



## Voyage SS07-2005

Mapping benthic ecosystems on the deep continental shelf and slope in Australia's "South West Region" to understand evolution and biogeography and support implementation of the SW Regional Marine Plan and Commonwealth Marine Protected Areas.

- Dr Alan Williams, CSIRO (Chief Scientist, Leg 1) • Mr Rudy Kloser, CSIRO (Chief Scientist, Leg 2)
- Dr Nic Bax, CSIRO • Dr Gary Poore, Museum Victoria

### Contribution to Australia's national benefit:

This voyage was the first of two made from the Marine National Facility vessel in 2005 in support of an overarching project to increase our understanding of the marine environment, its sustainable use, and how best to conserve its marine biodiversity for future generations. The deep sea is an area of expanding human use for fishing and mineral extraction, and a priority target for conservation, most importantly through Australia's National Representative System of Commonwealth Marine Protected Areas (MPAs). However, there are few deep sea areas around Australia with detailed baseline data, and acquiring new data is technically challenging because it mostly involves remote sensing in great depths (typically in the range of 200 to 2,000 m).

Data collected during SS07-2005 greatly expanded the coverage of deep sea habitat maps off Western Australia – including mapping key areas, and high resolution deep-sea photography. Mapping effort was focused on areas of known or expected high conservation value: for example the Commonwealth Ningaloo Marine Protected Area, and the massive Perth Canyon just seaward of Fremantle. Representative habitats

within mapped areas were successfully surveyed with high resolution video and still cameras that provided photographic imagery of seabed habitats and documented the composition and fine-scale distributions of their biodiversity.

The project makes direct contributions to meeting NRRPG's:

- The delivery of baseline biodiversity data into active management planning processes, most immediately those for designing MPAs.
- The development of deep sea photographic devices that enhance Australia's capacity to acquire quantitative and non-destructive data on the biodiversity of deep seabed ecosystems.
- The development of tools to archive, integrate and display the large data sets captured on research voyages.

### Itinerary

**Leg 1:** Depart Dampier 1000 hrs, Thursday 21st July 2005.  
Arrive Fremantle 1700 hrs, Wednesday 3rd August 2005.

**Leg 2:** Depart Fremantle 1000 hrs, Thursday 4th August 2005.  
Arrive Fremantle 0800 hrs, Wednesday 17th August 2005.



### > SS07-2005 voyage track:

The voyage departed from Dampier in the north west and travelled south – mostly along the 400 m contour – to Fremantle for the mid-voyage change-over. From Fremantle the voyage track went southward to Albany and returned to Fremantle at the completion of the voyage.