

Movements and Dive Behavior of Spotted Seals in the Western Bering Sea

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In June 2015, we installed satellite tags on five spotted seals in Karaginsky Gulf. Four of five tags have sensors that detect the depth and duration of the dive. We received data from the tags over periods ranging from 98 to 300 days.

In summer, the animals moved along the coast from Karaginskiy Gulf to the Gulf of Anadyr. In autumn, they returned south to the tagging area, stopping along the way in the mouths of various rivers. In January the seals' locations formed two clusters that persisted until the April when the tags fell off or stopped working, in the southern parts of Korfa Bay and Olyutorsky Bay. These are known whelping locations for spotted seals from late March to mid-May in the northeast Kamchatka region. Although data ceased from the tags in the first half of April, spotted seals typically remain in their breeding areas for about 3 months, so it is likely that this area was the breeding habitat for our tagged seals.

We obtained and analyzed data from 74,430 dives; none exceeded 200 m in depth, and most of the dives lasted less than 10 minutes.

From June to mid-January, two females of spotted seals typically dived to depths of 60 - 80 m (85% of all dives), and used the entire water column in waters up to 100 m depth. This pattern was also observed from mid-March until the end of the data records. From mid-January to mid-March females dived to depths up to 200 m in waters with depths of over 1,000 m. During this period, the females made relatively little use of the 50-100 m depths (10.1% of dives), preferring other depths: 4 - 50 m (50.7%), 100-150 m (21.6%) and 150-200 m (17.6%). The male's foraging strategy seemed to be different: from tagging until mid-December he dived typically to a depths of 50-100 m in waters up to 100 m depth, and after - dived to 120 - 140 m in water depths up to 300 m.