cs-137: ND-4,700Bq/kg (dry) (\*13-3,400Bq/kg (dry))

Spatial dose: 0.04-0.47μSv/h

(Lakes and headwaters)

Cs-134 + Cs-137: 53-1,950Bq/kg (dry) (\*229-1,860Bq/kg (dry))

Spatial dose: 0.04-0.314μSv/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

No.	Sampling point			Sampling date	Weather	Full depth (m)	General items					Radioactive material concentrations (Bq/L)		Remarks			
	Water body	Point	Municipality				Sampling depth (m)	Transparency (cm)	Electrical conductivity (mS/m)	SS (mg/L)	Turbidity	Radioactive cesium					
												Cs-134	Cs-137				
1	Shishiorigawa River	Kinzabashi Bridge		2013/5/21	Sunny	0.2	0.0	>100	15	<1	0.4	<1	<1				
2		Namitabashi Bridge		2013/5/22	Sunny	2.0	0.0	>100	3,450	2	0.7	<1	<1	<1			
3	Okawa River	Tateyamaohashi Bridge	Kesenumashi City	2013/5/20	Cloudy	0.4	0.0	>100	13	4	2.4	<1	<1	<1			
4		Kamiyamabashi Bridge		2013/5/20	Sunny	1.0	0.0	84	310	8	2.6	<1	<1	<1			
5		Okawa River Estuary		2013/5/20	Cloudy	0.5	0.0	>100	360	3	1.9	<1	<1	<1			
6	Omosegawa River	Ozakibashi Bridge		2013/5/20	Cloudy	0.7	0.0	>100	900	8	5.0	<1	<1	<1			
7	K i t a g a w a R i v e r S y s t e m	Arimagawa River	Kuriharashi City	2013/5/27	Sunny	0.1	0.0	>100	25	6	2.7	<1	<1	<1			
8		Kiryugawa River		Obatabashi Bridge	2013/5/27	Sunny	0.2	0.0	83	24	11	6.3	<1	<1	<1		
9		Kitakamigawa River	Tomeohashi Bridge (Tome)	Tomeshi City	2013/5/23	Sunny	1.5	0.0	79	11	5	4.7	<1	<1	<1		
10		Hasamagawa River	Sanhasamagawa River	Kuriharashi City	2013/5/24	Sunny	2.1	0.0	>100	17	3	3.2	<1	<1	<1		
11			Nihasamagawa River		Kajiyabashi Bridge	2013/5/24	Sunny	0.2	0.0	>100	12	4	4.2	<1	<1	<1	
12			Hanayama Dam, inflow area		2013/5/24	Sunny	0.4	0.0	>100	6	7	4.7	<1	<1	<1		
13		Hasamagawa River	Wakayanagi	Tomeshi City	2013/5/27	Cloudy	0.4	0.0	50	15	10	6.7	<1	<1	<1		
14			Yamayoshidabashi Bridge		2013/5/23	Sunny	0.5	0.0	36	14	16	17.0	<1	<1	<1		
15			Eaigawa River		Todorokibashi Bridge (Todoroki)	Osakishi City	2013/5/17	Sunny	1.3	0.0	>100	5	3	1.8	<1	<1	<1
16	Shimizuakomon Weir	2013/5/17	Sunny	1.1	0.0		87	8	5	3.7	<1	<1	<1				
17	In Furukawa District, Osakishi City	Shinborisaihon, entrance	2013/5/17	Sunny	1.6		0.0	55	13	12	8.0	<1	<1	<1			
18	Eaigawa River	Dekigawa River	Misatomachi Town	2013/5/16	Cloudy	1.0	0.0	9	12	48	43.0	<1	<1	<1			
19		Okawabashi Bridge(Tanda)	Wakuyacho Town/Ishinomakishi City	2013/5/16	Cloudy	1.3	0.0	23	11	28	20.0	<1	<1	<1			
20		Kyukitakamigawa River	Kadonowaki	Ishinomakishi City	2013/5/16	Cloudy	3.2	0.0	25	530	14	19.0	<1	<1	<1		
21	Narusegawa River	Onobashi Bridge (Ono)	Higashimatsushimashi City	2013/5/16	Sunny	1.3	0.0	15	8	28	28.0	<1	<1	<1			
22	Sunaoishigawa River	Tagajozeki Weir	Tagajoshi City	2013/5/10	Sunny	0.2	0.0	15	45	51	45.0	<1	<1	<1			
