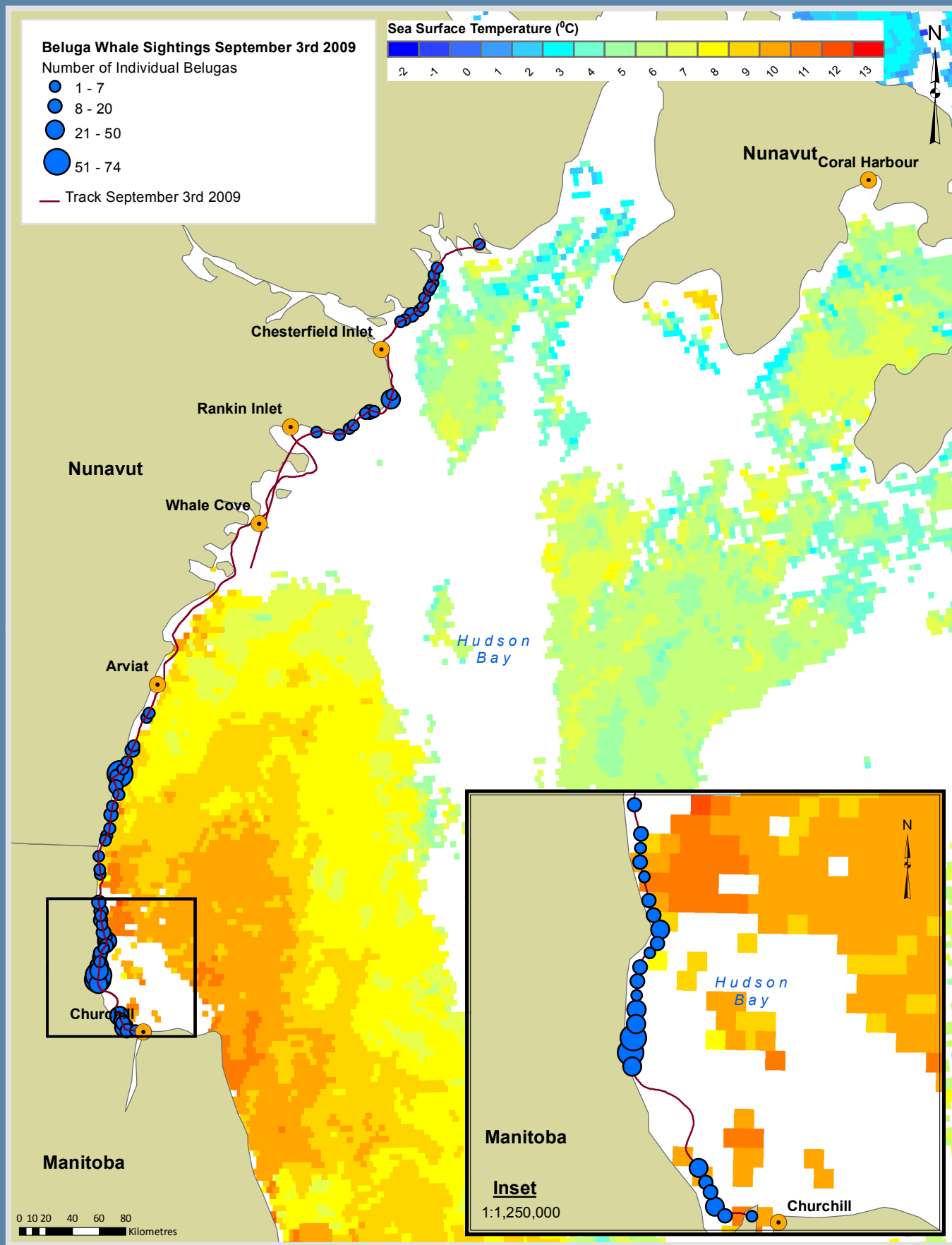


Projection: NAD 1983 UTM Zone 15N
 Creator: SS
 Date: 12/04/2009 Scale: 1:4,000,000
 File: 1038926.04-027
 Data Sources: Natural Resources Canada, Geobase®, Nation
 Topographic Database, Areva Resources Canada Inc.

