

International Commission for



the Northwest Atlantic Fisheries

Serial No. 3934  
(D.c.4)

ICNAF Res.Doc. 76/VI/111

ANNUAL MEETING - JUNE 1976

The peculiarities of diurnal vertical migrations of mackerel  
in the northwestern Atlantic

by

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The catchability of mackerel taken with a bottom trawl was different throughout a day - it changed regularly depending on the lightness.

The dynamics of diurnal catches and registrations of fish scouting recorders confirmed the diurnal periodicity of the mackerel catches shown in Fig. 1 - these concern both commercial catches and those taken for scientific purposes.

During the light time of the day, the maximum mackerel catches were registered at 4-5:00 PM and at 8-9:00 AM, but during the dark time, namely, from 10-11:00 PM up to 4-5:00 AM, mackerel were not practically fished by a bottom trawl. Such a regularity was verified with the use of a series of diurnal stations completed from aboard the research scouting vessel "Argus".

Half-hour trawlings were made throughout the areas of stable concentrations of the main fish species practically at the same point (Nantucket area, near the buoy 8DS) with the help of the bottom trawl (Hake - 28), velocity - 3.5 knots. The total number of trawlings accomplished was 26, the periodicity of trawlings - every 2 hours.

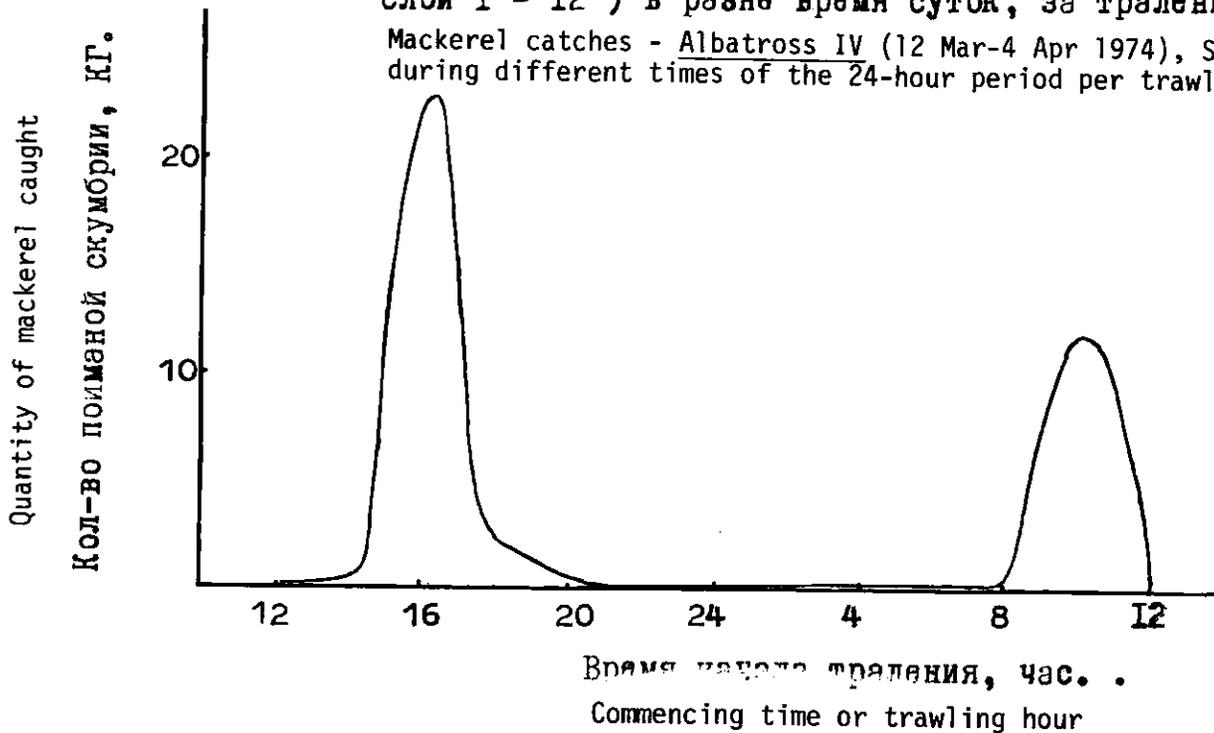
The results of diurnal stations relating to feeding showed that, being a real plankton eater, mackerel moved to feed on plankton in the upper layers in the nighttime, but they ceased to feed completely or they fed on them partially and settled to the bottom in the daytime.