23		Nenbutsubashi Bridge		2013/5/10	Sunny	1.6	0.0	21	1,820	21	19.0	<1	<1	<1			
24	Teizan-unga Canal (Kyusunaoshigawa River)	Teizanbashi Bridge	Shichigahamamachi Town/Tagajoshi City	2013/5/10	Sunny	2.3	0.0	45	3,160	5	6.6	<1	<1	<1			
25	Nanakitagawa River System	Nanakitagawa River	Sendai City	2013/5/9	Sunny	0.2	0.0	25	21	10	15.0	<1	<1	<1			
26		Fukudaohashi Bridge		2013/5/9	Sunny	0.3	0.0	41	3,200	11	13.0	<1	<1	<1			
27		Umedagawa River		Fukudabashi Bridge	2013/5/9	Sunny	0.2	0.0	10	41	44	60.0	<1	<1	<1		
28		Nanakitagawa River		Takasagobashi Bridge	2013/5/8	Sunny	2.1	0.0	42	4,240	14	10.0	<1	<1	<1		
29	Natorigawa River System	Yuriagoshashi Bridge	Sendai City/Natorishi City	2013/5/8	Sunny	1.0	0.0	61	4,540	13	4.6	<1	<1	<1			
30	Natorigawa River System	Yakushibashi Bridge	Natorishi City	2013/5/8	Sunny	30.0	0.0	49	11	6	8.5	<1	<1	<1			
31		Masudagawa River		Koyamabashi Bridge	2013/5/8	Sunny	41.0	0.0	34	14	17	14.0	<1	<1	<1		
32	A b u k u m a g a w a R i v e r S y s t e m	Bishamonbashi Bridge	Marumori Town	2013/5/7	Cloudy	2.0	0.0	30	500	15	15.0	<1	<1	<1			
33		Abukumagawa River		Hadeniwabashi Bridge	2013/4/24	Sunny	0.7	0.0	58	17	8	6.2	<1	<1	<1		
					2013/6/14	Sunny	0.6	0.0	58	22	7	4.9	<1	<1	<1		
34		Abukumagawa River		Marumoriashi Bridge	2013/6/28	Cloudy	0.9	0.0	65	17	16	9.1	<1	<1	<1		
					2013/4/24	Sunny	0.6	0.0	62	17	8	6.7	<1	<1	<1		
35		Abukumagawa River		Ejiribashi Bridge	2013/6/14	Cloudy	1.7	0.0	73	21	9	5.3	<1	<1	<1		
					2013/6/28	Cloudy	0.6	0.0	53	18	17	8.2	<1	<1	<1		
36		Shiroishigawa River		Shiroishigawa River	Shiroishishi City	2013/4/23	Sunny	0.4	0.0	87	17	10	7.4	<1	<1	<1	
37	Before the confluence with Kawaragosa River (Sunaoishibashi Bridge)		2013/6/28	Cloudy		1.5	0.0	41	18	16	8.3	<1	<1	<1			
38	Shiroishigawa River	Saikawa River	Zaomachi Town	2013/4/25	Sunny	1.8	0.0	98	15	8	4.5	<1	<1	<1			
39		Miyaoashi Bridge		2013/4/26	Cloudy	0.9	0.0	>100	9	2	1.5	<1	<1	<1			
40		Arakawa River		Niragambashi Bridge	Muratamachi Town/Ogawaramachi Town	2013/5/7	Cloudy	0.4	0.0	27	21	22	28.0	<1	<1	<1	
41	R i v e r	Shiroishigawa River	Shibatamachi Town	2013/5/7	Cloudy	2.0	0.0	58	15	7	5.9	<1	<1	<1			
42		Abukumagawa River	Abukumaohashi Bridge (Iwanuma)	2013/4/23	Sunny	0.3	0.0	87	14	6	4.3	<1	<1	<1			
				2013/6/28	Cloudy	0.8	0.0	85	16	5	4.6	<1	<1	<1			
43		Abukumagawa River Estuary (Watariohashi Bridge)		2013/4/23	Sunny	0.5	0.0	62	17	10	7.2	<1	<1	<1			
				2013/6/14	Cloudy	1.1	0.0	49	20	6	6.2	<1	<1	<1			
				Iwanumashi City/Wataricho Town	2013/6/27	Cloudy	0.7	0.0	50	17	13	9.6	<1	<1	<1		
				2013/4/23	Sunny	0.7	0.0	65	51	6	6.1	<1	<1	<1			
				2013/6/28	Cloudy	1.5	0.0	71	411	7	5.6	<1	<1	<1			

