

## FY2013 Iwate Prefecture Survey Results

### [Outline of Results]

#### (1) Water

##### Rivers

Radioactive cesium (Cs-134, Cs-137): Not detectable at any location

##### Coastal areas

Radioactive cesium (Cs-134, Cs-137): Not detectable at any location

#### (2) Sediments

##### Rivers

Cs-134: ND - 110 Bq/kg (dry)

Cs-137: 4.5 - 230 Bq/kg (dry)

##### Coastal areas

Cs-134: ND - 15 Bq/kg (dry)

Cs-137: 1.0 - 31 Bq/kg (dry)

#### (3) Surrounding Environment

##### (a) Soil

##### Rivers

Cs-134: 4.0 - 1,400 Bq/kg (dry)

Cs-137: 13 - 2,700 Bq/kg (dry)

##### (b) Ambient dose rate

##### Rivers

0.04 - 0.21  $\mu$ Sv/h

# Iwate River (Water) 1/2

Location				Sampling Date	Weather	Air temperature (°C)	Water depth (m)	Water							Activity concentration(Bq/L)		Remarks		
No.	Water area	Location	Municipality					Water temperature (°C)	Sampling depth (m)	Color	Odor	Transparency (cm)	Electrical conductivity (mS/m)	SS (mg/L)	Turbidity (FNU)	Radioactive cesium		Radioactive cesium	
													Cs-134	Cs-137					
R i v e r s	1	Sakari River Lower Reaches	Sano Bridge	Ofunato City	2013/5/21	Sunny	23.5	0.6	17.3	0.0	Grayish yellow green	None	>100	480.0	<1	1.5	<0.37	<0.68	
					2013/11/12	Sunny	8.0	1.0	10.9	0.0	Grayish yellowish green	None	>100	840.0	2	0.7	<0.68	<0.88	
	2	Kesen River	Aneha Bridge	Rikuzentakada City	2013/5/21	Sunny	22.5	0.5	19.3	0.0	Light grayish yellow green	Faint algae	>100	1,640.0	2	1.0	<0.71	<0.76	
					2013/11/12	Sunny	8.5	0.3	10.0	0.0	Yellowish pale gray	None	>100	831.0	1	0.9	<0.74	<0.57	
	3	Okawa River	Prefectural border with Miyagi	Ichinoseki City	2013/5/20	Cloudy	17.5	0.3	14.4	0.0	Reddish light gray	None	53	13.2	10	7.8	<0.90	<0.84	
					2013/8/28	Sunny	26.0	0.5	21.4	0.0	Reddish yellowish pale gray	None	>100	19.0	5	1.9	<0.41	<0.42	
					2013/11/13	Sunny	7.0	0.2	7.4	0.0	Greenish white	None	>100	25.4	<1	0.6	<0.71	<0.35	
					2014/2/4	Cloudy	2.0	0.3	4.0	0.0	Light grayish yellow green	None	67	12.3	3	4.4	<0.56	<0.62	
	4	Tsuyagawa River	Chiyogahara Bridge		2013/5/22	Sunny	18.0	0.4	16.9	0.0	Light grayish yellow green	None	>100	17.7	2	1.3	<0.62	<0.55	
					2013/11/13	Sunny	8.0	0.3	8.5	0.0	Yellow reddish faint gray	None	>100	17.9	<1	0.4	<0.54	<0.59	
					2013/5/31	Sunny	21.5	0.4	19.6	0.0	Light grayish yellow green	None	>100	10.8	3	1.8	<0.60	<0.78	
	5	Kurosawa River	Kawarada Bridge	Kamegasaki Town	2013/11/26	Cloudy	12.5	0.3	9.6	0.0	Yellow reddish faint gray	None	>100	9.6	2	1.0	<0.61	<0.88	
					2013/5/31	Sunny	27.0	0.6	14.5	0.0	Light grayish blue green	None	>100	6.2	3	4.1	<0.51	<0.55	
	6	Isawa River	Oago Bridge	Oshu City	2013/8/27	Light rain	21.0	0.5	17.9	0.0	Light grayish yellow green	None	>100	7.6	4	2.5	<0.60	<0.52	
					2013/11/26	Light rain	10.0	0.3	8.9	0.0	Light grayish yellowish green	None	55	10.2	5	4.0	<0.58	<0.71	
					2014/2/6	Cloudy	2.0	0.3	3.3	0.0	Light grayish bluish green	None	>100	8.5	2	1.0	<0.67	<0.52	
	7	Saijin Bridge		Oshu City	2013/5/31	Sunny	18.0	0.6	12.9	0.0	Yellow greenish pale gray	None	>100	6.5	4	3.5	<0.50	<0.55	
					2013/8/27	Light rain	21.8	0.3	17.0	0.0	Yellow greenish pale gray	None	80	8.6	4	2.1	<0.64	<0.65	
					2013/11/26	Cloudy	11.8	0.2	10.1	0.0	Yellow greenish pale gray	None	>100	10.6	3	2.3	<0.71	<0.62	
