



Voyage SS10-2005

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.

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Contribution to Australia's national benefit:

This voyage was the second 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 SS10-2005 used the maps and imagery taken during SS07-2005 to precisely target a program of biological sampling with benthic sleds. The large set of samples taken during SS10-2005 is the first large scale, systematic collection of deep sea benthic invertebrates off Western Australia. A biodiversity inventory, being assembled by a team of specialist

taxonomists from around Australia, will be integrated with mapping information to advance understanding of the evolution and biogeography of deep sea fauna and support the implementation of marine management plans for offshore ecosystems.

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 Fremantle 1000 hrs, Friday 18th November 2005.
Arrive Fremantle 1700 hrs, Wednesday 30th November 2005.

Leg 2: Depart Fremantle 0800 hrs, Thursday 1st December 2005.
Arrive Dampier 1300 hrs, Wednesday 14th December 2005.



> SS10-2005 voyage track:

The Southern Surveyor departed from Fremantle at the start of leg 1 and travelled south to a position east of Albany before returning to Fremantle. Leg 2 departed from Fremantle and travelled north ending in Dampier.