

# Pearl Oyster Survey, Gulf of Mannar, 1964

This note reports the results of the 1964 Pearl Bank Survey. These surveys are conducted annually by the Fisheries Department to assess the possibility of a fishery; for detailed accounts of recent surveys see Sivalingam (1955, 1958) who has also provided (1962) a complete list of all literature on the Ceylon Pearl Banks. The 1964 survey was carried out with the Department's m. v. "North Star" (42') and m. v. "Seer" (45') and a 25' mechanised fishing boat as tender, between the 17th and 29th of April. Commencement having been delayed by lack of personnel and equipment it was arranged, in anticipation of an early onset of the south-west monsoon, which would prevent further work, to cover as wide an area of the Banks as possible in the first instance, in addition to examining those paars on which oysters had been reported in the recent past. As a matter of fact actual dredging could only be done on 5 days, during which time 80 dredge samples were collected from the central or main group of paars—Cheval, Moderagam, Periya Paar Karai, True Venkalai and Periya (southern part). The northern group (off Mannar) and the southern (off Karativu) were not surveyed though 3 dredge samples were taken from an area about 2 miles south of Talaimannar where Capt. Pyne had found pearl-oysters in his fish trawls about a month earlier.

The approximate positions of these samples are shown in Fig. 1. Two dredges, 3' 4" and 5' at the area of contact with the bottom were used most of the samples being taken with the larger dredge. Each dredge sample covered a distance of approximately half a mile. Of the 83 dredged samples taken only ten had oysters. The number of oysters in a dredge was low, varying from 1-6. The location of oysters is shown in Fig. 1, the areas indicated being based on the assumption that similar distribution of oysters occurs for half a mile on either side of the dredge haul. This assumption was previously made by Sivalingam (1958). The only paar which had oysters in any numbers at all was the Moderagam (and possibly Kondachchi, whose exact position was difficult to locate). The fauna and flora on the Moderagam were more numerous and varied than on the other paars surveyed. The North Cheval, which gave two oysters in two hauls, appeared largely barren with large numbers of dead oysters. The fauna and flora on the Cheval in general was dead and disintegrating.

About 50 per cent. of the oysters collected from the Moderagam and all those collected on the Cheval were measured (Table 1). It appears that on the Cheval the oysters are just over 2 years old whilst those on the Moderagam vary from very young (1-6 months) to about two years. These age determinations are based on the long axis-age correlations of Malpas (1935) for oysters on the Muttuvaratu paar. According to Sivalingam's correlates (1958) the present oysters are slightly younger. He studied oysters from the Periya, Cheval and Venkalai paars.

TABLE I

MEASUREMENTS OF PEARL OYSTERS COLLECTED IN APRIL 1964

(Long axis is at right angles to umbo and short axis is from dorsal side. All measurements in mm.)

<i>Paar</i>	<i>Long Axis</i>	<i>Short Axis</i>	<i>Paar</i>	<i>Long Axis</i>	<i>Short Axis</i>
Moderagam ..	.. 43.0	.. 44.6	Moderagam ..	*37.5	.. 38.2
	*41.4	.. 36.7		*32.4	.. 32.8
	31.5	.. 36.5		15.5	.. 14.6
	45.0	.. 41.6		27.6	.. 23.4
	45.2	.. 39.7		20.7	.. 23.5
	34.5	.. 32.8			
	43.2	.. 39.2	Cheval..	.. 56.1	.. 43.0
	40.7	.. 37.9		54.5	.. 44.6

\* Some of the oysters appear mis-shapen.

During the short period of the survey approximately 80-90 square miles of paar area were covered. Small patches of oysters might have been missed in the method used. The paars covered constitute the central portion of the banks and these have been most productive in the past. Only the Moderagam paar had oysters in any numbers at all. The fauna and flora of this paar was also in general more profuse than on the other paars. It appears that the Moderagam might have an increased population within the next few years. In the surveys conducted by Dr. G. P. de Bruin in 1962 and 1963 (Departmental Manuscripts) the Moderagam contained oysters but their numbers seem to have decreased.

