

# ***FRANKLIN***

National Facility  
Oceanographic Research Vessel

**Spawning and larval recruitment processes of commercially important species in coastal waters off Victoria - Summer Cruise.**

**RV FRANKLIN**

**CRUISE FR 02/97**

Sail: Sydney, NSW 1000 Hrs Friday, January 24, 1997  
Disembark Scientific Party Portland VIC February 1, 1997  
Arrive: Hobart, TAS, 1000 Hrs Tuesday, February 4, 1997

CHIEF INVESTIGATOR

**Dr Francisco J Neira**  
**MAFRI**

Nov 1996

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## **R.V. FRANKLIN**

### **CRUISE PLAN - Fr02/97**

#### **PROJECT.**

**Spawning and larval recruitment processes of commercially important species in coastal waters off Victoria - Summer Cruise.**

#### **ITINERARY.**

Sail:	Sydney, NSW	1000 Hrs Friday, January 24, 1997
Disembark:	Portland VIC	PM February 1, 1997
Arrive:	Hobart, TAS,	1000 Hrs Tuesday, February 4, 1997

#### **PRINCIPAL INVESTIGATOR.**

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#### **PLANKTON SAMPLING**

The summer (January 1997) ichthyoplankton survey on board R.V. Franklin will involve sampling along eight parallel transects between Gabo Island (Vic) and Port MacDonnell (SA). Transects are approximately 65 nautical miles apart, run north - south, with five sampling stations located along each transect at 2, 4, 8, 16 and 32 nautical miles offshore (see table). After departing from Sydney, sampling would commence at the Gabo Island transect and continue along the west coast until completion at Port MacDonnell. All sampling will be conducted during daylight hours and would commence daily at 07:00.

Sampling along each transect will commence at the inshore station and continue progressively south to the 32 mile offshore station. Including steaming, it is estimated that 10-12 hours will be required to sample each of the five stations in each transect. The vessel would have to be re-positioned close to the inshore (2nm) station on the

next transect during the night which will result in a westward zig-zag steaming pattern along the coast.

If one or more transects are not sampled due to bad weather or other circumstances, it is preferred that steaming to the west still follows the zig-zag pattern to allow for the continuing of the environmental monitoring. Upon completion of the cruise, MAFRI staff and equipment will disembark the vessel at Portland (Vic). Transect 7 can be sampled last, starting at the 32 mile offshore station and finishing at the 2 nm inshore station to allow for shortest possible steaming time to Portland and the prompt unloading of staff and equipment.

Samples will be taken with both the R. V. Franklin EZ net (500 micron mesh) and a 60 cm diameter, 3 metre long, Bongo net (500 micron mesh) supplied by MAFRI. For depths between 20-100 metres, samples will be taken with the EZ net in 20 metre depth profiles, ie 100-80, 80-60, 60-40, 40-20. Each depth range will be sampled for 15 minutes giving a maximum sampling time of 1 hour per station; allowing 15 minutes each for deployment and retrieval the maximum time on station will be 1.5 hours. For the 20m-surface sample, a 15 minute oblique tow will be taken using the Bongo net. The Bongo tow will be carried out after the EZ net is deployed and operating. Upon completion of sampling each net will be washed down with a deck-hose and the cod-end contents fixed with 10% formalin and stored in plastic jars (1 to 2.5 litre capacity)

#### **EXPERIMENTAL PLAN.**

- |            |   |
|------------|---|
| January 2  | MAFRI equipment arrives in Sydney, warehouse location to be advised by CSIRO. |
| January 22 | MAFRI personal arrive in Sydney.  |
| January 24 | Franklin departs Sydney for Gabo Island at 10:00 hours.                       |
| January 25 | Arrive Gabo Island 10:00 hours and commencement of sampling along Transect 1. |
| January 26 | Transect 2.   |
| January 27 | Transect 3  |
| January 28 | Transect 4  |
| January 29 | Transect 5  |
| January 30 | Transect 6  |
| January 31 | Transect 8  |
| February 1 | Transect 7. Disembark MAFRI staff and equipment at Portland (Vic)             |

February 2 Franklin departs for Hobart

February 4 Franklin arrives Hobart.

### **MATERIALS AND EQUIPMENT SUPPLIED BY MAFRI**

Bongo frame plus 4 nets (500 Micron).

2 depressor plates (20 kg).

4 flowmeters for Bongo net.

200 Plastic storage jars.

3 x 20 litre drums formalin.

Charts AUS 359, 357A, 350, 349, 348.

Data sheets, labels, waterproof markers etc.

### **EQUIPMENT**

**From National facility:** CTD rosette including submersible fluorometer, thermo-salinograph (for underway surface S,T sampling);

PAR (from EZ net?); 150 L Milli-Q water.

**From MAFRI:** AutoAnalyser, reagents, N<sub>2</sub> gas, flow-through fluorometer, digitizers, computers.

**Special requirements:** Approx 3 m x 600 mm bench space in dry lab (GP); flowing surface seawater stream of approx 2 L min<sup>-1</sup> to bench; approx 3 cu ft freezer space.

