

(News Release)
The Results of Radioactive Material Monitoring of the Surface Water Bodies
within Iwate Prefecture
(November-December 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 28-December 6, 2012 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

20 environmental reference points, etc. in the surface water bodies within Iwate Prefecture
(Rivers: 18 locations, Coasts: 2 locations)

(2) Survey Method

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

2. Outline of Results (* and ** denote the results of the previous surveys (*September 2012, **January 2012))

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

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

<Reference>

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

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

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

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

Overall, the levels were around 500Bq/kg or below at almost all locations (coasts: 50Bq/kg or below), and have remained constant or had a declining tendency.

(Rivers)

Cs-134 + Cs-137: ND-1,040Bq/kg (dried mud) (*40-400Bq/kg (dried mud))

(Coasts)

Cs-134 + Cs-137: ND-33Bq/kg (dried mud) (** ND at any location)

<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	15 (14)	2 (0)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	18 (14)
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: ND-17,400Bq/kg (dry) (*220-2,600Bq/kg (dry))

Spatial dose: 0.07-0.27 μ 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

No.	Sampling point			Sampling date	Weather	Full depth m	General items					Concentration of radioactive material Bq/L			Remarks	
	Water body	Point	Municipality				Sampling depth m	Transparency cm	Electrical conductivity mS/m	SS mg/L	Turbidity	Radioactive iodine I-131	Radioactive cesium Cs-134 Cs-137			
1	Sakarigawa River Lower Reaches	Sanobashi Bridge	Ofunatoshi City	2012/12/4	Rain	0.30	0.0	40	16	9	6	<1	<1	<1		
2	Kesengawa River	Anehabashi Bridge	Rikuzentakadashi City	2012/12/4	Rain	0.40	0.0	28	71	10	8	<1	<1	<1		
3	Okawa River	Miyagi Prefecture Border	Ichinosekishi City	2012/12/4	Rain	0.70	0.0	9	10	44	36	<1	<1	<1		
4	Tsuyagawa River	Chiyogaharabashi Bridge		2012/12/4	Rain	0.50	0.0	38	9	4	4	<1	<1	<1		
5	R K i i v t e a r k a S m y i s g t a e w m a	Kurosawagawa River	Kawaradabashi Bridge	2012/12/3	Cloudy	0.30	0.0	>100	16	<1	1	<1	<1	<1		
6		Kitakamigawa River	Fujibashi Bridge	Oshushi City	2012/12/5	Rain	0.30	0.0	35	14	6	3	<1	<1	<1	
7		Shiratorigawa River	Shiratoribashi Bridge		2012/12/5	Rain	0.10	0.0	93	16	<1	2	<1	<1	<1	
8		Koromogawa River	Koromogawabashi Bridge	Hirazumicho Town	2012/12/6	Sunny	0.30	0.0	95	12	<1	1	<1	<1	<1	
9		Otagawa River	Hitosujibashi Bridge		2012/12/6	Sunny	0.25	0.0	75	26	5	2	<1	<1	<1	
10		Iwajigawa River Middle Reaches	Kaminohashi Bridge		2012/12/6	Sunny	0.40	0.0	38	22	9	2	<1	<1	<1	
11		Kitakamigawa River	Chitosebashi Bridge (Kozenji)		2012/12/4	Rain	0.20	0.0	70	14	3	2	<1	<1	<1	
12		Sokeigawa River	Unadabashi Bridge		2012/12/4	Rain	0.25	0.0	28	17	12	8	<1	<1	<1	
13		Sarusawagawa River	Kannonbashi Bridge		2012/12/4	Rain	0.20	0.0	8	31	58	56	<1	<1	<1	
14		Satetsugawa River	Kanzakibashi Bridge	Ichinosekishi City	2012/12/5	Rain	0.70	0.0	48	16	6	2	<1	<1	<1	
15		Senmayagawa River Upper Reaches	Miyatabashi Bridge		2012/12/4	Rain	0.10	0.0	15	16	27	26	<1	<1	<1	
16		Kitakamigawa River	Kitakamigawabashi Bridge		2012/12/5	Sunny	0.10	0.0	27	14	8	5	<1	<1	<1	
17		Kinomigawa River	Higuchibashi Bridge		2012/12/5	Sunny	0.35	0.0	38	20	5	4	<1	<1	<1	
18		Kinryugawa River	Tenjinbashi Bridge		2012/12/5	Sunny	0.25	0.0	33	19	9	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.

