

CETACEANS: abundance and trends in population, stocks and units used in NAMMCO monitoring and assessments

Species	Stocks <i>In "blue", units which are a component of above stock.</i> In [xx], units for information not used in assessment.	Population Abundance#	95% CI (or CV)	Date survey	Trend	Date Internat. Assess.	Type of Removals**	Size of Removals** (DC & DCQ) 2013, 2014, 2015, 2016, 2017	References Abundance Estimate / Assessments
Bowhead whale	East Canada - West Greenland (Baffin Bay)	6,446	CV=0.26	2013	(Increasing)		DCQ	CA + WGL	Doniál-Valcroze et al. 2015
	"WGL winter component"	1,538	827-2,249	Gen.	(Increasing until 2006, stable since)		DCQ	WGL: 0; 0; 1; 0; 0	Rekdal et al 2014
	[Spitzbergen (EGL-wester RU Arctic)]	Unknown					Protected		
	"NEGL summer component"	102	32-329	2009	(Increasing)		Protected		Boertmann et al 2015
Blue whale	[Total North Atlantic]	Unknown			Increasing	2008	Protected		Reilly et al 2008a
	"Iceland/Faroes"	3000 p	1,377-6,534	2015	(Increasing)		Protected		NAMMCO 2018b
Fin Whale	[Total North Atlantic]	>> 50,000		2007					NAMMCO 2011
	West Greenland	465 p	233-929	2015	Decreasing?	2009	DCQ	WGL: 9; 12; 12; 10; 8	NAMMCO 2016
	East Greenland	1,932 p	1,204-3,100	2015	single estimate		Protected		NAMMCO 2016
	Norwegian Sea / Jan Mayen	10,369	6,277-17,128	1995, 1996-2001	(Stable?)		Protected		Øien 2009
	Central North Atlantic (EGI) "Iceland/Faroes"	36773 p	25,811-52,392	2015	Increasing	2016	DCQ	IS: 134; 137; 155; 0; 0	NAMMCO 2018b
Humpback whale	[Total North Atlantic]	>> 15,000		2007			DCQ		NAMMCO 2011
	West Greenland	1,321 p,a	578-3,022	2015	Decreasing or distributional shift	2016	DCQ	WGL: 8; 7; 6; 5; 2	NAMMCO 2016
	East Greenland	4,012 p,a	2,044-7,873	2015	single estimate	2016			NAMMCO 2016
	Iceland Coastal	1,242 p	632-2,445	2007	Increasing until 2001, then levelling off	2009	Protected		NAMMCO 2011, Víkingsson et al 2015
	Iceland -Faroes	9,867 p	4,854 - 20,058	2015	(Stable)		Protected		NAMMCO 2018b
	Barents and Norwegian Sea	4,695	2,124-10,378	1996-2001	(Stable)		Protected		Øien 2009
Minke whale	[Total North Atlantic]	>> 150,000		2007			DCQ		NAMMCO 2011
	West Greenland	4,204 p,a	1,753-10,085	2015	Stable	2016	DCQ	WGL***: 175; 146; 133; 148; 133	NAMMCO 2016
	East Greenland	2,681 p,a	1,153-6,235	2015	single estimate		DCQ	EGL: 6; 11; 6; 15; 10	NAMMCO 2016
	North Eastern stock	89,623 p,a	CV=0.18	2008-13	Stable	2015	DCQ	NO: 594; 736; 660; 591; 432	Kato Solvang et al 2015
	Jan Mayen	10,991 p,a	CV=0.36	2008-13	Decreasing // north & eastward shift	2015			Kato Solvang et al 2015
	Central North Atlantic (Iceland-Faroes)	>36,185 p	19,942-65,658	2015	Stable?	2015	DCQ		NAMMCO 2016
	Iceland coastal	12,710 p	4,498-35,912	2016	Decreasing // north & eastward shift	2016	DCQ	IS: 35; 24; 29; 46; 17	NAMMCO 2016