#### **Data from facility:**

CTD & fluorometer; thermo-salinograph; ASCII file of GPS record (lat, long, time);

PAR from EZ net.

### **CHEMICALS, REAGENTS, ETC.**

<b>Chemical type</b>	<b>Reagent</b>	<b>Chemical</b>	<b>Concentration g L<sup>-1</sup></b>	<b>Total volume (L)</b>	<b>Experi. vol (L)</b>
	Artificial seawater	NaCl	35	90	5
Corrosive	NH <sub>4</sub> complexing reagent	K Na tartrate	33		
		Na <sub>3</sub> citrate	24.5	12	2
		NaOH	0.5		
Corrosive	Alkaline phenol	Phenol	83	6	1
		NaOH	36		
Oxid.agent	Hypochlorite	NaOCl	20	5	1

	Sodium nitroprusside	Na nitroprusside	0.5	6	1
	NH <sub>4</sub> Cl-CuSO <sub>4</sub> solution	NH <sub>4</sub> Cl	15.	5	1
		CuSO <sub>4</sub>	0.004		
Corrosive, poison	NO <sub>2</sub> colour	H <sub>3</sub> PO <sub>4</sub>	50		
		Sulphanilamide	5	27	2
		NNED	0.25		
Poison	PO <sub>4</sub> colour	Ascorbic acid	0.5		
		NH <sub>4</sub> molybdate	0.6		
		H <sub>2</sub> SO <sub>4</sub>	6.2	3.5	1
		Sb K tartrate	0.01		
Poison	Silicate NH <sub>4</sub> molybdate	NH <sub>4</sub> molybdate	10	6	1
		H <sub>2</sub> SO <sub>4</sub>	3		
Poison	Oxalic acid	Oxalic acid	50	5	1
	Ascorbic acid	Ascorbic acid	18	6	1
		Acetone	50		
Inert gas	Compressed N <sub>2</sub> gas	N <sub>2</sub>		2 x "G" cyl.	2 x "G" cyl.
Poison	Cadmium coils	Cd		20 g	20 g

#### NOTES ON REAGENTS:

All chemicals are to be used in the GP lab.

There are no special storage requirements. All chemicals will be in sealed containers of 1-20L volume.

If possible, we would like to store them in the GP Lab.

Personal protective equipment (labcoats, glasses, gloves) will be supplied.

Those chemicals in use at any one time will be within a splash tray.

The majority of the effluent from the analyser is suitable for discharge, but one stream will be collected and taken off the vessel at the end of the cruise.

#### PARTICIPANTS.

Francisco Neira  
Andy Longmore  
Jeff Nicholson

MAFRI  
MAFRI  
MAFRI

Chief Scientist

David McKeown

MAFRI

MAFRI

MAFRI

David Vaudrey

CSIRO ORV Cruise Manager

Phil Adams

CSIRO ORV

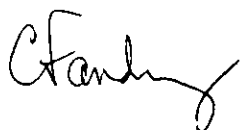
Hydrologist

CSIRO ORV

EZ Net Technician

CSIRO ORV?

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



C B Fandry  
CSIRO Division of Oceanography



G W Paltridge  
National Facility Steering  
Committee

Oct 1996

## R.V. FRANKLIN CRUISE PLAN - JANUARY 1997

### Transect and Station Positions - east to west

Transect	1	2	3	4	5	6	7	8	
Distance Offshore (Nautical miles)	Location	Gabo Island	Cape Conran	Seaspray	Cape Liptrap	Port Phillip Heads	Port Campbell	Portland	Port MacDonnell
	Longitude	149° 55¢	148° 33¢	147° 10¢	145° 48¢	144° 26¢	143° 04¢	141° 40¢	140° 17¢
2	Latitude	37° 36.000¢	37° 50.500¢	38° 26.000¢	38° 44.000¢	38° 19.000¢	38° 41.000¢	38° 27.000¢	37° 48.500¢
	Max depth	100 m	32 m	20 m	16 m	30 m	44 m	50 m	22 m
4	Latitude	37° 38.000¢	37° 50.500¢	38° 28.000¢	38° 46.500	38° 21.000¢	38° 43.000¢	38° 29.000¢	37° 51.000¢
	Max depth	120 m	50 m	20 m	40 m	44 m	54 m	62 m	28 m
8	Latitude	37° 42.000¢	37° 56.500¢	38° 32.000¢	38° 50.000¢	38° 25.000¢	38° 47.000¢	38° 33.000¢	37° 55.000¢
	Max depth	120 m	60 m	30 m	70 m	70 m	60 m	110 m	40 m
16	Latitude	37° 50.000¢	38° 04.000¢	38° 40.000¢	38° 58.500¢	38° 33.000¢	38° 55.000¢	38° 41.000¢	38° 03.000¢
	Max depth	150 m	70 m	40 m	80 m	80 m	60 m	150 m	110 m
32	Latitude	38° 06.000¢	38° 20.000¢	38° 50.000¢	39° 15.000¢	38° 50.000¢	39° 11.500¢	38° 57.000¢	38° 19.000¢
	Max depth	360 m	250 m	62 m	80 m	80 m	84 m	1900 m	1600 m