FIGURE 8.5-3
 DAILY SEA SURFACE TEMPERATURE
 AND BELUGA WHALE SIGHTINGS
 FOR AUGUST 31, 2009
 KIGGAVIK PROJECT - EIS

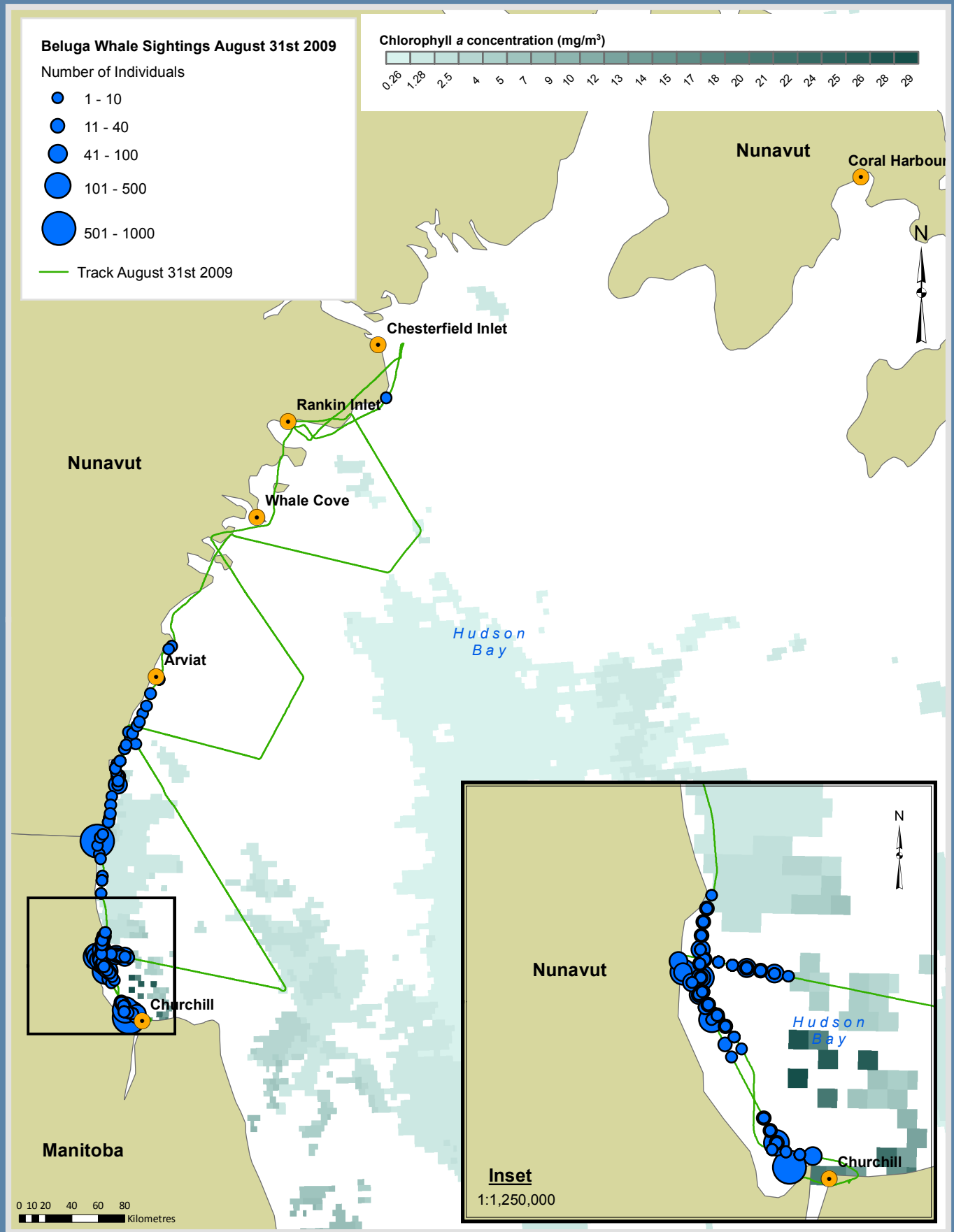




Projection: NAD 1983 UTM Zone 15N
 Creator: SS
 Date: 12/04/2009 Scale: 1:4,000,000
 File: 1038926.04-028
 Data Sources: Natural Resources Canada, Geobase®, Nation
 Topographic Database, Areva Resources Canada Inc.

FIGURE 8.5-4
 DAILY SEA SURFACE TEMPERATURE
 AND BELUGA SIGHTINGS
 FOR SEPTEMBER 3, 2009
 KIGGAVIG PROJECT - EIS





Projection: NAD 1983 UTM Zone 15N

Creator: SS

Date: 12/04/2009 Scale: 1:4,000,000

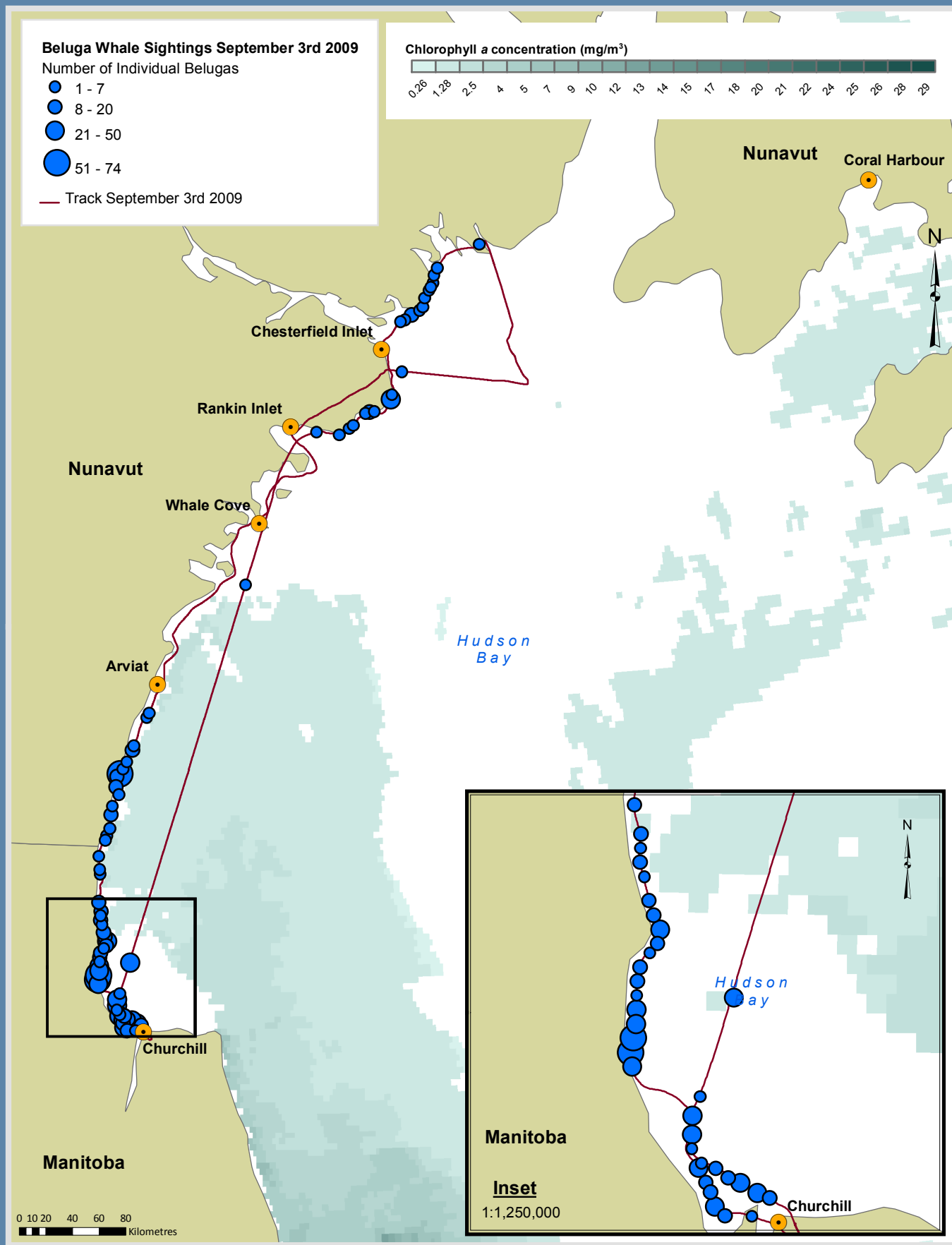
File: 1038926.04-026

Data Sources: Natural Resources Canada, Geobase®, Nation
Topographic Database, Areva Resources Canada Inc.

