Analysis on Lemuru (*Sardinella lemuru* Bleeker, 1853) Schools of Different Seasons in Bali Strait Waters

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ABSTRACT

Information about catch compostition, catch per unit effort (CPUE), length and weight of fish and location of fishing ground of lemuru (*Sardinella lemuru* Bleeker, 1853) schools are quite important for the succeed of purse seine fishing operation without fish aggregating device.

The purse seine catch composed of lemuru (*Sardinella lemuru* Rleeker, 1853), tongkol (*Auxis* spp.), layang (*Decapterus* spp.) and others such as slengseng (*Scomber australasicus*), banyar (*Rastreliger* spp.) and tembang (*Sardinella fimbriata*).

Two years (1996-1998) monthly catch data were used for evaluating CPUE of purse seine fisheries landing in Muncar fish landing place. The highest CPUE occurred in October as high as 3,033 kg/vessel-operating-day, and the lowest was 304 kg/vessel-operating-day in March.

The lemuru highest percentage in the catch composition was more then 80% from August to February, and the lowest percentage was less than 20% from March to May fishing season. The smallest lemuru fish fork length(FL) = 6 cm, caught during August to September and the biggest lemuru fish FL>20 cm caught in May. Regression analysis of 620 lemuru fish samples gave the length-weight relationship as : $W = 0.0075\ FL^{3.17551}$ (R^2=0.9135).
The relation between lemuru fish total length (TL) and fork length (FL) is mentioned as : TL=0.1508 +1.1139 FL (R^2=0.9507).

The highest lemuru fish FL(19-20 cm) was caught during transition I (March to May) in DP-B : Java shore fishing ground, DP-C : southern fishing ground and DP-D : Bali shore fishing ground.

The smallest lemuru fish FL(8-10 cm) was caught during southeast monsoon in DP-A : northern fishing ground.

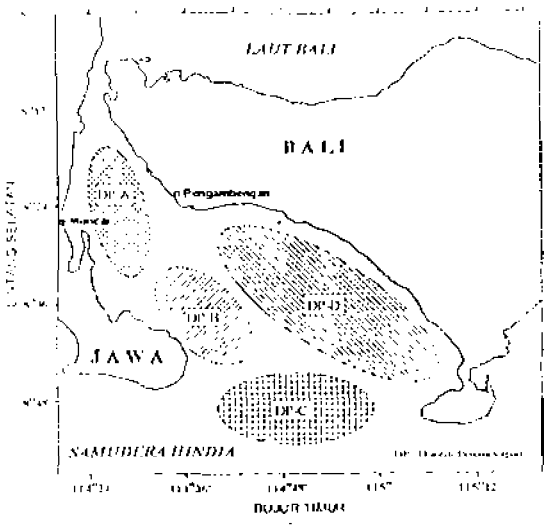

Figure 1. Four location of lemuru fishing ground in Bali Strait waters : DP-A : northern fishing ground, DP-B : Java shore fishing ground, DP-C : southern fishing ground, and DP-D : Bali shore fishing ground.

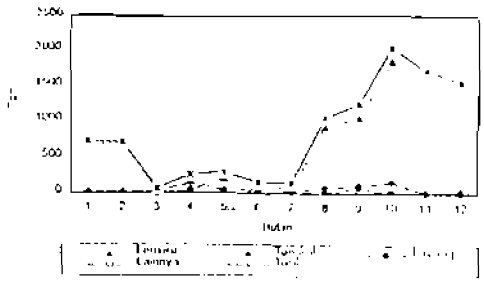

Figure 2. Average monthly catch of purse seine in Muncar (1996-1998)

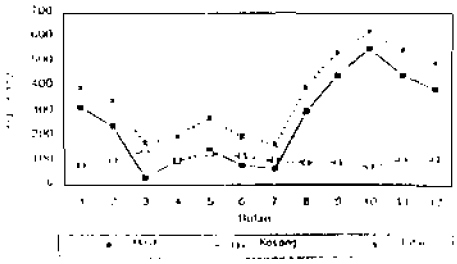

Figure 3 Total average monthly vessel-operating-day of purse seine in Muncar fish landing place(1996-1998)

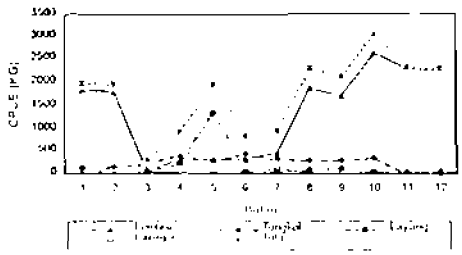

Figure 4. Average monthly CPUE on several kind of fish of purse seine in Muncar (1996-1998)

