

## **GROWTH ASSESSMENT OF THE THREE SCLERACTINIAN CORAL SPECIES TRANSPLANTS IN KAUSWAGAN, LANA DEL NORTE, PHILIPPINES**

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Coral reef is important but rarely, if ever, found in close proximity because of their divergent physio-chemical requirements. This paper is formulated due to this statement. Therefore, this paper tells us the assessment of growth performance of the three Scleractinian coral species transplants as it respond to the environmental conditions of the sandy barren reef of Kauswagan, Lanao Del Norte, Philippines as the study site with coordinates of 124°05' East longitude and 8°12' North latitude. This will also provide us the techniques and considerations to be undertaken for coral transplantation for the area that needs such effort.

The three Scleractinian coral species used as transplants were *Acropora* sp., *Pocillopora* sp. and *Porites* sp. Only fragments of these three Scleractinian coral species were taken from a healthy highly diverse coral reef which is about 3 kms. away from the study site, instead of whole coral head. Each of the three Scleractinian coral species has a total number of 150 transplants securely fasten on an 8 x 12 x 2.5-inch concrete tablets. The 150 transplants of each Scleractinian coral transplants were strategically distributed and laid underwater in the study site for each depth of 20, 25 and 30 feet respectively. Environmental conditions measured were in terms of pH, depth, salinity, conductivity, temperature and sedimentation rate of the water substratum (surface, mid and bottom). There were differences in environmental conditions mentioned, where study site is deeper by 15 to 30 ft. Growth of Scleractinian coral species transplants as compared with the control in the source is highly significant based on calculations made from the gathered data. The observations on the competition of coral species growth in the study area is found negligible unlike in the source wherein it is highly diverse and that space for development is limited on horizontal path and in some ways even on vertical because of crowding. Also, the transplants in the study area were not much disturbed by wave actions. And likewise transplants were not affected by the coral bleaching unlike in shallow areas like in the source (Cortez, RB on Monitoring of Coral Bleaching, November, 1998). Mortality of transplants was due to abundant of burying shells that lifted the tablets of transplants and then later covered with sand with 0.05% and presence of *Acanthaster plancii*, Crown-of-thorns (COTs) with 0.05% and later disturbance of marginal fishermen. The mortality especially due to the covering of sand was observed at the 30-ft depth. The Fish ID and length estimates were also conducted in conjunction with the monthly coral growth measurement, as simple yet best indicator to ascertain that coral growth is important in relation to fisheries.

Using the RCBD design and Two-Way ANOVA, results stated that the hypothesis,

Ha: *Acropora* sp. > *Porites* sp. > *Pocillopora* sp. against with the three depth levels of 20, 25 and 30 ft is true. Although *Pocillopora* sp. and *Porites* sp. have slower growth compared to *Acropora* sp., its structures and growth forms should be considered. We all know that branching corals really grow faster than massive, sub-massive or other

forms like encrusting. Virtually, staghorn Acropora grow fast. But no matter how slow or fast corals would grow, the fact that it grows, each has an important role in biological diversity of an area.

This information will energize the effort of coastal conservationists to a wider window of carrying such endeavor using the herein techniques and considerations more importantly the lessons learned.