FIGURE 8.5-5

DAILY CHLOROPHYLL *a* CONCENTRATIONS
AND BELUGA WHALE SIGHTINGS
FOR AUGUST 31, 2009
KIGGAVIK PROJECT - EIS





Projection: NAD 1983 UTM Zone 15N
 Creator: SS
 Date: 12/04/2009 Scale: 1:4,000,000
 File: 1038926.04-029
 Data Sources: Natural Resources Canada, Geobase®, Nation
 Topographic Database, Areva Resources Canada Inc.

FIGURE 8.5-6
 DAILY CHLOROPHYLL *a* CONCENTRATION
 AND BELUGA WHALE SIGHTINGS
 FOR SEPTEMBER 3, 2009
 KIGGAVIK PROJECT - EIS



8.5.2 Polar Bear

The range of polar bears in Canada has been divided into 13 sub-populations (COSEWIC 2008). Bears from two of these sub-populations—Western Hudson Bay and Foxe Basin—are likely found within the study area. The study area primarily includes the range of the Western Hudson Bay sub-population and is at the southern edge of the Foxe Basin sub-population. There is some mixing of sub-populations on the sea ice during the winter and spring; however, the degree of interbreeding between sub-populations is unknown (Stewart and Lockhart 2005b). The bears sighted in the 2009 surveys almost certainly belong to the Western Hudson Bay sub-population based on distribution.

8.5.2.1 Encounter Rates

No bears were observed during the 2008 surveys, whereas 22 bears were observed during the 2009 surveys. IQ data suggest that polar bear numbers are increasing in the Chesterfield Inlet area; however, the most recent estimate of the Western Hudson Bay sub-population indicates that the overall abundance has declined from approximately 1,294 in 1987 to 935 in 2004 (COSEWIC 2008).

8.5.2.2 Distribution

The most important factor affecting the seasonal distribution and movement of polar bears is the seasonal variation in sea ice conditions (Stewart and Lockhart 2005b). It is reported in both the literature and IQ that annual ice melt generally forces bears ashore from mid-July through late August; and results from the 2009 survey are consistent with these observations, as the vast majority of bears were sighted along the shoreline. Further, the bears seem to come ashore in the same areas and show long-term site fidelity (Stirling *et al.* 2004).

In the fall, there is a gradual northward movement of the Western Hudson Bay polar bears along the south coast of Hudson Bay, as they gather to await the formation of new sea ice in November. Some bears tagged in the Churchill region move northward along the Kivalliq Coast as far as Chesterfield Inlet (Stirling *et al.* 1999). The movements of 41 adult female bears tagged at Churchill between 1991 and 1998 suggest that bears may concentrate in the area between Cape Churchill and Arviat. This is corroborated by results from the 2009 aerial surveys, as most polar bear sightings occurred in this region, including one sighting of 15 bears.

8.5.3 Pinnipeds

Pinnipeds surveyed included seals and walruses. Aerial surveys conducted in both 2008 and 2009 were designed primarily to detect cetaceans, and consequently, confident identification of seals was not always possible. Local knowledge and available harvest data suggest individuals categorized as 'unidentified' were most likely ringed or harp seals which are the most common seals in the area (AREVA 2009). Walruses were identified from the surveys.

8.5.3.1 Encounter Rates

Our surveys were not designed to adequately detect and identify pinnipeds in water. However, all seal sightings made were recorded. Aerial surveys designed for pinnipeds are generally conducted when there is ice and animals are more easily counted. Aerial survey results seem to concur with literature and IQ, which report seals to be common in the study area. Lunn *et al.* (1997) reported densities ranging from near 0 where ice cover was minimal to over 2 seals per km² where ice cover was dense in the area south of Rankin Inlet. These encounter rates cannot be directly compared to our results due to differences in methodologies, timing and areas covered but do indicate the presence of ringed and bearded seals in the area. Encounter rates calculated in 2008 were approximately two-fold higher than those calculated in 2009.

Walrus sightings were not common, which concurred with literature findings that suggest walruses had been more common and numerous along the west coast of Hudson Bay between Arviat and Chesterfield Inlet in the past (Born *et al.* 1995).

8.5.3.2 Distribution

The ringed seal is the most common and abundant species of seal in Hudson Bay, where it is resident year-round and occurs at virtually any depth (Stewart and Lockhart 2005b). During both the 2008 and 2009 survey programs, seal sightings were predominantly documented close to shore, though several offshore sightings were also noted. This is consistent with the literature, which suggests that, during the open-water season, seals of all ages are typically found nearshore (Stewart and Lockhart 2005b).

Harp seals are seasonal migrants in western Hudson Bay, present from ice breakup in June until just before freeze-up in early October. As recently as the 1970s, harp seal were rare along the Kivalliq coast south of Rankin Inlet; however, with the increase in the Atlantic population, the species may be reoccupying its former range (Stewart and Lockhart 2005b). During the 2009 vessel survey, 13 harp seal sightings were documented in Chesterfield Inlet on August 29, 2009.

Some of the most southerly populations of Atlantic walrus are found in Hudson Bay, though sightings around Churchill are rare (Stewart and Lockhart 2005b). During the July 29, 2009 aerial survey, a herd of approximately 20 walruses was observed, hauled out offshore of Churchill on residual brash ice. Some walruses remain at the ice edge or in the pack ice over the winter, while others move northeast into Hudson Strait.