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### References

- MLAPAS, A. H. 1935. Further observations on the age and growth-rate of the Ceylon Pearl Oyster, *Margaritifera vulgaris*, with special reference to oysters of Donnans Muthivarattu Paar, Ceylon J. Sci. (C) 5, 21-48.
- SIVALINGAM, S. 1958. Survey of the Pearl Banks, Gulf of Mannar, 1955. Indian J. Fish. 5, 308-325.
- 1961. The 1958 Pearl Oyster Fishery, Gulf of Mannar. Bull. Fish. Res. Sta., Ceylon, 11, 28 pp.
- 1962. Bibliography on Pearl Oysters. Bull. Fish. Res. Sta., Ceylon, 13, 21 pp.

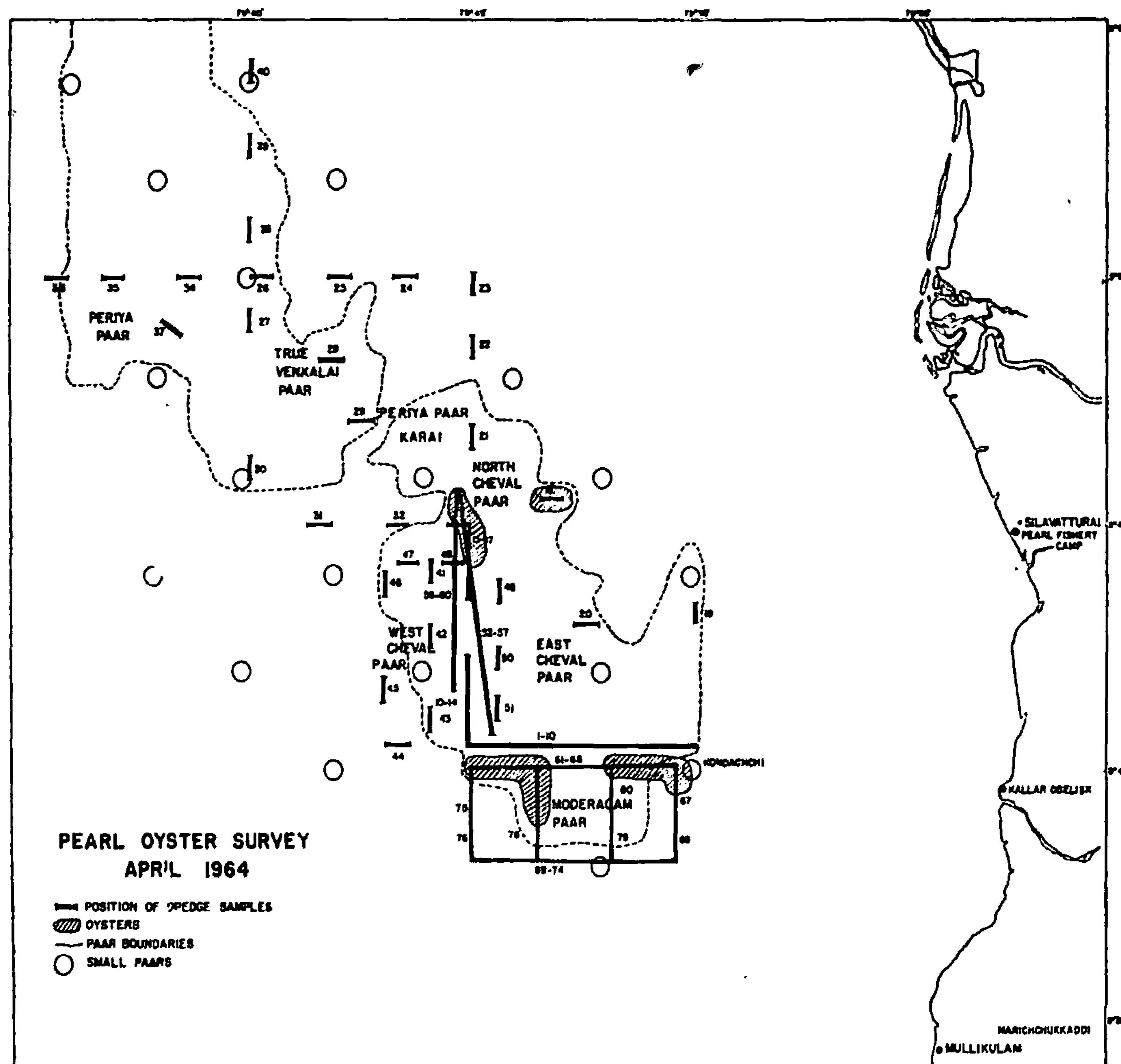


Fig. 1