8 CONCLUSIONS AND RECOMMENDATIONS

This report has:

- Reviewed coastal processes for the Fraser Coast LGA and presented updated EPAs (Section 3);
- Discussed the key constraints and opportunities relating to shoreline erosion management (Sections 4 and 5);
- Assessed the existing and future levels of risk from erosion and identify priority areas for erosion management (Sections 6 and 7);
- Developed a series of erosion management options and subject them to a cost:benefit assessment, which included a feasibility assessment (Section 7); and
- Made recommendations regarding any further studies and monitoring activities that would assist FCRC in implementation of the SEMP and management of the Fraser Coast coastline (this section).

The outcomes of this study should be used by FCRC to:

- Identify preferred options for translation into management actions in the SEMP;
- Undertake consultation with the community;
- Enter into discussion with the key agencies on the direction and content of the SEMP, and clarify if an assessment of net benefit to the State is required. FCRC should also consult with the agencies on the potential impacts of shoreline erosion and SLR on boundaries defined under the legislation; and
- Inform other strategic planning initiatives being undertaken by FCRC.

The re-assessment of EPAs for the study area has confirmed that there are a large number of areas at risk from shoreline erosion and permanent inundation by rising sea levels. This will have significant implications for the ongoing sustainability of coastal development in the Fraser Coast LGA.

The management framework, comprising management objectives, policies and management options, developed in this report takes as its focus an operational planning horizon of 2030. This approach has been adopted in acknowledgement that the full range of climate change impacts on the Fraser Coast LGA should be understood before any long term planning can be undertaken. Other climate change impacts that will impact on the study area include: increased depth and frequency of storm tide inundation, rising groundwater tables, permanent tidal inundation and increased depth and frequency of catchment flooding.

In the interim a series of management options have been developed under the Planning Control policy that seeks to manage future levels of risk. This is achieved primarily through land use planning and development controls, but also includes emergency management (which is also relevant to the present day).

A total of 15 management options were considered not technically feasible, and a total of 9 management options were considered incompatible with the statutory framework. Once these management options had been knocked out of the assessment, a total of 38 options remained for consideration by FCRC.

Although all 38 feasible and permissible management options would not be implemented, it is instructive to note that even 1% of the total cost of implementation ($600 million over 20 years) is well in excess of FCRC's existing annual budget for coastal protection works, and other sources of funding will need to be considered. Furthermore, this preliminary estimate of the cost of implementation does not factor in any ancillary activities, such as monitoring and evaluation or the further studies identified below.

The options rankings derived from the cost:benefit assessment should be used by FCRC to select options for inclusion as management actions in the SEMP. It is acknowledged, however, that other factors may influence the process of selecting preferred options, such as political pressure, community pressure or funding limitations.

The SEMP, when developed, should be considered a living document that is updated every 5-10 years to assist adaptive management of the study area. Updates may be required:

- As management options are implemented;
- In relation to any changes in land use patterns;
- To re-assess the full list of options in this report due to changes in the legislation;
- Due to changes in the climate change projections, and consequent requirement to update the EPAs.

Based on the outcomes of the risk assessment and options assessment processes, the following general recommendations are made on actions to 2030:

- Adopt a Hold the Line policy for developed areas at risk from erosion, as mapped in Appendix H;
- Adopt a Planning policy for undeveloped areas that are at risk from erosion, as mapped in Appendix H;
- Adopt all planning related management options (options 6.01-6.05) as the key mechanism for managing future and existing levels of risk from shoreline erosion;
- The outcomes of the SEMP and the findings presented in this report should be used to aid other strategic planning initiatives undertaken by FCRC. In particular, the findings should feed into the Sustainable Growth Strategy;
- Monitor shoreline position, beach volume and water levels, and apply suitable analytical procedures to assist in implementing adaptive shoreline management (as required) and to detect the potential impacts of climate change. In the event climate change impacts are detected, consider the need to update the SEMP;
- Any changes increases in local mean sea levels should be benchmarked against observed water level data obtained at other locations in Australia from gauges monitored by the National Tidal Centre;

- Monitoring water level trends both in the Hervey Bay and Great Sandy Strait areas to detect any changes in the tidal prism;
- Assess the legal implications for FCRC of not taking action to reduce the risk from shoreline erosion (due to lack of funds or the legislative constraints);
- Identify potential sources of suitable sand (both offshore and onshore) and rock material for implementation of the SEMP, and consider the implications for the preliminary costs of implementation;
- Undertake geotechnical testing to establish the presence of bed rock in the study area;
- Develop a financial Plan for the implementation of the SEMP that considers alternative sources of funding;
- Develop a holistic Climate Change Adaptation Plan (building on the Coastal Hazard Adaptation Plan required under the QCP), to include appropriate triggers for actions identified in the Adaptation Plan. The SEMP should form a component of the larger Plan); and
- Undertake a study of current condition and replacement strategies for critical infrastructure to assess the likely financial implications for investment decisions.