	8	Kitakami River	Fuji Bridge	Oshu City	2014/2/6	Cloudy	-1.0	0.2	1.7	0.0	Light grayish bluish green	None	>100	9.9	3	1.3	<0.56	<0.60	
					2013/6/4	Sunny	25.0	0.6	16.6	0.0	Greenish yellowish white	None	>100	10.8	3	2.9	<0.56	<0.62	
					2013/8/27	Sunny	25.5	0.2	24.5	0.0	Grayish yellow green	None	>100	12.8	5	2.2	<0.51	<0.59	
	9	Shiratori River	Shiratori Bridge	Oshu City	2013/11/26	Cloudy	12.0	0.2	9.5	0.0	Yellow greenish pale gray	None	>100	11.1	2	1.7	<0.74	<0.56	
					2014/2/6	Light snow	-1.0	0.2	1.7	0.0	Light grayish green	None	>100	13.3	2	1.6	<0.54	<0.49	
					2013/6/3	Sunny	23.5	0.5	21.2	0.0	Yellow reddish faint gray	None	52	9.8	7	6.0	<0.67	<0.74	
	10	Koromo River	Koromogawa Bridge	Hirazumi Town	2013/8/27	Sunny	26.0	0.2	21.8	0.0	Light grayish yellow green	None	70	10.0	15	3.4	<0.54	<0.63	
					2013/11/25	Cloudy	6.0	0.1	5.8	0.0	Reddish yellowish pale gray	None	>100	13.9	2	0.7	<0.61	<0.59	
					2014/2/6	Light snow	-2.0	0.2	2.0	0.0	Light grayish yellow green	None	>100	12.7	2	1.3	<0.56	<0.58	
	11	Ota River	Hitosuji Bridge	Hirazumi Town	2013/5/29	Cloudy	22.0	0.2	18.5	0.0	Yellow greenish pale gray	None	>100	13.1	1	1.6	<0.72	<0.53	
					2013/8/27	Sunny	24.7	0.2	22.2	0.0	Light grayish reddish yellow	None	43	9.2	14	7.8	<0.63	<0.82	
					2013/11/25	Cloudy	6.5	0.2	6.0	0.0	Reddish yellowish pale gray	None	>100	20.1	1	0.7	<0.59	<0.65	
	12	Iwai River Middle Reaches	Kamino Bridge	Ichinoseki City	2014/2/7	Light snow	1.0	0.3	1.0	0.0	Grayish yellowish green	None	>100	8.6	2	0.8	<0.62	<0.63	
					2013/5/29	Cloudy	19.0	0.5	16.5	0.0	Yellow greenish pale gray	None	>100	22.9	3	2.0	<0.54	<0.72	
					2013/8/28	Sunny	20.5	0.4	19.8	0.0	Light grayish reddish yellow	None	72	18.1	8	4.7	<0.67	<0.65	
13	Iwai River Lower Reaches	Kozenji Bridge	Ichinoseki City	2013/11/25	Cloudy	8.0	0.2	6.0	0.0	Reddish yellowish pale gray	None	95	25.9	4	2.0	<0.67	<0.62		
				2014/2/7	Light snow	-1.0	0.2	0.0	0.0	Light grayish reddish yellow	None	>100	18.9	3	1.9	<0.70	<0.63		
				2013/5/27	Sunny	26.3	0.7	19.2	0.0	Bluish greenish faint gray	None	>100	18.7	2	1.2	<0.82	<0.68		
14	Kitakami River	Chitose Bridge (Kozenji)	Ichinoseki City	2013/8/26	Sunny	31.2	0.3	23.7	0.0	Yellow reddish white	None	>100	17.9	2	1.3	<0.62	<0.63		
				2013/11/25	Cloudy	10.0	0.5	6.7	0.0	Greenish pale gray	None	>100	19.1	2	1.1	<0.67	<0.51		
				2014/2/4	Cloudy	9.0	0.5	3.9	0.0	Grayish yellow green	None	49	12.7	8	5.8	<0.53	<0.73		
13	Iwai River Lower Reaches	Kozenji Bridge	Ichinoseki City	2013/5/30	Cloudy	21.0	0.4	15.4	0.0	Greenish yellowish white	None	>100	19.4	5	2.0	<0.54	<0.83		
				2013/8/26	Sunny	30.3	0.1	23.7	0.0	Yellow reddish white	None	>100	20.5	3	2.1	<0.67	<0.74		
				2013/11/26	Sunny	15.0	0.2	9.6	0.0	Light grayish reddish yellow	None	68	20.0	7	3.5	<0.74	<0.78		
				2014/2/5	Light snow	-2.0	0.2	2.2	0.0	Light grayish yellow green	None	93	14.5	4	2.2	<0.69	<0.65		
				2013/5/29	Light rain	18.0	0.5	16.6	0.0	Yellow greenish pale gray	None	>100	19.6	5	2.1	<0.57	<0.50		
14	Kitakami River	Chitose Bridge (Kozenji)	Ichinoseki City	2013/8/26	Sunny	28.9	0.2	27.2	0.0	Light grayish yellow green	None	>100	21.2	3	2.2	<0.41	<0.55		
				2013/11/27	Sunny	6.0	1.5	7.7	0.0	Light grayish green	None	77	21.3	4	3.7	<0.54	<0.76		
				2014/2/3	Cloudy	14.0	0.5	6.5	0.0	Grayish yellow green	None	73	17.5	9	3.8	<0.65	<0.76		

