

Diet and consumption of zooplankton by polar cod *Boreogadus saida* (Lepechin, 1774) in the Barents Sea

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The investigation was based on the analysis of polar cod stomach, collected in the course of the Norwegian-Russian Ecosystem Survey in the Barents Sea in 2006-2014. Polar cod diet and its consumption of zooplankton were investigated in the period of polar cod intensive feeding. In total more than 70 different taxons were identified in polar cod diet. Euphausiids, hyperiids and copepods, were the main prey by weight, but their importance varied in different years. A tendency of decreasing of polar cod feeding intensity and decrease of copepods portion and increase of portion of euphausiids, hyperiids, fishes, chaetognaths, as well as small but constant increase of portion of bottom-leaving animals such as gammarids, polychaets, cumaceans, bathypelagic copepods, had observed since 2009. Basing on individual weight of zooplankton organisms, indices of consumption of different preys by polar cod were estimated. It was found, that while polar cod fed on copepods, primarily on the arctic species *Calanus glacialis* and *C. hyperboreus*, mean index of consumption reached 6 % of polar cod weight. At the dominance of fishes in the polar cod stomachs, mean index of consumption was 4.8 %. At the prevalence of euphausiids or hyperiids, mean index of consumption was 1.6 and 1.3 % correspondingly. Therefore, a successful polar cod feeding could be realized at presence of sufficient amount of copepods. Considering the present tendency towards decreasing of portion of large copepods in zooplankton community and capelin feeding competition, the feeding conditions for polar cod is unfavourable.

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