• 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 cesium					
										Cs-134	Cs-137	Total			
1	Shishiorigawa River	Kinzanbashi Bridge	Kesennumashi City	2013/5/21	Sunny	0.2	10	73	Gravel/sand	41	98	139			
2				2013/5/22	Sunny	2.0	10	65	Sand/silt	75	170	245			
3				2013/5/20	Cloudy	0.4	10	80	Gravel/sand	11	28	39			
4				2013/5/20	Sunny	1.0	10	74	Sand	28	71	99			
5				2013/5/20	Cloudy	0.5	10	78	Sand	<10	<10	-			
6	Omosegawa River		Ozakibashi Bridge	2013/5/20	Cloudy	0.7	10	47	Silt	250	480	730			
7	Kiritakama River System	Arimagawa River	Unandabashi Bridge	2013/5/27	Sunny	0.1	3	79	Sand/gravel	140	280	420			
8		Kimryugawa River	Obatabashi Bridge	2013/5/27	Sunny	0.2	3	80	Sand/silt	89	200	289			
9		Kitakamigawa River	Tomeobashi Bridge (Tome)	Tomeshi City	2013/5/23	Sunny	1.5	10	65	Silt/sand	37	78	115		
10		Hasamagawa River	Sanhasamagawa River	Domanbashi Bridge (Kurikoma Dam)	2013/5/24	Sunny	2.1	3	74	Sand/gravel	<10	25	25		
11			Nihasamagawa River	Kajiyabashi Bridge	2013/5/24	Sunny	0.2	3	79	Sand	53	100	153		
12			Hasamagawa River	Hanayama Dam, inflow area	Kuriharashi City	2013/5/24	Sunny	0.4	3	77	Sand	<10	17	17	
13			Wakayanagi	2013/5/27		Cloudy	0.4	3	80	Sand/gravel	33	57	90		
14		Yamayoshidabashi Bridge	Tomeshi City	2013/5/23	Sunny	0.5	10	64	Sand	50	100	150			
15		Eaigawa River	Todorokibashi Bridge (Todoroki)	Osakishi City	2013/5/17	Sunny	1.3	3	75	Sand	24	43	67		
16			Shimizucomon Weir		2013/5/17	Sunny	1.1	3	73	Sand	18	41	59		
17			In Furukawa District, Osakishi City	Shinborisashon, entrance	2013/5/17	Sunny	1.6	3	41	Clay	460	850	1,310		
18			Dekigawa River	Kogotabashi Bridge	Misatomachi Town	2013/5/16	Cloudy	1.0	3	55	Clay/silt	85	220	305	
19			Eaigawa River	Oikwabashi Bridge(Tanda)	Wakuyacho Town/Ishinomakishi City	2013/5/16	Cloudy	1.3	3	81	Sand/silt	20	36	56	
20		Kyukitakamigawa River	Kadonowaki	Ishinomakishi City	2013/5/16	Cloudy	3.2	3	85	Gravel/sand	<10	<10	-		
21		Narusegawa River	Onobashi Bridge (Ono)	Higashimatsushimashi City	2013/5/16	Sunny	1.3	3	80	Sand	<10	19	19		
22		Sunaoshigawa River	Tagajozeki Weir	Tagajoshi City	2013/5/10	Sunny	0.2	3	82	Sand/silt	16	45	61		
23			Nenbutsubashi Bridge		2013/5/10	Sunny	1.6	3	44	Sand/gravel	120	260	380		
24		Teizan-unga Canal (Kyusunaoshigawa River)	Teizanbashi Bridge	Shichigahamamachi Town/Tagajoshi City	2013/5/10	Sunny	2.3	3	61	Silt	68	150	218		
25		Nanakitagawa River System	Nanakitagawa River	Sendaishi City	2013/5/9	Sunny	0.2	3	77	Sand	78	160	238		
26			Fukudaohashi Bridge		2013/5/9	Sunny	0.3	3	79	Sand	<10	13	13		
27	Umedagawa River		Fukudabashi Bridge		2013/5/9	Sunny	0.2	3	56	Clay	120	270	390		
28	Nanakitagawa River		Takasagabashi Bridge		2013/5/8	Sunny	2.1	3	56	Silt	81	210	291		
29	Natorigawa River	Yuriageohashi Bridge	Sendaishi City/Natorishi City	2013/5/8	Sunny	1.0	3	79	Sand	<10	<10	-			
30	Natorigawa River System	Masudagawa River	Natorishi City	2013/5/8	Sunny	30.0	3	76	Sand	11	24	35			
31		Yakushibashi Bridge		2013/5/8	Sunny	41.0	3	73	Sand/silt	140	310	450			
32		Koyamabashi Bridge		2013/5/8	Sunny	41.0	3	73	Sand/silt	140	310	450			
33	Abukumagawa River	Hadeniwabashi Bridge	Marumirimachi Town	2013/5/7	Cloudy	2.0	2	44	Silt	550	1,200	1,750			
34				2013/4/24	Sunny	0.7	6	76	Sand	110	210	320			
				2013/6/14	Sunny	0.6	3	76	Sand	100	210	310			
		2013/6/28	Cloudy	0.9	10	74	Sand	160	340	500					
35		Marumoribashi Bridge	Kakudashi City	2013/4/24	Sunny	0.6	5	78	Gravel/sand	180	350	530			
				2013/6/14	Cloudy	1.7	3	79	Sand/gravel	220	480	700			
	2013/6/28			Cloudy	0.6	10	82	Sand/gravel	83	170	253				
36	Shiroishigawa River	Shiroishigawa River	Before the confluence with Kawaragosawa River (Sunaoshibashi Bridge)	2013/4/25	Sunny	2.5	3	73	Sand	78	140	218			
37		Saikawa River	Etsubobashi Bridge	2013/4/25	Sunny	1.8	3	85	Gravel/sand	84	150	234			
38		Matsukawa River	Miyohashi Bridge	Zomachi Town	2013/4/26	Cloudy	0.9	3	79	Sand	11	20	31		
39		Arakawa River	Niragambashi Bridge	Muratamachi Town/Ogawaramachi Town	2013/5/7	Cloudy	0.4	3	80	Sand	18	29	47		
40		Shiroishigawa River	Shirahatabashi Bridge	Shibatamachi Town	2013/5/7	Cloudy	2.0	3	73	Sand	14	38	52		
41	Abukumagawa River	Tsukinokiohashi Bridge	Kakudashi City/Shibatamachi Town	2013/4/23	Sunny	0.3	5	82	Sand	56	110	166			
42				2013/6/28	Cloudy	0.8	3	80	Sand	<10	24	24			
				2013/4/23	Sunny	0.5	5	64	Sand/silt	250	500	750			
		2013/6/14	Cloudy	1.1	3	76	Sand/silt	71	160	231					
43		Abukumagawa River Estuary (Watariohashi Bridge)	Iwanumashi City/Wataricho Town	2013/6/27	Cloudy	0.7	3	69	Sand	210	440	650			
				2013/4/23	Sunny	0.7	5	81	Sand	26	59	85			
	2013/6/28			Cloudy	1.5	3	82	Sand	12	29	41				

