

# **CRUISE REPORT SS 5/91**

November 18–December 5 1991

GOVE TO CAIRNS

CSIRO Division of Fisheries

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**DIVISION OF FISHERIES**

- Aim 3. The shallow stations produced some juvenile *Lutjanus malabaricus*, but as many or more were collected from offshore deeper stations.
- Aim 4. Samples of the benthic invertebrate fauna were collected on all stations except for station 2, where the dredge was abandoned after two failed attempts (cod-end undone and cod-end folded over cross bar!).
- Aim 5. All stations were sampled for temperature and salinity. Turbidity water samples were collected from station 27 onwards. Chlorophyll calibration samples were also collected at six offshore stations from bottom and mid-water.
- Aim 6. Sediment samples were taken from all stations. In some stations in the central gulf, only one Smith-Mac grab was possible because the soft substrate repeatedly prevented the grab from triggering.
- Aim 7. Whole *L. malabaricus* and *L. sebae* were collected for the Hobart genetics group. Whole *L. malabaricus*, *L. sebae* and *L. choerorhynchus* were collected for WA Fisheries and several species of Monacanthidae were retained for Dr Pat Dixon of the Australian Museum.

The Photosea 35 mm camera was set up from station 4 after a station routine had been established. The turbidity at most of the shallow stations was very high, resulting in over-exposure from the strobe lights reflecting off suspended matter. Offshore, some substrate resolution was evident. Similar results were obtained from the video camera deployed opportunistically during the hydrological sampling.

Various specimens were kept for the Munro ichthyological collection at the Division of Fisheries in Hobart.

## CRUISE NARRATIVE

The cruise left Gove at 1900 h and the first station was underway within the first hour. Despite the lack of time to test the software for direct data entry, these early stations were completed without major delays. No attempt was made to attach the camera to the Frank and Bryce net until station 4, when sufficient time was available. On station 31, a trawl door bogged. The net was successfully retrieved but sustained considerable damage, which until repaired, delayed the start of station 32 by 90 minutes.

Station 43 produced the largest catch of commercial species (~300 kg) and the largest catch overall (~500 kg). The main species were *Lutjanus erythropterus* (n=116, 131 kg), *L. malabaricus* (n=76, 84 kg) and *Lethrinus lentjan* (n=105, 47 kg).

At the completion of the Gulf of Carpentaria section of the cruise (station 65), the cruise was over 12 hours ahead of schedule. The dredge frame sustained noticeable bending of a cross beam and so the crew replaced the frame with the back-up one during the seven-hour steam

from stations 65 to 68. During the GBR stations (stations 68–86), the cruise schedule was difficult to maintain because of the short distances between stations. Despite this, all stations were fully sorted and recorded when the ship broke down, with the cruise still about 11 hours ahead of schedule. This was largely due to the enthusiasm of the scientific crew and the moderate catches. Between four and seven stations were completed per day in the GOC, depending on the steaming time between the randomly selected sites.

On station 77 *Southern Surveyor* broke down as a result of a failed bearing on the propellor shaft. All work was halted while repairs were attempted. The hydrological samples were completed later that evening whilst at anchor. No further sampling was possible. At 1200 h on Monday 2 December, the *Pacific Endeavour* began towing *Southern Surveyor* the 400 nautical miles to Cairns. Sea conditions were excellent. The next two days were spent cleaning, stowing and packing, as well as some proofing of the data and various preliminary analyses. *Southern Surveyor* anchored off Cairns at 2300 h on Wednesday and docked at 1000 h on Thursday, 5 December, one day later than scheduled.

## SUMMARY

The Gulf of Carpentaria component of the cruise was completed without any significant malfunctions. The vessel's operational ability was reflected in the cruise completing this component 12 hours ahead of schedule. Station sampling was considerably more intense in the Great Barrier Reef section, but the cruise was still 11 hours ahead of schedule when the ship broke down in station 77, with all fish and benthos samples processed to that stage.

A significant event was the verifying of the large scale of seagrass beds throughout the north-eastern Gulf of Carpentaria stations.

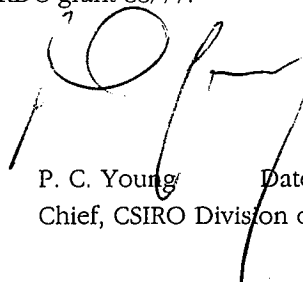
## PERSONNEL

J. Salini (Cruise Leader)  
D. Brewer  
J. Cordell  
B. Long  
C. Liron  
D. Milton  
T. Wassenberg  
S. Cook (Qld Museum)  
J. Johnson (Qld Museum)  
S. Bruce (NT Museum)  
R. Williams (NT Museum)  
S. McKinnon (Qld DPI Fisheries)

## ACKNOWLEDGEMENTS

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John Salini  
Cruise Leader



P. C. Young Date: August 1994  
Chief, CSIRO Division of Fisheries

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This report may not be cited without reference to the author.

## DISTRIBUTION:

Normal distribution and cruise participants.

