

Table 3.5. Subpopulations or stocks for each true Arctic marine mammal together with abundance estimate (abundance may be from dedicated survey with 95% CI, ballpark/rough estimate, or simulated from Population Viability Analysis). Year for estimate is given together with known trend in abundance (increasing, decreasing, stable or unknown). See text for rates.

Species	Subpopulation/Stock	Abundance	Year	Trend	Citation
Beluga	E Siberian & W Chukchi Seas	Unknown		Unknown	
	Eastern Chukchi Sea	3,700	1992	Unknown	Frost <i>et al.</i> 1993
	Eastern Beaufort Sea	41,800	1999	Unknown	Duval 1993, Kingsley & Gauthier 2002, Allen & Angliss 2011
	Eastern Bering Sea	18,000	1989-1991	Unknown	Allen & Angliss 2011
	Bristol Bay	1,600	2000	Increasing	Lowry <i>et al.</i> 2008
	Cook Inlet	284 (95% CI: 207-389)	2010	Declining	Allen & Angliss 2011, Hobbs <i>et al.</i> 2011
	Western Hudson Bay	57,300 (95% CI: 37,700-87,100)	1978, 1987, 2004	Unknown	Richard <i>et al.</i> 1990, Richard 1993, Richard 2005
	Southern Hudson Bay	7,000	1987	Unknown	Ognetov 1987, Richard 2005
	James Bay	9,292 (95% CI: 2,828-30,530)	2008	Unknown	Ognetov 1987, Gosselin <i>et al.</i> 2009
	Eastern Hudson Bay	2,646 (SE = 1,959)	2008	Declining	Gosselin <i>et al.</i> 2009, Bourdages <i>et al.</i> 2002
	St. Lawrence Estuary	1,100	1997	Stable	Gosselin <i>et al.</i> 2007, Hammill <i>et al.</i> 2007
	Ungava Bay	<50	2007	Unknown	Gosselin <i>et al.</i> 2009, Hammill <i>et al.</i> 2004
	Cumberland Sound	1,500	2001	Unknown	COSEWIC 2004
	E high Arctic-Baffin Bay	21,200, ± 25% CV	1996	Unknown	Innes <i>et al.</i> 2002
	W Greenland winter	10,595 (95% CI: 4,904-24,650)	2006	Unknown	Heide-Jørgensen & Aquarone 2002, Heide-Jørgensen <i>et al.</i> 2003, Heide-Jørgensen <i>et al.</i> 2010a
	White Sea	8,000	2005	Declining	Burdin <i>et al.</i> 2009
	Svalbard	Unknown		Unknown	Kovacs & Lydersen 2006, Gjertz & Wiig 1994
	Kara & Laptev Seas	Unknown		Unknown	
	Gulf of Anadyr	Unknown		Unknown	
	Narwhal	Okhotsk Sea	18,000-20,000	1987	Unknown
Eclipse Sound stock		20,225 (95% CI: 9,471-37,096)	2004	Unknown	Richard <i>et al.</i> 2010
Admiralty Inlet stock		18,049 (95% CI: 11,613-28,053)	2010	Unknown	Richard <i>et al.</i> 2010, Asselin & Richard 2011
Somerset Island stock		45,358 (95% CI: 23,397-87,932)	2002	Unknown	Innes <i>et al.</i> 2002, Richard <i>et al.</i> 2010
E Baffin fiords stocks		10,073 (95% CI: 5,333-17,474)	2003	Unknown	Richard <i>et al.</i> 2010
W Greenland Inglefield Breeding stock		8,368 (95% CI: 5,209-13,442)	2007	Unknown	Heide-Jørgensen <i>et al.</i> 2010b
W Greenland Melville Bay stock		6,024 (95% CI: 1,403-25,860)	2007	Unknown	Heide-Jørgensen <i>et al.</i> 2010b
Northern Hudson Bay		5,053 ± 40% CV	2000	Unknown	COSEWIC 2004, Richard 2008
W Greenland winter aggregations		7,819 (95% CI: 4,358-14,029)	2006	Unknown	Heide-Jørgensen <i>et al.</i> 2010b
E Greenland		6,444 (95% CI: 2,505-16,575)	2008	Unknown	Heide-Jørgensen <i>et al.</i> 2010b
Bowhead	Bering-Chukchi-Beaufort Seas (BCB)	12,631 (95% CI: 7,900-19,000)	2001	Increasing	George <i>et al.</i> 2004, Koski <i>et al.</i> 2010
	E Canada-W Greenland (BBDS and FBHB)	6,500	2002-2009	Increasing	Heide-Jørgensen <i>et al.</i> 2007, IWC 2008, Wiig <i>et al.</i> 2011
	Svalbard-Barents Sea	Unknown	-	Unknown	Rugh <i>et al.</i> 2003, Boertmann <i>et al.</i> 2009, Wiig <i>et al.</i> 2010
	Okhotsk Sea	<400	1979	Unknown	Rugh <i>et al.</i> 2003, Ivaschenko & Clapham 2009

