Changes in Dominant Species of Seagrass Bed off Iwakuni, Seto Inland Sea, Japan

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In the area off Iwakuni, Yamaguchi, Seto Inland Sea, seagrass bed consist of two species, *Zostera marina* L. & *Z. japonica*. The following elements are important for the formation of seagrass bed 1) There must be the source of seed supply. 2) Seeds must be flown into the sandy bottom area. 3) The the sandy bottom must be suitable for the growth of *Z. marina* L. or *Z. japonica*. Consequently, to study the cause of changes in dominant species of seagrass after Typhoon No.18 in 2004, the distribution of seagrass off Iwakuni, Yamaguchi and changes in the sandy bottom of the seagrass bed were investigated.

In order to clarify the distribution of seagrass, 1 line was established off Ozu, Iwakuni and distribution range, shoot density, water temperature and disperse coefficient were investigated every 2 months to a year during the period from June 1997 to December 2010. Moreover, in order to study changes in sediment, it was collected and grain constituent was analyzed by JIS A 1204.

From 2005 to 2007, distribution range of *Z. marina* L. had decreased by every attack by typhoon and after 2008, it had repeated the life cycle in which the distribution range did not recover to the level prior to Typhoon No.18 in 2004 even though there had been no typhoon attack and disappeared at a low ebb. On the other hand, distribution range of *Z. japonica* could not be confirmed before Typhoon No.18 in 2004, however it had increased when distribution range of *Z. marina* L. began to decrease after Typhoon No.5 in 2007. Although distribution range of *Z. japonica* varies from season to season, it had changed between 200 to 350 meters.

From 1997 to 2010, no drastic change in downwelling photosynthetic photon flux density (PPFD) and eelgrass community light compensation (I_e) was observed, moreover PPFD was above I_e. Consequently, it can be concluded that the amount of light off OZU seagrass was sufficient for *Z. marina* L. It can also be concluded that particle diameter in sediment had not changed much, therefore, there was no drastic change in the sandy bottom of the seagrass bed.

Although, there was no change in the condition in the sandy bottom of the seagrass bed such as light and in sediment off OZU from 1997 to 2010, after Typhoon No.5 in 2007, *Z. japonica* has become dominant than *Z. marina* L..

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