Thus, it is necessary to conduct trawlings in the light time, namely, from 5-6:00 AM up to 10-11:00 PM for the purposes of mackerel assessment.

Fig. 1.  
Рис. I

Уловы скумбрии. Альбатрос IV ( 12-111 - 4-IV-1974;  
слой I - I2 ) в разное время суток, за траление.

Mackerel catches - Albatross IV (12 Mar-4 Apr 1974), Strata 1-12)  
during different times of the 24-hour period per trawling.



Уловы скумбрии. БМРТ Волжанин ( апрель 1975  
р-н каньон Блэк ) донным тралом в разное вре-  
мя суток ( за траление ).

Mackerel catches, BMRT "Volzhanin" (Apr 1975, Black  
Canyon) by bottom trawl during different times of the  
24-hour period.

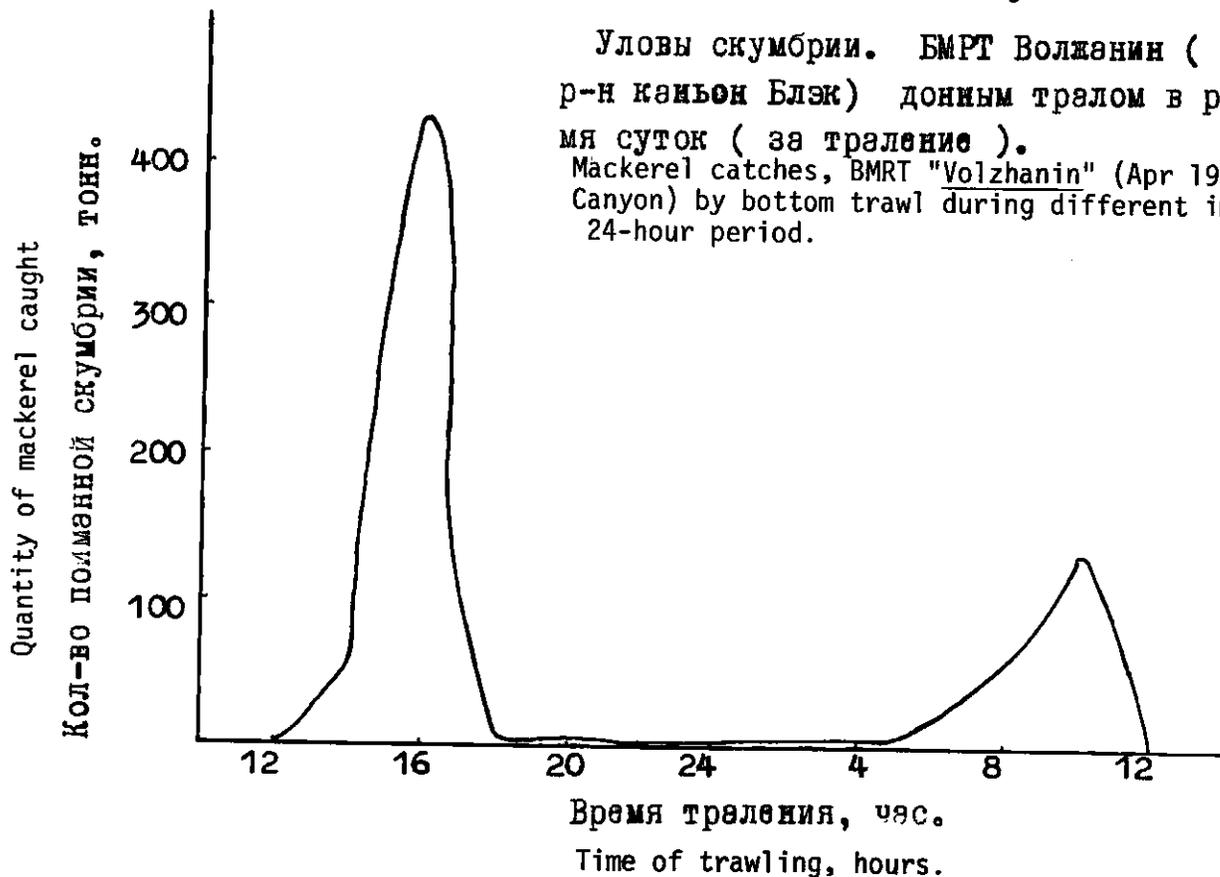


Fig. 1. (continued)

Mackerel catches, R/V "Argus" (1-2 Aug 1971, 1-2 Aug 1972) near buoy "8DS" by bottom trawl (HEK-28) during different times of the 24-hour period.