# Iwate River (Water) 2/2

Location				Sampling Date	Weather	Air temperature (°C)	Water depth (m)	Water							Activity concentration(Bq/L)		Remarks	
No.	Water area	Location	Municipality					General items							Radioactive cesium			
								Water temperature (°C)	Sampling depth (m)	Color	Odor	Transparency (cm)	Electrical conductivity (mS/m)	SS (mg/L)	Turbidity (FNU)	Cs-134		Cs-137
R i v e r s	15	Sokei River	Unada Bridge	Ichinoseki City	2013/6/3	Sunny	21.5	0.3	18.1	0.0	Greenish yellowish white	None	>100	18.2	2	1.9	<0.61	<0.62
					2013/8/28	Sunny	27.5	0.5	23.9	0.0	Yellowish white	None	96	16.5	3	2.4	<0.76	<0.74
	2013/11/14	Sunny	6.0		0.2	5.5	0.0	Greenish pale gray	None	>100	23.8	<1	0.7	<0.59	<0.59			
	2014/2/5	Light snow	-3.0		0.2	1.7	0.0	Light grayish yellow green	None	>100	15.6	3	1.4	<0.62	<0.35			
	2013/5/30	Cloudy	18.0		0.3	14.8	0.0	Reddish yellowish pale gray	Faint swamp	74	21.4	14	6.1	<0.69	<0.61			
	2013/8/29	Cloudy	19.0		0.6	16.5	0.0	Yellow greenish pale gray	None	>100	26.0	<1	0.5	<0.76	<0.74			
	2013/11/14	Sunny	10.0		0.6	7.4	0.0	Yellow greenish pale gray	None	>100	27.7	<1	0.3	<0.69	<0.55			
	2014/2/5	Light snow	-3.5		0.4	3.0	0.0	Light grayish yellow green	None	>100	13.6	<1	0.5	<0.61	<0.59			
	2013/6/3	Sunny	22.0		0.6	17.0	0.0	Greenish yellowish white	None	>100	14.7	2	2.0	<0.51	<0.49			
	2013/8/28	Sunny	27.5		0.6	21.6	0.0	Yellowish pale gray	None	>100	15.8	3	1.3	<0.57	<0.68			
	2013/11/14	Sunny	14.0		0.4	10.3	0.0	Yellow greenish pale gray	None	>100	31.6	<1	0.3	<0.59	<0.62			
	2014/2/5	Light snow	-1.5		0.3	4.0	0.0	Light grayish yellow green	None	>100	15.9	2	1.0	<0.56	<0.65			
	2013/5/28	Sunny	19.0		0.3	20.9	0.0	Light grayish reddish yellow	None	>100	17.8	3	2.0	<0.63	<0.62			
	2013/8/29	Cloudy	27.0		0.8	19.6	0.0	Yellow greenish pale gray	None	>100	18.6	3	1.2	<0.65	<0.55			
	2013/11/27	Sunny	11.0		0.2	9.4	0.0	Greenish pale gray	None	>100	15.6	<1	0.8	<0.56	<0.65			
	2014/2/4	Cloudy	2.0		0.5	4.8	0.0	Grayish greenish yellow	None	51	14.4	9	4.4	<0.56	<0.62			
	2013/5/28	Sunny	25.5		0.5	20.2	0.0	Yellowish pale gray	None	>100	18.6	5	3.5	<0.56	<0.63			
	2013/8/28	Sunny	29.0		0.5	21.6	0.0	Reddish yellowish pale gray	None	51	18.2	8	3.0	<0.71	<0.52			
	2013/11/14	Sunny	3.5		0.4	4.8	0.0	Yellow greenish pale gray	None	>100	21.9	3	1.2	<0.51	<0.68			
	2014/2/4	Cloudy	1.0		0.3	3.4	0.0	Yellow greenish pale gray	None	78	14.5	3	3.3	<0.58	<0.62			
	2013/5/28	Sunny	24.6		0.3	20.9	0.0	Yellow greenish pale gray	None	>100	10.4	3	2.8	<0.81	<0.59			
	2013/8/26	Sunny	26.0		0.2	25.6	0.0	Reddish yellowish pale gray	None	>100	12.9	5	1.8	<0.56	<0.62			
	2013/11/27	Sunny	12.0		0.5	9.2	0.0	Light grayish yellow green	None	72	11.3	4	3.8	<0.63	<0.55			
	2014/2/3	Sunny	13.0		0.3	5.2	0.0	Light grayish reddish yellow	None	>100	14.2	2	1.4	<0.71	<0.55			
	2013/5/28	Sunny	22.0		0.2	17.0	0.0	Light grayish yellow green	None	>100	22.5	4	2.6	<0.60	<0.55			
	2013/8/28	Sunny	23.9		0.3	20.8	0.0	Light grayish reddish yellow	None	30	17.3	18	9.5	<0.76	<0.59			
	2013/11/8	Cloudy	11.0		0.5	11.1	0.0	Yellow greenish white	None	>100	19.7	1	1.1	<0.75	<0.66			
	2014/2/3	Sunny	11.0		0.3	5.0	0.0	Light grayish yellow green	None	>100	19.1	1	1.2	<0.45	<0.59			
2013/5/27	Sunny	27.0	0.3	22.1	0.0	Greenish yellowish pale gray	None	65	23.1	16	9.6	<0.61	<0.59					
2013/8/28	Sunny	24.0	0.5	23.8	0.0	Light grayish greenish yellow	None	70	14.7	7	4.7	<0.61	<0.62					
2013/11/8	Cloudy	12.5	0.4	10.7	0.0	Yellow greenish white	None	>100	14.0	2	2.1	<0.56	<0.62					
2014/2/3	Sunny	10.0	0.3	4.0	0.0	Grayish greenish yellow	None	86	16.1	3	2.7	<0.56	<0.68					



