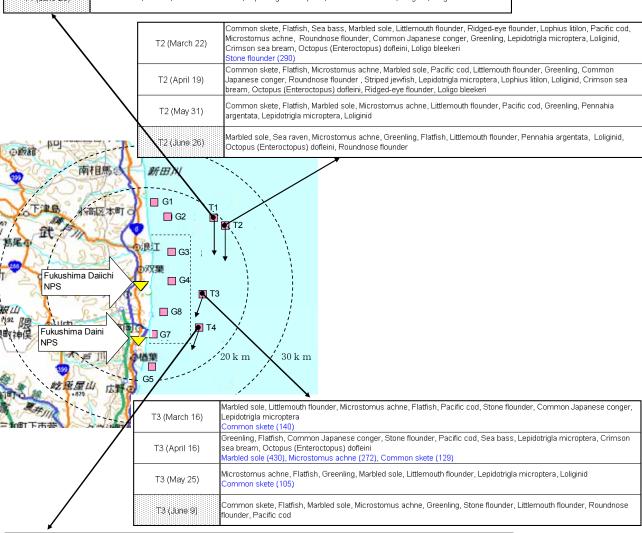
Nuclide Analysis Results of Fish and Shellfish (The Ocean Area Within 20km Radius of Fukushima Daiichi NPS)

1. Overview of the measurement results by the measurement points

(1) Measurement results of the trawl net measurement point (shaded part is additional data from the previous report)

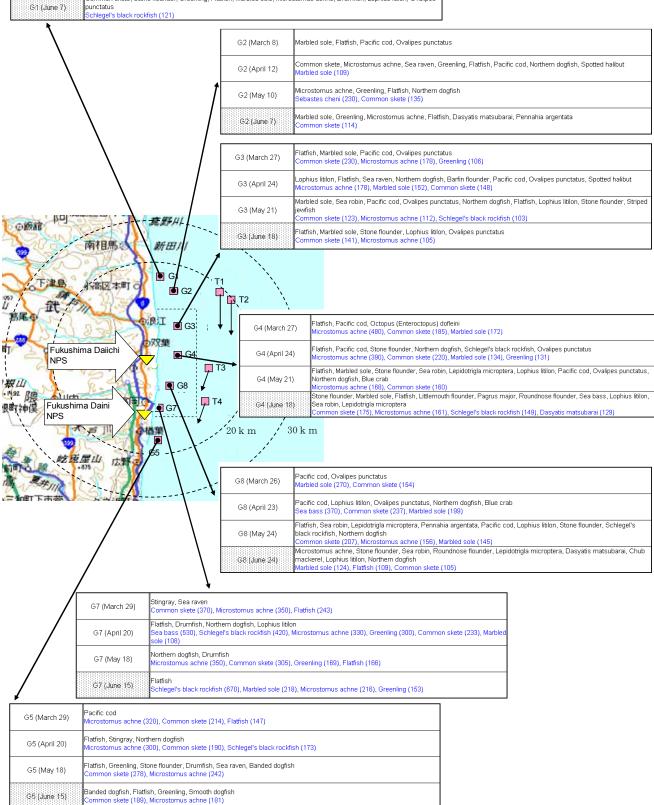
Measurement point (Date of Sampling)	Samples (Sample names in <mark>blue letters:</mark> 100Bq/kg or less, total amount of Cs134 and Cs137 is provided in parentheses (Bq/kg))
T1 (March 22)	Sea bass, Marbled sole, Northern dogfish, Microstomus achne, Littlemouth flounder, Flatfish, Lepidotrigla microptera, Greenling, Common Japanese conger, Loliginid, Crimson sea bream, Octopus (Enteroctopus) dofleini, Loligo bleekeri Pacific cod (181)
T1 (April 19)	Greenling, Marbled sole, Pacific cod, Microstomus achne, Common Japanese conger, Littlemouth flounder, Crimson sea bream, Lepidotrigla microptera, Lophius litilon, Octopus (Enteroctopus) dofleini Stone flounder (122)
T1 (May 31)	Common skete, Stone flounder, Microstomus achne, Marbled sole, Flatfish, Pacific cod, Lepidotrigla microptera, Greenling, Sea robin, Littlemouth flounder, Roundnose flounder
T1 (June 26)	Stone flounder, Flatfish, Microstomus achne, Lepidotrigla microptera, Littlemouth flounder, Loliginid, Loligo bleekeri