○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	Municipality				Mud sampling depth cm	Mud content %	Property	Radioactive iodine I-131	Radioactive cesium			
										Cs-134	Cs-137	Total		
1	Sakarigawa River Lower Reaches	Sanobashi Bridge	Ofunatoshi City	2012/12/4	Rain	0.30	3	92	Gravel/sand	<30	<10	<10	-	
2	Kesengawa River	Anehabashi Bridge	Rikuzentakadashi City	2012/12/4	Rain	0.40	6	93	Sand	<30	<10	15	15	
3	Okawa River	Miyagi Prefecture Border	Ichinosekishi City	2012/12/4	Rain	0.70	2	80	Sand	<30	34	53	87	
4	Tsuyagawa River	Chiyogaharabashi Bridge		2012/12/4	Rain	0.50	2	84	Gravel	<30	58	100	158	
5	Kurosawagawa River	Kawaradabashi Bridge	Kanegasakimachi Town	2012/12/3	Cloudy	0.30	3	91	Sand	<30	19	35	54	
6	Kitakamigawa River	Fujibashi Bridge	Oshushi City	2012/12/5	Rain	0.30	3	80	Sand	<30	20	30	50	
7	Shiratorigawa River	Shiratoribashi Bridge		2012/12/5	Rain	0.10	3	84	Gravel/sand	<30	32	58	90	
8	Koromogawa River	Koromogawabashi Bridge	Hiraizumicho Town	2012/12/6	Sunny	0.30	3	84	Gravel/sand	<30	39	68	107	
9	Otagawa River	Hitosujibashi Bridge		2012/12/6	Sunny	0.25	4	68	Sand	<30	150	260	410	
10	Iwaigawa River Middle Reaches	Kaminohashi Bridge	Ichinosekishi City	2012/12/6	Sunny	0.40	3	88	Sand	<30	34	53	87	
11	Kitakamigawa River	Chitosebashi Bridge (Kozenji)		2012/12/4	Rain	0.20	2	76	Sand	<30	37	69	106	
12	Sokeigawa River	Unadabashi Bridge		2012/12/4	Rain	0.25	2	83	Sand	<30	240	400	640	
13	Sarusawagawa River	Kannonbashi Bridge		2012/12/4	Rain	0.20	3	78	Sand	<30	380	660	1,040	
14	Satetsugawa River	Kanzakibashi Bridge		2012/12/5	Rain	0.70	3	77	Sand	<30	69	120	189	
15	Senmayagawa River Upper Reaches	Miyatabashi Bridge		2012/12/4	Rain	0.10	3	92	Sand	<30	73	130	203	
16	Kitakamigawa River	Kitakamigawabashi Bridge		2012/12/5	Sunny	0.10	3	79	Sand	<30	28	57	85	
17	Kinomigawa River	Higuchibashi Bridge		2012/12/5	Sunny	0.35	3	56	Sand	<30	350	630	980	
18	Kinryugawa River	Tenjimbashi Bridge		2012/12/5	Sunny	0.25	3	88	Gravel/sand	<30	59	110	169	

