

Giant Clam Variations based on Size and Density at Different Underwater Depths

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ABSTRACT

The Tridacnae family, locally known as Faisua, are bivalve mollusks that thrive in tropical coral reef ecosystems. Faisua harbor photosynthetic zooxanthellae that provide the majority of their energy through photosynthesis. They are typically found in shallow water where they get the most sunlight. Faisua are considered a delicacy in American Samoa and populations are diminishing due to overfishing, especially in depths accessible to free divers (1-10m).

The National Park of American Samoa (NPSA) is interested in learning more about what drives giant clam distributions in NPSA waters, and one day hopes to outplant farmed Faisua to help increase population levels. Surveys were conducted to assess Faisua population density and analyze correlations with depth. With this data NPSA will be able to make more informed resource management decisions

Three 50m transects were conducted on the reef flat of Fagasa to assess Faisua density. Size and location of each clam was recorded to the nearest cm. This data was then compared to Faisua surveys conducted by NPSA divers at 10, 20, and 30 m depths. It was hypothesized that there would be higher density and larger clam size in shallower depths, because there is more light available for photosynthesis.

Key Words: Tridacnae Family, Giant Clam (Faisua), Transect, National Park of American Samoa (NPSA), Population analysis