Murres forage more efficiently in well-stratified waters

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Thermocline is an important oceanographic structure that might affect prey distribution of diving marine predators. Previous studies have shown that seabirds frequently forage at depths near the thermocline, however, these studies have rarely examined actual feeding events in relation to the thermocline position. We studied foraging behaviour of thick-billed (*Uria lomvia*, TBMU) and common (*U. aalge*, COMU) murres breeding on St. George Is. in the south-eastern Bering Sea. During 2013-2015, we used bird-borne video and depth-temperature-acceleration loggers to investigate feeding of individuals in relation to the thermocline. We found that murres dove more frequently (72.9 ~ 97.4 % and 79.8 ~ 99.7 % of all dives for TBMU & COMU, respectively) in waters with a strong thermal stratification. Murres captured prey more often in stratified than in mixed waters: TBMU: 1.4 ±0.5 vs. 1.1 ±0.5, and COMU: 1.7 ±0.3 vs. 1.3 ±0.4 (feeds/10 sec). Feeding rates were also higher during foraging dives performed near the thermocline (TBMU: 1.5 ±0.5, and COMU: 2.0 ±0.3, feeds/10 sec) than those performed outside of the thermocline (TBMU: 1.0 ±0.4, and COMU: 1.4 ±0.5, feeds/10 sec). In both species, the duration of foraging dives near the thermocline increased with an increase in feeding rates. These results suggest that the thermocline may facilitate an aggregation of prey in dense patches, which might be beneficial to foraging murres. We conclude that breeding thick-billed and common murres may rely on the thermocline as an important characteristic of their preferred foraging habitats and might benefit from a strong thermal stratification of the water column.