



# News Release

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Nippon Steel Corporation

## **Full-scale Launch of Seaweed Regeneration Project, “Creation of Sea Forests,” in Tomari Village, Hokkaido** **One Year after Installation of Iron Supply Units, Regeneration of Kelp and Other Seaweeds Confirmed on Seabed**

In November 2019, Nippon Steel Corporation, Tomari Village in Furuu District, Hokkaido, and the Furuu District Fisheries Cooperative Association launched a seaweed regeneration project called the “Creation of Sea Forests,” and installed the Beverly™ Unit – an iron-supply steel slag product – in a seaweed bed lost due to sea desertification. In July 2020, the regeneration of seaweed was confirmed in the area of installation. This is another step forward toward the creation of a rich sea, which will help promote the fisheries industry in the village.

On the coast of Tomari Village, the rich sea resources, such as urchins and abalone, had once been harvested but kelp, brown seaweed, and other varieties of seaweed had been lost, sea desertification had progressed, and the rich seabed that helped grow marine resources had disappeared, negatively affecting local fisheries. Then, in the fall of 2018, using Nippon Steel’s “Creation of Sea Forests” project in Mashike Town, Hokkaido since 2002 as a good example, Nippon Steel Corporation, Tomari Village in Furuu District, Hokkaido, and the Furuu District Fisheries Cooperative Association launched an experiment to regenerate the seabed. Identifying a shortage of iron as a cause of the sea desertification, a total of three tons of the iron-supply steel slag product Beverly™ Unit was installed along two coastlines in November 2019. Then, in July 2020, a survey of the areas of installation confirmed that a variety of seaweeds, including Hosome kelp, Nanbu brown seaweed, and brown algae, had been regenerated on the sea bottom neighboring the areas where Beverly™ Unit had been installed. As regenerated seabeds are known to function to catch and store CO<sub>2</sub>, they are expected to counter global warming as a “Blue Carbon\*” ecosystem.

\* Blue carbon refers to the CO<sub>2</sub> captured and stored by oceans and coastal ecosystems, which is similar to green carbon, which means the CO<sub>2</sub> captured and stored by forests on land.

### ▼ Comments by Mr. Tetsunori Takahashi, Mayor of Tomari Village, Hokkaido

Tomari Village had prospered as a fishing village. Facing the Japan Sea and being centered around two fishery harbors, Tomari and Kabuto, we had long benefitted from rich marine resources. In recent years, however, mainly due to sea desertification, we lost our precious seaweed beds that nurtured fishery products. This had a grave impact on fishery resources and we were concerned with the resulting

decline in the amount of fish caught.

It was during this situation that the seaweed bed regeneration project called “Creation of Sea Forests” was launched. We then confirmed the steady regeneration of our lost seaweed beds. We can clearly see that seaweed is being regenerated in the areas surrounding where the Beverly™ Unit was installed. It has reminded me of the good old days, when kelp made the sea coast look so black, before sea desertification. I am really hoping that the seaweed regeneration project will continue, the blessings of the sea will reach many people, and the shallow sea fishery industry will develop in Tomari Village.

▼ Comments by Mr. Tsutomu Ikemori, Representative Director and Head of the Furuu District Fisheries Cooperative Association

In Japan, sea desertification is a nationwide challenge but, particularly in the Japan Sea coastal area of Hokkaido, the luxuriant growth of seaweeds has worsened for many years due to sea desertification and has significantly affected the harvest of shallow sea resources, namely, urchins and abalone.

Facing such a challenge, our cooperative association launched the “Creation of Sea Forests” project jointly with Nippon Steel in the foreshore of the Usubetsu sea area in 2018, with the aim of remediating the lost seaweeds. In 2019, the project’s second year, we found that the areas of installation showed good flourishing of kelp. We will continue this project in the hope of further improvement progress. There is strong hope that the seaweed will catch and store CO<sub>2</sub> as a part of the “Blue Carbon” eco system. We believe that we can contribute to curbing global warming with our “Creation of Sea Forests” project.