# Iwate River (Sediment) 2/2

Location				Sampling Date	Weather	Air temperature (°C)	Water depth (m)	Sediment														Remarks				
No.	Water area	Location	Municipality					General items										Activity concentration [Bq/kg(dry)]								
								Sediment temperature (°C)	Sample length (cm)	Color	Odor	Coarse gravel	Medium gravel	Grain size distribution (%)		Fine sand	Silt	Clay	Sediment content (%)	Density (g/cm <sup>3</sup> )	Property		Radioactive cesium			
R i v e r s	15	Sokei River	Unada Bridge	Ichinoseki City	2013/6/7	Sunny	21.5	0.3	18.0	3	Dim brown	Faint swarm	0.0	1.7	24.6	43.5	26.6	1.4	0.2	2.0	81.3	2.672	Sand	46	120	166
					2013/8/28	Sunny	27.5	0.4	23.5	6	Dim yellowish brown	Faint swarm	0.0	0.0	24.6	36.3	34.7	3.4	0.3	0.7	80.2	2.692	Sand	8.8	32	40.8
					2013/11/14	Sunny	6.0	0.2	5.0	10	Grayish yellow	Faint swarm	0.0	0.0	14.4	46.0	31.5	5.2	0.3	2.5	79.1	2.676	Sand	15	39	54
					2014/2/5	Light snow	-3.0	0.2	0.0	1	Yellowish brown	Faint swarm	0.0	0.0	0.3	17.3	78.3	1.2	0.7	2.3	73.6	2.663	Sand	16	36	52
	16	Satsusawa River	Kannon Bridge	Ichinoseki City	2013/5/30	Cloudy	18.0	0.3	15.0	3	Brown	Faint swarm	0.0	35.6	48.4	10.8	4.2	0.4	0.1	0.6	95.8	2.754	Gravel/sand	50	110	160
					2013/8/29	Cloudy	19.0	0.6	16.5	6	Grayish olive	Faint swarm	0.0	3.9	29.7	39.7	25.1	1.2	0.1	0.4	79.0	2.761	Sand/gravel	14	34	48
					2013/11/14	Sunny	10.0	0.6	7.0	10	Dim yellowish brown	Faint swarm	0.0	6.4	47.4	33.4	11.8	0.2	0.2	0.6	81.5	2.749	Gravel/sand	12	33	45
					2014/2/5	Light snow	-2.5	0.4	3.0	10	Dark grayish yellow	Faint swarm	0.0	3.3	36.5	40.3	17.7	0.5	0.7	1.0	80.2	2.747	Gravel/sand	18	30	48
	17	Satsutsu River	Okde Bridge	Ichinoseki City	2013/6/3	Sunny	22.0	0.6	17.0	3	Grayish olive	Faint swarm	0.0	1.0	4.5	32.9	54.8	4.7	0.6	1.6	79.5	2.674	Sand	49	100	149
					2013/8/28	Sunny	27.5	0.6	21.5	6	Yellowish brown	None	0.0	8.9	25.8	23.4	26.1	13.1	2.1	0.6	83.9	2.751	Sand/gravel	6.8	19	25.8
					2013/11/14	Sunny	14.0	0.4	9.8	10	Dark grayish yellow	Faint swarm	0.0	1.3	6.0	23.7	61.1	4.2	1.8	2.0	79.2	2.701	Sand	9.4	25	34.4
					2014/2/5	Light snow	-1.5	0.3	3.0	10	Yellowish brown	Faint swarm	0.0	0.6	2.1	13.8	63.1	15.6	0.3	4.6	72.8	2.686	Sand	14	31	45
	18	Katikami River System	Kanzaki Bridge	Ichinoseki City	2013/5/28	Sunny	19.0	0.3	19.0	10	Olive black	Faint swarm	0.0	10.0	15.3	7.2	46.6	18.6	1.0	3.3	78.6	2.734	Sand	20	48	68
					2013/8/29	Cloudy	27.0	0.8	19.5	6	Dim yellowish brown	Faint swarm	0.0	3.7	19.0	40.8	33.1	2.7	0.2	0.6	81.2	2.709	Sand/gravel	2.0	4.5	6.5
					2013/11/27	Sunny	11.0	0.2	9.0	10	Dark grayish yellow	Faint swarm	0.0	3.1	32.4	24.9	31.1	7.1	0.2	1.2	80.4	2.718	Sand/gravel	2.9	6.0	8.9
					2014/2/4	Cloudy	2.0	0.5	4.5	10	Olive brown	Faint swarm	0.0	0.7	10.6	18.8	50.5	15.9	1.4	2.1	83.2	2.728	Sand	5.5	10	15.5
	19	Senmya River Upper Reaches	Miyata Bridge	Ichinoseki City	2013/5/28	Sunny	28.5	0.3	18.9	10	Brown	Faint swarm	0.0	2.0	19.4	48.4	26.6	2.3	0.1	1.1	78.5	2.666	Sand	52	120	172
					2013/8/28	Sunny	29.0	0.5	21.8	6	Dim yellowish brown	None	0.0	0.0	4.0	38.2	53.4	2.9	0.6	0.9	78.2	2.664	Sand	15	42	57
					2013/11/14	Sunny	3.5	0.4	4.0	10	Dark grayish yellow	Faint swarm	0.0	1.1	21.5	45.3	27.1	3.6	0.2	1.2	80.4	2.700	Sand/gravel	21	46	67
					2014/2/4	Cloudy	1.0	0.3	3.0	10	Brown	Faint swarm	0.0	0.0	0.8	18.4	71.3	8.0	0.0	1.5	76.3	2.678	Sand	41	88	129
	20	Kitakami River	Kitakami-gawa Bridge	Ichinoseki City	2013/5/28	Sunny	24.6	0.3	25.0	10	Blackish brown	Faint swarm	0.0	12.5	20.3	24.8	33.7	4.7	0.5	3.4	83.6	2.672	Sand	12	18	30
					2013/8/26	Sunny	26.0	0.2	24.0	10	Brownish gray	Faint swarm	0.0	0.0	37.3	30.2	29.9	1.1	0.3	1.2	88.2	2.649	Sand/gravel	6.2	13	19.2
					2013/11/27	Sunny	12.0	0.5	9.0	10	Dim yellowish brown	Faint swarm	0.0	0.0	0.1	41.6	53.0	2.2	3.1	71.4	2.689	Sand	20	39	59	
					2014/2/3	Sunny	13.0	0.3	5.0	10	Dark grayish yellow	Faint swarm	0.0	10.3	31.1	17.9	35.8	3.5	0.4	1.1	86.9	2.662	Gravel/sand	5.4	12	17.4
	21	Kinomi River	Higuchi Bridge	Ichinoseki City	2013/5/28	Sunny	22.0	0.2	16.5	10	Grayish white	Faint swarm	0.0	17.8	23.7	32.0	25.3	0.7	0.2	0.3	82.0	2.685	Sand	18	46	64
					2013/8/28	Sunny	23.9	0.3	20.8	10	Dark grayish yellow	Faint swarm	0.0	0.0	28.5	30.9	15.9	1.9	0.5	2.2	84.5	2.666	Gravel	8.4	23	31.4
					2013/11/8	Cloudy	11.0	0.5	11.0	6	Dim yellowish brown	Faint swarm	1.1	13.4	46.6	24.2	11.8	1.6	0.1	1.3	87.8	2.694	Sand/gravel	11	19	30
					2014/2/3	Sunny	11.0	0.3	4.5	1	Yellowish brown	Faint swarm	0.0	5.9	39.1	42.3	7.8	0.2	0.6	4.2	86.4	2.715	Gravel/sand	6.9	16	22.9
22	Kinmya River	Tenjin Bridge	Ichinoseki City	2013/5/27	Sunny	27.0	0.3	23.0	3	Dark grayish yellow	Faint swarm	0.0	0.0	16.7	31.3	47.5	1.1	0.3	3.0	82.9	2.647	Sand	77	160	237	
				2013/8/28	Sunny	24.0	0.5	23.5	10	Brownish gray	Faint swarm	0.0	0.2	29.9	38.1	29.0	1.6	0.0	1.1	82.1	2.681	Gravel	27	45	72	
				2013/11/8	Cloudy	12.5	0.4	10.5	6	Brown	Faint swarm	0.0	12.9	38.0	23.7	22.5	2.1	0.0	0.8	83.3	2.635	Sand/gravel	26	64	90	
				2014/2/3	Sunny	10.0	0.3	4.0	10	Olive brown	Faint swarm	0.0	5.6	34.9	32.5	21.9	2.5	0.3	2.2	85.3	2.667	Gravel/sand	27	67	94	

