

# Fukushima Daiichi Nuclear Power Station

## Commencement of training on marine organism rearing test

<Reference Material>

March 17, 2022

TEPCO Holdings

Fukushima Daiichi D&D Engineering  
Company

- In order to alleviate people's concerns and to cultivate peace of mind, we will rear marine organism in tanks of seawater containing ALPS treated water and compare them with organism reared in normal seawater and report the results carefully in an easy-to-understand manner.
- Based on the results of many studies domestic and abroad on the behavior of tritium, data for this test will first be gathered for 6 months to show that "tritium is not concentrated in the living bodies and that the concentration of tritium in live bodies do not exceed that of the rearing environment" as demonstrated in past tests results.
- We plan to start marine organism rearing test in seawater and in seawater containing ALPS treated water around September 2022. Before the start of the rearing tests, we will start trial rearing marine organisms during March in normal seawater found around the station with the expert and technical support of experts outside of the company to gain rearing knowhow and confirm equipment design.

[<Already announced on February 24, 2022>](#)

- Now that preparations have been completed, today (March 17), training on the breeding of flounder (approx. 100) using seawater from the nearby ocean in the breeding prep tank located on site at the power station has commenced.
- Daily updates on this rearing can be found on TEPCO's website in the Marine Organism Rearing Log. The first entry has been made today. The same information can also be found on TEPCO's (Tokyo Electric Power Company Holdings, Inc.) official Twitter account. (Only in Japanese)

Website : <https://www.tepco.co.jp/en/hd/decommission/information/newsrelease/index-e.html>

Twitter account : <https://twitter.com/TEPCOfishkeeper> ( in Japanese only)

# 【Reference】 Rearing training, Marine Organism Rearing Log



Flounder 1



Flounder 2



Rearing preparation tanks

<Marine Organism Rearing Log>

9 AM, March 17, 2022

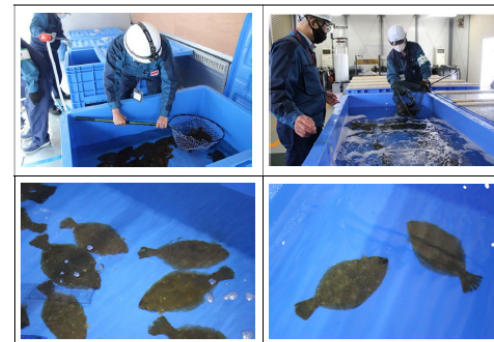
Weather: Sunny

Water temperature: 15°C

Approximately 100 flounder arrived yesterday and we began rearing at the power station today.

The flounder are approximately 20cm long and seawater will be used to rear them until around July.

Since these are living creatures, the handlers tend to be quite careful, and the fish have not yet acclimated to their new environment. This morning they were all very still as if stunned from the earthquake last night.



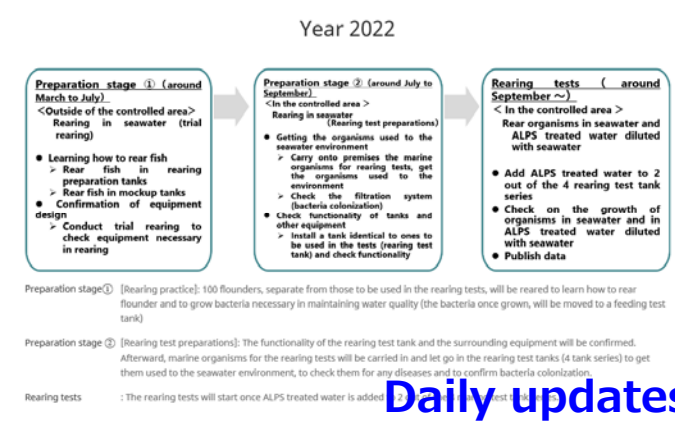
# 【Reference】 Location of the Marine Organism Rearing Log on the TEPCO website

## 【 Decommissioning Project page 】

The screenshot shows the TEPCO website header with navigation links: Quick Links, Language, Fukushima Daiichi, Our Business, Information, Data, Visual content, and FAQ. The 'Information' menu is expanded, showing options like Top, News release, Meeting material, and Decommissioning action plan. Below the menu is a banner for 'What Is the Decommissioning Project?' and a section titled 'Regularly Issued Materials' with a table of materials and supplementary materials.

