1. Introduction

Although there is a large fishery for demersal reef fish on the Great Barrier Reef, and a percentage of the landings from the commercial fishery are documented by port of landing, there has been no attempt at analysis of catch and effort statistics to determine the state of the fishery. Although it is believed to be substantial, there has been no investigation of the amateur fishery whatsoever.

As fishing is probably the major activity on the Great Barrier Reef, the necessity of managing reef stocks so that it may continue to be a major reef activity is evident.

The Great Barrier Reef Marine Park Authority has been conducting a study of amateur fishing on the Great Barrier Reef to determine whether there have been any changes in catch over time, whether any particular reefs show particularly low catches and whether catches of certain species have changed. The study concentrated on demersal fishes such as coral trout, sweetlip, red emperor, spangled emperor etc., and was not concerned with pelagic species such as mackerel.

Records were collected from amateur fishing clubs and charter boat operators from Cairns to Maryborough who run fishing trips to the reef lasting from one to three days. These records made it possible, in most cases, to calculate catch per unit effort (number or weight of fish per person per day) and average fish size (kg per fish) for each trip. Both of these figures will provide an indication of the state of the fish population: if catch per unit effort and/or mean fish size show a steady decline the area may be progressing towards being overfished. The results should be interpreted as indicating relative differences in catch, rather than absolute values, since the nature of the records means there are many factors which have not been taken into account, e.g. hours spent fishing, changes in bait and gear, etc. In the accompanying figures, the range of values is indicated by

the vertical bar, with the horizontal bar giving the average value. In some cases the reliability of the average value is indicated by the solid bar around the average (two standard deviations).

2. Cairns Area

(Tongue, Norman, Saxon, Scott, Hastings, Miln, Flynn, Moore, Michaelmas and Ruby Reefs and Stagg Patches.)

Only relatively recent information (1977-78) was available, but there is a striking relationship between the weight of the catch and the distance of the reef from Cairns so that while catches are relatively poor close to port, excellent catches can still be obtained at distant reefs (Figure 1).

Figure 1