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Species	Subpopulation/Stock	Abundance	Year	Trend	Citation
Ringed seal	Arctic subspecies	~2.5 million	1970s	Unknown	Miyazaki 2002
	Okhotsk Sea subspecies	>800,000	1971	Unknown	Miyazaki 2002
	Hudson Bay	516,000	1995	Unknown	Stewart & Lockhart 2005
Bearded seal	Bering-Chukchi Seas	250,000-300,000	1970s	Unknown	Fedoseev 2000
	Canadian waters	190,000	1958-1979	Unknown	Cleator 1996
	Atlantic and Russian Arctic	Unknown	–	Unknown	–
	Okhotsk Sea	200,000-250,000	1968-1969	Unknown	Fedoseev 2000
Walrus	Bering-Chukchi Seas	~129,000	2006	Unknown	Speckman <i>et al.</i> 2011
	Atlantic subspecies	~20,000	1995-2009	Mixed	Born <i>et al.</i> 1995, Witting & Born 2005, COSEWIC 2006, Lydersen <i>et al.</i> 2008, NAMMCO 2009
	Laptev Sea	3,000-5,000	1992	Unknown	Belikov & Boltunov 2005, Burdin <i>et al.</i> 2009
	Arctic Basin	Unknown	–	Unknown	Obbard <i>et al.</i> 2010
	Baffin Bay	1,546 (690-2,402)	2004	Declining	Obbard <i>et al.</i> 2010
	Barents Sea	2,650 (1,900-3,600)	2004	Unknown	Obbard <i>et al.</i> 2010
	Chukchi Sea	Unknown	–	Declining	Obbard <i>et al.</i> 2010
	Davis Strait	2,158 (95% CI: 1,833-2,542)	2007	Stable	Peacock <i>et al.</i> in press
	E Greenland	Unknown	–	Unknown	Obbard <i>et al.</i> 2010
	Foxe Basin	2,578 (2,088-3,182)	2007	Unknown	Obbard <i>et al.</i> 2010
	Gulf of Boothia	1,592 (870-2,314)	2000	Stable	Obbard <i>et al.</i> 2010
	Kane Basin	164 (94-234)	1998	Declining	Obbard <i>et al.</i> 2010
	Kara Sea	Unknown	–	Unknown	Obbard <i>et al.</i> 2010
Polar bear	Lancaster Sound	2,541 (1,759-3,323)	1998	Declining	Obbard <i>et al.</i> 2010
	Laptev Sea	Unknown	1993	Unknown	Obbard <i>et al.</i> 2010
	McClintock Channel	284	2000	Increasing	Obbard <i>et al.</i> 2010
	Northern Beaufort Sea	1,202 (686-1,718)	2006	Stable	Obbard <i>et al.</i> 2010
	Norwegian Bay	190 (102-278)	1998	Declining	Obbard <i>et al.</i> 2010
	Southern Beaufort Sea	1,526 (1,210-1,842)	2006	Declining	Obbard <i>et al.</i> 2010
	Southern Hudson Bay	900-1,000 (496-1,050)	2005	Stable	Obbard <i>et al.</i> 2010
	Viscount Melville	215 (99-331)	1992	Unknown	Obbard <i>et al.</i> 2010
	Western Hudson Bay	935 (794-1,076)	2004	Declining	Obbard <i>et al.</i> 2010

2010). In this area, densities are greater on landfast ice (1.3-3.4 seals/km²) compared with pack ice (0.2-1.8 seals/km²) (Chambellant 2010), and density estimates vary considerably from year-to-year (0.5-1.6 seals/km² (Smith & Stirling 1975, Breton-Provencher 1979, Lunn *et al.* 1997, Chambellant 2010). An abundance estimate that included Svalbard's west and north coast suggested a population of 7,585 seals (95% CI: 6,332-9,085) (Krafft *et al.* 2006). In Svalbard, densities of ringed seals in the fjords range from 0.2 to 8.0 seals/km² (Krafft *et al.* 2006, Krafft *et al.* 2007) with large year to year variability due to sea ice cover. Overall ringed seals occur at lower densities in multi-year ice of the high Arctic compared with their preferred habitat in annual ice areas (Kingsley *et al.* 1985) probably because productivity is

lower in the thicker ice and it is more difficult to maintain breathing holes in or between multi-year ice floes.

The global population size of bearded seals is unknown, but it has been estimated to be conservatively 438,000 (Cameron *et al.* 2010), at least 500,000 individuals (Kovacs & Lowry 2008), or even up to 750,000 (Chapskii 1966, Potelov 1975, Burns 1981, Cleator 1996). There are two putative subspecies of bearded seal, *Erignathus barbatus barbatus* and *E. b. nauticus* (Kovacs 2009), with the Atlantic subspecies *barbatus* occurring from the central Canadian Arctic east to the central Eurasian Arctic (Laptev Sea) and the Pacific subspecies *nauticus* occurring from the Laptev Sea east to the central Canadian Arctic, including the Sea of Okhotsk (Rice 1998). Rough