T4 (March 16)	Flatfish, Marbled sole, Ridged-eye flounder, Pacific cod, Roundnose flounder, Lepidotrigla microptera, Octopus (Enteroctopus) dofleini Common skete (194), Microstomus achne (129)
T4 (April 16)	Flatfish, Pacific cod, Greenling, Sea raven, Sea bass, Littlemouth flounder, Marbled sole, Lepidotrigla microptera, Microstomus achne, Crimson sea bream, Roundnose flounder, Lophius litilon, Loliginid, Octopus (Enteroctopus) dofleini, Loligo bleekeri Common skete (105)
T4 (May 25)	Microstomus achne, Greenling, Marbled sole, Roundnose flounder, Flatfish, Lepidotrigla microptera, Littlemouth flounder, Lophius litilon, Loliginid, Common Japanese conger, Octopus (Enteroctopus) dofleini Common skete (211)
	Microstomus achne, Common skete, Greenling, Flatfish, Pacific cod, Roundnose flounder, Sea raven, Lepidotrigla microptera, Littlemouth flounder

(2) Measurement results of the gill net measurement point (shaded part is additional data from the previous report)

Measurement point (Date of Sampling)	Samples (Sample names in blue letters: 100Bq/kg or less, total amount of Cs134 and Cs137 is provided in parentheses (Bq/kg))
G1 (March 8)	Pacific cod, Schlegel's black rockfish Common skete (540), Sea bass (350)
G1 (April 12)	Common skete, Flatfish, Microstomus achne, Greenling, Pacific cod, Lophius litilon, Snailfish, Ovalipes punctatus Schlegel's black rockfish (370), Sea bass (182)
G1 (May 10)	Marbled sole, Microstomus achne, Flatfish, Greenling, Schlegel's black rockfish, Banded dogfish, Northern dogfish, Blue crab Common skete (149)
G1 (June 7)	Common skete, Stone flounder, Greenling, Flatfish, Marbled sole, Microstomus achne, Drumfish, Lophius litilon, Ovalipes punctatus Schlegel's black rockfish (121)



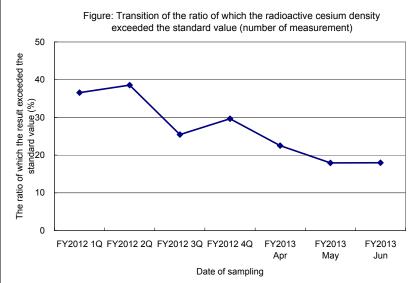
(3) Categorized by the radioactive cesium level

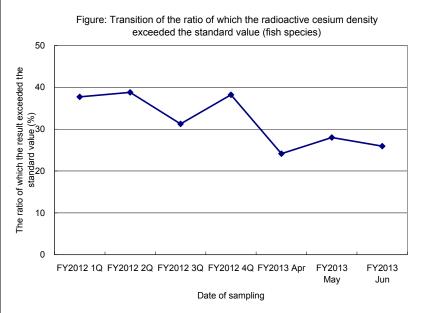
Measurement results obtained from April to June, 2013

[Within 20km Radius of Fukushima Daiichi NPS (exclude in the Port of Fukushima Daiichi NPS)]

- Total amount of radioactive cesium 134 and 137 Unit: Bq/kg (Raw)
- Guideline value (April 1, 2012 and later): 100Bq/kg
- Sampling date: April 12 June 26, 2013