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

○River: Surrounding Environment (River Terrace) 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	
							Radioactive iodine I-131	Cs-134	Cs-137	Total			Radioactive iodine I-131	Cs-134	Cs-137			Total
1	Sakarigawa River Lower Reaches	Sanobashi Bridge	Ofunatoshi City	2012/12/4	Rain	Sandy	<30	180	310	490	0.09	Loamy/skeletal	<30	98	200	298	0.09	
2	Kesengawa River	Anehabashi Bridge	Rikuzentakada City	2012/12/4	Rain	Sandy	<30	<10	<10	-	0.07	Loamy/skeletal	<30	67	120	187	0.10	
3	Okawa River	Miyagi Prefecture Border	Ichinosekishi City	2012/12/4	Rain	-	-	-	-	-	0.07	Loamy	<30	140	260	400	0.13	Soil not exposed
4	Tsuyagawa River	Chiyogaharabashi Bridge		2012/12/4	Rain	Loamy	<30	320	550	870	0.16	Loamy	<30	240	440	680	0.15	
5	Kurosawagawa River	Kawaradabashi Bridge	Kanegasakimachi Town	2012/12/3	Cloudy	Loamy	<30	150	290	440	0.09	Loamy	<30	180	300	480	0.09	
6	Kitakamigawa River	Fujibashi Bridge		2012/12/5	Rain	Loamy	<30	320	600	920	0.12	Loamy	<30	72	120	192	0.16	
7	Shiratorigawa River	Shiratoribashi Bridge	Oshushi City	2012/12/5	Rain	Loamy/skeletal	<30	440	740	1,180	0.23	Loamy/skeletal	<30	270	510	780	0.21	
8	Koromogawa River	Koromogawabashi Bridge		2012/12/6	Sunny	Loamy	<30	110	200	310	0.18	Loamy	<30	88	140	228	0.18	
9	Otagawa River	Hitosujibashi Bridge	Hiraizumicho Town	2012/12/6	Sunny	Loamy	<30	410	710	1,120	0.18	Loamy	<30	350	600	950	0.18	
10	Iwaigawa River Middle Reaches	Kaminohashi Bridge		2012/12/6	Sunny	Loamy	<30	420	740	1,160	0.19	Loamy/skeletal	<30	270	480	750	0.15	
11	Kitakamigawa River	Chitosebashi Bridge (Kozenji)		2012/12/4	Rain	Loamy	<30	200	360	560	0.10	Loamy	<30	530	950	1,480	0.13	
12	Sokeigawa River	Unadabashi Bridge		2012/12/4	Rain	Loamy/sandy	<30	140	240	380	0.13	Loamy/sandy	<30	160	280	440	0.12	
13	Sarusawagawa River	Kannonbashi Bridge		2012/12/4	Rain	Loamy	<78	6,400	11,000	17,400	0.17	Sandy	<30	240	410	650	0.16	
				2013/2/4	Cloudy	Loamy	<10	101	182	283	0.09	-	-	-	-	-	-	(Reference) Readings from the Iwate prefectural survey
14	Satsugawa River	Kanzakibashi Bridge	Ichinosekishi City	2012/12/5	Rain	Loamy	<30	530	950	1,480	0.22	Loamy/skeletal	<30	590	1,000	1,590	0.23	
15	Senmayagawa River Upper Reaches	Miyatabashi Bridge		2012/12/4	Rain	Loamy	<30	690	1,200	1,890	0.17	Loamy/sandy	<30	180	310	490	0.20	
16	Kitakamigawa River	Kitakamigawabashi Bridge		2012/12/5	Sunny	Loamy	<30	680	1,200	1,880	0.18	Loamy	<30	99	150	249	0.19	
17	Kinomigawa River	Higuchibashi Bridge		2012/12/5	Sunny	Loamy/skeletal	<30	160	280	440	0.10	Loamy/skeletal	<30	100	180	280	0.08	
18	Kinryugawa River	Tejimbashi Bridge		2012/12/5	Sunny	Loamy	<30	520	870	1,390	0.27	Loamy	<30	360	600	960	0.24	

*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.

*Air dose was measured with a survey meter, TCS-171 or TCS-172 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.

○Coast: Water Quality Monitoring Results

Sampling point		Sampling date	Weather	Full depth	General items				Concentration of radioactive material Bq/L			Remarks		
No.	Water body				Sampling depth m	Secchi disk depth m	Salinity ‰	SS mg/L	Turbidity	Radioactive iodine I-131	Radioactive cesium Cs-134 Cs-137			
1	Ofunatowan Bay (A)	Surface layer	2012/11/28	Sunny	17.3	0.5	7.0	36	3	1	<1	<1	<1	
		Lower layer				16.3		38	15	5	<1	<1	<1	
2	Hirotawan Bay	Surface layer	2012/11/29	Cloudy	11.3	0.5	4.0	37	4	1	<1	<1	<1	
		Lower layer				10.3		38	8	3	<1	<1	<1	

* Sampling points are listed from north to south.

○Coast: Sediment Monitoring Results

Sampling point		Sampling date	Weather	Full depth	General items			Concentration of radioactive material Bq/kg (dried mud)				Remarks
No.	Water body				Mud sampling depth cm	Mud content %	Property	Radioactive iodine I-131	Radioactive cesium Cs-134 Cs-137 Total			
1	Ofunatowan Bay (A)	2012/11/28	Sunny	17.3	10	53	Silt+Sludge	<30	10	23	33	
2	Hirotawan Bay	2012/11/29	Cloudy	11.3	5	91	Sand	<30	<10	<10	-	

* Sampling points are listed from north to south.