8.5.4 Bowhead Whale

No bowhead whales were observed during the 2008 or 2009 aerial surveys, suggesting that waters south of Chesterfield Inlet are not prime bowhead whale habitat. This seemingly contradicts the literature, which denoted the study area as pre-commercial bowhead whale habitat and identified it currently as potentially suitable bowhead habitat (Wheeler and Gilbert 2007). The historical presence of a large population of bowhead suggests that there is an area of high productivity in northwestern Hudson Bay, though its existence has not yet been proven. Additionally, Inuit elders interviewed for bowhead information denoted the study area as bowhead whale habitat (NWMB 2000).

Historically, bowhead whales were abundant in northwestern Hudson Bay from mid-May to mid-September. A favourite area for hunting them was the vicinity of Whale Point, north of the mouth of Chesterfield Inlet (Cosens and Innes 2000). A few bowhead whales have been harvested in recent years by Inuit north of the study area, around Repulse Bay (COSEWIC 2009). The lack of bowhead sightings in 2008 and 2009 is consistent with survey results over the same area in 1995 (Cosens and Innes 2000), and suggests that bowhead whales are not common in this area.

8.5.5 Killer Whale

Little is known about the movements or biology of killer whales in Hudson Bay. No killer whales were observed in 2008 or 2009, indicating that they are not frequent visitors to the region. However, residents of Chesterfield Inlet have reported sightings of killer whales in the summer of 2008. Additionally, in a private meeting held on July 30, 2009, members of the Arviat HTO reported seeing a pod of approximately 30 orcas about four years previously off Sentry Island, northeast of Arviat.

Further consultation with residents may yield more information pertaining to specific locations, numbers of animals and apparent behaviours. Several Nunavut communities are reporting increases in abundance and presence of killer whales.

8.5.6 Narwhal

No narwhals were observed during the 2008 or 2009 aerial surveys. This concurs with both the literature and IQ, which identify narwhal habitat primarily north of the study area, in the waters surrounding Southampton Island (e.g., Repulse Bay and Foxe Channel) (Stewart and Lockhart

2005b). Sightings of narwhals to the south, near Arviat, are unusual and have generally been attributed to the presence of killer whales (Stewart and Lockhart 2005b).

9 Summary

This report has been prepared to describe baseline marine environment conditions for AREVA's proposed uranium mine in the Kivalliq region of Nunavut and support the environmental assessment of potential effects of the Project on the marine environment. Literature reviews were conducted for existing information on marine mammals, birds, fish, invertebrates and sea ice and currents in the RSA. Field surveys were conducted in 2008 and 2009 to complement existing data on marine mammals in the study area. The study was successful in collecting available literature, Inuit IQ and field data to better understand temporal and spatial variability in marine mammal abundance and distribution in relation to the study area.

Integration of available scientific literature, IQ and results from Nunami Stantec aerial surveys indicates that marine mammals present in the waters and/or ice habitats along the proposed Project vessel routes include beluga whales, seals, walruses and polar bears.

The lack of bowhead whale, killer whale and/or narwhal sightings during both the 2008 and 2009 surveys suggests that these species are rare in the study area. Literature and IQ confirm that the preferred habitat for these species appears to lie north of the study area, around Repulse Bay and Foxe Basin. Killer whales live at all latitudes and sporadically migrate into Hudson Bay in the summer (Stewart and Lockhart 2005b); while a number of sightings of orca pods have been reported by Inuit communities over the past few years, they were not observed during either the 2008 or 2009 aerial surveys.

Walruses and ringed seals are year-round residents of Hudson Bay, while harp seals are seasonal visitors to the region. In agreement with both the literature and IQ, results from the aerial surveys suggest that ringed and harp seals are the most common pinnipeds in the study area. Survey results indicate that walruses, while not common, are present in southwestern Hudson Bay; information found in the literature and IQ lend support to these observations and affirm that walruses are more abundant in areas north of Chesterfield Inlet.

Observations during Nunami Stantec field surveys complement information presented in both the literature and IQ. All sources indicate that polar bears frequent coastal areas along Western Hudson Bay in the summer, and are most common in the area between Arviat and Churchill.

Results from the aerial surveys indicate that belugas are the most common and abundant cetacean species in Hudson Bay. Other researchers corroborate these findings, reporting aggregations of belugas summering in the estuaries of the Nelson, Churchill and Seal rivers in July and August to be some of the largest known in the world (Richard 2005b). Overall, belugas tended to be observed mainly in coastal areas both in the 2008 and 2009 surveys. This apparent distribution may have been

affected by environmental factors (e.g., SST, chlorophyll *a* or food availability) which are dependent on seasonal changes likely driving annual migration.

10 References

10.1 Literature cited

- Aitken, A.E. and J. Fournier. 1993. Macrobenthos communities of Cambridge, McBeth and Itirbilung fiords, Baffin Island, Northwest Territories, Canada. *Arctic* 46(1):60-71.
- Anderson, J.T. 1979. *Seston and phytoplankton data from Hudson Bay, 1975* (No. Technical Report Series No. 80-2). Department of Fisheries and Oceans. xii + 76 pp
- Anderson, J.T., J.C. Roff and J. Gerrath. 1981. The diatoms and dinoflagellates of Hudson Bay. *Canadian Journal of Botany* 59:1793-1810.
- AREVA. 2009. *Inuit Qaujimajatuqangit Baseline Report for the AREVA Resources Canada Inc. Kiggavik Project.*
- Atkinson, E.G. and J.W. Wacasey. 1989. *Benthic invertebrates collected from Hudson Strait, Foxe Channel and Foxe Basin, Canada 1949-1970*. Canadian Data Report of Fisheries and Aquatic Sciences. 98 pp
- Bjorke, H. 2001. Predators of the squid *Gonatus fabricii* (Lichtenstein) in the Norwegian Sea. *Fisheries Research* 52(1-2):113-120.
- Born, E.W., I. Gjertz and R.R. Reeves. 1995. Population assessment of Atlantic walrus. *Norsk Polarinst. Medd.* 138:100.
- Buckland, S.T., D.R. Anderson, K.P. Burnham, J.L. Laake, D.L. Borchers and L. Thomas. 2001. *Introduction to distance sampling: estimating abundance of biological populations* Oxford University Press. Oxford, United Kingdom.
- Canadian Circumpolar Institute. 1992. Nunavut Atlas. In R. Riewe (ed.), *Canadian Circumpolar Institute and the Tungavik Federation of Nunavut*. Edmonton, AB.
- Chartier, B. and F. Cooke. 1980. Ross' Gulls (*Rhodostethia rosea*) nesting at Churchill, Manitoba, Canada. *American Birds* 34(6):839 - 841.