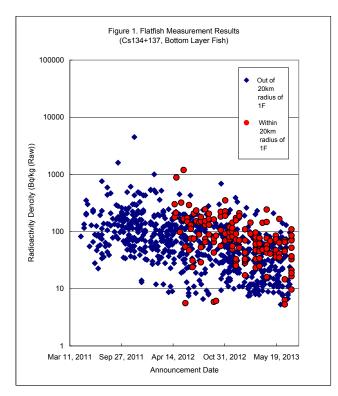
Fish	Maximum	Minimum	Number of measurements (Measurement results exceeding the guideline value)
Schlegel's black rockfish	670	4.4	10 (7)
Sea bass	530	7.6	6 (3)
Marbled sole	430	13.9	25 (9)
Microstomus achne	390	6.6	32 (14)
Common skete	305	57	29 (21)
Greenling	300	ND	23 (4)
Sebastes cheni	230	-	1 (1)
Flatfish	166	5.3	31 (2)
Stone flounder	122	ND	14 (1)
Banded dogfish	90	4.7	3
Sea raven	50	5.6	6
Lophius litilon	48	ND	15
Common Japanese conger	40	ND	4
Pacific cod	34	4.2	16
Drumfish	23.2	7.1	4
Sea robin	22.3	ND	6
Lepidotrigla microptera	21.7	ND	14
Littlemouth flounder	20.8	ND	12
Stingray	19.2	-	1
Northern dogfish	18.5	ND	13
Barfin flounder	17.8	-	1
Pennahia argentata	15.9	ND	4
Pagrus major	15.5	-	1
Smooth dogfish	15.4	-	1
Roundnose flounder	14.9	ND	9
Ovalipes punctatus	9.4	ND	8
Crimson sea bream	4.6	ND	4
Chub mackerel	4.2	-	1
Striped jewfish	ND	-	2
Blue crab	ND	-	3
Snailfish	ND	-	1
Loliginid	ND	-	7
Spotted halibut	ND	-	2
Octopus (Enteroctopus) dofleini	ND	-	6
Ridged-eye flounder	ND	-	1
Loligo bleekeri	ND	-	3

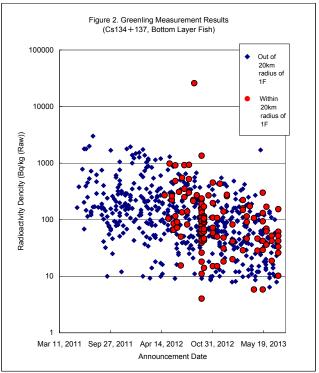


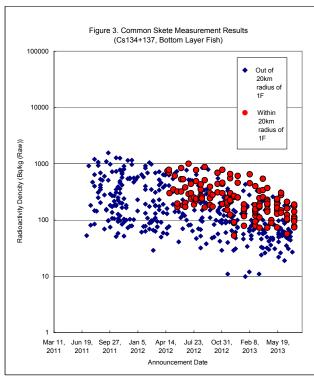


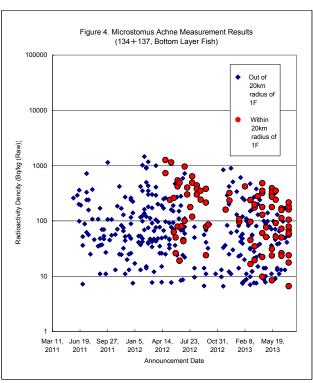
(Remark) ND for Cs134: approx. 2.8Bq/kg, Cs137: approx. 2.9Bq/kg

(4) Change of radioactive cesium density of fish and shellfish over time









(Remark) The measurement results of "Out of 20km radius of 1F" was obtained from the Japan Meteorological Agency website.

2. Fish sampling situation in the port of Fukushima Daiichi NPS (flash report)



Figure. Place of Sampling

- A: Around the Shallow Draft Quay
- B: Around the East Seawall Break
- C: Around the South Breakwater
- D: Around the North Breakwater
- E: Around the Water Intake Open Conduit at Unit 1-4
- F: Around the Port Entrance
- G: Around the Center of the Port
- (1) Since Feb 8, 2013, silt fence has been installed at point A, and gill net has
- (a) Since Feb 27, 2013, gill nets have been installed at point F, and gill net has been installed at point F.
 (b) Since Feb 27, 2013, gill nets have been installed continuously at inner side of silt fence at point A and point B.
 (c) Since Mar 5, 2013, 35 baskets have been installed continuously at point E.
- On Mar 13, 15 baskets have been added continuously at point E.
- (4) From Mar 7 to Mar 8, 2013, gill net fishing was conducted at point C.
- (5) From Mar 12 to Mar 13, 2013, gill net fishing was conducted at point A,B,D.
- (6) On Mar 15-16, 2013, gill net fishing will be conducted at point G. (7) Since May 9, gill net has doubled at the port entrance.

