

(News Release)
The Results of Radioactive Material Monitoring of the Surface Water Bodies
within Iwate Prefecture
(November 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 Iwate Prefecture during the period of November 8-27, 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

24 environmental reference points, etc. in the surface water bodies within Iwate Prefecture
(Rivers: 22 locations, Coasts: 2 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 (* and ** denote the results of the previous surveys (*August 2013, **July 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 were around 500Bq/kg or below at all locations and had a declining tendency at

almost all locations.

(Rivers)

Cs-134 + Cs-137: ND-326Bq/kg (dried mud) (*ND-101Bq/kg (dried mud))

(Coasts)

Cs-134 + Cs-137: ND-35Bq/kg (dried mud) (**ND-46Bq/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	22 (18)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	22 (18)
Coasts	2 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (2)

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

(Rivers)

Cs-134 + Cs-137: 13-2,460Bq/kg (dry) (*115-2,670Bq/kg (dry))

Spatial dose: 0.05-0.19μSv/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.

ORiver: Water Quality Monitoring Results

(Annex)

Sampling point				Sampling date	Weather	Full depth (m)	General items					Radioactive material concentrations (Bq/L)		Remarks
No.	Water body	Point	Municipality				Sampling depth (m)	Transparency (cm)	Electrical conductivity (mS/m)	SS (mg/L)	Turbidity	Radioactive cesium		
												Cs-134	Cs-137	
1	Sakarigawa River Lower Reaches	Sanobashi Bridge	Ofunatoshi City	2013/11/12	Sunny	1.0	0	>100	840	2	1	<1	<1	
2	Kesengawa River	Anehabashi Bridge	Rikuzentakadashi City	2013/11/12	Sunny	0.3	0	>100	831	1	1	<1	<1	
3	Okawa River	Prefectural border with Miyagi	Ichinosekishi City	2013/11/13	Sunny	0.2	0	>100	25	<1	1	<1	<1	
4	Tsuyagawa River	Chiyogaharabashi Bridge		2013/11/13	Sunny	0.3	0	>100	18	<1	0	<1	<1	<1
5	Kurosawagawa River	Kawaradabashi Bridge	Kanegasakimachi Town	2013/11/26	Cloudy	0.3	0	>100	10	2	1	<1	<1	
6	Isawagawa River	Oagobashi Bridge	Oshushi City	2013/11/26	Light rain	0.3	0	55	10	5	4	<1	<1	
7	Isawagawa River	Saijinbashi Bridge		2013/11/26	Cloudy	0.2	0	>100	11	3	2	<1	<1	
8	Kitakamigawa River	Fujibashi Bridge		2013/11/26	Cloudy	0.2	0	>100	11	2	2	<1	<1	
9	Shiratorigawa River	Shiratoribashi Bridge		2013/11/25	Cloudy	0.1	0	>100	14	2	1	<1	<1	
10	Koromogawa River	Koromogawabashi Bridge		Hirazumicho Town	2013/11/25	Cloudy	0.2	0	>100	20	1	1	<1	<1
11	Otagawa River	Hitosujibashi Bridge	Ichinosekishi City	2013/11/25	Cloudy	0.2	0	95	26	4	2	<1	<1	
12	Iwaigawa River Middle Reaches	Kaminohashi Bridge		2013/11/25	Cloudy	0.5	0	>100	19	2	1	<1	<1	
13	Iwaigawa River Lower Reaches	Kozenjibashi Bridge		2013/11/26	Sunny	0.2	0	68	20	7	4	<1	<1	
14	Kitakamigawa River	Chitosebashi Bridge (Kozenji)		2013/11/27	Sunny	1.5	0	77	21	4	4	<1	<1	
15	Sokeigawa River	Unadabashi Bridge		2013/11/14	Sunny	0.2	0	>100	24	<1	1	<1	<1	
16	Sarusawagawa River	Kannonbashi Bridge		2013/11/14	Sunny	0.6	0	>100	28	<1	0	<1	<1	
17	Satetsugawa River	Oidebashi Bridge		2013/11/14	Sunny	0.4	0	>100	32	<1	0	<1	<1	
18		Kanzakibashi Bridge		2013/11/27	Sunny	0.2	0	>100	16	<1	1	<1	<1	
19	Senmayagawa River Upper Reaches	Miyatabashi Bridge		2013/11/14	Sunny	0.4	0	>100	22	3	1	<1	<1	
20	Kitakamigawa River	Kitakamigawabashi Bridge		2013/11/27	Sunny	0.5	0	72	11	4	4	<1	<1	
21	Kinomigawa River	Higuchibashi Bridge	2013/11/8	Cloudy	0.5	0	>100	20	1	1	<1	<1		
22	Kinryugawa River	Tenjinbashi Bridge	2013/11/8	Cloudy	0.4	0	>100	14	2	2	<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