# Iwate River (Surrounding Environment) 1/2

Location				Sampling Date	Weather	Air temperature (°C)	Surrounding Environment (Soil, Air dose)													Remarks		
No.	Water area	Location	Municipality				Left bank						Right bank									
							Color	Odor	Property	Activity concentration [Bq/kg(dry)]			Air Dose (μSv/h)	Color	Odor	Property	Activity concentration [Bq/kg(dry)]				Air Dose (μSv/h)	
										Radioactive cesium							Radioactive cesium					
			Cs-134	Cs-137	Total	Cs-134	Cs-137	Total				Cs-134	Cs-137	Total								
R i v e r s	1	Sakari River Lower Reaches	Sano Bridge	Ofunato City	2013/5/21	Sunny	23.5	Faint hydrogen sulfide	Faint grass	Sandy	68	150	218	0.08	Dark olive gray	Faint grass	Loamy	130	290	420	0.07	
					2013/11/12	Sunny	8.0	Blackish brown	Faint grass	Loamy	51	140	191	0.08	Grayish brown	faint earth	Loamy	76	180	256	0.05	
	2	Kesen River	Aneha Bridge	Rikuzentakada City	2013/5/21	Sunny	22.5	Faint hydrogen sulfide	faint earth	Loamy	26	65	91	0.06	Gray	faint earth	Loamy	26	62	88	0.04	
					2013/11/12	Sunny	8.5	Brown	faint earth	Loamy	4.0	13	17.0	0.06	Brownish gray	faint earth	Loamy	11	36	47	0.06	
	3	Okawa River	Prefectural border with Miyagi	Ichinoseki City	2013/5/20	Cloudy	17.5	-	-	-	-	-	-	-	Faint hydrogen sulfide	Faint grass	Loamy	190	370	560	0.14	(Left bank) Soil not exposed
					2013/8/28	Sunny	26.0	-	-	-	-	-	-	-	Olive black	Faint grass	Sandy	48	88	136	0.11	(Left bank) Soil not exposed
					2013/11/13	Sunny	7.0	-	-	-	-	-	-	-	Dark brown	Faint grass	Loamy	130	340	470	0.10	(Left bank) Soil not exposed
					2014/2/4	Cloudy	2.0	-	-	-	-	-	-	-	Blackish brown	faint earth	Loamy	94	240	334	0.10	(Left bank) Soil not exposed
	4	Tsuayagawa River	Chiyogahara Bridge		2013/5/22	Sunny	18.0	Blackish brown	Faint grass	Sandy	140	290	430	0.11	Blackish brown	faint earth	Loamy	120	220	340	0.11	
					2013/11/13	Sunny	8.0	Blackish brown	Faint grass	Loamy	170	360	530	0.12	Dark brown	Faint grass	Loamy	390	920	1,310	0.12	
	6	Kurosawa River	Kawarada Bridge	Kanegasaki Town	2013/5/31	Sunny	21.5	Blackish brown	faint earth	Loamy	170	400	570	0.08	Blackish brown	Faint grass	Loamy	100	210	310	0.07	
					2013/11/26	Cloudy	12.5	Dim yellowish brown	Faint grass	Loamy	82	240	322	0.08	Dim yellowish brown	Faint grass	Loamy	33	93	126	0.06	
		Isawa River	Oago Bridge	Oshu City	2013/5/31	Sunny	27.0	Dark brown	Faint grass	Loamy	80	180	260	0.06	Blackish brown	Faint grass	Loamy	37	58	95	0.07	
					2013/8/27	Light rain	21.0	Brown	Faint grass	Loamy	35	80	115	0.06	Blackish brown	Faint grass	Loamy	59	110	169	0.07	
2013/11/26					Light rain	10.0	Dark brown	faint earth	Loamy	48	110	158	0.06	Dark brown	Faint grass	Loamy	77	170	247	0.06		
2014/2/6					Cloudy	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Unable to collect samples due to snow on the ground
Sajjin Bridge		Oshu City	2013/5/31	Sunny	18.0	Dark grayish yellow	faint earth	Loamy	98	200	298	0.08	Blackish brown	faint earth	Loamy	470	930	1,400	0.09			
			2013/8/27	Light rain	21.8	Dim brown	Faint grass	Loamy	200	450	650	0.09	Olive brown	Faint grass	Clay-loamy	180	380	560	0.08			
			2013/11/26	Cloudy	11.8	Dim yellowish brown	faint earth	Loamy	49	130	179	0.08	Dark grayish yellow	Faint grass	Loamy	89	260	349	0.07			
			2014/2/6	Cloudy	-1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Unable to collect samples due to snow on the ground		
8		Kitakami River	Fuji Bridge	Oshu City	2013/6/4	Sunny	25.0	Dim yellowish brown	Faint grass	Loamy	120	220	340	0.09	Dim yellowish brown	Faint grass	Sandy	200	430	630	0.12	
					2013/8/27	Sunny	25.5	Brown	Faint grass	Loamy	93	190	283	0.09	Brown	Faint grass	Clay-loamy	130	290	420	0.14	
