

Spring Sightings of Narwhal and Beluga Calves in Lancaster Sound, N.W.T.

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(Received 24 May 1989; accepted in revised form 11 October 1989)

ABSTRACT. During aerial surveys in 1986 of whales migrating in Lancaster Sound, we observed newborn narwhals as early as 27 May and regularly thereafter. Beluga calves were first seen on 31 May and were seen sporadically throughout the study period. These observations represent the earliest reported sightings to date of newborn narwhals.

Key words: narwhal, beluga, calves

RÉSUMÉ. Au cours de relevés aériens effectués en 1986 sur des baleines se dirigeant vers le détroit de Lancaster, on a observé des bébés narvals dès le 27 mai et à intervalles réguliers par la suite. Les premières observations de bébés bélugas ont été faites le 31 mai et on a ensuite aperçu ces animaux de façon sporadique durant toute la période d'étude. Ces observations représentent jusqu'à ce jour les observations les plus précoces de bébés narvals.

Mots clés: narval, béluga, petits

Traduit pour le journal par Nésida Loyer.

INTRODUCTION

Early accounts describe the narwhal (*Monodon monoceros*) as having either a protracted breeding season (Tomilin, 1957) or no breeding season at all (Degerbøl and Freuchen, 1935; Porsild, 1922; Vibe, 1950). More recently, Best and Fisher (1974) used the technique of backdating conception dates (Brodie, 1971; Sergeant, 1973) and concluded that narwhals are seasonal breeders. Hay (1984) similarly concluded that narwhals breed seasonally, with conception occurring between 20 March and 19 May and calving occurring in July and August.

Evidence suggests that belugas have a protracted calving period and that the peak calving period varies with locality (Braham, 1984; Kleinenberg *et al.*, 1964). Braham (1984) indicates that newborn belugas have been sighted in the Canadian Arctic between March and September. Sergeant (1973) estimated the peak calving period for western Hudson Bay belugas to be late June. Cumberland Sound belugas apparently breed in May and calve mainly in late July to early August (Brodie, 1971).

Sight and collection records of newborn narwhals and belugas usually date from June to August, a result of the time frame when most studies are conducted in the Arctic (see Ellis, 1957; Fallis *et al.*, 1983; Greendale and Brousseau-Greendale, 1976; Hay and McClung, 1976; Mansfield *et al.*, 1975). Few observations of arctic whales have been made at other times of the year (see Porsild, 1922). In 1986, as part of a study of the effects of icebreaker activity on the behaviour and distribution of narwhals and belugas, we conducted aerial surveys of migrating whales in Lancaster Sound from May to July. We report observations of newborn narwhals and belugas made during these early spring surveys.

METHODS

We flew 27 surveys between 24 May and 6 July 1986, with two to three observers in a Bell 206 Jet Ranger helicopter at an altitude of about 230 m and a flight speed of about 160 km/h. We collected data on whales sighted within a 250 m strip on either side of the helicopter, identifying species, sex, approximate age and ongoing activity. Newborns were identified by their slate gray colour and small size,

about one-third adult body length (see Brodie, 1971; Mansfield *et al.*, 1975).

Flights began at the mouth of Admiralty Inlet (73°45'N, 84°05'W) and generally proceeded east along the ice edge to Navy Board Inlet, north several kilometres from the ice edge, west to Cape Crauford or beyond, then east along the ice edge to the start point (Fig. 1). Surveys done prior to mid-June were frequently hampered by 80-99% pack ice, so flight paths diverged from the preferred course to follow open leads that were available.

RESULTS AND DISCUSSION

We saw young narwhal or beluga calves on 15 of 27 aerial surveys. Our first sighting of a young, presumably newborn, narwhal calf was on 27 May. Thereafter, we regularly saw young calves throughout the study period (Table 1). They were frequently seen swimming alongside the tails of adult females and were occasionally seen nursing. Beluga calves were first sighted on 31 May and irregularly thereafter (Table 1).