- Clark, A.H. 1922. Results of the Hudson Bay Expedition, 1920. III. The echinoderms with an addendum by Hubert Lyman Clark. *Canadian Biology* 1:23-25.
- Cosens, S., H. Cleator and P. Richard. 2004. *Results of Aerial Surveys of Bowhead Whales (Balaena mysticetus) in the Eastern Canadian Arctic in 2002, 2003 and 2004*. Canadian Science Advisory Secretariat. 19 pp. (Fisheries and Oceans Canada)
- Cosens, S.E. and S. Innes. 2000. Distribution and numbers of bowhead whales (*Balaena mysticetus*) in northwestern Hudson Bay in August 1995. *Arctic* 53(1):36-41.
- COSEWIC. 2004a. *Assessment and update status report on the beluga whale, Delphinapterus leucas, in Canada*. Committee on the Status of Endangered Wildlife in Canada. Ottawa, ON. ix + 70 pp. (Canadian Wildlife Service, Environment Canada)
- COSEWIC. 2004b. *Assessment and update status report on the narwhal Monodon monoceros in Canada*. Committee on the Status of Endangered Wildlife in Canada. Ottawa, ON. vii + 50 pp. (Canadian Wildlife Service, Environment Canada)
- COSEWIC. 2006. *Assessment and update status report on the Atlantic walrus Odobenus rosmarus rosmarus in Canada*. Committee on the Status of Endangered Wildlife in Canada. Ottawa, ON. ix + 65 pp
- COSEWIC. 2008. *COSEWIC assessment and update status report on the polar bear Ursus maritimus in Canada*. Committee on the Status of Endangered Wildlife in Canada. Ottawa, ON. vii + 75 pp
- COSEWIC. 2009. *COSEWIC assessment and update status report on the bowhead whale Balaena mysticetus, Bering-Chukchi-Beaufort population and Eastern Canada-West Greenland population, in Canada*. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 49 pp pp
- de March, B.G.E. and L.D. Postma. 2003. Molecular genetic stock discrimination of Belugas (*Delphinapterus leucas*) hunted in eastern Hudson Bay, northern Quebec, Hudson Strait, and Sanikiluaq (Belcher Islands), Canada, and comparisons to adjacent populations. *Arctic* 56(2):111-124.

- DFO. 1998. *Hudson Bay Narwhal*. (No. Stock Status Report E5-44). Department of Fisheries and Oceans
- DFO. 2000. *Eastern Beaufort Sea Beluga*. (No. Science Stock Status Report E5-38). Department of Fisheries and Oceans
- DFO. 2005. *Stock assessment of the Northwest Atlantic harp seals (Pagophilus groenlandicus)*. (No. Science Advisory Report 037). Canadian Science Advisory Secretariat, Department of Fisheries and Oceans. 12 pp. (Fisheries and Oceans Canada)
- Dueck, L.P., M.P. Heide-Jørgensen, M.V. Jensen and L.D. Postma. 2006. Update on investigations of bowhead whale (*Balaena mysticetus*) movements in the eastern Arctic, 2003-2005, based on satellite-linked telemetry. *Canadian Science Advisory Secretariat Research Document* 2006/050:1-25.
- Ferland, J., M. Gosselin and M. Starr. 2011. Environmental control of summer primary production in the Hudson Bay system: The role of stratification. *Journal of Marine Systems* in press.
- Frandsen, R.P. and K. Wieland. 2004. *Cephalopods in Greenland waters*. (No. Technical Report No. 57). Institute of Natural Resources. Pinngortitaleriffik, Greenland. 19 pp
- Freshwater Institute. 1994. *Arctic marine workshop proceedings-DRAFT*. Park Establishment Branch, National Parks Directorate, Parks Canada Department of Canadian Heritage. Winnipeg, Manitoba
- Gagnon, A.S. and W.A. Gough. 2005. Trends in the dates of ice freeze-up and breakup over Hudson Bay, Canada. *Arctic* 58(4):370-382.
- Gamble, R.L. 1988. Native harvest of wildlife in the Keewatin Region, Northwest Territories for the period October 1985 to March 1986 and a summary for the entire period of the harvest study from October 1981 to March 1986. *Canadian Data Report for Fisheries and Aquatic Sciences* 688:v + 85.
- Gardiner, K. and T. Dick. 2010. Arctic cephalopod distribution and their associated predators. *Polar Research* 29(2):209-227.
- Gaston, A.J., D.K. Cairns, R.D. Elliot and D.G. Noble. 1985. *A natural history of Digges Sound*. (No. Report Series Number 46). Environment Canada, Canadian Wildlife Service. 63 pp

- Gaston, A.J., K. Woo and J.M. Hipfner. 2003. Trends in forage fish populations in northern Hudson Bay since 1981, as determined from the diet of nestling thick-billed murres (*Uria lomvia*). *Arctic* 56:227-233.
- Gilchrist, H.G. and G.J. Robertson. 2000. Observations of marine birds and mammals wintering at polynyas and ice edges in the Belcher Islands, Nunavut, Canada. *Arctic* 53(1):61-68.
- Giroux, B.S. 1989. *Belcher Islands shellfish investigation*. Unpublished report prepared for the Government of the Northwest Territories, Economic Development and Tourism. Iqaluit, NWT. 16 pp
- Gosselin, J.-F. 2005. *Abundance indices of belugas in James Bay and eastern Hudson Bay in summer 2004* 2005/011. Fisheries and Oceans Canada. Mont-Joli, QC.
- Harvey, M., J.-C. Therriault and N. Simard. 1997. Late summer distribution of phytoplankton in relation to water mass characteristics in Hudson Bay and Hudson Strait (Canada). *Canadian Journal of Fisheries and Aquatic Sciences* 54:1937-1952.
- Harvey, M., J.-C. Therriault and N. Simard. 2001. Hydrodynamic control of late summer species composition and abundance of zooplankton in Hudson Bay and Hudson Strait (Canada). *Journal of Plankton Research* 23(5):481-496.
- Harwood, L.A. and T.G. Smith. 2002. Whales of the Inuvialuit settlement region in Canada's Western Arctic: an overview and outlook. *Arctic* 55:77-93.
- Himmelman, J.H. 1986. Population biology of green sea urchins on rocky barrens. *Marine Ecology Progress Series* 33:295-306.
- Höhn, E.O. 1969. Eskimo bird names at Chesterfield Inlet and Baker Lake, Keewatin, Northwest Territories. *Arctic* 22(1):72-76.
- Hunters and Trappers Association of Nunavut. 1992. *Poison Fire, Sacred Earth: Testimonies, Lectures, Conclusions The World Uranium Hearing* Paper presented at the The World Uranium Hearing Salzburg
- Johannessen, D., D. Haggarty and J. Pringle. 2004. *Boundary Definition for the Central Coast Integrated Management Area*. Canadian Science Advisory Secretariat. 58 pp