\* 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	Left bank				Right bank				Remarks				
No.	Water body	Point	Municipality			Property	Concentration of radioactive material [Bq/kg (dry)]			Air dose (μSv/h)	Property	Concentration of radioactive material [Bq/kg (dry)]			Air dose (μSv/h)			
							Cs-134	Cs-137	Total			Cs-134	Cs-137			Total		
1	Shishorigawa River	Kinzanbashi Bridge	Kesennumashi City	2013/5/21	Sunny	Loamy	330	690	1,020	0.11	Loamy	190	370	560	0.11			
2		Namiabashi Bridge		2013/5/22	Sunny	Loamy	<10	<10	-	0.06	Loamy	77	170	247	0.08			
3		Tateyamaohashi Bridge		2013/5/20	Cloudy	Loamy	230	490	720	0.10	Loamy	190	370	560	0.11			
4		Kamiyamabashi Bridge		2013/5/20	Sunny	Loamy	180	370	550	0.07	Loamy	400	810	1,210	0.08			
5		Okawa River Estuary		2013/5/20	Cloudy	Loamy	18	33	51	0.04	Loamy	36	89	125	0.07			
6	Omosegawa River	Ozakibashi Bridge		2013/5/20	Cloudy	Loamy	22	29	51	0.06	Loamy	150	280	430	0.06			
7	K i t a k a w a S m y i s g i t a c w e m a R i v e r	Arimagawa River	Kuriharashi City	2013/5/27	Sunny	Loamy	320	670	990	0.16	Loamy	280	590	870	0.14			
8		Kiryugawa River		Obatabashi Bridge	2013/5/27	Sunny	Loamy	290	640	930	0.17	Loamy	330	670	1,000	0.15		
9		Kitakamigawa River	Tomehashi Bridge (Tome)	Tomeshi City	2013/5/23	Sunny	Loamy	300	630	930	0.10	Loamy	89	230	319	0.06		
10		Hasamagawa River	Sanhasamagawa River	Kuriharashi City	2013/5/24	Sunny	Loamy	350	720	1,070	0.11	Loamy	430	840	1,270	0.12		
11			Nihasamagawa River		Kajiyabashi Bridge	2013/5/24	Sunny	Loamy	220	480	700	0.13	Loamy	240	470	710	0.12	
12			Hasamagawa River		Hanayama Dam, inflow area	2013/5/24	Sunny	Loamy	330	690	1,020	0.16	Sandy	87	190	277	0.11	
13					Wakayanagi	2013/5/27	Cloudy	Loamy	180	350	530	0.10	Loamy	140	290	430	0.10	
14		Eaigawa River	Yamayoshidabashi Bridge	Tomeshi City	2013/5/23	Sunny	Loamy	<10	<10	-	0.06	Loamy	58	120	178	0.07		
15			Todorokibashi Bridge (Todoroki)	Osakishi City	2013/5/17	Sunny	Loamy	220	470	690	0.07	Loamy	200	370	570	0.07		
16			Shimzokomon Weir		2013/5/17	Sunny	Sandy	370	800	1,170	0.06	Loamy	350	710	1,060	0.10		
17	In Furukawa District, Osakishi City		Shinhorishon, entrance		2013/5/17	Sunny	Loamy	190	380	570	0.08	Loamy	78	140	218	0.06		
18	Eaigawa River	Dekigawa River	Misatomachi Town	2013/5/16	Cloudy	Sandy	82	170	252	0.08	Loamy	120	280	400	0.05			
19		Okawabashi Bridge (Tandai)	Wakuyacho Town/Ishinomakishi City	2013/5/16	Cloudy	Loamy	59	130	189	0.06	Loamy	23	38	61	0.05			
20		Kyukitakamigawa River	Kadonowaki	Ishinomakishi City	2013/5/16	Cloudy	Sandy	<10	21	21	0.07	Loamy	93	180	273	0.08		
21	Narusegawa River	Onobashi Bridge (Ono)	Higashimatsushimashi City	2013/5/16	Sunny	Sandy	77	210	287	0.07	Sandy	36	91	127	0.08			
22	Sunaohigawa River	Tagaizeki Weir	Tagajoshi City	2013/5/10	Sunny	Sandy	60	130	190	0.07	Sandy	120	210	330	0.06			
23		Nembutsubashi Bridge	2013/5/10	Sunny	Sandy	90	190	280	0.07	Loamy	120	260	380	0.05				