**New** Marine Organism Rearing Log

### Marine Organism Rearing Log



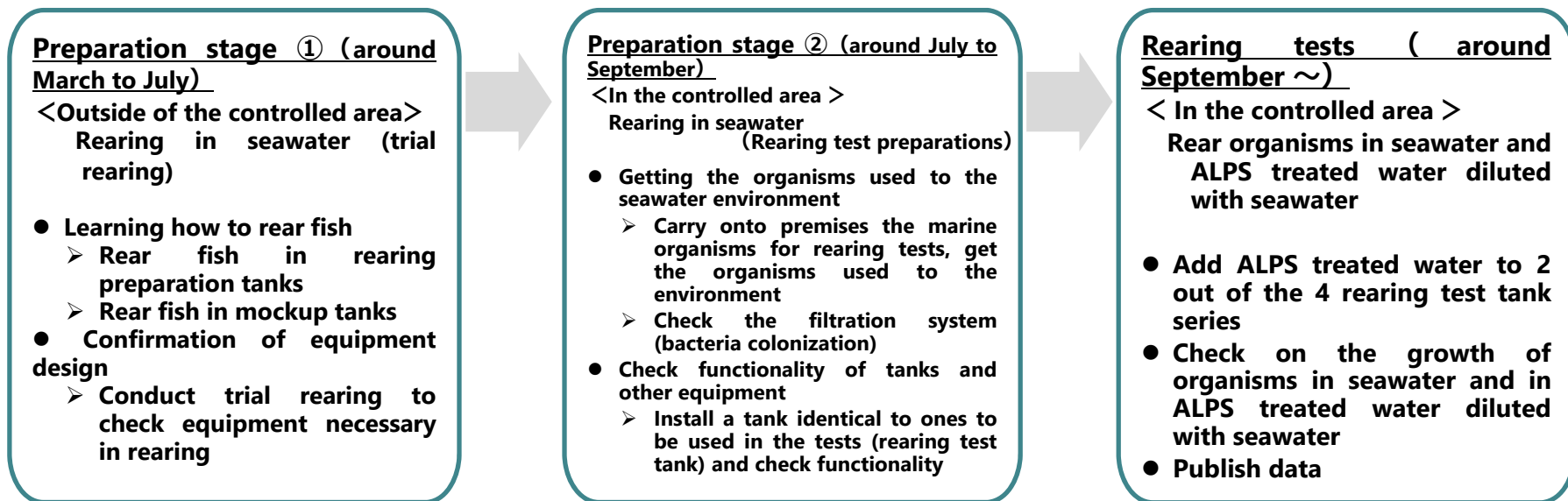
Daily updates

March +

## 【Reference】 Preparations for rearing test

Progress Status of Discussions Regarding Marine Organism Rearing Test Fukushima Daiichi Nuclear Power Station (February 24, 2022 Excerpts from documents )

- Flounder rearing technologies are well established. Preparations for the start of rearing tests are underway under the guidance of experts.
- To ensure rearing tests come smoothly, the time until the start of rearing tests around September 2022 is positioned as the “preparation stage.”



Preparation stage① [Rearing practice]: 100 flounders, separate from those to be used in the rearing tests, will be reared to learn how to rear flounder and to grow bacteria necessary in maintaining water quality (the bacteria once grown, will be moved to a feeding test tank)

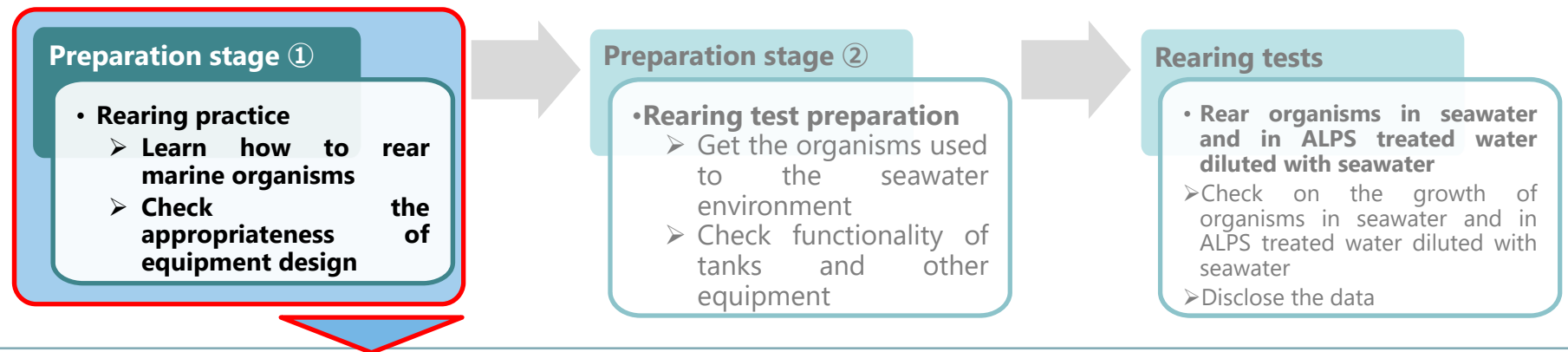
Preparation stage ② [Rearing test preparations]: The functionality of the rearing test tank and the surrounding equipment will be confirmed. Afterward, marine organisms for the rearing tests will be carried in and let go in the rearing test tanks (4 tank series) to get them used to the seawater environment, to check them for any diseases and to confirm bacteria colonization.

