

# Mapping of Inshore Marine Habitats in South -eastern Tasmania for Marine Protected Area Planning and Marine Management.

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## Summary

A National System of Marine Protected Areas (NRSMPA) is currently being established in Australia with the collaboration of governments at the State and Federal level. In Tasmania this policy is articulated in the State Marine Protected Area Strategy (MMIC 2001) that recognises the need for a Comprehensive, Adequate and Representative (CAR) system of MPAs for State waters. The State and Commonwealth MPA implementation strategies each recognise that for MPAs to be established on a CAR basis, a thorough inventory of marine habitats is needed to ensure areas selected are appropriate. This study presents the first such inventory for Tasmanian waters, with detailed mapping of marine habitats within the Bruny Bioregion. The study had two objectives, to map the marine habitats in the Bruny Bioregion and to use this information to identify candidate MPAs that fulfil CAR requirements. While Tasmanian waters include nine bioregions, the Bruny region was identified as a priority for mapping due to its high degree of marine endemism, high habitat diversity and the more urgent need for protection given the high population density of the region in close association with the capital city, Hobart.

Maps were produced at a scale of 1:25,000, showing the principal habitat types in shallow inshore coastal waters to the 40 m depth contour. The production of maps involved extensive field surveys of the region from small vessels equipped with colour sounders and differential GPS. Position, depth and bottom type were continuously logged in real time using a computer application developed for this task. Regular video drops were conducted to validate interpretation of sounder signals. Aerial photographs were scanned and rectified to provide more detailed information on habitats in inshore areas where water clarity allowed. For most of the coast the utility of aerial photographs was limited to a depth of ten metres. The information was collated and mapped using the GIS application ArcView, allowing detailed analysis of habitat distribution by depth and exposure.

The habitat maps were then used to suggest a number of potential MPA locations that would protect a comprehensive range of marine habitats within this bioregion. Sufficient information is also available for discussion of alternative MPA options as part of stakeholder negotiations during the implementation of the Tasmanian Marine Protected Area Strategy (2001).