

The *Zostera Marina* Bed Creation Method by the Sowing Sheet

Yoshida, Toshiharu.¹, Ito, Akifumi.² , Mori, Shoichi.³

1.Toyo Construction Co., Ltd. Japan 2.Toyo Suiken Co., Ltd. 3.Mori Institute of Ecology Co., Ltd.

As *Zostera marina* beds have declined year-by-year because of the reclamation of coastal shoals and the change of the natural environments, not only their restoration and extension but also their positive creations are required. We have proposed a sowing method with the sheet that prevents seeds and grems from flowing out and can be executed largely and quickly.

To make it concrete, at first we carried out laboratory germination tests with the sowing sheet made of biodegradable fiber and according to their results it is shown as follows. ① The *Zostera marina* seeds germination rate by means of sowing sheet is almost the same as they germinate in nature and sowing sheets has no effect on *Zostera marina* seeds growth. ②As sowing sheets are closely-woven cloth, *Zostera marina* seeds can sprout up but can't take roots through them. So lower sheets had better to be loose fabric. ③*Zostera marina* seeds that have been preserved in controlled water whose salt concentration is 50‰and temperature is -2°Cwould germinate at any time.

To verify the possibility of *Zostera marina* beds creation by those sowing sheets, we have carried out field tests on a small scale in 1998, 1999 and have executed the follow-up survey till now. From those field tests results it is shown as follows. ①*Zostera marina* seeds sowed by means of sowing sheets have sprouted and grown up. Grown up *Zostera marina* let their stalks grow and pass the year, then come to life again the next year. ②It is important for grown up *Zostera marina* to last long that there is no large change in the sea bed topography.