					2013/11/26	Cloudy	12.0	Blackish brown	Faint grass	Loamy	340	710	1,050	0.09	Brown	Faint grass	Loamy	130	360	490	0.13	
					2014/2/6	Light snow	-1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Unable to collect samples due to snow on the ground
9	Shiratori River	Shiratori Bridge	Oshu City	2013/6/3	Sunny	23.5	Dim yellowish brown	Faint grass	Loamy	550	1,100	1,650	0.15	Dim yellowish brown	Faint grass	Loamy	400	830	1,230	0.16		
				2013/8/27	Sunny	26.0	Blackish brown	Faint grass	Loamy	340	790	1,130	0.16	Dark brown	Faint grass	Loamy	280	630	910	0.15		
				2013/11/25	Cloudy	6.0	Blackish brown	faint earth	Loamy	360	890	1,250	0.15	Blackish brown	faint earth	Loamy	230	580	810	0.14		
				2014/2/6	Light snow	-2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Unable to collect samples due to snow on the ground	
10	Kitakami River System	Koromo River	Koromogawa Bridge	Hirazumi Town	2013/5/29	Cloudy	22.0	Grayish brown	Faint grass	Loamy	210	430	640	0.14	Brown	Faint grass	Loamy	210	470	680	0.15	
					2013/8/27	Sunny	24.7	Dim yellowish brown	Faint grass	Clay-loamy	250	550	800	0.13	Light brown	faint earth	Clay-loamy	170	410	580	0.13	
					2013/11/25	Cloudy	6.5	Blackish brown	Faint grass	Loamy	240	610	850	0.13	Blackish brown	Faint grass	Loamy	360	910	1,270	0.12	
					2014/2/7	Light snow	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Unable to collect samples due to snow on the ground
11	Ota River	Hitosuji Bridge	Hirazumi Town	2013/5/29	Cloudy	19.0	Dark grayish yellow	Faint grass	Loamy	460	890	1,350	0.14	Grayish brown	Faint grass	Loamy	610	1,200	1,810	0.15		
				2013/8/28	Sunny	20.5	Blackish brown	faint earth	Clay-loamy	380	940	1,320	0.12	Blackish brown	faint earth	Clay-loamy	470	1,100	1,570	0.13		
				2013/11/25	Cloudy	8.0	Dark brown	faint earth	Loamy	600	1,500	2,100	0.12	Blackish brown	Faint grass	Loamy	580	1,400	1,980	0.13		
				2014/2/7	Light snow	-1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Unable to collect samples due to snow on the ground	
12	Iwai River Middle Reaches	Kamino Bridge	Ichinoseki City	2013/5/27	Sunny	26.3	Grayish brown	Faint grass	Loamy	320	650	970	0.14	Dark grayish yellow	Faint grass	Loamy	440	870	1,310	0.12		
				2013/8/26	Sunny	31.2	Faint hydrogen sulfide	Faint grass	Loamy	870	1,800	2,670	0.17	Blackish brown	Faint grass	Loamy	230	470	700	0.13		
				2013/11/25	Cloudy	10.0	Blackish brown	Faint grass	Loamy	140	360	500	0.12	Dark grayish yellow	faint earth	Loamy	170	420	590	0.11		
				2014/2/4	Cloudy	9.0	Blackish brown	Faint grass	Loamy	190	410	600	0.12	Dark brown	Faint grass	Loamy	85	240	325	0.11		
13	Iwai River Lower Reaches	Kozenji Bridge	Ichinoseki City	2013/5/30	Cloudy	21.0	Brown	Faint grass	Loamy	210	480	690	0.12	Dim yellowish brown	Faint grass	Loamy	290	660	950	0.08		
				2013/8/26	Sunny	30.3	Brown	faint earth	Clay-loamy	190	410	600	0.10	Brown	faint earth	Clay-loamy	330	680	1,010	0.10		
				2013/11/26	Sunny	15.0	Dim yellowish brown	faint earth	Loamy	250	600	850	0.10	Dim yellowish brown	Faint grass	Loamy	210	580	790	0.07		
				2014/2/5	Light snow	-2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Unable to collect samples due to snow on the ground	
14	Kitakami River	Chitose Bridge (Kozenji)	Ichinoseki City	2013/5/29	Light rain	18.0	Brown	Faint grass	Loamy	210	420	630	0.09	Dim yellowish orange	Faint grass	Loamy	460	940	1,400	0.12		
				2013/8/26	Sunny	28.9	Brown	Faint grass	Loamy	170	390	560	0.08	Brown	Faint grass	Loamy	310	690	1,000	0.10		
				2013/11/27	Sunny	6.0	Dark brown	Faint grass	Loamy	120	290	410	0.08	Dark brown	faint earth	Loamy	220	580	800	0.07		
					2014/2/3	Cloudy	14.0	Blackish brown	faint earth	Loamy	140	330	470	0.08	Dark brown	Faint grass	Loamy	240	590	830	0.09	

