

Emerging ringseine fishery of oilsardine (*Sardinella longiceps*) off Puducherry coast

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Puducherry Union Territory has 45 km of coast which extends from Kanagachettykulam in the north to Murthykuppam in the south and contributes around 5% to the total marine fish catch of the country. The average annual catch was 15,492 t during 2005 – 2009. One of the most significant development in the marine fisheries sector observed in recent years is the large scale introduction of ringseine boats for

commercial exploitation of pelagic fish resources, which is also observed along the coast off Puducherry. The operation of indigenous shore seine (*Thallu valai* in Tamil) has virtually come to a halt due to introduction of ring seine nets (*Surukku valai* in Tamil). In order to help the fishermen who are wholly dependent on the shore seine operations, the scheduled banks have come forward with credit

facilities to both individual and fisheries co-operative societies for acquiring ring seines units. The ring seine operation is restricted to area off Veerampattinam and Periyakalappattu near the Puducherry Fisheries Harbour, mainly due to availability of infrastructural facilities viz., berthing, ice plants, cold storage, freshwater, diesel pumps, trucks for transportation etc.

The Indian oilsardine, *Sardinella longiceps*, which contributes 15 to 20 % to the total marine fish landings in India and which occurs in large shoals along the south-west coast was reported only as stray catch from the east coast before 1980. There was no report of heavy catch of the oilsardine from Puducherry coast in ringseine except the report of Chidambaram (*Mar. fish, Infor. Ser. No. 61*) on the unusual occurrence of the oilsardine in gillnet catches during the period Oct. - Dec. 1983. The present report gives a brief account of the unusual landing of oilsardine in bulk quantities by ring seines at Puducherry Fisheries Harbour during April – September, 2010.

Mode of operation

The ring seines are either operated from boats with wooden or fibreglass hulls with an overall length of 38 to 43 ft. The knotless synthetic net has a length of 400 to 600 m and a height of 50 m. About 40 brass rings are used for pursuing the net. Crew of ringseines varies from 20 to 25 excluding crew (2-3) of a carrier boat, which is employed during the peak fishing season to cope up with transport of fish from the fishing ground to the landing place. Nearly 15 ring seiners operated off Puducherry coast for the first time during April – Sept. 2010. The time taken to complete a haul varied from 1 to 3 h depending

upon the catch. On an average 3-4 hauls were made daily. As there is a heavy demand to sell fish catch in the morning, atleast 1-2 hauls were made and the fish is sent immediately by carrier boats for better financial returns.

Composition of catch

By and large, oilsardine, mackerel, tunas, carangids, anchovies and other fishes constituted the major catch of ring seine. The estimated catch of ring seines during the study period is shown in Table 1.

Table 1. Estimated landings of ring seines and CPUE (in tonnes) at Puducherry Fisheries Harbour during April– Sept, 2010

Month	Effort (units)	Catch (t)	CPUE (t)
April	450	2250	5.0
May	600	4800	8.0
June	480	1920	4.0
July	300	900	3.0
August	150	150	1.0
September	100	80	0.8

The catch of 2250 t in April increased to 4800 t in May and thereafter gradually declined to 80 t in September. A similar trend was noticed in CPUE also; with catch of the highest 8 t recorded in May and the lowest 0.8 t in September.

Month-wise catch and percentage of fish groups caught by ringseine is shown in Table 2. The catch of oil sardines ranged from 72 to 3,840 t (73 to 92 %), mackerel from 3 to 384 t (2 to 8 %) and tunas between 2 and 288 t (2 to 10 %). The carangids, anchovies and other fishes contributed 1 to 6 % of the overall catch.

Table 2. Month-wise catch (t) and composition (%) during 2010

Species	April		May		June		July		August		September	
	Catch (t)	%	Catch (t)	%	Catch (t)	%	Catch (t)	%	Catch (t)	%	Catch (t)	%
Oilsardine	1755	78	3840	80	1555	81	219	73	138	92	72	90
Mackerel	135	6	384	8	77	4	12	4	3	2	4	5
Tunas	225	10	288	6	134	7	60	20	8	5	2	2
Carangids	67	3	240	5	78	4	6	2	0	0	1.5	2
Anchovies	45	2	0	0	58	3	0	0	0	0	0	0
Other fishes	23	1	48	1	18	1	3	1	1	1	0.5	1



Truck loaded with ringseine



Boat with ringseine in the harbour



Carrier boat with oilsardine catch



Iced sardine being loaded into the truck at Puducherry Fisheries Harbour

Biological note on the important commercial species

Sardinella longiceps : Length ranged from 137 to 178 mm with the dominant mode at 167 mm. Preponderance of females over males was observed in all the months except July. Mature females were found throughout the period except May.

Rastrelliger kanagurta : Size ranged from 170 to 235 mm with majority of them in the 220 mm size group.

Euthynnus affinis : Size ranged from 240 to 510 mm.

Economics

Based on the auction proceeds at the landing centre, the total amount realized during April-September worked out to Rs. 24.7crores with a monthly revenue of Rs. 0.2 to 16 crores. The average

return per boat/day was estimated as Rs.1,23,550/. Mackerel fetched the highest price with an average of Rs.100/kg. Price per kg for oilsardine was Rs. 20/-, tunas Rs.30/-, carangids Rs.50/-, anchovies Rs. 40/- and others Rs.20/-. This formed about 60% of the total annual income. Category-wise catch and total value realized are given in Table 3.

Table 3. Category-wise catch (t) and value (Rs. in crore)

Species	Catch (t)	Value in Rs. crore
Oilsardine	8176	16
Mackerel	615	6
Tunas	717	2.2
Carangids	395	2
Anchovies	103	0.5
Other fishes	94	0.2

Oilsardine fetched Rs.16 crores, followed by tunas (Rs. 6 crore), mackerel (Rs. 6 crore), carangids (Rs. 2 crore), anchovies (Rs. 0.5 crore) and other fishes (Rs. 0.2 crore). Though April – May was the lean period for trawlers, the indigenous fishermen were able to earn a good income during this period than earlier years, on account of this fishery.

As there was an unusual heavy landing of pelagic fishes and high economical returns, many more ring seine units are likely to be operated in the same area in the coming months. Hence, a detailed investigation on the effect of purseseining on constituent species is warranted for sustaining the pelagic fishery resources of the state.