

*Long-term changes in Atka mackerel,  
Pleurogrammus monopterygius, distribution  
and abundance in waters off the northern  
Kurile Islands and southeastern Kamchatka*

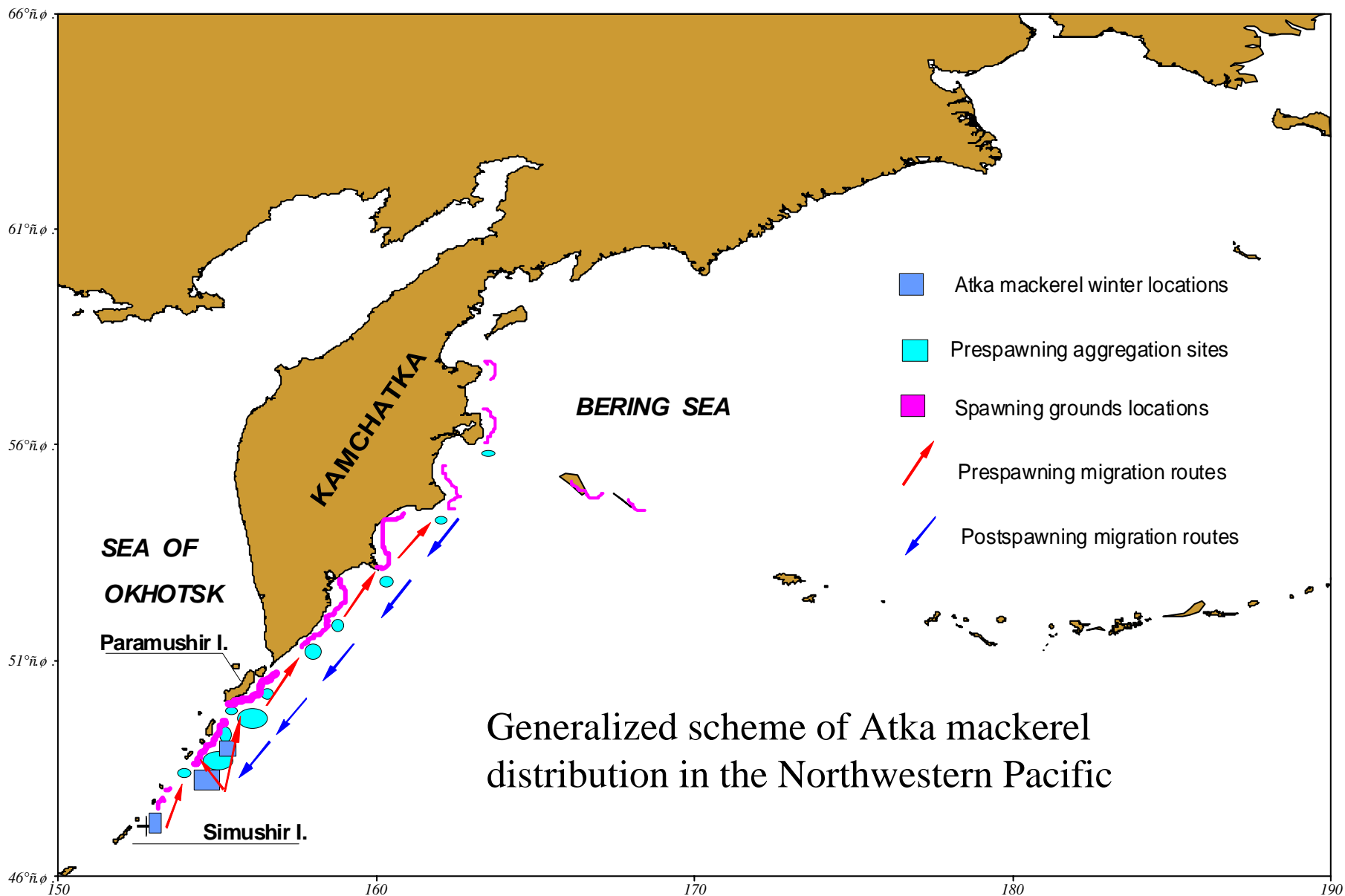
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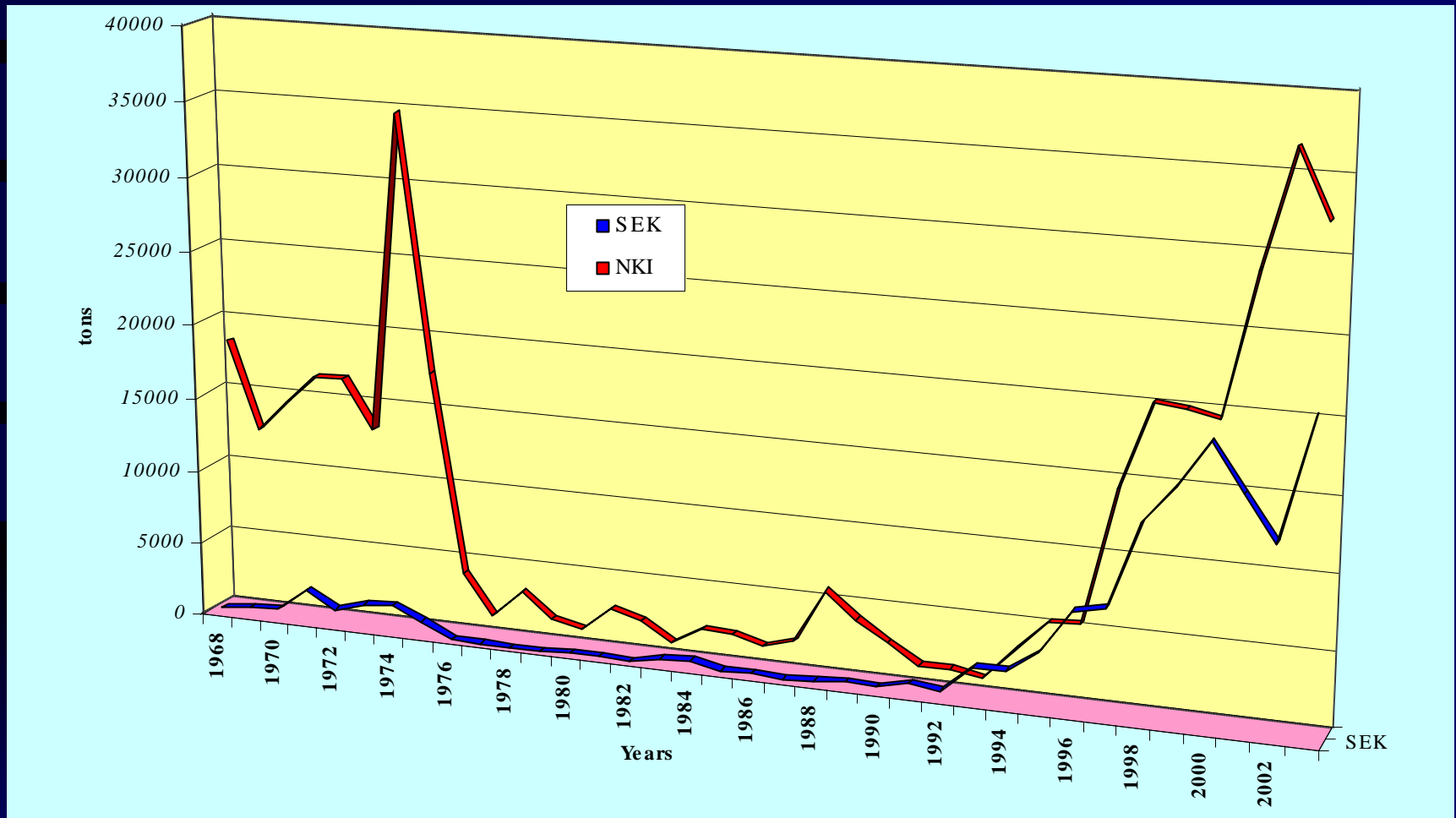
Atka mackerel is one of the most numerous semi-demersal fish species along the Pacific coast off Kamchatka and North Kuriles. Ecological and morphological studies suggested that there are no any evidences of reproductive isolation and in the Northwestern Pacific Atka mackerel is represented by a single population spread from the central part of Kurile Chain throughout the Kamchatka to southwestern Bering Sea.

The general pattern of seasonal distribution consists of prespawning migration from winter habitats mainly in the southern part of range (outer shelf of the Central Kuriles and underwater plateau at  $48^{\circ}10' - 48^{\circ}30' \text{ N}$ ) northwards to shallow coastal waters off the Paramushir Island and Kamchatka, and backward migration in late autumn. Thus, the reproductive habitats are widely extended in the form of discrete spawning grounds throughout all the range of population, whereas the winter habitats are localized primarily in the south.



Multi-annual statistics of near-shore fishery in Kamchatka waters demonstrate long-term periodicity in the number of prespawning and spawning Atka mackerel. High level of abundance occurred during 1950-s, in 1968-1976, and since middle of 1990-s; during other periods the spawning shoals were rarely found in vicinity of Kamchatka coast, and major reproduction of the population was restricted with Kurile waters.

# Atka mackerel annual catches in Pacific waters off South-eastern Kamchatka (SEK) and Northern Kurile Islands (NKI)



Results of the study show that cyclic shifts in Atka mackerel northward distribution depend on two factors: the stock condition and oceanographic regime in the area.

# Atka mackerel biomass and catch time-series in the Northwestern Pacific

