MANGROVE HABITATS AS NURSERIES FOR JUVENILE SHRIMPS (PENAEIDAE) IN GUIMARAS, PHILIPPINES

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A Doctoral Dissertation Submitted to the

Marine Science Institute

College of Science

University of the Philippines

Diliman, Quezon City

As Partial Fulfillment of the Requirements

for the Degree of

DOCTOR OF PHILOSOPHY IN MARINE SCIENCE

October 1995

2/2/15

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Introduction

Mangroves dominate up to 75% of the world's tropical coastline between 25°N and 25°S latitude (McGill, 1959 in Odum *et al.*, 1982). Forty five percent of the estimated total world area of 16.5 million hectares of mangroves in 1983 were located in Asia (FAO, 1994).

Since then, conversion to residential, agricultural, industrial and other uses has led to the loss of mangrove forests at an alarming rate. In the Philippines alone, mangroves have decreased from half a million hectares at the turn of the century (Brown and Fischer, 1920) to 132,500 ha in 1990 (Auburn University, 1993). Brackishwater culture ponds have increased from only 61,000 ha in 1940 to over 240,000 ha in 1992 (BFAR, 1993). Around half of the mangrove loss of 279,000 ha in the 1951-1988 period can be traced to the development of 141,000 ha of culture ponds (Primavera, 1995).

A variety of mangrove products are used for fuel, construction, fishing, agriculture, paper production, drugs and beverages, textile and leather items, and food (Saenger *et al.*, 1983). Aside from these diverse goods, mangrove ecosystems support nearshore fisheries, provide coastal protection against typhoons and storm surges, reduce erosion and stabilize sediments, control flooding and pollution, and provide a habitat for wildlife.

Marine municipal fisheries in the Philippines accounted for 39% of the total 1993 fisheries production of 2.6×10^6 mt (BFAR, 1993). Annual yields of marine municipal fisheries by province have been correlated with existing mangrove areas in the Philippines (Camacho and Bagarinao, 1987). Such a positive relationship between fish/shrimp catches and mangrove/intertidal area has also been documented for Malaysia (Macnae, 1974; Gedney *et al.*, 1982), Indonesia (Martosubroto and Naamin, 1977), the U.S.A. (Turner, 1977), and Australia (Staples *et al.*, 1985).