

# **FRANKLIN**

National Facility  
Oceanographic Research Vessel

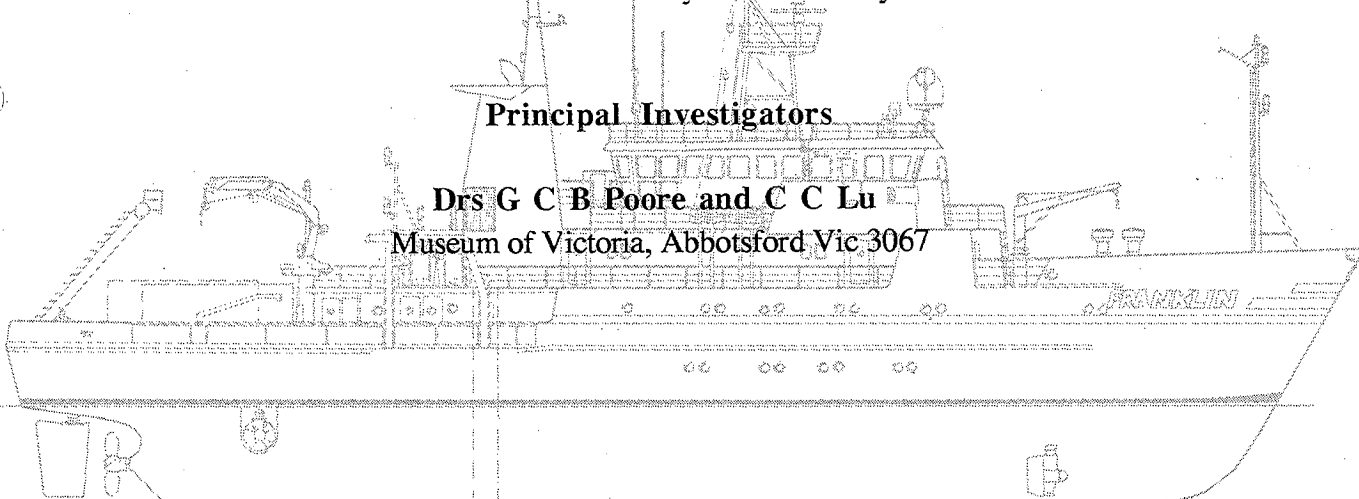
## **RESEARCH PLAN RESEARCH CRUISE 5/94**

### **DIVERSITY AND BIOGEOGRAPHY OF BENTHIC INVERTEBRATES OF THE SOUTHERN COAST OF AUSTRALIA**

Depart Hobart	1800 hrs	Monday	9 May 1994
Arrive Portland	1500 hrs	Wednesday	11 May 1994
Depart Portland	1800 hrs	Wednesday	11 May 1994
Arrive Adelaide	1500 hrs	Saturday	28 May 1994

#### **Principal Investigators**

**Drs G C B Poore and C C Lu**  
Museum of Victoria, Abbotsford Vic 3067



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#### **Scientific Program**

To sample benthic fauna along a depth gradient (50-3000 m) and a longitudinal gradient (116°E to 139°E) on the southern Australian continental shelf and slope (Vic. to WA) and to relate this to sedimentary regimes, comparing extensive biogenic calcareous sediments with terrigenous deposits from the Murray-Darling system

#### **Principal Investigators**

Drs G C B Poore and C C Lu  
Museum of Victoria  
71 Victoria Crescent  
Abbotsford Vic 3067

#### **Cruise objectives**

To sample benthic invertebrates on 3 transects using epibenthic sled (non-quantitative), SM grab and boxcorer (quantitative)

To sample epibenthic and demersal invertebrates and fishes using beam-trawl

To collect sediment samples for sedimentary analysis and for foraminiferans from quantitative samples

To sieve, sort and study material from the samples and to preserve samples for further research

## **Cruise track**

The vessel will travel from Hobart to Portland and the scientific party will join it there with all collecting and ancillary equipment. Three transects perpendicular to the SA coast will be visited, each between 50 and 3000 m depth:

- 1 off western Victoria (142°E)
- 2 off eastern SA (139°E), i.e. off the mouth of the Murray River
- 3 near the SA-WA border (131°E), i.e. centre of the Bight.

## **Work at each transect**

Ten stations to be sampled on each transect are at: 50, 100, 200, 400, 800, 1000, 1500, 2000, 2500, 3000 metres.

At each station sampling will be:

- (1) 5 grab or core samples (instantaneous)  
(Total  $10 \times 5 \times 3 = 150$ )
- (2) 1 WHOI sled sample – 10 mins to 30 mins depending on depth  
(Total  $10 \times 1 \times 3 = 30$ )
- (3) 1 beam-trawl sample – 30 to 90 minutes depending on depth  
(Total  $10 \times 1 \times 3 = 30$ ).

On deck samples will be washed through a series of sieves and elutriated with seawater. Large animals will be picked out and all will be fixed with formalin or alcohol. A sediment sample will be retrieved from grab samples for granulometric analysis and for foraminiferans.

## **Equipment**

All sampling equipment will be supplied for use on the trawl winch or oceanographic winch (epibenthic sled, SM grab, box corer, 3.5 m beam trawl).

Use of the deck laboratory for deck processing is requested.

Needs from CSIRO:

Station position and bathymetric records; cable length while sampling; fitting of pinger or SDL to cable while sampling.

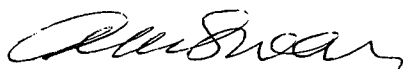
## **Time estimates**

Steaming Hobart-Portland:	1.8 days
Steaming between transects, Portland – WA border – Adelaide:	3.2 days
Sampling on 3 transects: 3 x 4.5 days	13.5 days
<b>Total</b>	<b>18.5 days</b>

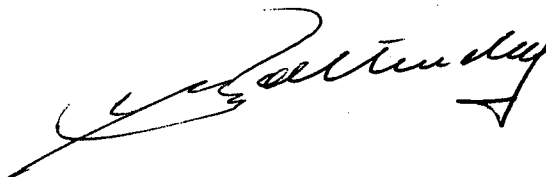
### Scientific and technical participants

Gary Poore	Museum of Victoria	Chief Scientist
CC Lu	"	
Sue Boyd	"	
Robin Wilson	"	
Brian Cohen	"	
Tim Stranks	"	
Christopher Rawley	"	
TBA	University of Taiwan	
Leanne Murray	Chemistry, University of Melbourne	
TBA		
Dave Vaudrey	CSIRO - ORV	Cruise Manager
Erik Madsen	"	

This research plan is in accordance with the directions of the National Facility Steering Committee for the oceanographic research vessel Franklin.



A D McEwan  
CSIRO Division of Oceanography



G W Paltridge  
National Facility Steering Committee

March 1994