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# Influence Factors of Water Quality in Guanxin Algal Reef, NW Taiwan

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Algal reef is widely distributed along seashore in NW Taiwan. Guanxin algal reef, the most completely developed, is selected as the study area. Coral reef grew on old Shihmen gravel alluvial fan ever since 7500 years ago, and algal reef became the dominant biotic reef since about 4500 years ago. It is developed from north to south for 5km long, including Shiaufanli river, Shinwu river and Houhu river estuaries. In order to know the influence factors of water quality which affected the growing of algal reef, water samples were collected and analyzed concerning their temporal and spacial variations. Three sampling sites were 2.5km away, seawater qualities include pH value, electrical conductivity, turbidity and dissolved oxygen were examined every month by using a water quality analyzer, so as to evaluate the growing environment of algal reef. Furthermore, detailed water quality data were collected from Taoyuan City document, thus to find the correlation among pH value, electrical conductivity, suspended solid, temperature, and heavy metals such as Cadmium (Cd), Lead (Pb), Chromium (Cr), Nickel (Ni), Copper (Cu), Zinc (Zn), Sliver (Ag) and Manganese (Mn), along nearby Shinwu river, Guanxin river and Shetz river during the same period. Factor analysis is then performed to convert the massive and complicated elements into comprehensive factors which affected the growth of algal reef. The results are expected to be valuable in the preservation and protection of Guanxin algal reef.