Sea desertification  
on the seabed in March 2018 (before the  
experiment)



Seaweed was flourishing  
on the same seabed in July 2020

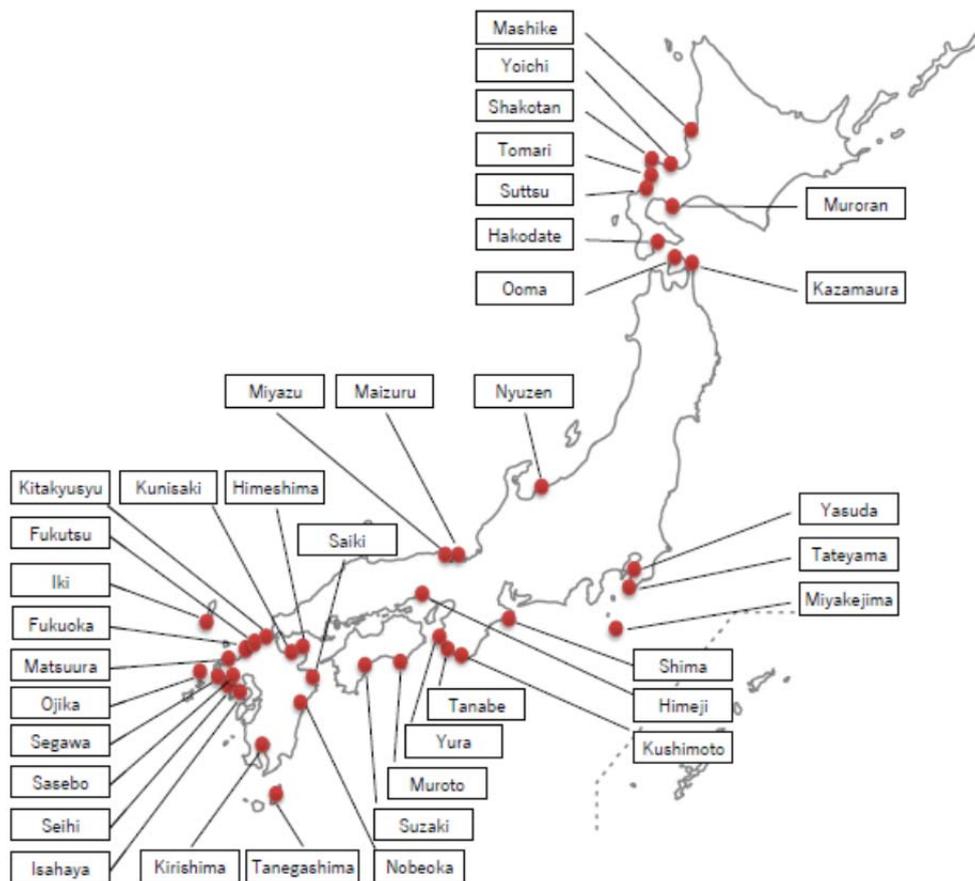


The Beverly™ Unit



Installation of the Beverly™ Unit

Starting with a project in Mashike Town, Hokkaido in 2002, Nippon Steel has been involved in “creation of sea forests” projects to regenerate seaweed in 38 locations in Japan. Sea desertification, a problem where the seabed loses its ability to support life due to a decline in kelp, brown seaweed, and other varieties of seaweed, is happening along about 5,000 km of the coast in various parts of Japan. In addition to a rise in sea temperatures and the reduction of urchins and other sea resources, a shortage of iron and other nutrients is also said to be the cause of sea desertification. In order to eliminate the iron shortage, Nippon Steel has developed the Beverly™ Unit, which is a mixture of steel slag – a by-product of the steelmaking process – and a humic substance derived from waste wood that are put in bags woven of palm fibers. The product enables iron ions in the form of humic acid iron to be delivered sustainably to seaweed beds for a long time. By installing the Beverly™ Unit in desertified sea areas, humic acid iron, which used to be delivered to kelp and other varieties of seaweed from forests through rivers, can be artificially regenerated and supplied to seaweed.



Seaweed bed restoration projects conducted by Nippon Steel in Japan

Along with its continued pursuit of world-leading technologies and manufacturing strength, Nippon Steel is committed to contributing to the development of society through initiatives to “conserve and sustainably use the oceans, seas and marine resources for sustainable development,” which is a part of the United Nations’ Sustainable Development Goals (SDGs).

For inquiries

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