24	Teizan-unga Canal (Kiyusunaohigawa River)	Teizanbashi Bridge	Shichigahamamachi Town/Tagajoshi City	2013/5/10	Sunny	Sandy	43	77	120	0.06	Sandy	63	120	183	0.06			
25	Nanakitagawa River System	Nanakitabashi Bridge	Sendaishi City	2013/5/9	Sunny	Sandy	46	84	130	0.06	Sandy	110	240	350	0.05			
26		Fukudohashi Bridge		2013/5/9	Sunny	Sandy	160	320	480	0.06	Sandy	150	310	460	0.06			
27		Umedagawa River		2013/5/9	Sunny	Sandy	93	210	303	0.09	Sandy	46	99	145	0.08			
28		Nanakitagawa River		Takasagobashi Bridge	2013/5/8	Sunny	Sandy	73	140	213	0.06	Sandy	290	600	890	0.08		
29	Natorigawa River System	Natorigawa River	Sendaishi City/Natorishi City	2013/5/8	Sunny	Loamy	94	190	284	0.06	Loamy	180	330	510	0.08			
30		Yakushibashi Bridge	Natorishi City	2013/5/8	Sunny	Loamy	180	380	560	0.09	Loamy	150	270	420	0.10			
31		Koyamabashi Bridge		2013/5/8	Sunny	Loamy	1,100	2,200	3,300	0.17	Loamy	1,000	2,000	3,000	0.15			
32	A b u k u m a S y s t e m R i v e r	Bishamonbashi Bridge	Marumori Town	2013/5/7	Cloudy	Loamy	200	410	610	0.08	Loamy	120	240	360	0.09			
33		Hadeniwabashi Bridge		2013/4/24	Sunny	Sandy	320	630	950	0.31	Loamy	510	1,000	1,510	0.30			
				2013/6/14	Sunny	Loamy	600	3,100	4,700	0.25	Sandy	130	280	410	0.15			
				2013/6/28	Cloudy	Loamy	960	2,900	2,960	0.29	Loamy	370	790	1,160	0.28			
34		Marumori bashi Bridge		2013/4/24	Sunny	Loamy	110	230	340	0.12	Loamy	120	260	380	0.13			
				2013/6/14	Cloudy	Loamy	380	770	1,150	0.20	Sandy	190	430	620	0.11			
35		Ejiribashi Bridge		2013/6/28	Cloudy	Sandy	70	150	220	0.11	Sandy	210	440	650	0.09			
				2013/4/23	Sunny	Loamy	1,600	3,100	4,700	0.47	Sandy	180	350	530	0.19			
36		Shiroishigawa River		Shiroishigawa River	Before the confluence with Kawaragosa River (Sunaohibashi Bridge)	Shiroishishi City	2013/4/25	Sunny	Loamy	510	1,000	1,510	0.16	Loamy	340	650	990	0.16
37				Saikawa River	Etsubashi Bridge	2013/4/25	Sunny	Loamy	380	800	1,180	0.18	Loamy	310	590	900	0.16	
38	Matsukawa River		Miyaohashi Bridge	Zaomachi Town	2013/4/26	Cloudy	Loamy	170	350	520	0.15	Loamy	440	830	1,270	0.13		
39	Arakawa River		Niragambashi Bridge	Muramatsumachi Town/Ogawaramachi Town	2013/5/7	Cloudy	Loamy	500	990	1,490	0.17	Loamy	460	980	1,440	0.16		
40	Shiroishigawa River		Shirahatabashi Bridge	Shibatamachi Town	2013/5/7	Cloudy	Loamy	270	590	860	0.13	Loamy	360	700	1,060	0.15		
41	Tsukunokiohashi Bridge		Kakudashi City/Shibatamachi Town	2013/4/23	Sunny	Loamy	360	730	1,090	0.12	Loamy	190	350	540	0.14			
				2013/6/28	Cloudy	Loamy	590	1,300	1,890	0.11	Loamy	560	1,200	1,760	0.11			
42	Abukumagawa River	Abukumaohashi Bridge (Iwanuma)	Iwanumashi City/Wataricho Town	2013/4/23	Sunny	Loamy	870	1,700	2,570	0.25	Sandy	140	250	390	0.19			
				2013/6/14	Cloudy	Loamy	910	1,900	2,810	0.25	Loamy	350	730	1,080	0.20			
				2013/6/27	Cloudy	Loamy	1,000	2,200	3,200	0.20	Loamy	270	580	850	0.17			
43	Abukumagawa River Estuary (Watariohashi Bridge)		2013/4/23	Sunny	Sandy	260	480	740	0.15	Loamy	380	730	1,110	0.14				
			2013/6/28	Cloudy	Loamy	<10	14	14	0.07	Loamy	210	440	650	0.11				

