UNDERAPPRECIATED ROLES OF CALCAREOUS GREEN ALGA "*Halimeda*"

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INTRODUCTION:

Genus *Halimeda* consists of a single, multinucleate, siphons cell and its thallus is composed of calcified segments. *Halimeda* inhabits both hard and soft substrata from intertidal zone to subtidal zone. It is widely distributed across the tropics and subtropics such as in the Pacific, Atlantic, Indian Ocean, and Thai waters. The ecological importance of *Halimeda* is well documented; playing vital roles in marine ecosystem serve as a primary producer, refuges, nursery grounds and food for marine organisms, reef builder, and carbonate sediment generation. Recent research has suggested that *Halimeda* is a very important player in the global carbonate budget. In Thailand, *Halimeda* is common and abundant alga from both the Gulf of Thailand and the Andaman Sea and has the highest abundance compared with other regions. Its density varies from 24-200 thalli m^{-2}. However, little is known of its population dynamics and actual calcium carbonate contribution. Therefore, understanding the population of *Halimeda* and estimated $CaCO_3$ production of *Halimeda* would provide a valuable data for the carbonate contribution in the carbon budget and the potential role of *Halimeda* as a carbonate contributor. In this study, population of *Halimeda* was monitored by looking at the standing stock, growth rate, calcification rate, and content. *Halimeda* quickly produced one to two new segments daily or thalli grew by 0.021 g dry weight $thallus^{-1}$ day^{-1}. Total $CaCO_3$ production was 291.94 to 908.11 g m^{-2} $year^{-1}$. This alga is a significant contributor to carbonate budgets due to its high growth rate and calcium carbonate productivity.

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