Sei whale	Central North Atlantic	10,300	CV=0.27	1989	Unknown	2008	Protected		Cattanach et al. 1993, Reilly et al 2008b	
Sperm whale	[Total North Atlantic]	Unknown			Unknown	2008	Protected		Taylor et al 2008	
	"Iceland/Faroes"	23,166	7699-69,709	2015	(Increasing)		Protected		NAMMCO 2018b	
Bottlenose whale	North East Atlantic	~40,000 a		1987-89	single estimate	1995	FO: Live strandings GL: DC	FO: 0; 5; 2; 2; 0 GRL: 5; 11; 3; 3; 16	NAMMCO 1995	
	["Faroes 2007 & CODA"]	19,539	9,921-38,482	2007	single estimate				Rogan et al 2017	
Beluga	Eastern high Arctic-Baffin Bay	21,213	10,985-32,619	1996	single estimate		DC (CA), DCQ (GL)	CA + GL	Innes et al 2002, NAMMCO 2018b	
	"WGL winter- North Water"	>2,245 p,a	1,811-2,783	2009-10 (May)	single estimate	2012	DCQ	WG: 26; 31; 7; 16; 32	Heide-Jørgensen et al 2013, NAMMCO 2012	
	"WGL winter - Eastern Davis Strait / Baffin Bay"	9,072 p,a	4,895-16,450	2012 (March-April)	Increasing	2017	DCQ	WG: 279; 240; 120; 187; 164	Heide-Jørgensen et al 2016, NAMMCO 2017a 2018a	
	[Southwest Greenland]	Extirpated ~1930								Heide-Jørgensen and Laidre 2006, NAMMCO 2018a
	Svalbard	Unknown						Protected	NAMMCO 2018a	
Narwhal	[Baffin Bay]	Baffin Bay narwhals are composed of the 8 stocks below, or summer aggregations, that migrate between Canada and Greenland and are susceptible to hunting by both CA and GL hunters								
	Smith Sound	16,360	CV=0.65	2013	single estimate	2017	DCQ?	CA: na GL quota: 5/year	Doniol-Valcroze et al 2015, NAMMCO 2015, 2018a	
	Jones sound	12,694 p,a	CV=0.33	2013	single estimate	2017	DCQ	CA: na	Doniol-Valcroze et al 2015, NAMMCO 2015, 2018a	
	Inglefield Bredning	8,368	5,209-13,442	2007	Stable	2017	DCQ	NG: 83; 102; 75; 81; 108 CA: na	Heide-Jørgensen et al 2010, NAMMCO 2010, 2018a	
	Melville Bay	3,091 p,a	1,228-7,783	2014	Stable	2017	DCQ	WG: 71; 113; 71; 91; 93 CA: na	NAMMCO 2015, 2017	
	Eastern Baffin island	17,555 p,a	CV=0.35	2013	Likely stable	2017	DCQ	CA: ~130	Doniol-Valcroze et al 2015, NAMMCO 2015, 2018a	
	Eclipse Sound	10,489 p,a	CV=0.24	2013	Stable	2017	DCQ	WG: 130; 119; 72; 176; 134; CA: na	Doniol-Valcroze et al 2015, NAMMCO 2015, 2018a	
	Admiralty Inlet	35,043 p,a	CV=0.42	2013	Stable	2017	DCQ		NAMMCO 2015, 2017	
	Somerset Island	49,758 p,a	CV=0.20	2013	Stable or increasing	2017	DCQ		Doniol-Valcroze et al 2015, NAMMCO 2015, 2018a	
	Northern East Greenland	na	na	2017	single estimate	2017	Protected (National Park)		NAMMCO 2018a	
	East Greenland	6,444 p,a	2,505-16,575	2008	decreasing	2017	DCQ	EG: 66; 81; 94; 53; 91	Heide-Jørgensen et al 2010, NAMMCO 2009, 2018a	
	[Ittoqqortoormiit]	476	232-977	2016	(decreasing)	2017	DCQ		NAMMCO 2018ac	
	[Tasiilaq]	797	236-2686	2016	(decreasing)	2017	DCQ		NAMMCO 2018ac	
Svalbard	> 837	CV=0.50	2015	single estimate	2017	Protected		NAMMCO 2018a		

