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Prey of northern fur seals off the coast of Matsumae, Hokkaido, Japan  
— Toward understanding the dynamics of feeding ecology in relation to fisheries

The stomachs of northern fur seals *Callorhinus ursinus* ( $n = 94$ ) captured off the coast of Matsumae, Hokkaido, Japan between 2011 and 2020 were examined to determine their prey. The results showed that fur seals mainly feed on Okhotsk atka mackerel *Pleurogrammus azonus*, rockfishes, and squids. These prey species are important targets of coastal fisheries in the spring. The estimated body and mantle lengths of these prey species almost matched the size of fishes in the commercial catch. This indicates that fur seals and commercial fisheries are using the same resources; therefore, fur seals are potentially susceptible to conflict with fisheries. However, during the migration of pelagic fishes such as anchovies and sardines, fur seals were observed to also feed on these prey species, which are not targeted by fisheries in the study area. The results highlight the importance of long-term monitoring to understand the dynamics of feeding ecology.

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Direct measurement and re-evaluation of volume transport of the Tsushima Warm Current off western Hokkaido, Japan

To precisely evaluate the volume transport and velocity of the Tsushima Warm Current in the western Hokkaido Japan Sea, we conducted direct current measurements using one-mooring with three instruments at three depths at three points (M1: 1998–1999, M2: 1999–2000, and M3: 2001–2002) in the Tsushima Warm Current area. The comparisons between the current velocities observed by the current meter and geostrophic calculation showed a good relationship in the absence of extraordinary sea conditions such as a passing mesoscale eddy. Deep currents approximately 2100 m at the M1 and M3 mooring points showed a dominant northward current, and the annual mean velocity was 7.5 cm/s and 1.7 cm/s at M1, and M3, respectively. A weak westward current was observed at M2. The underestimation of volume transport above the reference level (500 m) caused by these deep currents was approximately 1.1 Sv.