1. Basket fishing

Date of Sampling	Place of Number of sampling Sampling Of Highest Cesium		Cesium	Density (Unit: E	3q/kg (Raw))	
Date of Sampling	Sampling	Number of Sampling	Density (Place of Sampling)	Cs-134	Cs-137	Cesium Amount
Oct 10, 2012	Α	4	Common Japanese conger (A)	5,900	9,600	15,500
Dec 20, 2012	A,C	29	Spotbelly rockfish (A)	94,000	160,000	254,000
Jan 18, 2013	A,B,C,D	42	Spotbelly rockfish (B)	51,000	90,000	141,000
Jan 30, 2013	A,B,C,D	28	Spotbelly rockfish (B)	75,000	130,000	205,000
Feb 15, 2013	A,A*,B,C,D	21	Spotbelly rockfish (A*)	97,000	180,000	277,000
Feb 21, 2013	E*	6	Greenling (E*)	260,000	480,000	740,000
Feb 27, 2013	A,B,C,D	14	Greenling (B)	36,000	67,000	103,000
Mar 13, 2013	A,B,C,D	41	Spotbelly rockfish (D)	53,000	98,000	151,000
Mar 26, 2013	A,B,C,D	33	Spotbelly rockfish (D)	69,000	130,000	199,000
Apr 10, 2013	A,B,C,D	50	Spotbelly rockfish (D)	59,000	110,000	169,000
Apr 24, 2013	A,B,C,D	59	Spotbelly rockfish (D)	59,000	110,000	169,000
May 9, 2013	A,B,C,D	36	Spotbelly rockfish (D)	30,000	59,000	89,000
May 22, 2013	A,B,C,D	33	Spotbelly rockfish (D)	55,000	110,000	165,000
Jun 6, 2013	A,B,C,D	33	Spotbelly rockfish (D)	72,000	140,000	212,000
Jun 28, 2013	A,B,C,D	26	Spotbelly rockfish (A)	61,000	120,000	181,000
Jul 4, 2013	A,B,C,D	26		The sa	mples are curre	ently under
Jul 18, 2013	A,B,C,D	15		radioact	vity density me	asurements

^{*} Sampled at inner side of Silt Fence.

2. Gill net fishing in the port

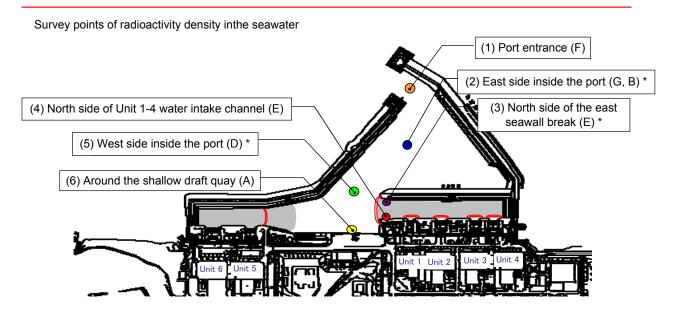
Date of Compline	Place of	Number of sampling	Sampling of Highest Cesium	Cesium	Density (Unit: B	q/kg (Raw))
Date of Sampling	Sampling	Number of sampling	Density (Place of Sampling)	Cs-134	Cs-137	Cesium Amount
Mar 8, 2013	С	4	Sebastes cheni (C)	24,000	43,000	67,000
Mar 13, 2013	A,B,D	5	Greenling (D)	27,000	51,000	78,000
Mar 15, 2013	В	Approx. 30		No samp	ling due to fish	degradation
Mar 16, 2013	G	2	Marbled sole (G)	11,000	21,000	32,000
Mar 22, 2013	A,B,D	13	Spotbelly rockfish (D)	25,000	46,000	71,000
Mar 26, 2013	C,G	13	Sebastes cheni (G)	49,000	92,000	141,000
Mar 28, 2013	A,B,D	57	Spotbelly rockfish (B)	150,000	280,000	430,000
Apr 2, 2013	C,G	2	Sebastes cheni (C)	480	870	1,350
Apr 10, 2013	A,B,D	21	Greenling (A)	56,000	110,000	166,000
Apr 16, 2013	C,G	17	Marbled sole (C)	1,500	2,900	4,400
Apr 23, 2013	A,B,D	27	Sebastes cheni (D)	28,000	54,000	82,000
May 1, 2013	C,G	39	Spotbelly rockfish (G)	60,000	120,000	180,000
May 8, 2013	A,B,D	30	Scorpion fish (B)	29,000	55,000	84,000
May 14, 2013	G	38	Greenling (G)	43,000	84,000	127,000
May 21, 2013	A,B,D	22	Jacopever (B)	93,000	180,000	273,000
May 28, 2013	C,G	19	Spotbelly rockfish (G)	64,000	130,000	194,000
Jun 6, 2013	A,B,D	16	Sebastes cheni (A)	39,000	77,000	116,000
Jun 12, 2013	C,G	13	Sebastes cheni (G)	28,000	57,000	85,000
Jun 18, 2013	A,B,D	16	Spotbelly rockfish (B)	27,000	54,000	81,000
Jun 27, 2013	C,G	9	Sebastes cheni (G)	38,000	77,000	115,000
Jul 3, 2013	A,B,D	16		The samples are currently under radioactivity density measurements		nthrunder
Jul 12, 2013	C,G	12				
Jul 19, 2013	A,B,D	27				200.011101110