- Johnson, L. 1989. *Tha anadromous Arctic charr, Salvelinus alpinus, of Nauyuk Lake, N.W.T., Canada. Proceedings of the International Symposium on Charrs and Masu Salmon* Paper presented at the Proceedings of the International Symposium on Charrs and Masu Salmon, Editorial Office, Kyoto, Japan. 201-227.
- Koski, W.R., M.P. Heide-Jørgensen and K.L. Laidre. 2006. Winter abundance of bowhead whales, *Balaena mysticetus*, in the Hudson Strait, March 1981. *Journal of Cetacean Research and Management* 8(2):139-144.
- Legendre, L., S.F. Ackley, G.S. Dieckmann, B. Gulliksen, R. Horner, T. Hoshiai, et al. 1992. Ecology of sea ice biota. *Polar Biology* 12(3-4):429-444.
- Legendre, L., R.G. Ingram and Y. Simard. 1982. Aperiodic changes of water column stability and phytoplankton in an Arctic coastal embayment, Maniounuk Sound, Hudson Bay. *Naturaliste Canadien* 109(4):775-786.
- Lunn, N.J., I. Stirling and S.N. Nowicki. 1997. Distribution and abundance of ringed (*Phoca hispida*) and bearded seals (*Erignathus barbatus*) in western Hudson Bay. *Canadian Journal of Fisheries & Aquatic Sciences* 54:914-921.
- Mallory, M.L. and A.J. Fontaine. 2004. *Key marine habitat sites for migratory birds in Nunavut and the Northwest Territories*. Canadian Wildlife Service Occasional Paper. (No. 109)
- Mansfield, A.W. 1958. *The biology of the Atlantic walrus Odobenus rosmarus rosmarus (Linnaeus) in the eastern Canadian Arctic*. (No. Manuscript Report 653:xiii). Fisheries Research Board of Canada. 146 pp
- Mansfield, A.W. and D.J. St. Aubin. 1991. Distribution and abundance of the Atlantic walrus, *Odobenus rosmarus rosmarus*, in the Southampton Island-Coats Island Region of northern Hudson Bay. *Canadian Field Naturalist* 105(1):95-100.
- Mercier, F., F. Rennie, D. Harvey and C.A. Lewis. 1994. *Arctic Marine Workshop Proceedings*. (F. Institute). Park Establishment Branch, National Parks Directorate, Parks Canada Department of Canadian Heritage. Winnipeg, Manitoba. vii + 50p pp
- Morel, F.M.M. and N.M. Price. 2003. The biogeochemical cycles of trace metals in the oceans. *Science* 300:994-947.

- Morin, B., C. Hudon and F. Whoriskey. 1991. Seasonal distribution, abundance, and life-history traits of Greenland cod, *Gadus ogac*, at Wemindii, eastern James Bay. *Canadian Journal of Zoology* 69:3061-3070.
- Munk, W. 2003. Ocean freshening, sea level rising. *Science* 300(5628):2041-2043.
- Newell, R.I.E. 1989. *Species profiles: life histories and environmental requirements of coastal fishes and invertebrates (North-Mid-Atlantic) blue mussel*. (No. Biological Report. US Army Corps of Engineers No. 82 (11.102)). US Fisheries and Wildlife Service. 25 pp
- NWMB. 2000. *Nunavut bowhead traditional knowledge study: Final report 2000*. Nunavut Wildlife Management Board
- Outridge, P.M., W.J. Davis, R.E.A. Stewart and E.W. Born. 2003. Investigation of the stock structure of Atlantic walrus (*Odobenus rosmarus rosmarus*) in Canada and Greenland using dental Pb isotopes derived from local geochemical environments. *Arctic* 56:82-90.
- Pedersen, S.A. 1994. Population parameters of the Iceland scallop, (*Chlamys islandica* (Müller)) from West Greenland. *Journal of Northwest Atlantic Fisheries Science* 16:75-87.
- Priest, H. and P.J. Usher. 2004. *The Nunavut Wildlife Harvest Study*. (No. Final Report). Nunavut Wildlife Management Board. 822 pp
- Prinsenber, S.J. 1987. Seasonal current variations observed in western Hudson Bay. *Journal of Geophysical Research* 92(C10):10,756-710,766.
- Rahmstorf, S. 1999. Shifting seas in the greenhouse? *Nature* 399:523-524.
- Reeves, R.R. and E. Mitchell. 1988. Distribution and seasonality of killer whales in the eastern Canadian Arctic. *Rit Fiskideildar* 11:136-160.
- Richard, P. 1991. Abundance and distribution of narwhals (*Monodon monoceros*) in northern Hudson Bay. *Canadian Journal of Fisheries & Aquatic Sciences* 48:276-283.
- Richard, P. 2001. *Marine Mammals of Nunavut*. Teaching and Learning Centre, Qikiqtani School Operations, Department of Education. Iqaluit, Nunavut.
- Richard, P.R. 2005a. *An estimate of the Western Hudson Bay beluga population size in 2004 2005/017*. Canadian Science Advisory Secretariat. Fisheries and Oceans Canada.

