

# Progress on treatment of debris from the Great East Japan Earthquake

2013.10.25 Ministry of the Environment

- Following is an updated summary of the treatment progress, including the results of treatment by prefectures not affected by the disaster, at approximately 2.5 years after the Great East Japan Earthquake (September 30, 2013). (Appendix 1)
- A "Debris Photo Channel" has been created on the Ministry of the Environment homepage in order to communicate the latest information regarding the treatment status in the disaster-affected areas in an easily understandable form. (Appendix 2)

## Overall (13 prefectures) progress (as of Sept. 30, 2013)

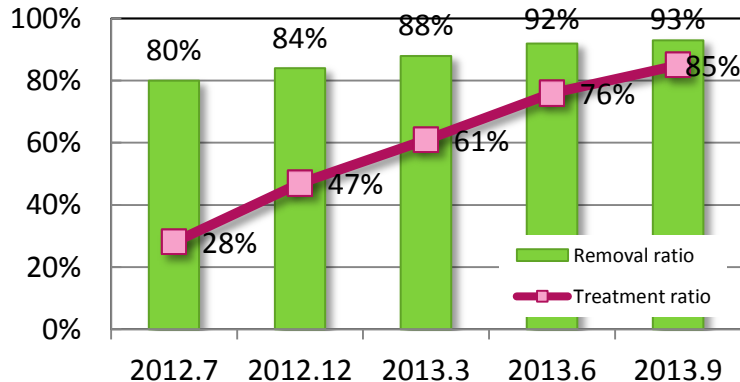
- Treatment has been completed of approximately 85% of the approximately 20 million tons of debris, and approximately 70% of the approximately 10 million tons of tsunami deposits.
- Treatment has been completed at 174 of 239 municipalities in 13 prefectures (approximately 73%).
- Treatment of debris is continuing in Iwate, Miyagi, and Fukushima prefectures, and also in Ibaraki, Tochigi, and Chiba prefectures.

## Overall treatment of debris (13 prefectures)

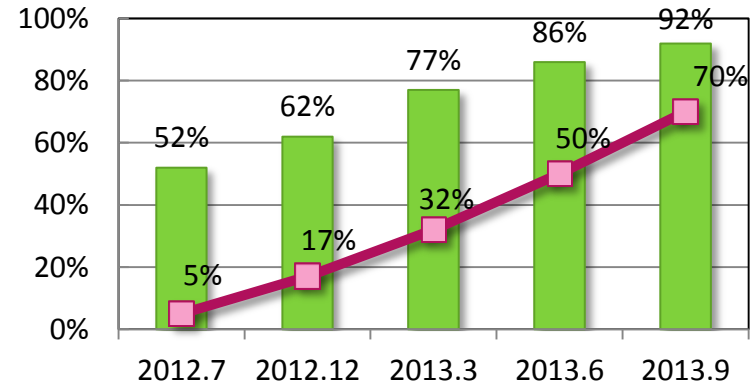
	Prefectures	Municipalities	Estimated amount of debris and tsunami deposits (1000s tons)	Municipalities where treatment is completed	Treated amount (1000s tons)			
					Recycled	Incinerated	Landfill	Total
debris	13	239	19,387	174 (73%)	13,438 [81%]	2,087 [13%]	1,021 [6%]	16,547 (85%)
Tsunami deposits	6	36	10,436	15 (42%)	7,191 [99%]	—	80 [1%]	7,271 (70%)

Note 1: The lower figure (%) for the number of municipalities where treatment is completed and the treated amount total indicates the progress ratio out of the total number of municipalities where debris occurred and total amount of debris/deposits.

Note 2: The lower figure [%] for the breakdown of treated amounts indicates the percentage of the total treated amount.