The irregularity with which we saw newborn belugas may be related to icebreaker activity during our surveys. Of ten

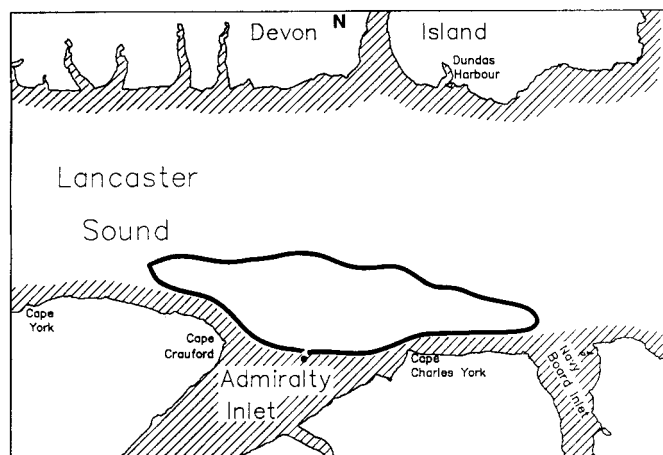


FIG. 1. Preferred flight path used during aerial surveys. Actual flight paths depended on the distribution of pack ice in Lancaster Sound. Hatched areas represent land-fast ice (after Cosens and Dueck, 1988).

TABLE 1. Numbers of young narwhal and beluga calves seen during aerial surveys in 1986^a

Date of survey	Number of neonates sighted	
	Narwhal	Beluga
27 May ^c	1 (6)	—
28 May	3 (7)	0
31 May	0	2 (6)
1 June	4 (8)	0
4 June ^{b,c}	1 (4)	—
8 June ^c	1 (10)	—
9 June	0	1 (<1)
10 June	3 (6)	1 (2)
11 June ^b	1 (3)	7 (11)
12 June ^{b,c}	3 (8)	—
17 June	1 (6)	1 (7)
25 June ^{b,c}	4 (6)	—
2 July ^b	1 (<1)	0
3 July ^{b,c}	3 (2)	—
6 July ^{b,c}	3 (<1)	—

^a Only surveys where neonates of at least one species were seen are included.

Neonates as a percentage of the total count for that species are in parentheses.

^b Icebreakers active either in Lancaster Sound or Admiralty Inlet.

^c No beluga whales (adults or calves) seen during survey.

surveys where newborn belugas were not seen, six were conducted when icebreakers were active either in Lancaster Sound or Admiralty Inlet (Table 1). Cosens and Dueck (1988) found that belugas were more likely than narwhals to be absent from the study area when icebreakers were active.

Hay (1984) found that early narwhal fetuses collected at the same time varied in size. Using this variation and assuming that all fetuses grow at the same rate, he calculated the limits of the foetal growth curve and estimated the calving period to be between 30 June and 29 August. Our results suggest that, at least in some years, the calving period of narwhals begins at least one month earlier than this calculated estimate. Our observations of newborn beluga calves are consistent with the existing literature for the eastern Canadian Arctic (Braham, 1984).

It is not clear which parameters influence the length and variability of the calving period in these species. Observations reported by Brodie (1971), Kleinenberg *et al.* (1964) and Sergeant (1973) indicate that the peak calving period of belugas varies with locality. Comparable data are not available for narwhals. Although Best and Fisher (1974) attribute variation in the size of early narwhal fetuses to sampling of different populations, Hay (1984) assumes that the timing of breeding by narwhals is similar in different parts of the species range.

Sergeant (1973) found that the calving period of belugas in Hudson Bay was more protracted than the mating period and suggested that the length of gestation must vary among individuals. Individual variation in the gestation period of narwhals would broaden Hay's (1984) estimate of their calving period and account for our early sightings of newborns in Lancaster Sound.

The presence of young narwhal and beluga calves should be considered in any discussions about increasing shipping traffic in Lancaster Sound. The potential effects of underwater vessel noise on the ability of calves to communicate and maintain contact with their mothers are unknown. Further research is needed to determine whether or not calf survival is affected by increased ambient noise levels due to shipping.

ACKNOWLEDGEMENTS

The study was supported by funds from the Northern Oil and Gas Action Program (NOGAP). The Polar Continental Shelf Project (Resolute Bay, N.W.T.) provided additional, much needed field support. Glenn Williams, the G.N.W.T. Natural Resources Officer in Arctic Bay, N.W.T., provided helpful advice and generously donated storage space. Ipilee Koonoo, Timothy Sagoyak, Val Churney and Dave Yablecki assisted with data collection and camp maintenance. We thank our helicopter pilots for their patience and capable flying. We also thank Flip Nicklin, John Ford and the Japanese film crew for being excellent neighbours at the ice edge. Dr. R. Stewart, Mr. M. Kingsley, Dr. A. Mansfield and an anonymous reviewer made helpful comments on earlier versions of the manuscript.

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