- Richard, P.R. 2005b. *An estimate of the Western Hudson Bay beluga population size in 2004*. (No. Report No. 017). Canadian Science Advisory Secretariat, Fisheries and Oceans Canada
- Richard, P.R., J.R. Orr and D.G. Barber. 1990. The distribution and abundance of belugas, *Delphinapterus leucas*, in the eastern Canadian subarctic waters: a review and update. In T. G. Smith, D. J. St. Aubin & J. R. Geraci (Eds.), *Advances in research on the beluga whale, Delphinapterus leucas. Canadian Bulletin of Fisheries and Aquatic Sciences*. Vol. 224, 23-38.
- Richardson, W.J. and B. Malme. 1995. Zones of Noise Influence. In W. J. Richardson, C. R. Greene, B. Malme & D. H. Thomson (Eds.), *Marine Mammals and Noise*. San Diego, CA: Academic Press. 235.
- Riewe, R. (Ed.). 1992. *Nunavut Atlas*. Edmonton, Alberta. Canadian Circumpolar Institute and the Tungavik Federation of Nunavut.
- Roff, J.C. and L. Legendre. 1986. Physio-chemical and biological oceanography of Hudson Bay. *Elsevier Oceanography Series* 44:265-292.
- Saucier, F.J., S. Senneville, S.J. Prinsenberg, F. Roy, G. Smith, P. Gachon, et al. 2004. Modelling the sea ice-ocean seasonal cycle in Hudson Bay, Foxe Basin and Hudson Strait, Canada. *Climate Dynamics* 23:303-326.
- Schneider-Vieira, F., R. Baker and M. Lawrence. 1993. *The estuaries of Hudson Bay: A case study of the physical and biological characteristics of selected sites*. A report prepared for the Hudson Bay Program, Winnipeg, Manitoba.
- Sergeant, D.E. 1973. Biology of white whales (*Delphinapterus leucas*) in western Hudson Bay. *Journal of the Fisheries Research Board of Canada* 30:1065-1090.
- Serreze, M.C., M.M. Holland and J. Stroeve. 2007. Perspectives on the Arctic's shrinking sea-ice cover. *Science* 315:1533-1536.
- Siferd, T.D., H.E. Welch, M.A. Bergman and M.F. Curtis. 1997. Seasonal distribution of sympagic amphipods near Chesterfield Inlet, N.W.T., Canada. *Polar Biology* 18:16-22.
- Smith, T.G. 1975. Ringed seals in James Bay and Hudson Bay: population estimates and catch statistics. *Arctic* 28:170-182.

- Smith, T.G. 1981. *Notes on the bearded seal, Erignathus barbatus, in the Canadian Arctic*. Canadian Technical Report on Fisheries and Aquatic Sciences. 1042:v + 1049 pp
- St. Aubin, D.J., T.G. Smith and J.R. Geraci. 1990. Seasonal epidermal molt in beluga whales, *Delphinapterus leucas*. *Canadian Journal of Zoology* 68(2):359-367.
- Stephenson, S.A. and L. Hartwig. 2010. *The Arctic Marine Workshop*. (Fisheries and Oceans Canada). Freshwater Institute. Winnipeg, MB
- Stewart, D.B. 2002. Review of Atlantic walrus (*Odobenus rosmarus rosmarus*) in Canada. *Canadian Science Advisory Secretariat Research Document* 2002/092.
- Stewart, D.B. and W.L. Lockhart. 2005a. *An overview of the Hudson Bay marine ecosystem*. Canadian Technical Report of Fisheries and Aquatic Sciences. (No. Report No. 2586). 487 pp
- Stewart, D.B. and W.L. Lockhart. 2005b. An overview of the Hudson Bay marine ecosystem. *Canadian Technical Report of Fisheries & Aquatic Sciences* 2586:vi + 487.
- Stirling, I., N.J. Lunn, C. Elliot and M. Obbard. 2004. Polar bear distribution and abundance on the southwestern Hudson Bay coast during open water season, in relation to population trends and annual ice patterns. *Arctic* 57(1):15-26.
- Stirling, I., N.J. Lunn and J. Iacozza. 1999. Long-term trends in the ecology of polar bears in western Hudson Bay in relation to climatic change. *Arctic* 52:294-306.
- Stirling, I. and N.A. Øritsland. 1995. Relationships between estimates of ringed seal (*Phoca hispida*) and polar bear (*Ursus maritimus*) populations in the Canadian Arctic. *Canadian Journal of Fisheries and Aquatic Sciences* 52:2594-2612.
- Thomas, L., J.L. Laake, S. Strindberg, F.F.C. Marques, S.T. Buckland, D.L. Borchers, et al. (2006). Distance 5.0 Release 2. University of St. Andrews, UK.: Research Unit for Wildlife Population Assessment.
- Vellinga, M. and R.A. Wood. 2002. Global climatic impacts of a collapse of the Atlantic thermohaline circulation. *Climatic Change* 54:251-267.
- Welch, H.E., M.A. Bergmann, T.D. Siferd and P.S. Amarualik. 1991. Seasonal development of ice algae near Chesterfield Inlet, N.W.T., Canada. *Canadian Journal of Fisheries & Aquatic Sciences* 48(12):2395-2402.

Welch, H.E. and K. Martin-Bergmann. 1990. Does the clam *Mya truncata* regenerate its siphon after predation by walrus? An experimental approach. *Arctic* 43(2):157-158.

Wheeler, B. and M. Gilbert. 2007. *Determining critical habitat for the Eastern Arctic Bowhead Whale*. Prepared for World Wildlife Fund, Toronto ON. 83 pp

Williams, T.M., J.A. Estes, D.F. Doak and A.M. Springer. 2004. Killer appetites: assessing the role of predators in ecological communities. *Ecology* 85:3373-3384.

10.2 Internet Sites

Bird Studies Canada (BSC). 2011. Canadian Important Bird Areas Catalogue. Available at: <http://www.bsc-eoc.org/iba/sites.html>. Accessed: August 2011.

Environment Canada. 2011. Nunavut Migratory Bird Sanctuary Facts. Available at: <http://www.ec.gc.ca/ap-pa/default.asp?lang=En&n=74BC888B-1>. Accessed: August, 2011.

