EXECUTIVE SUMMARY

KEY RESULTS

1. 25,900 ±3,000 ha of seagrass habitat was mapped between Dunk Island and Cleveland Bay in Spring (October) 1996. Approximately 12,700 ha of seagrass habitat was mapped in the Hinchinbrook Region (Dunk Island to Lucinda Point).

2. Twelve species (including one possible new species) of seagrass (in 3 Families) were found in the survey area.

3. Eight seagrass **community** types were identified, based on species present. Communities dominated by *Halophila spinulosa* were more numerous, more extensive and generally much higher in above-ground biomass than most other community types.

4. Eight seagrass **habitat** types were identified, ranging from coastal intertidal to fringing reef and deep sub-tidal habitats around continental islands. Coastal habitats dominated by *Halophila* and *Halodule* species were most common.

5. Average above-ground biomass for meadow types ranged from 1.1 g DW. m^{-2} (*Halophila ovalis* dominant) to 34.5 g DW. m^{-2} (*Cymodocea serrulata* dominant).

6. Average above-ground biomass per seagrass species varied from 1.7 g DW. m^{-2} (*Halophila decipiens*) to 28.2 g DW. m^{-2} (*Cymodocea serrulata*) in October 1996.

7. *Halophila ovalis* had the greatest depth range of all seagrass species, being found at depths from 0.93 m above MSL to 15.1 m below MSL.

8. Parts of Halifax Bay and Magnetic Island exposed to high wave energy were not surveyed in 1996 due to extreme weather conditions. These need to be surveyed, but the potential extent of seagrass habitat area in these exposed locations is expected to be small.

KEY ISSUES

1. The general location of seagrass meadows in these surveys was similar to that found in the original broad-scale survey, 1987. In this survey however, many new areas of seagrass were found, both in areas previously surveyed and previously un-surveyed.

2. We conclude that an overall increase has occurred in areal extent of seagrass habitat in the Dunk Island to Cleveland Bay region, mostly in the areal extent of sub-tidal seagrass habitat, since 1987.

3. The large sub-tidal seagrass habitat areas (eg., Missionary Bay, Shepherd Bay, Townsville foreshore and Cleveland Bay) are probably very important alternative food sources for grazers (eg., dugong, sea turtles) when the narrow intertidal habitat areas are inaccessible at low tides.

4. There is a large diversity of seagrass community and habitat types in the Hinchinbrook region, but their individual contribution to fisheries production and turtle/dugong feeding needs investigation so that priority areas can be identified for protection.

5. Large areas in this region are sheltered from waves and currents, providing large potential area for seagrass growth. The distribution patterns of seagrasses overall in this region appear to be influenced mostly by shelter, turbidity (light penetration) and tidal exposure.

6. This baseline survey was designed to establish a data set on which monitoring programs can be based to investigate changes in seagrass biomass and distribution. Corresponding data on possible influencing factors will also be needed to help elucidate the causes of seasonal and long-term variations in seagrass distribution and abundance.