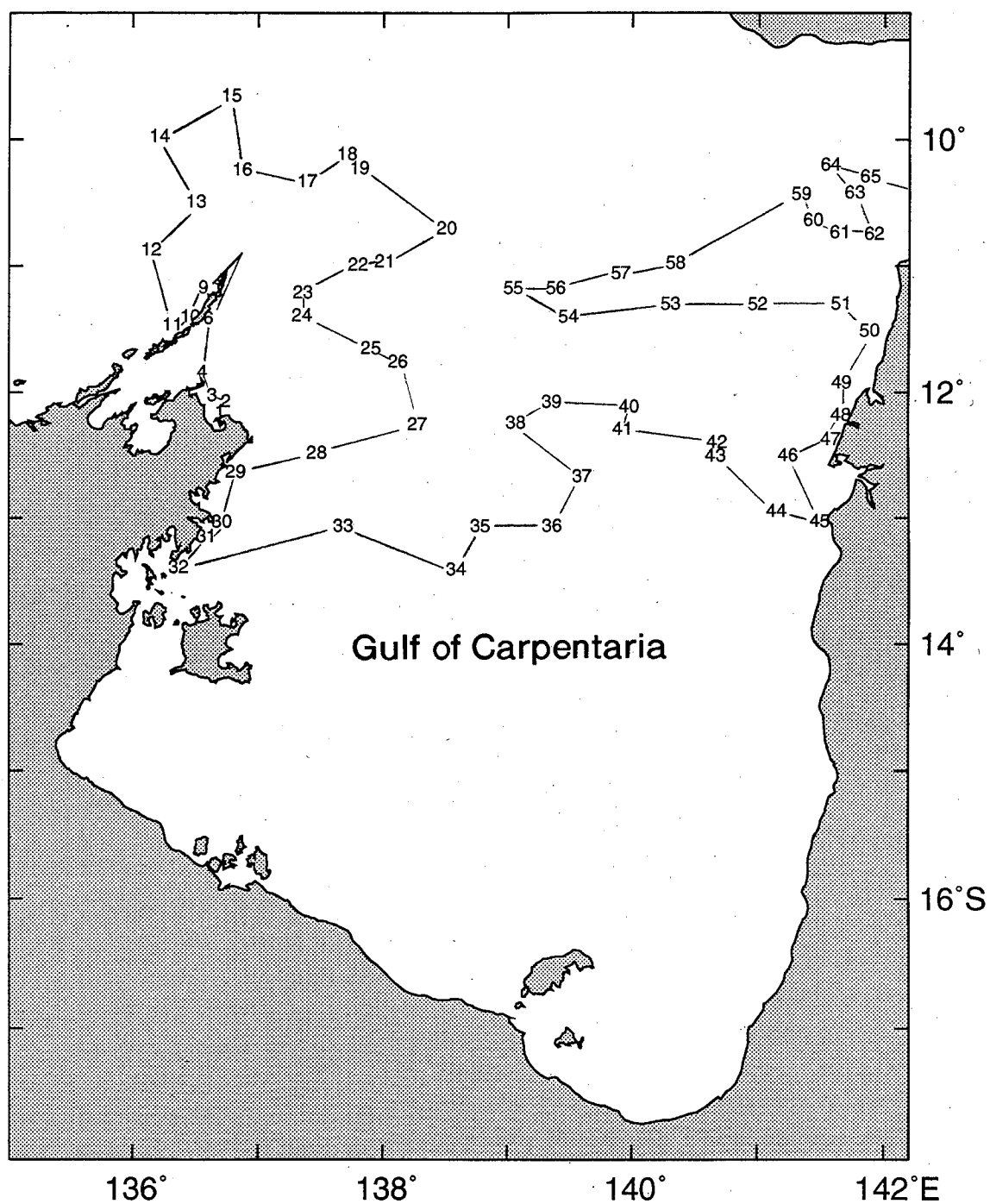
**APPENDIX**

Station	Slat	Slatmin	Slon	Slonmin
1	12	9.167	136	42.1
2	12	4.3	136	45
3	12	1.5	136	38.2
4	11	50.4	136	33.5
6	11	24.8	136	36.4
9	11	10.2	136	34
10	11	23.9	136	27.9
11	11	27.7	136	19.4
12	10	52.2	136	9.19
13	10	29.9	136	30.4
14	9	58.3	136	13
15	9	39.2	136	47
16	10	14.4	136	52.4
17	10	19.8	137	23.6
18	10	6.8	137	42.5
19	10	13.6	137	48.7
20	10	41.8	138	31.1
21	10	57.7	138	1
22	10	59.2	137	48.2
23	11	12.6	137	21.7
24	11	23.4	136	21.1
25	11	39	137	54.6
26	11	45.3	138	7.8
27	12	15.2	138	17.2
28	12	28.9	137	28.5
29	12	37.8	136	49.7
30	13	1.5	136	43
31	13	8.5	136	35.7
32	13	23.2	136	22.5
33	13	3.7	137	41.4
34	13	24.1	138	35.8
35	13	3.7	138	47.4
36	13	3.51	139	22.1
37	12	39.8	139	36.5
38	12	14.4	139	4.6
39	12	4.6	139	21.9
40	12	6.9	139	59

