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Polhena coastal reef is a socio-economically important reef in Southern Sri Lanka. Its large natural shallow pool/ lagoon surrounded by the reef attract many holidaymakers. Although this reef has supported a number of coral types and a rich diversity of reef fish (food fish and ornamental fish) a major portion has deteriorated mainly due to anthropogenic activities. A diversity of reef fauna (fish and invertebrates) which has an ornamental value is being rapidly removed from the reef habitat for export purposes. Objective of this study is therefore, to estimate the extent of damages caused to reef associated organisms in the Polhena reef by anthropogenic activities and suggest management strategies to reduce unhealthy impacts.

Field observations within the Polhena reef lagoon and structured questionnaires and interviews were used from January 1998 to April 1999 to estimate the past and present impact of coral mining, coir industry, ornamental reef fish and food fish capture fishery, hotel industry and visitors to the reef. Before the “El-nino” in April 1998, 82.5 (4.5% of the reef had been dead. Large scale coral mining (until 1980), release of organic effluents (from coconut husk retting pits), reef fish collection and trampling newly built corals

were the major factors that caused destruction to the reef. Presently coral mining is banned and effect from coral mining is negligible.

Major destructive activities are the trampling of newly built corals by visitors and fish collectors and the collection of ornamental fauna. During three-day holidays, week ends and weekdays respectively 2375 (239.36, 950(113...65 and 337.5 (68.84 person per day visit the reef. Out of all visitors 7.67 (2.72% trample the reef and collect newly generating corals. Sewage out falls and those released from one of the hotels situated close to the reef and siltation may also affect water quality. Exploitation of 95 fish species and 12 invertebrate species for the export ornamental trade and extensive use of dynamic for food fish capture would have an impact on biodiversity.

To restore the biodiversity in Polhena reef, trampling of the young reef should be prevented (during low tide), use of dynamite in fishing industry and removal of endangered faunal species should be banned and alternate employment opportunities should be provided to collectors of ornamental reef fauna. Organic matter inputs and siltation from Nilwala River also should be controlled