

# 底生生物群集の構造およびアサリ (*Ruditapes philippinarum*) 浮遊幼生の着底状況を指標とした高炉水砕スラグの機能評価

本田是人<sup>\*1</sup>, 石田基雄<sup>\*1</sup>, 家田喜一<sup>\*1</sup>, 武田和也<sup>\*1</sup>, 山口安幸<sup>\*2</sup>, 鈴木輝明<sup>\*1</sup>

## Abstract

The possibility of using granulated blast furnace slag was investigated in the present study, because in the near future it may become more difficult to obtain marine sand on a massive scale. Granulated blast furnace slag is a by-product from the manufacturing of iron. It can act as an alternative material to marine sand for constructing artificial tidal flats and shallows. This studies were conducted at a Tidal Flat Mesocosm System (5m × 8m) which can reproduce physical conditions of a tidal flat such as tidal level, tidal current, wave and wind. The effect of five kinds of granulated blast furnace slag, including mixture by natural sand was assessed on the basis of the structure of benthic community, and larval settlement, post-settlement survival of the Japanese Littleneck Clam, *Ruditapes philippinarum*. The effects were compared to five different kinds of natural sand.

There was no significant difference in the benthic community such as bacteria, meiobenthos and macrobenthos between the blast furnace slag group and the natural sand group. On the other hand, there was no significant difference in the larval settlement and post-settlement survival of *Ruditapes philippinarum* between the granulated blast furnace slag group and the natural sand group. From the results of these two experiments, the possibility to used the granulated blast furnace slag as an alternative material to marine sand was suggested.