3. Gill net in the port entrance

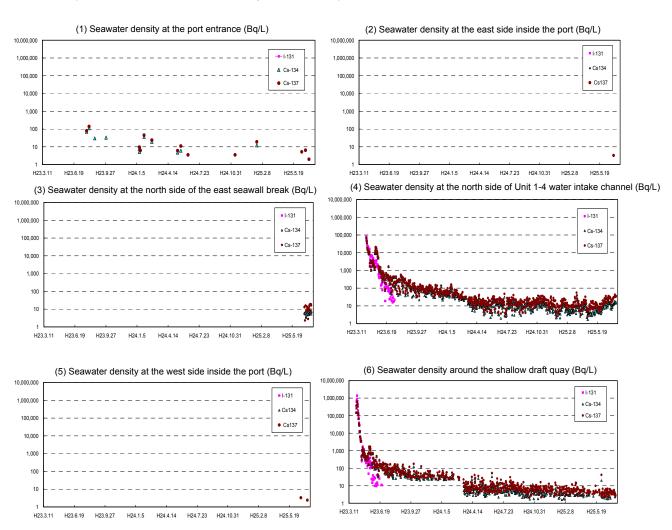
Date of Compline	Place of	Number of compline	Sampling of Highest Cesium	Cesium I	Density (Unit: E	3q/kg (Raw))
Date of Sampling	Sampling	Number of sampling	Density (Place of Sampling)	Cs-134	Cs-137	Cesium Amount
Feb 12, 2013	F	154	Greenling	86,000	160,000	246,000
Feb 13, 2013	F	47	Spotbelly rockfish	55,000	99,000	154,000
Feb 15, 2013	F	17	Greenling	50,000	90,000	140,000
Feb 16, 2013	F	8	Sebastes cheni	30,000	55,000	85,000
Feb 17, 2013	F	6	Greenling	180,000	330,000	510,000
Feb 19, 2013	F	2	Flathead (Platycephalus sp.)	430	830	1,260
Feb 20, 2013	F	5	Spotbelly rockfish	53,000	95,000	148,000
Feb 21, 2013	F	3	Sebastes cheni	57,000	100,000	157,000
Feb 22, 2013	F	44	Sebastes cheni	43,000	79,000	122,000
Feb 25, 2013	F	11	Schlegel's black rockfish	33,000	60,000	93,000
Feb 26, 2013	F	7	Spotbelly rockfish	19,000	34,000	53,000
Feb 28, 2013	F	3	Sebastes cheni	13,000	24,000	37,000
Mar 1, 2013	F	5	Sebastes cheni	29,000	54,000	83,000
Mar 4, 2013	F	14	Greenling	100,000	190,000	290,000
Mar 5, 2013	F	7	Sebastes cheni	17,000	31,000	
Mar 6, 2013	F	23	Sebastes cheni	45,000	82,000	127,000
Mar 7, 2013	F	18	Sebastes cheni	43,000	79,000	122,000
Mar 8, 2013	F	12	Greenling	150,000	280,000	430,000
Mar 9, 2013	F	8	Sebastes cheni	25,000	46,000	71,000
Mar 12, 2013	F	18	Sebastes cheni	76,000	140,000	216,000
Mar 15, 2013	F	10	Sebastes cheni	17,000	32,000	49,000
Mar 16, 2013	F	4	Spotbelly rockfish	61,000	110,000	171,000
Mar 22, 2013	F	21	Sebastes cheni	43,000	79,000	122,000
Mar 23, 2013	F	8	Sebastes cheni	38,000	71,000	109,000
Mar 25, 2013	F	6	Microstomus achne	60,000	110,000	170,000
Mar 26, 2013	F	14	Sebastes cheni	49,000	92,000	141,000
Mar 27, 2013	F	12	Sebastes cheni	39,000	75,000	114,000
Apr 9, 2013	F	3	Sebastes cheni	13,000	25,000	38,000
Apr 11, 2013	F	9	Sebastes cheni	31,000	59,000	90,000
Apr 16, 2013	F	20	Spotbelly rockfish	24,000	46,000	70,000
Apr 17, 2013	F	1	Drumfish	ND	86	86
Apr 29, 2013	F	3	Spotbelly rockfish	880	1,500	2,380
May 9, 2013	F	21	Greenling	24,000	47,000	71,000
May 10, 2013	F	13	Scorpion fish	33,000	64,000	,
May 16, 2013	F	60	Spotbelly rockfish	52,000	100,000	152,000
May 18, 2013	F	41	Greenling	45,000	88,000	133,000
May 20, 2013	F	93	Sebastes cheni	110,000	210,000	320,000
May 25, 2013	F	61	Sebastes cheni	50,000	99,000	149,000
May 29, 2013	F F	56 14	Jacopever	65,000	130,000	
May 31, 2013	F		Jacopever	55,000	110,000	
Jun 7, 2013	F	27 21	Sebastes cheni	28,000	56,000	
Jun 13, 2013	F		Marbled sole	7,300	15,000	
Jun 18, 2013 Jun 20, 2013	F	28 41	Sebastes cheni	22,000	44,000 90,000	,
Jun 20, 2013 Jun 21, 2013	F	15	Sebastes cheni	45,000	56,000	
Jun 21, 2013 Jun 24, 2013	F	32	Sebastes cheni	28,000		
Jun 24, 2013 Jun 25, 2013	F	11	Sebastes cheni Greenling	23,000 9,600	46,000 19,000	
Jun 26, 2013	F	7	Sebastes cheni	20,000	41,000	61,000
Jul 1, 2013	F	22	Ochasics Chelli	20,000	41,000	01,000
Jul 6, 2013	F	65		1		F
Jul 7, 2013	F	23		The samples are currently und radioactivity density measureme		-
Jul 9, 2013	F	6				ently under
Jul 10, 2013	F	7				·
Jul 11, 2013	F	17		1		
Jul 17, 2013	F	15		1		-
Jul 22, 2013	F	28		<u> </u>		
JUI 22, 2013	Г	20				