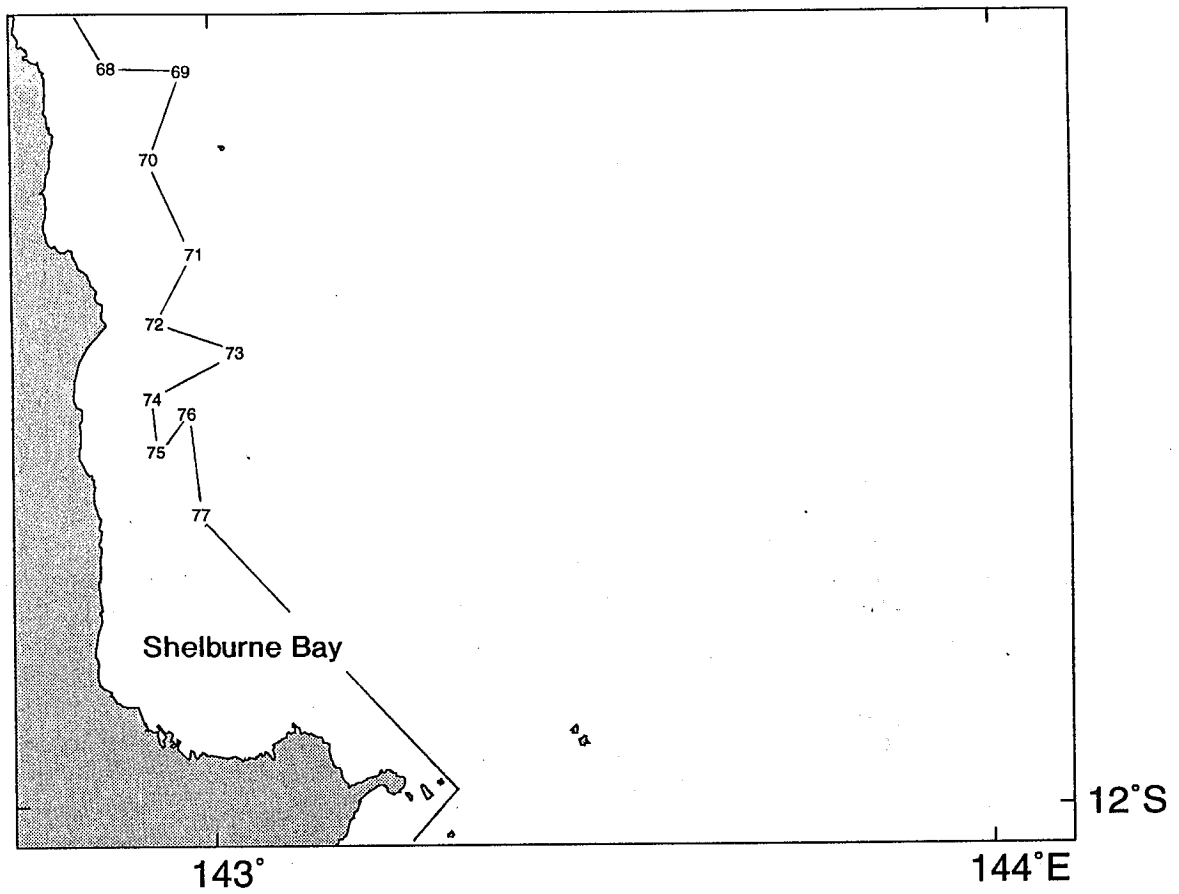
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Station	Slat	Slatmin	Slon	Slonmin
41	12	17.4	139	55.9
42	12	23.7	140	41.1
43	12	30	140	40.2
44	12	56.5	141	9.1
45	13	1.4	141	27
46	12	29.9	141	14.7
47	12	22	141	35.2
48	12	10.6	141	40.1
49	11	55.2	141	40.2
50	11	30.6	141	53.1
51	11	17.6	141	39.8
52	11	17.8	140	59.8
53	11	17.8	140	18.5
54	11	24	140	29.9
55	11	10.2	139	3.2
56	11	10.5	139	23.8
57	11	3.5	139	54.8
58	10	58.5	140	21
59	10	25.5	141	20.6
60	10	37.9	141	26.6
61	10	43.8	141	39.2
62	10	44.7	141	55.4
63	10	25	141	46.2
64	10	11.6	141	3~.7
65	10	17.3	141	53.5
68	11	4.1	142	52.4
69	11	4.3	142	58
70	11	11	142	55.4
71	11	18.2	142	58.8
72	11	23.4	142	55.8
73	11	25.6	143	1.8
74	11	29.1	142	55.5
75	11	31.3	142	55.6
76	11	30.2	142	58.1
77	11	37.9	142	59.1

Note: Stations 5, 7, 8, 66 & 67 were waystations (turning points) and hence they are not included.

**FIGURE 1.**

Gulf of Carpentaria cruise track showing the 62 stations completed. Stations 5, 7 and 8 are not shown as they were waypoints.



**FIGURE 2.**

Great Barrier Reef cruise track showing stations 68 to 76 (9 stations) and station 77 which was not completed before the breakdown and abandoning of the scientific sampling.