CSIRO MARINE RESEARCH

1998 RESEARCH VESSEL PROGRAM

CRUISE PLAN

FRV *SOUTHERN SURVEYOR*
CRUISE SS 03/98

22 SEPTEMBER – 20 OCTOBER 1998

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ITINERARY

LEG 1
DEPART: DARWIN 1600 HRS TUESDAY, 22 SEPTEMBER 1998
RETURN: GROOTE 0600 HRS SATURDAY, 10 OCTOBER 1998

LEG 2
DEPART: GROOTE 1200 HRS SATURDAY, 10 OCTOBER 1998
RETURN: DARWIN 0900 HRS MONDAY, 20 OCTOBER 1998

AREA OF OPERATION

Selected prawn trawl grounds of the NPF, between 10°S - 17°S, and 130°E and 141°E.

RESEARCH BACKGROUND

The Northern Prawn and Queensland East Coast fishing industries have identified bycatch as a priority research area and FRDC has confirmed this status by funding several prawn trawl bycatch projects in recent years. The Bycatch Sustainability project (FRDC) commenced in July 1996 and follows completion of the three year Bycatch Reduction FRDC project. The recently announced US ban on importing prawns from fisheries not using turtle exclusion devices has highlighted the importance of bycatch research in Australian prawn trawl fisheries. This is the final of three research cruises incorporated into the Bycatch Sustainability project, which broadly investigates prawn trawl bycatch and the biology of species endangered by continued prawn trawling. The main aim of the last cruise is to compare bycatch from inside and outside prawn closure areas in the NPF, in particular around Groote Eylandt and Mornington Island. In addition, we shall continue "box-the-lot" trawls in all areas (total catch boxed for sorting). *Southern Surveyor* will use 14 fathom Florida Flyer prawn trawl nets inside and outside prawn grounds (see Fig 1) for day and night trawling.

CRUISE OBJECTIVES

PRIMARY OBJECTIVE:
SAMPLING FOR BYCATCH SUSTAINABILITY PROJECT (29 days)

1. To identify all vertebrate and invertebrate bycatch species in prawn trawls inside and outside closed areas of the NPF.

2. To sort one total catch ("box-the-lot") from each area.

4. To collect Roxann and EK500 acoustic data to help discriminate bottom environments; complimented with at least one dredge tow, Smith-MacIntyre grab and abiotic data from each area.

SECONDARY OBJECTIVE (29 day)

5. To monitor the survival of trawl caught sea snakes.

CRUISE PLAN

This plan is only a guide to the trawling procedures in each of the areas shown in Figure 1; details of trawl patterns will be provided before commencement of the cruise. *Southern Surveyor* will leave Darwin on Tuesday 22nd September at 1600 hrs and steam to the prawn grounds south of Groote Eylandt. Prawn nets will be deployed in these trawl grounds to test the gear and catches from these trial trawls will be fully processed as a shakedown experiment for the computerised catch data entry and to familiarise scientific crew with the computer-linked fish measuring boards. All prawn trawls will be for 30 minutes with a single standard 14 fathom headrope Florida Flyer net, similar to those used in paired trawls on the previous Bycatch Reduction project. In general, prawn trawls in each area will proceed across depth contours and up to a maximum of three or four nights will be spent in each of the four adjacent open and closed areas, one north-east of Mornington and two around Groote (see Fig. 1). Prawn trawling will continue day and night to fully represent the prawn trawl species.

Equipment Required

4 x Florida Flyer 14 fathom prawn trawl nets
1 x 3 m Church Dredge
1 x Niskin bottle
1 x SDL with Turbidity pack
1 x Smith-MacIntyre grab
1 x 5 tonne load cell (2 if available)

CRUISE SCHEDULE

	OPERATION
START LEG 1	Depart Darwin, 1600 h, Tuesday 22 September 1998
Darwin	48 h steam to south of Groote Eylandt
Sth Groote	6 day/nights trawling, 3 day/nights each inside/outside closures
	20 h steam to NE Mornington grounds
Vanderlins area	Daytime video of bottom, acoustics of 'untrawlable' bottom during steam to Mornington
NE Mornington	6 day/nights trawling, 3 inside and 3 outside closure
	20 h steam to Milner Bay
END LEG 1	0530 h Milner Bay, Groote Eylandt, Saturday 10 October
START LEG 2	4 h steam to Nth Groote grounds, Saturday 10 October
Nth. Groote	6 day/nights trawling to complete outside closure sampling
	3 day/nights trawling, inside closure 3 day/nights trawling outside closure
	40 h steam to Darwin
END LEG 2	End Cruise SS0398 in Darwin 0900 h, Tuesday 20 October

Figure 1 (see page 5) shows the locations of the prawn trawling grounds and trawl closure areas to be sampled during this cruise. Frozen and preserved samples and other gear will be off-loaded in Darwin and consigned to either Cleveland or Hobart as required.

PERSONNEL

Leg 1: 22 September-10 October 1998 (Darwin-Groote)
Leg 2: 10-20 Octctober 1998 (Groote-Darwin)

Leg 1

John Salini (Cruise Leader)
Ted Wassenberg (2nd shift Leader)
Miroslaw Ryba
Margaret Farmer
Jeff Cordell
Clive Liron
Don McKenzie
Dr Sally Leys (QM, Ph 3842 9115)
Quentin Dell
Gary Fry
Jay O'Loughlin (AMC)
Matt Piasente (AMC)

Leg 2

John Salini (Cruise Leader)
Ted Wassenberg (2nd shift Leader)
Nick Ellis
Margaret Farmer
Lindsay MacDonald
Ilona Stobutzki
David Brewer
Don Heales
Di Barton (J. C. U.)
Sue Round (Hons. Griffith Uni)
Jay O'Loughlin (AMC)
Matt Piasente (AMC)

All personnel are CSIRO staff unless otherwise indicated.

CONTACTS

For further information about this cruise contact:

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Dr. Nan Bray
Chief, CSIRO Marine Research

Figure 1. Cruise track proposed for prawn trawling in nine areas within the Northern Prawn Fishery. Approximate chronological sequence is described under CRUISE SCHEDULE above.