Sampling point				Sampling date	Weather	Full depth (m)	General items			Concentration of radioactive material [Bq/kg (dried mud)]			Remarks
No.	Water body	Point	Municipality				Mud sampling depth (cm)	Mud content %	Property	Radioactive cesium			
										Cs-134	Cs-137	Total	
1	Sakarigawa River Lower Reaches	Sanobashi Bridge	Ofunatoshi City	2013/11/12	Sunny	1.0	10	77	Sand	15	48	63	
2	Kesengawa River	Anehabashi Bridge	Rikuzentakadashi City	2013/11/12	Sunny	0.3	10	80	Sand	<10	20	20	
3	Okawa River	Prefectural border with Miyagi	Ichinosekishi City	2013/11/13	Sunny	0.2	10	79	Sand	21	59	80	
4	Tsuyagawa River	Chiyogaharabashi Bridge		2013/11/13	Sunny	0.3	10	83	Sand/gravel	21	64	85	
5	Kurosawagawa River	Kawaradabashi Bridge	Kanegasakimachi Town	2013/11/26	Cloudy	0.3	10	94	Gravel/sand	17	36	53	
6	Isawagawa River	Oagobashi Bridge	Oshushi City	2013/11/26	Light rain	0.3	10	73	Sand	<10	27	27	
7	Isawagawa River	Saijinbashi Bridge		2013/11/26	Cloudy	0.2	10	79	Sand/gravel	<10	<10	-	
8	Kitakamigawa River	Fujibashi Bridge		2013/11/26	Cloudy	0.2	10	86	Gravel/sand	<10	<10	-	
9	Shiratorigawa River	Shiratoribashi Bridge		2013/11/25	Cloudy	0.1	10	79	Sand	20	39	59	
10	Koromogawa River	Koromogawabashi Bridge	Hiraizumicho Town	2013/11/25	Cloudy	0.2	10	77	Sand	19	47	66	
11	Otagawa River	Hitosujibashi Bridge		2013/11/25	Cloudy	0.2	10	76	Sand	13	33	46	
12	Iwaigawa River Middle Reaches	Kaminohashi Bridge		2013/11/25	Cloudy	0.5	10	75	Sand	19	44	63	
13	Iwaigawa River Lower Reaches	Kozenjibashi Bridge		2013/11/26	Sunny	0.2	10	53	Silt/sand	96	230	326	
14	Kitakamigawa River	Chitosebashi Bridge (Kozenji)		2013/11/27	Sunny	1.5	10	58	Sand	74	220	294	
15	Sokeigawa River	Unadabashi Bridge		2013/11/14	Sunny	0.2	10	79	Sand	15	39	54	
16	Sarusawagawa River	Kannonbashi Bridge		2013/11/14	Sunny	0.6	10	82	Gravel/sand	12	33	45	
17	Satetsugawa River	Oidebashi Bridge	Ichinosekishi City	2013/11/14	Sunny	0.4	10	79	Sand	<10	25	25	
18		Kanzakibashi Bridge		2013/11/27	Sunny	0.2	10	80	Sand/gravel	<10	<10	-	
19	Senmayagawa River Upper Reaches	Miyatabashi Bridge		2013/11/14	Sunny	0.4	10	80	Sand/gravel	21	46	67	
20	Kitakamigawa River	Kitakamigawabashi Bridge		2013/11/27	Sunny	0.5	10	71	Sand	20	39	59	
21	Kinomigawa River	Higuchibashi Bridge		2013/11/8	Cloudy	0.5	6	88	Sand/gravel	11	19	30	
22	Kinryugawa River	Tenjinbashi Bridge		2013/11/8	Cloudy	0.4	6	83	Sand/gravel	26	64	90	

• 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.

ORiver: Surrounding Environment (River Terrace) Monitoring Results

(Annex)

