

Table 3. Effects of prey density on the efficiency of blue whale foraging dives

Krill density (kg m ⁻³)	Body length (m)	Body mass (kg)	Volume filtered, total (m ³)	Krill obtained (kg)	Gross energy gain (kJ)	Energy loss, lunge (kJ)	Energy loss, diving (kJ)	Energy loss, total (kJ)	Net energy gain (kJ)	Efficiency, dive
0.15	22	61,318	210	32	123,648	11,292	29,475	40,767	82,881	3.0
	25	96,568	280	43	166,152	22,053	41,403	63,455	102,696	2.6
	27	122,605	385	58	224,112	28,250	49,499	77,749	146,363	2.9
0.50	22	61,318	210	105	405,720	11,292	29,475	40,767	364,953	10
	25	96,568	280	140	540,960	22,053	41,403	63,455	477,504	8.5
	27	122,605	385	193	745,752	28,250	49,499	77,749	668,003	9.6
1.65	22	61,318	210	347	1,340,808	11,292	29,475	40,767	1,300,041	33
	25	96,568	280	462	1,785,168	22,053	41,403	63,455	1,721,712	28
	27	122,605	385	635	2,453,640	28,250	49,499	77,749	2,375,891	32
4.50	22	61,318	210	945	3,651,480	11,292	29,475	40,767	3,610,713	90
	*25	96,568	280	1,260	4,868,640	22,053	41,403	63,455	4,805,184	77
	27	122,605	385	1,733	6,696,312	28,250	49,499	77,749	6,618,563	86

All calculations correspond to foraging dives that average 200 m deep and a lunge frequency of 3.5 lunges per dive; dive duration was 9.8 min followed by a surface recovery period of 2.7 min, as determined from tag data (Table 1). Gross energy gain represents the energy density of krill after accounting for assimilation efficiency. The energetic cost of diving represents all costs that are not associated with lunge feeding *per se*, except for the filter phase between lunges. Efficiency is the ratio of gross energy gain to the total energy loss in a dive. *Data in this row used in Fig. A1.