

CSIRO

MARINE LABORATORIES

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TM 9/2

May 7, 1984

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12 AUG 1985

Cruise Summary R03/84
Northern Pelagic Fish Stock Research Programme
LIBRARY, HOBART

Itinerary:

Depart Gove 1520 h Sunday 18 March 1984
Arrive Gove 0800 h Wednesday 21 March 1984
Depart Gove 1830 h Wednesday 21 March 1984
Arrive Croker Island 0930 h Thursday 29 March 1984
Depart Croker Island 1400 h Thursday 29 March 1984
Arrive Croker Island 0830 h Saturday 31 March 1984
Depart Croker Island 1245 h Saturday 31 March 1984
Arrive Darwin 0930 h Tuesday 10 April 1984

Objectives

1. To tag 1000 sharks (principally *Carcharhinus limbatus* and *C. sorrah*), together with *Scomberomorus commerson* and *Thunnus tonggol* as opportunities arise, by gillnetting, handlining, longlining and trolling, for studies on stock discrimination, movements, growth rate, mortalities, recruitment and stock sizes.
2. To carry out exploratory fishing (using the standard 1km of 15cm mesh monofilament net) at selected sites within and outside the Taiwanese permitted fishing zone to determine catch rates, species composition, and to collect biological information on sharks, *S. commerson* and *T. tonggol*.
3. To investigate gear selection through mesh selectivity experiments using 10, 15, 20 and 25cm mesh panels and by comparing catches from gillnet and longline sets.

2. Most gillnet sets were conducted with 500 m of net and set duration was generally restricted to less than 30 minutes. The largest catch, 143 sharks was taken north of the Goulburn Islands. Out of this total 69 were tagged.
3. A total of 1152 sharks, representing 16 species, were tagged (Table 1). *Carcharhinus limbatus* comprised 48% and *C. sorrah* 25% of this total. No mackerel or tuna were tagged, however, 1 sailfish of 183 cm was tagged. The percentage of individuals tagged by each fishing method is shown in Table 2.
4. There were five shark recaptures during the cruise. Four of these were remeasured and re-released.
5. The mesh selectivity net generally produced low catches with the exception of 1 set north of Bathurst Island in which 517 sharks were caught (Table 3).
6. Handline catches proved variable, the best catch in a session was 32 sharks.
7. Gonad samples were retained from representative subsamples of mature *C. sorrah* and *C. limbatus* and from all mature individuals of the other species of shark, mackerel and tuna (Table 4). Stomach contents were also examined in most individuals.
8. Vertebrae for ageing were retained from 85 *C. sorrah* and 153 *C. limbatus*. Tissue samples for mercury analysis were taken from required shark species.
9. Electrophoretic samples were collected from 200 *C. limbatus*, 143 *C. sorrah* and 92 *S. commerson* in the areas specified in Objective 4 above.
10. Surface temperature, salinity, turbidity and secchi disc readings were recorded from each fishing station.

TABLE 1

Summary of catch details including numbers tagged, number of biologicals undertaken, gonads, vertebrae and electrophoretic samples retained by species for cruise R03/84.

Species	Total Catch	No. tagged	No. of biologicals	Gonads retained	Vertebrae retained	Electrophoretic samples retained
ELASMOBRANCH						
<i>Carcharhinus limbatus</i>	997	553	255	45	153	200
<i>C. sorrah</i>	476	285	148	44	85	143
<i>C. macroti</i>	696	256	27	23	-	-
<i>C. amboinensis</i>	10	10	-	-	-	-
<i>C. amblyrhynchoides</i>	7	4	3	3	-	-
<i>C. brevipinna</i>	9	7	2	-	-	-
<i>C. dussumieri</i>	4	4	-	-	-	-
<i>C. melanopterus</i>	3	3	-	-	-	-
<i>C. amblyrhynchus</i>	2	1	-	-	-	-
<i>C. fitzroyensis</i>	2	2	-	-	-	-
<i>Sphyrna lewini</i>	6	4	1	-	-	-
<i>S. mokarran</i>	5	2	2	-	2	-
<i>S. blochi</i>	3	-	3	3	-	-
<i>Rhizoprionodon acutus</i>	30	17	13	12	-	-
<i>R. taylori</i>	2	1	1	-	-	-
<i>Galeocerdo cuvieri</i>	4	2	2	-	1	-
<i>Hemipristis elongatus</i>	1	1	-	-	-	-
<i>Pristis microdon</i>	3	-	-	-	-	-
<i>P. zijsron</i>	1	-	-	-	-	-
Total	2261	1152	457	130	241	343
Species	Total Catch	No. tagged	No. of biologicals	Gonads retained	Electrophoretic samples retained	
TELEOST						
<i>Scomberomorus commerson</i>	93	-	93	33	92	
<i>S. semifasciatus</i>	11	-	11	1	-	
<i>S. queenslandicus</i>	6	-	6	-	-	
<i>S. guttatus</i>	1	-	-	-	-	
<i>S. munroi</i>	3	-	3	-	-	
<i>Euthynnus affinis</i>	19	-	-	-	-	
<i>Thunnus tonggol</i>	6	-	6	4	6	
<i>Auxis thazard</i>	16	-	-	-	-	
<i>Rastrelliger kana garta</i>	3	-	-	-	-	
<i>R. faughni</i>	1	-	-	-	-	
<i>Apolectus niger</i>	8	-	-	-	-	
<i>Istiophorus platypterus</i>	2	1	-	-	-	
<i>Rachycentron canadus</i>	1	-	-	-	-	
<i>Eleutheromema tetradactylum</i>	1	-	-	-	-	
Total	171	1	119	38	98	
CETACEAN						
Species :						
<i>Sousa chinensis</i> (Indo-Pacific Humpbacked Dolphin) 1 captured dead						
<i>Tursiops truncatus</i> (Bottlenose Dolphin) 1 captured dead and 2 released alive.						