• 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.

# ○Lake and Headwater: Water Quality Monitoring Results

Sampling point					Sampling date	Weather	Full depth (m)	General items					Radioactive material concentrations (Bq/L)		Remarks
No.	Point							Sampling depth (m)	Secchi disk depth (m)	Electrical conductivity (mS/m)	SS (mg/L)	Turbidity	Radioactive cesium		
													Cs-134	Cs-137	
1	Kitakamigawa River System	Kurikoma Dam	Dam site	Surface layer	2013/6/7	Cloudy	20.8	0.5	2.0	9	4	3.2	<1	<1	
				Lower layer				19.8		10	5	4.2	<1	<1	
2	Kitakamigawa River System	Hanayama Dam	Dam site	Surface layer	2013/6/7	Cloudy	21.0	0.5	1.9	6	4	3.3	<1	<1	
				Lower layer				20.0		7	13	20.0	<1	<1	
3	Kitakamigawa River System	Narugo Dam	Dam site	Surface layer	2013/6/20	Sunny	56.4	0.5	4.0	11	<1	1.5	<1	<1	
				Lower layer				55.4		7	24	41.0	<1	<1	
4	Kitakamigawa River System	Izunuma Lake	Lake exit	Surface layer	2013/6/5	Cloudy	1.0	0.0	0.4	19	31	31.0	<1	<1	
				Lower layer				-		-	-	-	-	-	-
5	Kitakamigawa River System	Naganuma Lake	Lake exit	Surface layer	2013/6/5	Cloudy	1.3	0.0	>1.3	18	3	3.0	<1	<1	
				Lower layer				-		-	-	-	-	-	-
6	Kitakamigawa River System	Shukunosawatameike Pond	Pond exit	Surface layer	2013/6/5	Sunny	1.5	0.0	>1.5	11	3	3.2	<1	<1	
				Lower layer				-		-	-	-	-	-	-
7	Narusegawa River System	Futatsuishi Dam	Dam site	Surface layer	2013/6/6	Sunny	45.9	0.5	5.5	6	<1	0.7	<1	<1	
				Lower layer				44.9		8	1	1.1	<1	<1	
8	Narusegawa River System	Urushizawa Dam	Dam site	Surface layer	2013/6/20	Sunny	32.1	0.5	4.0	5	2	1.6	<1	<1	
				Lower layer				31.1		5	6	5.5	<1	<1	
9	Narusegawa River System	Minamikawa Dam	Dam site	Surface layer	2013/6/6	Cloudy	25.1	0.5	2.7	10	2	1.5	<1	<1	
				Lower layer				24.1		10	7	5.5	<1	<1	
10	Narusegawa River System	Miyatoko Dam	Dam site	Surface layer	2013/6/6	Cloudy	0.7	0.0	>0.7	12	6	3.0	<1	<1	
				Lower layer				-		-	-	-	-	-	-
11	Sunaoshigawa River System	Sonoseki Dam	Dam site	Surface layer	2013/6/10	Cloudy	8.0	0.5	1.1	21	5	5.6	<1	<1	
				Lower layer				7.0		21	8	6.0	<1	<1	
12	Nanakitagawa River System	Nanakita Dam	Dam site	Surface layer	2013/6/11	Cloudy	0.3	0.0	>0.3	7	5	3.4	<1	<1	
				Lower layer				-		-	-	-	-	-	-
13	Marutazawatameike Pond	Pond exit	Pond exit	Surface layer	2013/6/10	Sunny	0.1	0.0	>0.1	33	27	24.0	<1	<1	
				Lower layer				-		-	-	-	-	-	-
14	Natorigawa River System	Okura Dam	Dam site	Surface layer	2013/6/11	Cloudy	34.4	0.5	4.4	6	3	3.0	<1	<1	
				Lower layer				33.4		6	2	1.7	<1	<1	
15	Amanuma Lake	Lake exit	Lake exit	Surface layer	2013/6/10	Sunny	0.4	0.0	>0.4	22	15	6.8	<1	<1	
				Lower layer				-		-	-	-	-	-	-
16	Natorigawa River System	Kamafusa Dam	Dam site	Surface layer	2013/6/18	Cloudy	2.6	0.5	1.3	10	5	6.9	<1	<1	
				Lower layer				1.6		11	14	18.0	<1	<1	
17	Natorigawa River System	Tarumizu Dam	Dam site	Surface layer	2013/6/10	Sunny	1.2	0.0	>1.2	10	<1	1.4	<1	<1	
				Lower layer				-		-	-	-	-	-	-
18	Abukumagawa River System	Murata Dam	Dam site	Surface layer	2013/6/17	Cloudy	0.3	0.0	>0.3	10	15	16.0	<1	<1	
				Lower layer				-		-	-	-	-	-	-
19	Abukumagawa River System	Kawarago Dam	Dam site	Surface layer	2013/6/17	Cloudy	2.0	0.0	>2.0	7	1	1.1	<1	<1	
				Lower layer				-		-	-	-	-	-	-
20	Abukumagawa River System	Shichikashuku Dam	Dam site	Surface layer	2013/6/19	Cloudy	42.9	0.5	3.6	7	2	3.1	<1	<1	
				Lower layer				41.9		8	<1	1.7	<1	<1	
21	Bagyunuma Lake	Lake exit	Lake exit	Surface layer	2013/6/17	Cloudy	1.1	0.0	0.5	23	20	19.0	<1	<1	
				Lower layer				-		-	-	-	-	-	-