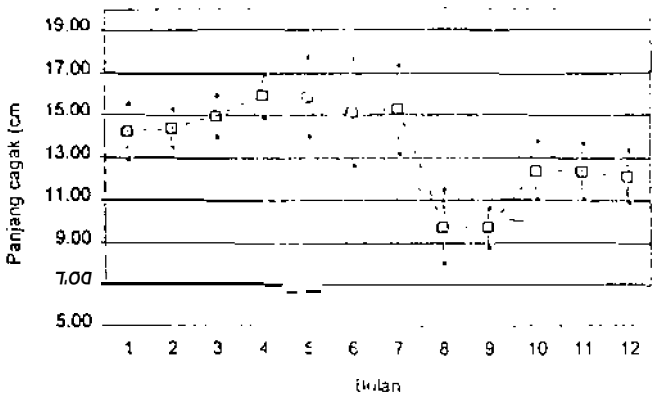

Figure 5. Average fork length (FL) of lemuru fish in Muncar and Pengambengan fish landing place (1998)

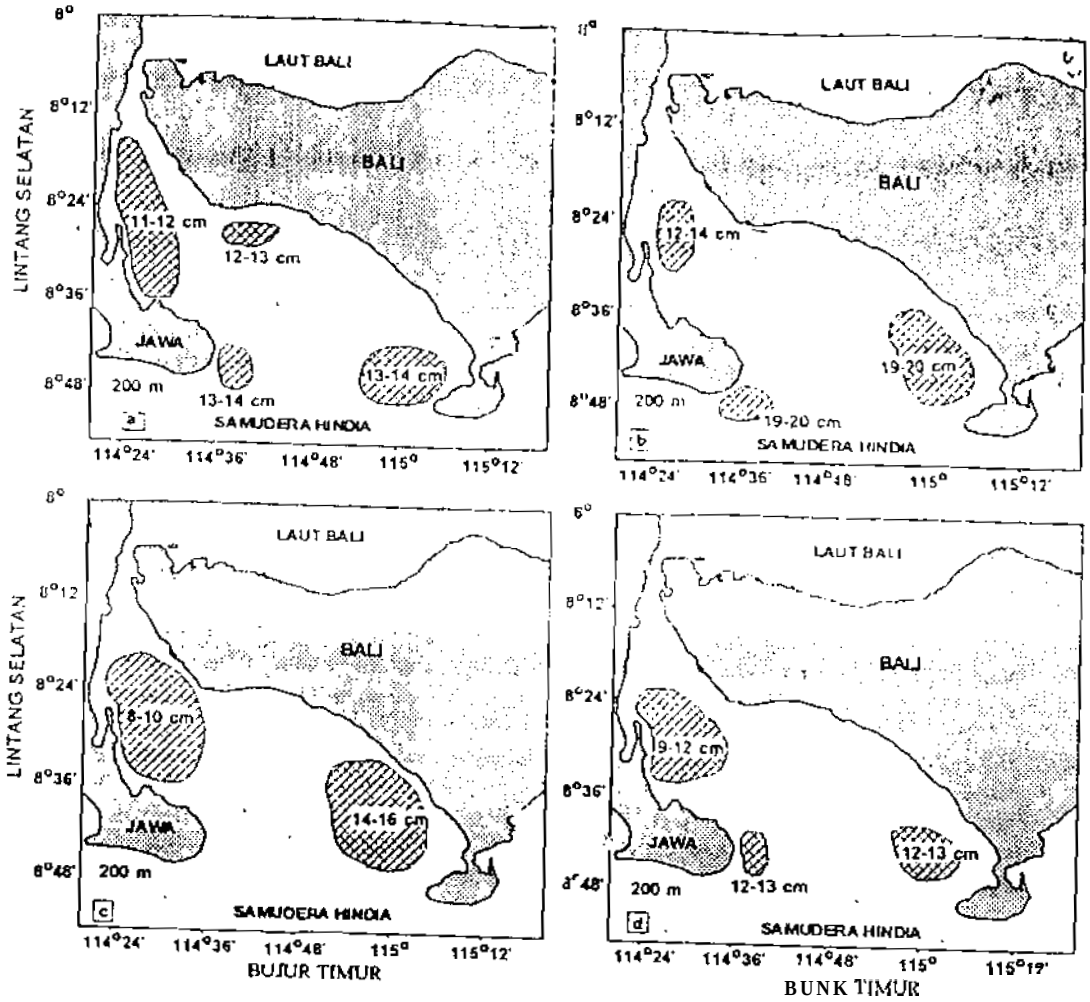

Figure 6. Distribution on location of lemuru fishing ground in different seasons :
(a) West monsoon, (b) Transition season I. (c) Southeast monsoon and
(b) (d) Transition season II