

## Transport of age-0 jack mackerel (*Trachurus japonicus*) from the East China Sea to coastal areas along the Kuroshio.

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Jack mackerel (*Trachurus japonicus*) inhabiting coastal areas in temperate western North Pacific is an important fisheries resource in East Asian countries. Ichthyoplankton sampling surveys indicate that large spawning grounds are formed in the south of East China Sea from February to March, which is thought to be the main source of the resources in the Pacific coastal waters of Japan. However, transport and recruitment processes from the East China Sea to the coastal waters of Japan have yet to be quantified. In the present study, transport of age-0 jack mackerel by the Kuroshio and the recruitment to the southern coastal areas of Japan were investigated by analyzing fisheries landing records and temperature data from real time monitoring buoy systems. Mean seasonal fluctuation of the landing of age-0 jack mackerel compiled from 10-years records showed multiple peaks in the western part (Miyazaki and Kochi prefectures), first in mid spring and second in mid fall, and single peak in the eastern part (Mie, Shizuoka and Kanagawa prefectures). Time lags of the first peaks are not linearly related to the distance between the fishing grounds, and the eastward propagation of the landing is clearly observed only from Ehime to Kochi. The timing of the peaks in the eastern part in Mie (first peak), Shizuoka (single), Kanagawa (single) prefectures were detected in mid fall, later than the timing expected for those from the East China Sea. These results suggest that larvae and juveniles from the East China Sea are not predominant source and local population reproduced in each area is also important. In the presentation, temperature fluctuations around the landing pulses and their physical characteristics are also discussed.

Keywords: Jack mackerel, Kuroshio, larval transport, recruitment process