\* Sampling points are listed from north to south.

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	
No.	Point			Municipality				General items			Concentration of radioactive material [Bq/kg (dried mud)]			Property	Soil					
								Mud sampling depth (cm)	Mud content (%)	Property	Radioactive cesium				Property	Concentration of radioactive material [Bq/kg (dry)]				Air dose (μSv/h)
											Cs-134	Cs-137	Total			Cs-134	Cs-137	Total		
1	Kitakamigawa River System	Kurikoma Dam	Dam site	Kuriharashi City	2013/6/7	Cloudy	20.8	3	47	Clay	53	140	193	Sandy	360	760	1,120	0.14		
2		Hanayama Dam	Dam site	Kuriharashi City	2013/6/7	Cloudy	21.0	3	41	Clay	110	210	320	Loamy	430	920	1,350	0.19		
3		Narugo Dam	Dam site	Osakishi City	2013/6/20	Sunny	56.4	10	27	Clay	270	500	770	Loamy	150	330	480	0.10		
4		Izumuma Lake	Lake exit	Tomeshi City	2013/6/5	Cloudy	1.0	3	22	Clay	100	240	340	Sandy	45	120	165	0.05		
5		Nagamuma Lake	Lake exit	Tomeshi City	2013/6/5	Cloudy	1.3	3	36	Clay	150	320	470	Sandy	73	150	223	0.07		
6		Shukunosawatameike Pond	Pond exit	Kuriharashi City	2013/6/5	Sunny	1.5	3	65	Sand/silt	51	110	161	Loamy	59	150	209	0.07		
7	Narusegawa River System	Futatsuisi Dam	Dam site	Kamimachi Town	2013/6/6	Sunny	45.9	3	20	Clay	150	360	510	Loamy	18	35	53	0.08		
8		Urushizawa Dam	Dam site	Kamimachi Town	2013/6/20	Sunny	32.1	10	34	Clay	110	280	390	Loamy	63	140	203	0.06		
9		Minamikawa Dam	Dam site	Taiwacho Town	2013/6/6	Cloudy	25.1	3	24	Clay	420	810	1,230	Sandy	120	230	350	0.06		
10		Miyatoko Dam	Dam site	Taiwacho Town	2013/6/6	Cloudy	0.7	3	56	Silt	65	130	195	Clay-loamy	100	230	330	0.06		
11	Sunaoshigawa River System	Sonoseki Dam	Dam site	Rifucho Town	2013/6/10	Cloudy	8.0	3	17	Clay	620	1,300	1,920	Sandy	110	200	310	0.07		
12	Nanakitagawa River System	Nanakita Dam	Dam site	Sendaishi City	2013/6/11	Cloudy	0.3	3	55	Sand/gravel	29	78	107	Loamy	54	140	194	0.06		
13	Marutazawatameike Pond	Pond exit	Sendaishi City	2013/6/10	Sunny	0.1	3	62	Clay	120	260	380	Sandy	140	280	420	0.05			
14	Natorigawa River System	Okura Dam	Dam site	Sendaishi City	2013/6/11	Cloudy	1.0	3	69	Silt	29	59	88	Sandy	59	130	189	0.04		
15	Amanuma Lake	Lake exit	Sendaishi City	2013/6/10	Sunny	0.4	3	73	Sand/silt	930	2,000	2,930	Sandy	190	370	560	0.08			
16	Natorigawa River System	Kamafusa Dam	Dam site	Kawasakimachi Town	2013/6/18	Cloudy	2.6	10	27	Clay	190	430	620	Loamy	200	410	610	0.05		
17		Tarumizu Dam	Dam site	Natorishi City	2013/6/10	Sunny	1.2	3	71	Sand/silt	96	230	326	Sandy	120	270	390	0.07		
18	Abukumagawa River System	Murata Dam	Dam site	Muratamachi Town	2013/6/17	Cloudy	0.3	3	46	Clay	150	280	430	Loamy	110	230	340	0.08		
19		Kawarago Dam	Dam site	Shiroishishi City	2013/6/17	Cloudy	2.0	3	49	Sand/silt	200	420	620	Loamy	110	200	310	0.12		
20		Shichikashuku Dam	Dam site	Shichikashukumachi Town	2013/6/19	Cloudy	42.9	10	36	Clay	390	920	1,310	Loamy	200	460	660	0.21		
21	Bagyunuma Lake	Lake exit	Shiroishishi City	2013/6/17	Cloudy	1.1	3	49	Silt	110	230	340	Loamy	650	1,300	1,950	0.31			