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	Sakarigawa River Lower Reaches	Sanobashi Bridge	Ofunatoshi City	2013/11/12	Sunny	Loamy	51	140	191	0.08	Loamy	76	180	256	0.05	
2	Kesengawa River	Anehabashi Bridge	Rikuzentakadashi City	2013/11/12	Sunny	Loamy	<10	13	13	0.06	Loamy	11	36	47	0.06	
3	Okawa River	Prefectural border with Miyagi	Ichinosekishi City	2013/11/13	Sunny	-	-	-	-	-	Loamy	130	340	470	0.10	(Left bank) Soil not exposed
4	Tsuyagawa River	Chiyogaharabashi Bridge		2013/11/13	Sunny	Loamy	170	360	530	0.12	Loamy	390	920	1,310	0.12	
5	Kurosawagawa River	Kawaradabashi Bridge	Kanegasakimachi Town	2013/11/26	Cloudy	Loamy	82	240	322	0.08	Loamy	33	93	126	0.06	
6	Isawagawa River	Oagobashi Bridge	Oshushi City	2013/11/26	Light rain	Loamy	48	110	158	0.06	Loamy	77	170	247	0.06	
7	Isawagawa River	Saijimbashi Bridge		2013/11/26	Cloudy	Loamy	49	130	179	0.08	Loamy	89	260	349	0.07	
8	Kitakamigawa River	Fujibashi Bridge		2013/11/26	Cloudy	Loamy	340	710	1,050	0.09	Loamy	130	360	490	0.13	
9	Shiratorigawa River	Shiratoribashi Bridge		2013/11/25	Cloudy	Loamy	360	890	1,250	0.15	Loamy	230	580	810	0.14	
10	Koromogawa River	Koromogawabashi Bridge	Hiraizumicho Town	2013/11/25	Cloudy	Loamy	240	610	850	0.13	Loamy	360	910	1,270	0.12	
11	Otagawa River	Hitosujibashi Bridge		2013/11/25	Cloudy	Loamy	600	1,500	2,100	0.12	Loamy	580	1,400	1,980	0.13	
12	Iwaigawa River Middle Reaches	Kaminohashi Bridge		2013/11/25	Cloudy	Loamy	140	360	500	0.12	Loamy	170	420	590	0.11	
13	Iwaigawa River Lower Reaches	Kozenjibashi Bridge	Ichinosekishi City	2013/11/26	Sunny	Loamy	250	600	850	0.10	Loamy	210	580	790	0.07	
14	Kitakamigawa River	Chitosebashi Bridge (Kozenji)		2013/11/27	Sunny	Loamy	120	290	410	0.08	Loamy	220	580	800	0.07	
15	Sokeigawa River	Unadabashi Bridge		2013/11/14	Sunny	Loamy	100	240	340	0.09	Loamy	180	380	560	0.08	
16	Sarusawagawa River	Kannonbashi Bridge		2013/11/14	Sunny	Loamy	99	230	329	0.13	Loamy	280	680	960	0.10	
17	Satetsugawa River	Oidebashi Bridge		2013/11/14	Sunny	Loamy	130	330	460	0.08	Loamy	160	390	550	0.08	
18		Kanzakibashi Bridge		2013/11/27	Sunny	Loamy	630	1,500	2,130	0.15	Loamy	130	350	480	0.16	
19	Senmayagawa River Upper Reaches	Miyatabashi Bridge		2013/11/14	Sunny	Loamy	310	690	1,000	0.17	Loamy	760	1,700	2,460	0.15	
20	Kitakamigawa River	Kitakamigawabashi Bridge		2013/11/27	Sunny	Loamy	210	520	730	0.08	Loamy	180	420	600	0.13	
21	Kinomigawa River	Higuchibashi Bridge		2013/11/8	Cloudy	Loamy	190	460	650	0.06	Loamy	59	150	209	0.07	
22	Kinryugawa River	Tenjinbashi Bridge		2013/11/8	Cloudy	Loamy	480	1,100	1,580	0.18	Loamy	200	450	650	0.19	

- 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.

○Coast: Water Quality Monitoring Results

(Annex)

Sampling point			Sampling date	Weather	Full depth (m)	General items					Radioactive material concentrations (Bq)		Remarks
No.	Water body					Sampling depth (m)	Secchi disk depth (m)	Salinity (‰)	SS (mg/L)	Turbidity	Radioactive cesium		
											Cs-134	Cs-137	
1	Ofunatowan Bay (A)	S-31	2013/11/12	Cloudy	17.0	0.5	7.9	29	2	1	<1	<1	
						16.0		30	5	1	<1	<1	
2	Hiroatowan Bay	S-34	2013/11/12	Sunny	11.9	0.5	3.2	28	2	2	<1	<1	
						10.9		30	5	3	<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

Sampling point			Sampling date	Weather	Full depth (m)	General items		Concentration of radioactive material [Bq/kg (dried n			Remarks
No.	Water body					Mud content (%)	Property	Radioactive cesium			
								Cs-134	Cs-137	Total	
1	Ofunatowan Bay (A)	S-31	2013/11/12	Cloudy	17.0	44	Silt/sand	11	24	35	
2	Hiroatowan Bay	S-34	2013/11/12	Sunny	11.9	79	Sand	<10	<10	-	

• Sampling points are listed from north to south.

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