(a) Progress of debris removal and treatment ratios



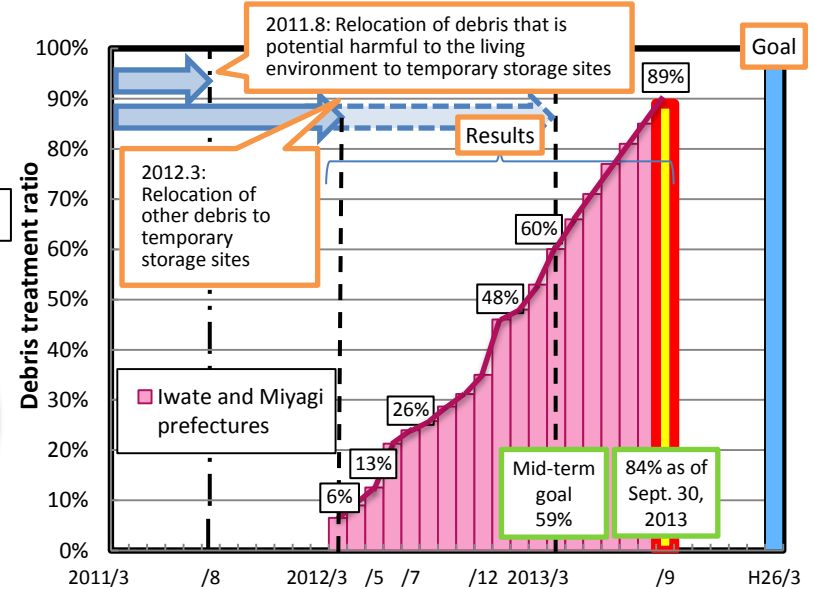
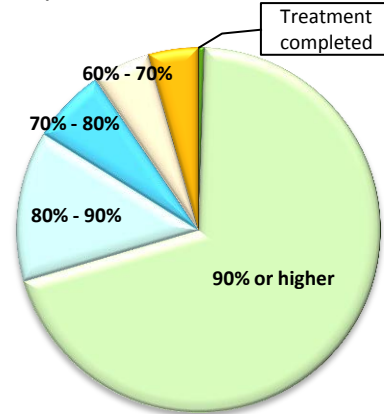
(b) Progress of tsunami deposit removal and treatment ratios

## Progress in coastal municipalities (as of Sept. 30, 2013)

### (1) Debris

- Progress in treatment of debris is as follows.  
Iwate: 82%, Miyagi: 91%, Fukushima: 58% (Total for 3 prefectures: 85%)
- The treatment ratio is more than 80% in Iwate Prefecture and more than 90% in Miyagi Prefecture, exceeding the treatment ratio that was expected by the end of September in both prefectures.
- Treatment is progressing steadily. The treatment ratio is more than 90% in Kamaishi City, the Kesenuma Block, Eastern Miyagi Block, Iwaki City, and other coastal municipalities which account for approximately 70% of the total debris.

Progress	Municipality or other unit
Treatment completed	Rifu Town, Matsushima Town
90% or higher	Hirano Town, Noda Village, Fudai Village, Tanohata Village, Iwaizumi Town, Kamaishi City, Kesenuma Block, Eastern Miyagi Block, Sendai City, Watari-Natori Block, Iwaki City
80% - 90%	Miyako City, Otsuchi Town, Ofunato City, Ishinomaki Block
70% - 80%	Rikuzentakata City



Goals and results for treatment of debris in coastal municipalities of Iwate and Miyagi prefectures

### (2) Tsunami deposits

- Progress in treatment of tsunami deposits is as follows.  
Iwate: 63%, Miyagi: 79%, Fukushima: 36% (Total for 3 prefectures: 69%)
- The expected treatment ratio for the end of September was exceeded in both Iwate Prefecture and Miyagi Prefecture.

