

IMPLICATIONS FOR MANAGEMENT AND SUGGESTIONS FOR FURTHER WORK

Extensive surveys on fringing reefs between Cape Flattery and the Keppel Islands over the past decade have shown that most of these reefs have very rich coral communities with live coral cover usually ranging from 50 to 75%. These means are comparable to the maximum coral cover recorded on the upper windward slope of the richest, undisturbed offshore reefs measured using the same technique (Ayling and Ayling, unpublished data).

The present study also indicates that corals in these fringing reef communities are fast growing and able to recover quickly from repeated disturbance. These fringing reefs are present in environments where the normal levels of sedimentation may be several orders of magnitude higher than those regarded as normal for offshore reefs. In spite of these studies it still seems to be widely believed that fringing reefs are degraded, or severely stressed and on the brink of degradation (Hopley et al. 1990). However, it is certainly true that these fringing reef communities will undoubtedly be affected by nutrient enrichment, or increased siltation, before offshore reefs.

If sensible decisions on coastal development are to be made it is extremely important for Great Barrier Reef managers to know if fringing reefs are being degraded. We suggest that it is vital that a number of permanent monitoring sites be set up on a range of fringing reefs at varying distances from potential human influences to establish if degradation is in fact occurring in these communities. The sites should be monitored in the long term; the 12-year term of this study is a good start but should be continued in the future. Management response, if degradation of fringing reefs is shown to be occurring in the future, is complicated by the fact that the major of impacts are terrestrially derived. Control of practices that lead to nutrient runoff or catchment disturbance would have to be implemented along large areas of the Queensland coast, and well inland to the south where rivers such as the Fitzroy and Burdekin drain huge catchments.

In addition a comparative study of the growth rates of a range of coral species on fringing and offshore reefs would provide useful information to help resolve this question. If growth rates on fringing reefs are greater than on offshore reefs, as our observations suggest, then it would indicate that present conditions on fringing reefs are suitable for good fringing reef development.