\* 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.

## ○Coast: Water Quality Monitoring Results

Sampling point			Sampling date	Weather	Full depth (m)	General items				Radioactive material concentrations (Bq/L)		Remarks	
No.	Water body					Sampling depth (m)	Secchi disk depth (m)	Salinity (‰)	SS (mg/L)	Turbidity	Radioactive cesium		
											Cs-134		Cs-137
1	All other neighboring sea areas	Oppawan Bay (Jyusanhama Beach)	Surface layer	2013/5/23	Sunny	18	0.0	4.5	30	2	1.6	<1	<1
		Lower layer	17.0				34		<1	0.5	<1	<1	
2	Neighboring sea area of Ishinomaki (C)	Mangokuura Lake, M-6 (center)	Surface layer	2013/5/24	Sunny	4	0.0	3.0	33	2	1.6	<1	<1
		Lower layer	3.0				33		3	2.0	<1	<1	
3	Matsushimawan Bay (B)	Nishihama Beach	Surface layer	2013/6/11	Cloudy	12.6	0.5	2.1	30	4	3.9	<1	<1
		Lower layer	11.6				31		4	4.2	<1	<1	
4	Neighboring sea area of Sendai Port (B)	Gamo-3	Surface layer	2013/6/11	Cloudy	15.8	0.5	1.5	27	4	7.6	<1	<1
		Lower layer	14.8				31		7	7.5	<1	<1	
5	Neighboring sea area of Sendai Port (A)	Naiko Inner Port, 4-Nai	Surface layer	2013/6/11	Cloudy	15.3	0.5	2.0	29	3	5.0	<1	<1
		Lower layer	14.3				32		3	3.0	<1	<1	
6	All other neighboring sea areas	Ido-5	Surface layer	2013/6/11	Cloudy	13.4	0.5	3.5	25	3	4.0	<1	<1
		Lower layer	12.4				31		3	1.3	<1	<1	
7	Offshore of Abukumagawa River Estua	Offshore of Abukumagawa River Estuary	Surface layer	2013/6/24	Sunny	9.12	0.5	4.6	24	2	3.0	<1	<1
		Lower layer	8.1				27		3	1.0	<1	<1	

• Sampling points are listed from north to south.

## ○Coast: Sediment Monitoring Results

No.	Water body		Sampling date	Weather	Full depth (m)	General items			Concentration of radioactive material [Bq/kg (dried mud)]			Remarks
						Mud sampling depth (cm)	Mud content %	Property	Radioactive cesium			
									Cs-134	Cs-137	Total	
1	All other neighboring sea areas	Oppawan Bay (Jyusanhama Beach)	2013/5/23	Sunny	18	7	66	Sand/silt	<10	26	26	
2	Neighboring sea area of Ishinomaki (C)	Mangokuura Lake, M-6 (center)	2013/5/24	Sunny	4	5	47	Silt	20	54	74	
3	Matsushimawan Bay (B)	Nishihama Beach	2013/6/11	Cloudy	12.6	10	29	Silt	130	320	450	
4	Neighboring sea area of Sendai Port (B)	Gamo-3	2013/6/11	Cloudy	15.8	3	72	Sand	13	22	35	
5	Neighboring sea area of Sendai Port (A)	Naiko Inner Port, 4-Nai	2013/6/11	Cloudy	15.3	10	29	Silt	270	760	1,030	
6	All other neighboring sea areas	Ido-5	2013/6/11	Cloudy	13.4	3	73	Sand	<10	10	10	
7	Offshore of Abukumagawa River Estua	Offshore of Abukumagawa River Estuary	2013/6/24	Sunny	9.12	10	76	Sand	24	37	61	

• Sampling points are listed from north to south.