# Iwate River (Surrounding Environment) 2/2

Location				Sampling Date	Weather	Air temperature (°C)	Surrounding Environment (Soil, Air dose)														Remarks				
No.	Water area	Location	Municipality				Left bank							Right bank											
							Color	Odor	Property	Activity concentration [Bq/kg(dry)]			Air Dose (μSv/h)	Color	Odor	Property	Activity concentration [Bq/kg(dry)]			Air Dose (μSv/h)					
										Radioactive cesium							Radioactive cesium								
			Cs-134	Cs-137	Total				Cs-134	Cs-137	Total														
R i v e r s	Kitakami River System	Sokei River	Unada Bridge	Ichinoseki City	2013/6/3	Sunny	21.5	Olive black	Faint compost	Loamy	160	350	510	0.12	Dim brown	Faint grass	Loamy	98	240	338	0.11				
					2013/8/28	Sunny	27.5	Brown	Faint grass	Loamy	200	440	640	0.09	Brown	Faint grass	Loamy	84	200	284	0.09				
					2013/11/14	Sunny	6.0	Blackish brown	Faint grass	Loamy	100	240	340	0.09	Dark grayish yellow	Faint grass	Loamy	180	380	560	0.08				
		2014/2/5	Light snow		-3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Unable to collect samples due to snow on the ground		
		16	Sarusawa River		Kannon Bridge	2013/5/30	Cloudy	18.0	Brownish gray	Faint grass	Loamy	180	360	540	0.12	Dim yellowish brown	Faint grass	Loamy	490	1,000	1,490	0.11			
						2013/8/29	Cloudy	19.0	Dim yellowish brown	Faint grass	Loamy	240	590	830	0.12	Brown	Faint grass	Loamy	190	420	610	0.11			
						2013/11/14	Sunny	10.0	Olive brown	Faint grass	Loamy	99	230	329	0.13	Dim yellowish brown	faint earth	Loamy	280	680	960	0.10			
		17	Satetsu River		Oide Bridge	2014/2/5	Light snow	-3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Unable to collect samples due to snow on the ground
						2013/6/3	Sunny	22.0	Dim yellowish brown	Faint grass	Sandy	310	620	930	0.08	Dim yellowish brown	Faint grass	Loamy	400	890	1,290	0.09			
						2013/8/28	Sunny	27.5	Dim yellowish brown	Faint grass	Loamy	110	260	370	0.09	Brown	faint earth	Loamy	130	280	410	0.09			
		18	Kitakami River		Kanzaki Bridge	2013/11/14	Sunny	14.0	Dim yellowish brown	faint earth	Loamy	130	330	460	0.08	Dark brown	Faint grass	Loamy	160	390	550	0.08			
						2014/2/5	Light snow	-1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Unable to collect samples due to snow on the ground
						2013/5/28	Sunny	19.0	Yellowish brown	Faint grass	Loamy	550	1,100	1,650	0.15	Brown	Faint grass	Loamy	530	1,100	1,630	0.17			
		19	Somaga River Upper Reaches		Miyata Bridge	2013/8/29	Cloudy	27.0	Dim yellowish brown	Faint grass	Loamy	660	1,500	2,160	0.17	Dim yellowish brown	Faint grass	Loamy	300	700	1,000	0.15			
						2013/11/27	Sunny	11.0	Blackish brown	Faint grass	Loamy	630	1,500	2,130	0.15	Blackish brown	faint earth	Loamy	130	350	480	0.16			
						2014/2/4	Cloudy	2.0	Gray	faint earth	Loamy	400	970	1,370	0.15	Blackish brown	faint earth	Loamy	390	1,000	1,390	0.12			
		20	Kitakami River		Kitakami Bridge	2013/5/28	Sunny	25.5	Grayish brown	Faint grass	Loamy	360	720	1,080	0.18	Brown	Faint grass	Loamy	160	320	480	0.14			
						2013/8/28	Sunny	29.0	Yellowish brown	faint earth	Loamy	420	920	1,340	0.15	Dim yellowish brown	Faint grass	Loamy	430	970	1,400	0.17			
						2013/11/14	Sunny	3.5	Brownish gray	Faint grass	Loamy	310	690	1,000	0.17	Brownish gray	Faint grass	Loamy	760	1,700	2,460	0.15			
		21	Kinomi River		Higuchi Bridge	2014/2/4	Cloudy	1.0	Olive brown	Faint grass	Loamy	280	680	960	0.15	Olive brown	Faint grass	Loamy	46	120	166	0.14			
						2013/5/28	Sunny	24.6	Dim yellowish brown	Faint grass	Loamy	340	730	1,070	0.13	Dim yellowish brown	Faint grass	Loamy	210	430	640	0.16			
						2013/8/26	Sunny	26.0	Brown	Faint grass	Loamy	130	290	420	0.13	Grayish brown	Faint grass	Loamy	390	920	1,310	0.17			
		22	Kinryu River		Tenjin Bridge	2013/11/27	Sunny	12.0	Blackish brown	Faint grass	Loamy	210	520	730	0.08	Dark grayish yellow	Faint grass	Loamy	180	420	600	0.13			
						2014/2/3	Sunny	13.0	Blackish brown	faint earth	Loamy	160	430	590	0.11	Blackish brown	Faint grass	Loamy	210	530	740	0.16			
						2013/5/28	Sunny	22.0	Yellowish brown	Faint grass	Loamy	260	570	830	0.08	Brown	Faint grass	Loamy	110	220	330	0.06			
		22	Kinryu River		Tenjin Bridge	2013/8/28	Sunny	23.9	Olive black	Faint grass	Clay-loamy	170	330	500	0.08	Blackish brown	faint earth	Loamy	65	150	215	0.06			
						2013/11/8	Cloudy	11.0	Yellowish brown	Faint grass	Loamy	190	460	650	0.06	Olive brown	Faint grass	Loamy	59	150	209	0.07			
						2014/2/3	Sunny	11.0	Dim yellowish orange	Faint grass	Loamy	21	61	82	0.05	Blackish brown	Faint grass	Loamy	58	130	188	0.06			
		22	Kinryu River		Tenjin Bridge	2013/5/27	Sunny	27.0	Dim yellowish brown	faint earth	Loamy	1,400	2,700	4,100	0.16	Dark grayish yellow	faint earth	Loamy	320	680	1,000	0.21			
						2013/8/28	Sunny	24.0	Blackish brown	Faint grass	Loamy	360	850	1,210	0.18	Brown	Faint grass	Loamy	360	750	1,110	0.18			
2013/11/8	Cloudy			12.5		Olive black	Faint grass	Loamy	480	1,100	1,580	0.18	Dim yellowish brown	Faint grass	Loamy	200	450	650	0.19						
2014/2/3	Sunny	10.0	Black	Faint grass	Loamy	490	1,300	1,790	0.12	Dim yellowish brown	faint earth	Loamy	180	490	670	0.16									