Rearing tests: The rearing tests will start once ALPS treated water is added to 2 out of the 4 rearing test tank series.

# 【Reference】 Overview of Preparation stage ①

Progress Status of Discussions Regarding Marine Organism Rearing Test Fukushima Daiichi Nuclear Power Station (February 24, 2022 Excerpts from documents )

- In Preparation stage ①, flounder and abalone (100 flounder and 20 abalone) will be reared in seawater surrounding the Fukushima Daiichi Nuclear Power Station on station premises (outside of the controlled area.)
- The goal is to finalize detailed design of rearing test tanks and to learning how to rear marine organisms.



Test stage	Details	Goals (deliverables)	Location	
Rearing practice Learn how to rear tests in preparation for the rearing tests	Rearing preparation tank	<ul style="list-style-type: none"> <li>● Equipment: 1 rearing tank series (Normal seawater)</li> <li>● Rearing: 100 Flounder</li> </ul>	<ul style="list-style-type: none"> <li>• Learn how to rear marine organisms</li> </ul>	On station premises - Outside of the controlled area - - Near the contractor buildings -
	Mockup tank	<ul style="list-style-type: none"> <li>● Equipment: 1 rearing tank series (Normal seawater)</li> <li>● Rearing: Flounder, abalone, seaweed (TBD ) Flounder will be transported from the rearing preparation tank. 20 abalone</li> </ul>	<ul style="list-style-type: none"> <li>• Learn how to rear marine organisms</li> <li>• Finalize detailed design of rearing test tanks</li> <li>• Exact requirements necessary for rearing equipment other than tanks</li> <li>• Create rearing and operating procedures</li> </ul>	On station premises - Outside of the controlled area - - Near the west gate -

# 【Reference】 Schedule

Progress Status of Discussions Regarding Marine Organism Rearing Test Fukushima Daiichi Nuclear Power Station (February 24, 2022 Excerpts from documents )

Test stage	Location	FY2021		FY2022				FY2023	
		3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q
<b>Preparation stage① (Rearing practice)</b>	On station premises - Outside of the controlled area - - Near the contractor buildings -	Learn how to rear marine organisms in the rearing preparation tank		Learn how to rear marine organisms and grow bacteria in the mockup tank					
<b>Preparation stage② (Rearing test preparation)</b>	On station premises - Inside the controlled area - - Near the front gate -	Hatch and grow flounder for the rearing tests 【Hatching】		【Carrying onto premises】 Check rearing tests equipment functionality, start getting the flounder used to the seawater environment, check for diseases, check on bacteria colonization					
<b>Rearing tests</b>				Rearing tests				Disclose data obtained in rearing tests	

The schedule is subject to change based on progress made

## 【Reference】 Information disclosure policy for the rearing test

Progress Status of Discussions Regarding Marine Organism Rearing Test Fukushima Daiichi Nuclear Power Station (February 24, 2022 Excerpts from documents )

- The status of trial rearing and rearing tests shall be disclosed in a highly transparent and proactive manner

The status of trial rearing



Status of rearing tests



Occurrence of abnormality



Conclusion of Rearing tests

- Once rearing in rearing preparation tanks start, the state of the marine organisms will be shared on the company website and on Twitter (starting around March)
- The following will be disclosed once the rearing test starts
  - Purpose and overview of the rearing tests, fundamental information on organic contamination of tritium
  - Constant: The online publication of the rearing tanks using monitoring camera
  - Periodic: Rearing environment (water quality, temperature, etc.), rearing condition (changes in the number of organisms) , analysis results (comparison of tritium concentrations in living bodies and tritium concentration in seawater, etc.)
- Details and cause of abnormality
- Summary of the rearing tests