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The impact of forest use on the intertidal crab community in managed mangroves of Cilacap, Central Java, Indonesia

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Appendix 10 Photo of each habitat
Appendix 11 Photo of *Neosermatium sp.*

1. INTRODUCTION

Mangrove forests that grow in intertidal areas and possess a high diversity of benthos habitats in the tropics, generally provide good conditions as breeding, spawning, hatching and nursery grounds, for example, for prawns and crabs (Alongi, 1990). Dai and Yang (1991) explained that the word "crab" denotes a group of animals from the section of Brachyura (sub order Reptantia, order Decapoda, class Crustacea). Crabs are very important in maintaining ecosystem processes in mangrove forests because some of them process detritus (Ewel *et al.*, 1998). Twilley *et al.* (1995) explained that crabs are keystone species in mangrove ecosystems or a central ecosystem element in a mangrove forest because of their enormous impact on ecosystem dynamics. They can, for instance, process as much as 70% of the leaf litter. Also, their burrowing activity causes sediment texture distribution and tree productivity.

Unfortunately, there are anthropogenic disturbances such as destruction and deforestation of mangroves leading to decrease its coverage, finally causing the disappearance of natural nursery grounds for crabs (Binett *et al.*, 1995). Recent forms of direct impact include the destruction of biodiversity by land uses such as installing farm land and prawn ponds (agricultural activities), urban development and forest clear-felling (Twilley *et al.*, 1995). Suegang (1994) illustrated that the conversion of mangrove forest into prawn ponds causes coastal erosion, wet inundated lands, intrusion, depletion of supply of river sediments, flooding, damages to infrastructure and loss of property. Moreover, owing to the continued increase in installing prawn ponds, organic and inorganic material accumulation into sediment and water will take place. After harvesting, sediments remain on the ground of the pond. In addition, polluted water is discharged directly to surrounding waters (Sansanayuth *et al.*, 1996). Loss of biodiversity is regularly identified as one of the greatest environmental risks facing mankind as a result of anthropogenic disturbances. Legislation has been proposed to preserve biodiversity and governments have been argued to approach this issue. An international treaty for the conservation of biodiversity has been negotiated (Jutro, 1993).