伊勢湾におけるあなごかごのマアナゴに対する網目選択性

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伊勢湾産マアナゴは、資源回復計画により秋期に全長 250mm 未満の個体の水揚が禁止されている。複数の目合のかごを同時に用いた操業結果をもとに,SELECT 解析法による網目選択性曲線マスターカーブを求めて、この混獲回避に有効な目合を検討した。目合相対胴周長 R が $0.9 \sim 1.8$ の範囲で選択率が増加した。50%選択全長(mm)は目合内径 12.6 , 14.3 , 16.1 , 17.9 , 20.2 および 27.8mmでそれぞれ 224 , 245 , 266 , 287 , 313 および 367mm であり,伊勢湾のあなごかごでは小型個体の混獲回避に 16.1mm 目合が妥当と推察された。

This study estimated mesh selectivity of a net pot for white-spotted conger eel Conger myriaster in Ise Bay to reduce bycatch of conger eel under 250mm total length, prohibited size for landing at fish market from October and November by the Stock Recovery Plan in Ise and Mikawa Bay. Compartive fishing experiments were carried out 13 times from June 2003 to November 2004 by using six mesh sizes; 12.6, 14.3, 16.1, 17.9, 20.2 and 27.8mm, and the mesh selectivity master curve was estimated by the SELECT method. The equation of mesh selectivity master curve was estimated to be $s(R) = \exp(-16.20 + 11.84R) / 1 + \exp(-16.20 + 11.84R)$, where R is ratio of fish girth to mesh size. Total length of 50 % selection in mesh size 12.3, 14.3, 16.1, 17.9, 20.2, and 27.8mm were calculated to be 224, 245, 266, 287, 313 and 367mm, respectively. According to the proportion of conger eel landings of each fish size category at Wakamatu fish market, conger eel landings of total length around 300 mm was landed, accounting for about 20% of the total landings. Thus, in order to retain conger eel over 300mm total length, releasing conger eel under 250 mm total length as much as possible, net pot with mesh size of 16.1 mm mesh size was acceptable for the fishermen in Ise Bay at the present time.