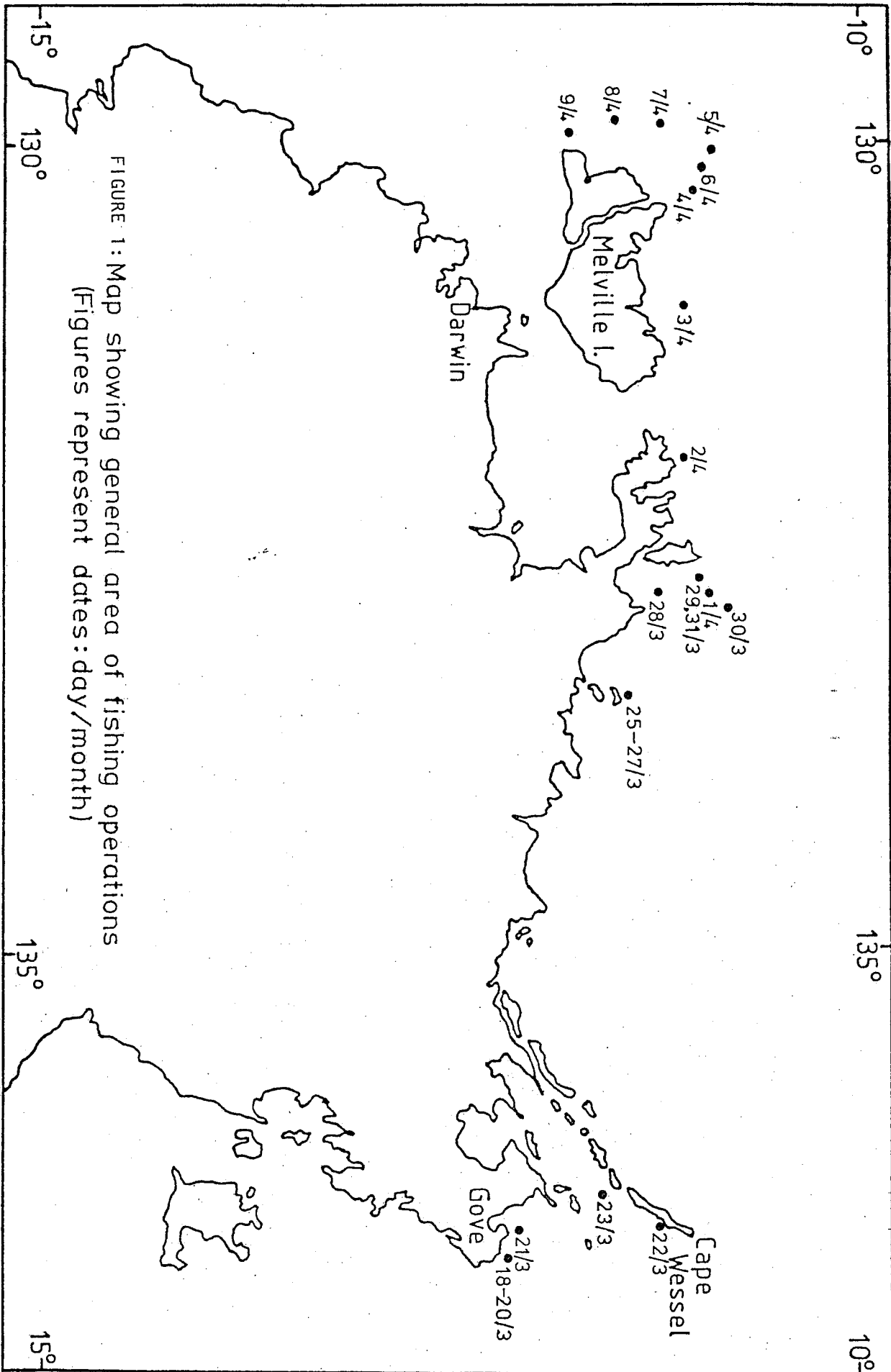


FIGURE 1: Map showing general area of fishing operations
 (Figures represent dates: day/month)