Supporting Information for Watanabe et al. (2020) PNAS

Movie S1. Footage from seal-borne video cameras showing feeding events on amphipods.

Movie S2. Footage from seal-borne video cameras showing feeding events on fishes.

Movie S3. Footage from seal-borne video cameras showing a sequence of frequent feeding events on amphipods.

Table S1. Descriptive information on the Baikal seals tagged and an overview of the data.

Seal no.	Release date (yyyy/m/d)	Sex	Body length (cm)[a]	Body mass (kg)	Accelerometer data length (h)	Video footage of feeding events?	% of time spent in			
							Dive bouts	Surfacing events between dive bouts	Resting dive bouts	Hauling out
1	2018/6/1	F	120	44.8	45.8	Yes	91.3	4.2	4.5	0.0
2	2018/6/2	F	114	38.5	45.8	Yes	69.6	17.7	2.9	9.8
3	2018/6/2	M	148	69.1	68.1	No	38.3	10.7	2.4	48.7
4	2018/6/3	F	130	65.5	70.5	No	53.1	13.8	0.0	33.1
5	2018/6/4	F	123	42.0	70.4	No	53.0	5.6	0.0	41.4
6	2018/6/5	F	119	41.6	70.5	No	35.1	9.7	0.0	55.2
7	2018/6/6	F	133	49.0	94.0	No	60.5	8.7	15.0	15.7
8	2018/6/8	M	145	59.7	93.7	Yes	80.7	7.9	9.3	2.0

[a]Straight length from snout tip to tail tip.

Table S2. Diving and amphipod-feeding behavior of Baikal seals.

Seal no.	Accelerometer data length (h)	No. of dives	Dive depth (m)		Dive duration (min)		No. of amphipod-feeding dives[a]	Mean (±SD) no. of amphipod-feeding events per dive[b]	Total no. of amphipod-feeding events[b]	No. of amphipod-feeding events per 24-h active period[b]
			Mean±SD	Max.	Mean±SD	Max.				
1	45.8	320	98.5±99.2	348.8	7.1±3.2	14.0	54	49±37	2647	1520
2	45.8	202	93.7±73.6	298.4	8.1±3.0	15.2	93	42±36	3936	2964
3	68.1	192	85.7±94.8	313.7	7.7±3.6	13.9	122	60±54	7366	6779
4	70.5	328	66.7±82.0	374.8	6.0±4.9	16.0	120	60±28	7256	4653
5	70.4	278	72.8±56.7	219.6	7.0±2.7	11.8	61	89±41	5439	3498
6	70.5	124	172.9±113.1	380.6	10.8±4.1	16.0	84	50±26	4239	4107
7	94.0	706	37.4±46.8	235.4	5.4±3.7	14.2	321	58±35	18707	7892
8	93.7	440	143.0±86.8	344.9	10.0±3.6	20.3	181	49±37	8867	2813

[a]Detected from accelerometer data based on the behavioral characteristics during dives.

[b]Estimated from acceleration signals.