### Treatment progress in coastal municipalities (as of Sept. 30, 2013)

	Estimated amount of debris and tsunami deposits (10000s tons)	Debris				Tsunami deposits				No. of temporary storage sites
		Estimated amount (10000s tons)	Treated		Expected treatment ratio (%)	Estimated amount (10000s tons)	Treated		Expected treatment ratio (%)	
			Amount (10000s tons)	Ratio (%)			Amount (10000s tons)	Ratio (%)		
Iwate	527	374	305 (281)	82 (75)	78	153	97 (81)	63 (53)	56	36
Miyagi	1,777	1,060	968 (936)	91 (88)	87	717	564 (502)	79 (71)	76	49
Fukushima	337	171	99 (97)	58 (57)	—	166	59 (55)	36 (33)	—	29
<b>Total</b>	<b>2,641</b>	<b>1,605</b>	<b>1,372 (1,314)</b>	<b>85 (82)</b>	—	<b>1,037</b>	<b>720 (637)</b>	<b>69 (62)</b>	—	<b>114</b>

\* Figures in ( ) are the results from August 31, 2013.

## Treatment in the disaster-affected areas

- 95% of debris has been removed to temporary storage sites, and removal has been completed at 14 municipalities (out of 32 coastal municipalities). The number of temporary storage sites has decreased to 114 (36% of the peak number). The remaining demolition and removal work is being carried out so that treatment will be completed by March 2014.
- 22 temporary incinerators and 19 sorting and shredding facilities are now operating in Iwate, Miyagi, and Fukushima prefectures. Treatment has finished at 12 temporary incinerators (\*1) and 5 sorting and shredding facilities (\*2).
  - \*1: Koizumi District (Kesenuma Area), Eastern Miyagi Block, Natori Area, Iwanuma Area, Sendai City
  - \*2: Koizumi District (Kesenuma Area), Eastern Miyagi Block, Natori Area, Iwanuma Area, Watari Area

## Cooperation with debris treatment in areas not affected by the disaster

- Of the approximately 660,000 tons which requires treatment outside the disaster-affected area, treatment of approximately 510,000 tons (77%) has been completed.
- The number of treatment projects is 86 in 16 prefectures. Of these, 62 projects have completed treatment.
- Full-scale treatment of mixed fishing net waste from Ofunato City, Iwate Prefecture will begin in Tokyo (by a private agency) from October 14.

## Recycling

- Approximately 80% of debris and nearly all of the tsunami deposits can be recycled.
- The use of concrete debris in restoration work in Yamamoto Town, Miyagi Prefecture began in September.
- Materials recycled from debris are being used in public works projects by the national government and by the prefectural and municipal governments in disaster-affected areas.



Reconstruction work in Yamamoto Town, Miyagi Prefecture

## Approaches to achieving the goal

- For debris and tsunami deposits in Iwate and Miyagi prefectures, continue to carry out steady treatment, aiming to complete treatment as early as possible prior to the goal of March 2014.
- For debris and tsunami deposits in Fukushima Prefecture, complete removal to temporary storage sites by the end of March 2014, aiming to complete treatment as early as possible prior to the goal of the end of March 2015.

Major public works projects using materials recycled from debris and tsunami deposits

	Project	Recycled material	Amount (including planned use)
Iwate	Coastal or river embankment restoration	Tsunami deposits Concrete debris	23
	Coastal disaster-prevention forest restoration	Tsunami deposits Concrete debris	17
	Agricultural field restoration	Tsunami deposits Concrete debris	45
	Park construction	Tsunami deposits Concrete debris	25
	Fishing port projects	Concrete debris	15
	Construction of temporary storage sites	Concrete debris	32
	Other projects	Tsunami deposits Concrete debris	66
Miyagi	Coastal or river embankment restoration	Tsunami deposits Concrete debris	64
	Coastal disaster-prevention forest restoration	Tsunami deposits Concrete debris	124
	Agricultural field restoration	Tsunami deposits	15
	Park construction	Tsunami deposits Concrete debris	225
	Fishing port projects	Concrete debris	28
	Construction of temporary storage sites	Tsunami deposits Concrete debris	83
Other projects	Tsunami deposits Concrete debris	123	
Fukushima	Coastal or river embankment restoration	Concrete debris	9
	Coastal disaster-prevention forest restoration	Concrete debris	9
	Park construction	Tsunami deposits	16
	Other	Concrete debris	11