Killer whale	West Greenland	Unknown					DC	WG: 27; 10; 16; 12; 5	
	East Greenland	Unknown					DC	EG: 11; 6; 7; 2; 10	
	Northern North Sea-Eastern Norwegian Sea	7,000	3,400-14,400	1989	Single estimate	1993	Protected		NAMMCO 1993
	Iceland/Faroe islands	6,618	3,850-x	1987	Single estimate	1993	Protected		Gunnlaugsson and Sigurjónsson 1990, NAMMCO 1993
Pilot whale	[Northeast Atlantic]	778,000	CV=0.29	1989	Single estimate	1996			Buckland et al 1993, NAMMCO 1998
	West Greenland	>11,993 p,a	4,575-31,438	2015	Increasing	2016	DC	WGL: 316; 433; 277; 168; 163	NAMMCO 2017
	East Greenland	338 p,a	65-1,749	2015	Single estimate		DC	EGL: 0; 0; 6; 27; 58	NAMMCO 2017
	Jan Mayen	Unknown							
	Iceland - Faroe Islands	344,148 p	162,795-727,527	2015	(stable)		DC	FO: 1,104; 48; 501; 295; 1,203	NAMMCO 2018b
Lagenorhynchus spp.	[West Greenland]						DC	GL: 102; 102; 69; 76; 32	
	[East Greenland]						DC	GL: 44; 35; 27; 50; 32	
White-beaked dolphin	West Greenland	>2,747 p	1,257-6,002	2015	Decreasing		DC	GL: na (catches recorded as <i>Lagenorhynchus spp.</i> ; see above)	NAMMCO 2017
	[North East Atlantic]	~100,000s			Stable	2008	BC		Hammond et al 2012
	"East Greenland"	2,140 p	825-5,547	2015	Single estimate			GL: na (catches recorded as <i>Lagenorhynchus spp.</i> ; see above)	NAMMCO 2016
	"Iceland/Faroes"	159,000 p	49,957-506,054	2015	(increasing)				NAMMCO 2018
White-sided dolphin	[North East Atlantic]	Unknown, abundant			Stable	2008	BC		Hammond et al 2008
	"Iceland/Faroes"	131,022 p	35,251 - 486,981	2015	(increasing)		DC+BC	FO: 430; 0; 0; 0; 488	NAMMCO 2018b
Bottlenose dolphin	Faroe islands	~1,000					BC, DC	FO: 0, 0, 0, 0, 0 (2009:1, 2006:17)	
Risso's dolphin	North Atlantic	Unknown				2008	Protected		Taylor et al 2012
Harbour porpoise	West Greenland	>83,321 p,a	43,377-160,047	2015	Increasing	2015	DC+BC	WGL: 2,643; 2,555; 2,003; 2,372; 2,237	NAMMCO 2016
	East Greenland	1,642 p,a	318-8,464	2015	Single estimate		DC+BC	EGL: 3; 3; 6; 8; 3	NAMMCO 2016
	Iceland Coastal	43,179 p,a	31,755-161,899	2007	Single estimate		BC	IS: BC=1,000s	NAMMCO 2012
	Faroe Coastal	>5,175 p,a	3,457-17,637	2010	Single estimate		BC + DC	FO: BC & DC na	NAMMCO 2012
	[Norwegian Sea]	Unknown					BC	NO: BC=3,000s	Bjørge and Øien 1995 Hammond et al 2017
	Barents Sea to Lofoten	10,000	4,379-23,200	2016	single estimate		BC		
	Norwegian coastal (from 62N to Lofoten islands)	24,526 p,a	14,035-40,829	2016	single estimate		BC		
	North Sea	345,373	246,526	495,752	Stable, southward shift		BC		

EXPLANATIONS AND REFERENCES

#Abundance estimates which are not corrected for perception bias (p) and availability (a) bias are *de facto* minimum estimates, as they are not corrected for (p) animals missed by the observers nor (a) because they are below the surface when the ship passes.

">>" in front of an overall population estimate indicates the estimate is minimal because some stocks are not included.

">" in front of a stock estimate indicates that groups of animals were spotted at the edge of the survey area, thus indicated that the survey area did not achieve a complete coverage of the stock area and animals were present beyond the survey area.

Internat. Assess.: Stock Status Assessment carried out by an international body. For cetaceans usually NAMMCO or the IWC.

(), no International Assessment, but published article

Removals: The Greenlandic catch data are from Piniarneq/LUU; Ministry of Fisheries, Hunting and Agriculture; The Faroese catch from *Whaling,fo*, retrieved sep. 2016

DC, direct catch; DCO, catch with quota; BC, By-catch; SL, Struck and lost

Trend in () are likely trends, but not confirmed by an assessment

** FO, Faroe Islands; GL, Greenland; EGL, East Greenland; WGL, West Greenland; IS, Iceland; NO, Norway; RU, Russian

*** Catch advise for 2016-2018, no more than 224 minke whales

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