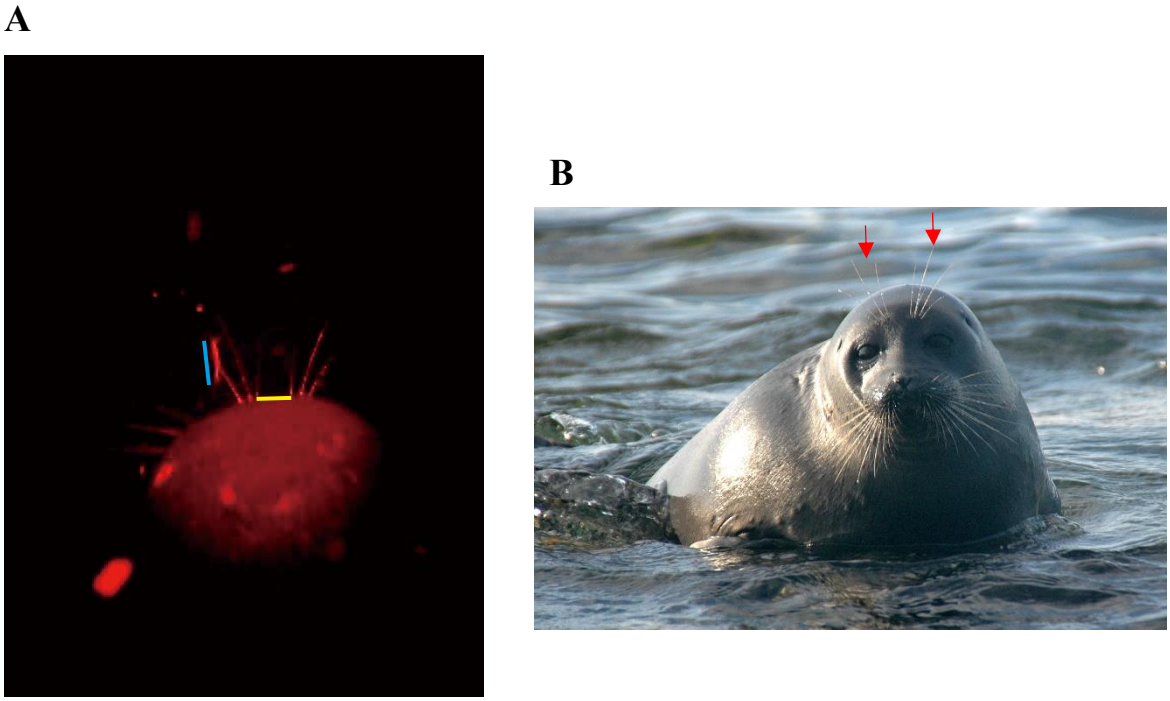

Fig. S1. Estimating body length of the amphipods hunted by seals. (A) Image from seal-borne video footage, showing the seal (back of the head is visible) about to hunt an amphipod. The length of the amphipod (light blue line) was measured as the relative length to the distance between the paired, inner eye whiskers of the seal (yellow line), which is 20 mm. (B) Photo of a Baikal seal (Credit: Y.Y.W.), showing well-developed eye whiskers (red arrows).

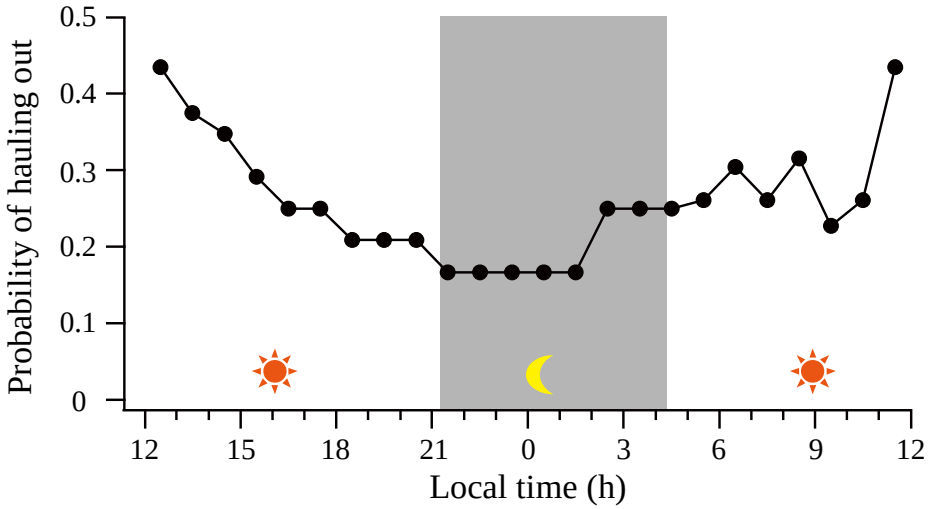

Fig. S2. Baikal seals tended to haul out during the daytime. The probability of hauling out calculated from all accelerometer data (n=8 seals) is plotted against time of day. Background color represents the day (white) and night (grey) based on the local sunset and sunrise time.

