

Salvage and Restoration of Natural History Collections Damaged by the 2011 Tsunami in Japan

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Museums devastated by the Great East Japan Earthquake and Tsunami in Iwate



Rikuzentakata City Museum (on April 12, 2011, 1 month later from the tsunami)



Rikuzentakata Sea and Shell Museum (on April 7, 2011, 4 weeks later from the tsunami)

Table. Natural History Collections of Tsunami-Damaged Museums in Iwate

Taxon	Number of specimens	Salvaged specimens	Museum
Marine Algae	82,500	13,500	WMSM*
Vascular Plants	15,000	15,000	RTCM**
Mosses	500	500	
Lichens	200	200	
Fungi	170	155	
Insects	27,000	24,000	
Marine Animals	150	134	
Vertebrates	500	500	
Shells	130,000	96,000	RSSM***
Total	269,020	149,989	
Geological specimens	3,300?	3,300	RTCM**

*Whale and Marine Science Museum of Yamada Town

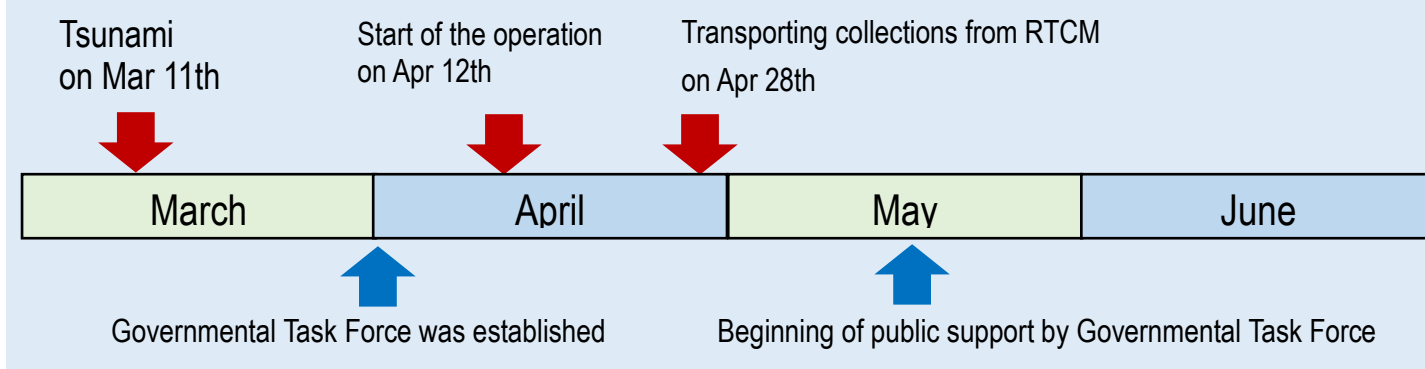
** Rikuzentakata City Museum

***Rikuzentakata Sea and Shell Museum



Collection salvaging operation in Rikuzentakata City Museum

The course of events after the disaster in 2011



Why did it take so long?

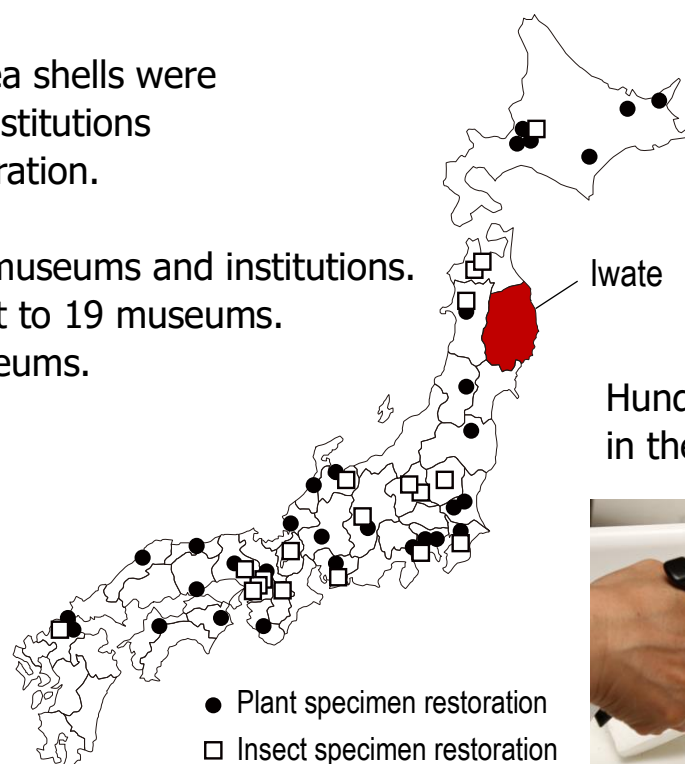
- Human damage was too huge to manage.
- Recovery of transportation and communications infrastructure took 2 weeks.
- Shortage of human resources.
- No preparation nor strategy for such a huge disaster.

Cleaning and Restoration Project for the Salvaged Specimens from the Museums



Damaged specimens of plants, insects, sea shells were transported to museums and research institutions throughout Japan for cleaning and restoration.

8,000 plant specimens were sent to 30 museums and institutions.
135 boxes of insect specimens were sent to 19 museums.
Sea shell specimens were sent to 3 museums.



Hundreds of curators and specialists in the museums joined the project.



Our future challenges

- Improving local and nationwide museum networks
- Preparing the networks for emergencies such as disasters
- Representing the value of natural history collections

References

Mahoro, Ohara & Callomon (eds.) (2017) Biology International Special Issue No.36 "Disaster and Biodiversity", pp93-152. Chapter 2, "Natural history collections, their importance and conservation".

*62 others: Y.Kato, H.Fujita, H.Takahashi, M.Mochida, A.Uchida, M.Yamazaki, K.Onimaru, Y.Shirosaka, S.Kawakami, Y.Abe, T.Kurosawa, A.Ebihara, M.Uzawa, Y.Mikanagi, T.Katsuyama, Y.Ohmori, K.Akiyama, S.Fujii, A.Hiruma, E.Hayasaka, M.Nakano, M.Ohta, N.Miura, S.Funato, D.Sakuma, T.Shiga, M.Hasegawa, S.Fuse, A.Naito, S.Kariyama, M.Inoue, S.Kobayashi, A.Kawamata, M.Ogawa, T.Manabe, M.Mishima, T.Arikawa, M.Ohara, S.Yamauchi, T.Nakamura, K.Umetsu, T.Kanasugi, K.Takahashi, Y.Ohshima, T.Kurihara, S.Miyano, M.Hasegawa, K.Shikata, H.Negoro, T.Iwasaki, N.Hibi, I.Kanazawa, S.Okuyama, S.Nagashima, S.Hirata, K.Yahiro, K.Masunaga, K.Ueda, M.Yamamoto, S.Ishida, C.Fujii, M.Kumagai.