

**CSIRO Marine Laboratories  
Division of Fisheries Research**

**1991 Research Vessel Programme**

**Programme: RV Southern Surveyor, Cruise 1/91**

**Area of Operation: Western Deepwater Trawl Fishery, Western  
Australia**

**Schedule: Depart Port Hedland 1200h Tuesday 22 January 1991**  
Crew change Geraldton Tuesday 5 February 1991 Leg 1  
Arrive Albany 1200h Wednesday 20 February 1991 Leg 2

**Staff:**

T. Koslow (Scientist-in-Charge)	Leg 1	Leg 2
A. Williams	Leg 1	Leg 2
R. Kloser	Leg 1	Leg 2
M. Sherlock	Leg 1	Leg 2
C. Bulman	Leg 1	Leg 2
C. Stanley	Leg 1	Leg 2
P. Last	Leg 1	Leg 2
C. Liron	Leg 1	Leg 2
S. Rainer (Marmion)	Leg 1	
V. Wadley (Marmion)	Leg 1	
D. Evans (Marmion)		Leg 2
S. Braine (Marmion)		Leg 2
J. Paxton (Australia Museum)	Leg 1	
M. Gomon (Victoria Museum)		Leg 2
G. Johnson	Leg 1	
P. Jernakoff (Marmion)		Leg 2

## Objectives

1. Identify the distributions of potentially commercial stocks of fish in the Western Deepwater Trawl Fishery by latitude and depth.
2. Map distribution of fishing grounds.
3. Provide information on catch rates, abundance and catch composition of dominant fish species in relation to depth and locality.
4. Provide a description of the WA slope fish community.
5. Obtain taxonomic specimens and photographic records of slope fish species.
6. Record distribution of squid and crustacean species by latitude and depth, and collect specimens.

## Plan

This cruise is an exploratory fishing survey designed primarily to provide information on the distribution and abundance of commercial fish resources in the previously unexplored slope region off the west coast of Western Australia. The survey track will zig-zag between the 200m and 1400m isobaths from the 114 E meridian at Northwest Cape and the 115 E meridian at Cape Leeuwin. Fishing stations will be trawled for one-half hour with an Engel Hi-rise demersal trawl fitted with a 40mm cod end liner, or surveyed with a stereo-camera apparatus where the ground is untrawlable. The survey design will permit sampling of large acoustic targets and allows for several days directed fishing on topographic features.

There will be 15-20 zig-zag transects. The water column will be acoustically surveyed continuously while underway. The depth range (200-1400 m) will be divided into 6 200-m depth strata. There will be pre-set fishing stations on three strata on each transect (i.e. strata 1, 3, 5; and 2, 4, 6 on alternate transects). An approximately equal number of trawls will be directed at acoustic targets. The cruise track and fishing stations will be finalised when new deepwater bathymetric maps of the areas become available.

The composition of each trawl catch will be recorded for all species present, taxonomic specimens will be collected and photographed and biological information recorded on commercial species.

RV Southern Surveyor will depart Port Hedland on January 22nd. Refueling and transfer of some crew will occur on February 5th at Geraldton prior to the second leg of the cruise. Fishing operations will cease on February 19th and the cruise will terminate at Albany on February 20th.

T. Koslow (Scientist-in-Charge)

Date

Initialed, Peter C. Young (Chief of Division)

*PCY* 13/11/90

**Distribution**

Normal distribution

- T. Koslow
- A. Williams
- R. Kloser
- M. Sherlock
- C. Bulman
- C. Stanley
- P. Last
- C. Liron
- S. Rainer
- V. Wadley
- D. Evans
- S. Braine
- J. Paxton (Australian Museum)
- M. Gomon (Victorian Museum)
- G. Johnson
- P. Jernakoff
- B. McCallum, WAFIC