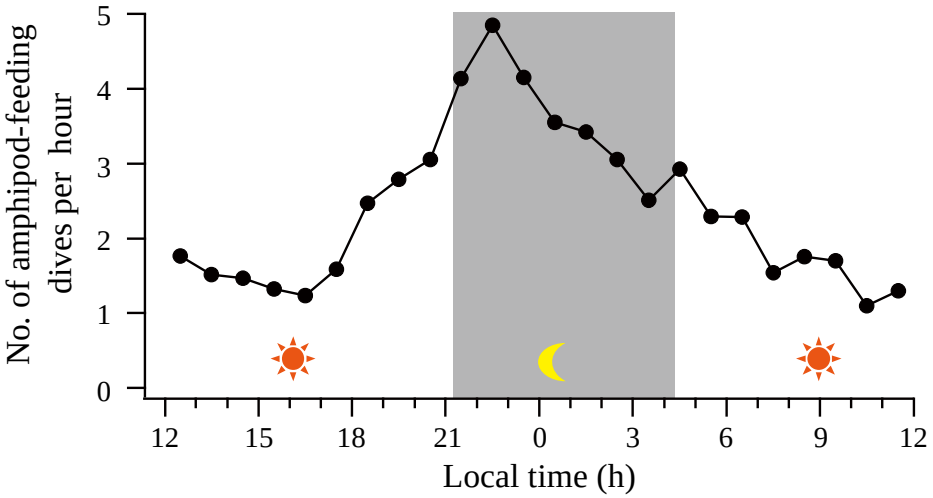

Fig. S3. Amphipod-feeding dives tended to occur at night. The number of amphipod-feeding dives per hour detected from all accelerometer data (n=8 seals) is plotted against time of day. Because seals tended to haul out during the daytime (Fig. S2), the periods of hauling out were excluded from the calculation. Background color represents the day (white) and night (grey) based on the local sunset and sunrise time.

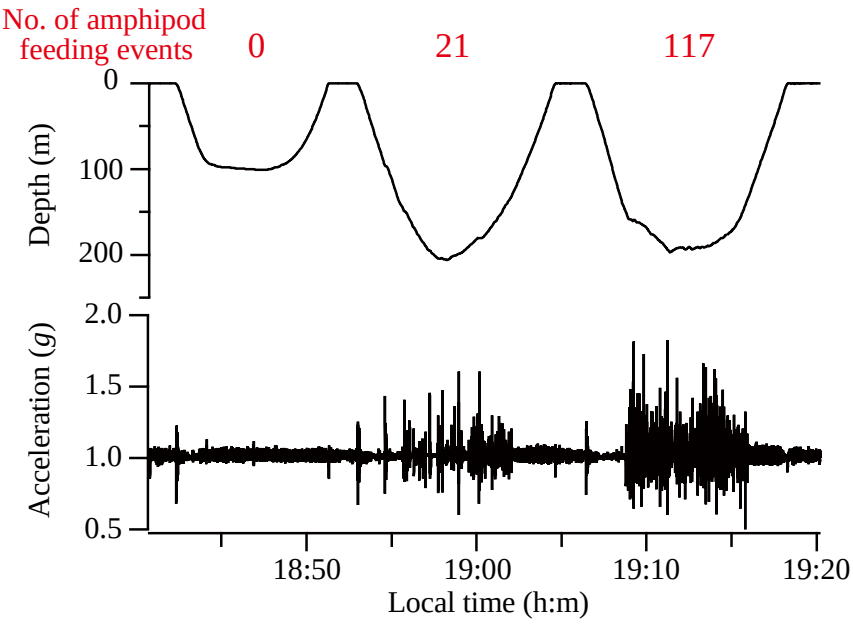

Fig. S4. Foraging rates associated with body acceleration during dives. Three successive dives recorded for a seal are shown with body acceleration (i.e., the vectorial sum of triaxial accelerations) and the number of amphipod-feeding events confirmed by the video footage.