# Iwate Coastal (Water) 1/1

	Location				Sampling Date	Weather	Air temperature (°C)	Water depth (m)	Water										Remarks
	No.	Water area							General items						Activity concentration(Bq/L)				
									Water temperature (°C)	Sampling depth (m)	Color	Odor	Secchi disk depth (m)	Salinity (‰)	SS (mg/L)	Turbidity (FNU)	Radioactive cesium		
		Cs-134	Cs-137																
Coastal areas	23	Ofunato Bay (A)	S-31	Surface layer	2013/7/19	Cloudy	17.9	16.3	16.5	0.5	Grayish yellow green	None	3.1	16.5	3	1.8	<0.45	<0.52	
				Deep layer					16.2	15.3	-	None		28.8	2	0.6	<0.63	<0.89	
				Surface layer					15.1	0.5	Dark grayish bluish green	None		29.0	2	0.5	<0.55	<0.67	
			Deep layer	2013/11/12	Cloudy	4.4	17.0	15.7	16.0	-	None	7.9	29.7	5	0.6	<0.69	<0.67		
			Surface layer					17.2	0.5	Grayish yellow green	None	17.0	6	3.6	<0.59	<0.52			
			Deep layer					17.1	10.2	-	None	28.6	2	0.9	<0.48	<0.49			
	24	Hirota Bay	S-34	Surface layer	2013/7/19	Cloudy	20.8	11.2	15.2	0.5	Grayish yellowish green	None	3.2	27.7	2	1.7	<0.53	<0.62	
				Deep layer					15.8	10.9	-	None		29.7	5	2.7	<0.55	<0.71	
				Surface layer					2013/11/12	Sunny	6.2	11.9		15.2	0.5	Grayish yellowish green	None	27.7	2
			Deep layer	15.8	10.9	-	None	29.7					5	2.7	<0.55	<0.71			
			Surface layer	15.2	0.5	Grayish yellowish green	None	27.7					2	1.7	<0.53	<0.62			
			Deep layer	15.8	10.9	-	None	29.7	5	2.7	<0.55	<0.71							



# Iwate Coastal (Sediment) 1/1

	Location		Sampling Date	Weather	Air temperature (°C)	Water depth (m)	Sediment																				Activity concentration [Bq/kg(dry)]			Remarks
							No.	Water area	General items													Sediment content (%)	Density (g/cm <sup>3</sup> )	Property	Radioactive cesium					
	Sediment temperature (°C)	Sample length (cm)							Color	Odor	Grain size distribution(%)							Coarse sand	Medium sand	Fine sand	Silt				Clay	C-134	C-137	Total		
											Coarse gravel	Medium gravel	Fine gravel	Coarse sand	Medium sand	Fine sand	Silt												Clay	
Coastal areas	23	Ofunato Bay (A)	S-31	2013/7/19	Cloudy	17.9	16.3	15.2	10	Faint hydrogen sulfide	None	0.0	0.0	0.0	0.1	0.5	4.9	56.7	37.8	41.6	2.524	Silt	15	31	46					
				2013/11/12	Cloudy	4.4	17.0	15.7	10	Black	None	0.0	0.0	0.1	0.4	3.5	6.1	52.1	37.8	44.2	2.630	Silt/sand	11	24	35					
				2013/7/19	Cloudy	20.8	11.2	16.5	10	Faint hydrogen sulfide	None	0.0	0.0	0.1	1.6	65.0	30.7	0.5	2.2	75.0	2.720	Sand/silt	0.78	1.7	2.48					
	24	Hirota Bay	S-34	2013/11/12	Sunny	6.2	11.9	15.8	10	Faint hydrogen sulfide	None	0.0	0.0	0.7	16.3	72.4	8.6	0.4	1.6	78.8	2.760	Sand	<0.84	1.0	1.0					



Figure 3.5.2 Survey Locations (Iwate Prefecture)