

Bay 28.7 Justin Crawford Seasonal movements, habitat use, and dive behavior of pup and yearling bearded seals in the Pacific Arctic

Bearded seals (*Erignathus barbatus*) are benthic foragers that use sea ice for pupping, nursing, molting, and resting. Changes in sea ice and water temperature associated with climate change may affect fish and invertebrate prey of bearded seals, and therefore their habitat use. Our understanding of foraging habitats, behavior, and timing of movements, however, is limited. We worked with Alaska Native hunter-taggers along the Bering and Chukchi coasts to deploy satellite-linked dive recorders on 20 young (< 2 years old) bearded seals from June through November 2014–2017. Seals were tracked 10–457 days. During the open-water period seals were located in the Chukchi and Bering seas. As sea ice advanced in December seals moved toward the Alaskan or Russian coast or the southern ice edge. By mid-December, 11 of 13 seals were in the Bering Sea, however one remained in the Beaufort Sea and another in the Chukchi Sea. We analyzed habitat use and dive behavior August–February. Seals were generally located 20 km closer to the coast during August, October, and December–February than during September and November ($P < 0.01$) and in waters averaging 25–30 m deep August–January before moving to deeper waters in February (45 m; $P < 0.01$). All seals made fewer benthic and more mid-water and surface dives during December than other months ($P < 0.01$). Further, a higher proportion of benthic dives occurred during morning and afternoon (0700–1400; 90–93%) than at night (1900–0000; 72–78%; $P < 0.01$). The durations of benthic dives were similar from August to November (5:30 min) but increased from December (6:45 min) through February (9:50 min; $P < 0.01$). The presence and concentration of sea ice may influence habitat use and dive behavior and will be analyzed.



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ABSTRACT BOOK

Main Conference // October 22-27, 2017

Workshops // October 28-29, 2017

World Trade and Convention Centre
Halifax, Nova Scotia, Canada



The Society for Marine Mammalogy's
22nd Biennial Conference on the
Biology of Marine Mammals

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