Total amount of sampling	Approx. 2,190
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Change of radioactive cesium density at each sampling point over time



* The survey has started since June 2013, since the groundwater survey at O.P.4000 has performed.



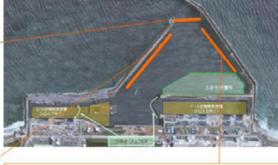
Measures to Prevent Fish From Moving to Outside the Port Which were Already Implemented at Fukushima Daiichi Nuclear Power Station (As of July 12, 2013)

Reference> July 26, 2013
Tokyo Electric Power Company

1. Measures which were added this time



On July 11, installation of block fence at the port entrance was completed. (Photo: Installation work of the block fence)





On June 26, installation of partition net around the north breakwater was completed.



On June 26, installation of partition net around the south breakwater was completed. * All photos are taken on July 7.

2. Measures which were already implemented



- ① Preventing fish from moving out
 - ①-1: Installation of gill net at the port entrance
 - ①-2: Installation of block fence at the port entrance
 - ①-3: Installation of partition net inside the breakwater
 - ①-4: Installation of silt fence and gill net at shallow draft quay
- Sampling of fish
 - ②-1: Basket fishing
- ②-2: Gill net in the port

Transition of Radioactivity Cesium Density in the Seawater Around Fukushima Daiichi Nuclear Power Station