FishBase. 2011. *Coregonus nasus* (Pallas, 1776). Broad whitefish. Available at: <http://www.fishbase.org/Summary/SpeciesSummary.php?ID=2674&AT=broad+whitefish> . Accessed: July 15, 2011.

Froese, R. and D. Pauly (Editors). 2011. FishBase. World Wide Web Electronic publication. Available at: www.fishbase.org, version (06/2011). Accessed: June 2011.

Government of Canada. 2010. Canadian Hydrographic Service. <http://www.tides.gc.ca/> Available at: <http://www.tides.gc.ca/>. Accessed: July 2011

Sea Duck Joint Venture. 2003. Sea Duck Joint Venture Species Status Reports. Available at: http://www.seaduckjv.org/meetseaduck/species_status_summary.pdf. Accessed: April 7, 2011.

Attachment A Aerial Survey Cheat Sheet

AERIAL SURVEY CHEAT SHEET

Time	Hours, minutes and seconds
Record Type	Sighting, time period, start transect, end transect

Environmental	
Weather	Clear, partly cloudy, overcast, fog, mist, light rain, moderate rain, heavy rain, snow
Ice	% cover (in 10% intervals)
Beaufort Force	Glassy (0); ripples (1); small wavelets (2); smooth wavelets (3); small whitecaps (4); moderate waves, some spray (5)
Glare	None, moderate or severe
Sightability	Excellent, good, moderately impaired, severely impaired, impossible

Sightings	
Species	Beluga; ringed seal; bearded seal; polar bear; walrus; bowhead whale; killer whale
Number	Total number
On/Off Transect	Within or outside of strip transect
Age	Adult; sub-adult; mother/calf; calf; unknown
Angle	Inclinometer angle
Activity	Feeding; resting; milling; socializing; travelling
Behaviour	Diving; swimming; blowing; breaching; tail slap; walking; looking; hauled out; dead; other; unknown
Speed	Slow; medium; fast; unknown
Heading	Clock face direction (12 o'clock is same direction as aircraft)
Other	Oceanographic feature; geographic feature; flocks of birds; ice edge

Lead Observer Records (at beginning/end of transect)	
Transect #	
Date	
Time	Hours, minutes and seconds
Altitude	In metres
Air Temp	In degree Celsius
Wind Speed	In knots
Cloud Cover	% (10% intervals)
St. Prim. Obs	Starboard primary observer's full name
Pt. Prim Obs	Port primary observer's full name
St. Sec. Obs	Starboard secondary observer's full name
Pt. Sec. Obs	Port secondary observer's full name

Attachment B 2008 Aerial Survey Data

Date	Transect number	Observer	Actual Time	Time on Transect (min)	Sightability	Visibility	Weather	Glare	Sea State	Beluga	Seal	Behaviour	Port/ Starboard	Angle of Observation	Comment
September 10, 2008	Coastline from Rankin Inlet to Chesterfield Inlet	Janine	9:42	43	Good	Good		no	2	1			Starboard	40	
September 10, 2008	Coastline from Rankin Inlet to Chesterfield Inlet	Janine	9:46	43	Good	Good		no	1-2	1		Heading north	Starboard	27	
September 10, 2008	Coastline from Rankin Inlet to Chesterfield Inlet	Janine	9:48	43	Good	Good	Clearing up, no rain	no	1	1		Travelling east, very near shore		55	
September 10, 2008	Coastline from Rankin Inlet to Chesterfield Inlet	Janine	10:16	43	Good	Good	Clearing up, no rain		1		1			50	Unidentified seal
September 10, 2008	5	Janine	13:58	18	Good	Excellent	Mixed sun and cloud	75° to heading	2	1			Starboard	35	
September 10, 2008	6	Janine	14:24	14	Good	Excellent	Mixed sun and cloud	270° to heading	2	3		Swimming north	Starboard	30	
September 10, 2008	6	Janine	14:26	14	Good	Excellent	Mixed sun and cloud	270° to heading	2	2		Travelling north east	Starboard	25-30	
September 10, 2008	6	Janine	14:27	14	Good	Excellent	Mixed sun and cloud	270° to heading	2	1		Travelling east	Starboard	30	
September 10, 2008	Between 7 and 8	Mark	missing		Unknown	Excellent	Mixed sun and cloud	270° to heading	2	15		Headed into shore - all oriented in the same direction	Port	Approx 40° - within 100m of observer visibility range	
September 10, 2008	8	Janine	14:55	11	Good	Excellent	Mixed sun and cloud	270° to heading	2	1		Swimming 45° to heading	Starboard: Secondary observer		
September 10, 2008	Between 8 and 9: off transect, circling around animals			3	Good	Excellent	Mixed sun and cloud	270° to heading	2	12		Swimming along the shoreline	Starboard		
September 10, 2008	9	Janine	15:10	13	Good	Excellent	Mixed sun and cloud	120° to heading	2	2		Headed north on Port side (Mark records)	Port: navigator comment		Cow and calf
September 10, 2008	9	Janine	15:15	13	Good	Excellent	Mixed sun and cloud	120° to heading	2	1		Travelling north	Starboard	80	
September 10, 2008	10	Janine	15:40	16	Good	Poor due to glare of sun	overcast with sun	270° to heading	2	3		Heading north	Starboard	30	
September 10, 2008	Off transect: Circling Marble Island	Janine	17:35	13	Good	Poor	Clear skies and sunny	High Glare	2		1	South side on Marble Island seal swimming caraocally/playful towards marble Island at 45o	Starboard: secondary observer	45	
September 11, 2008	Departing Rankin Inlet	Mark	11:23	32 min						1		Headed south (the "wrong" way)	Port		
September 11, 2008	Departing Rankin Inlet	Mark	11:27	32 min						1		Moving east, along the coastline (?)	Port		Not sure if the whale is moving along the coastline. Whale was definitely moving east though.
September 11, 2008	Taking off from Chesterfield	Janine	12:33	61 min						1		Heading east	Starboard	50	
September 11, 2008	Taking off from Chesterfield	Janine	12:33	61 min						1		Heading west	Starboard	70	
September 11, 2008	Circling for group of whales	Todd	12:58	21 min							30		Starboard		Large group (approx 30) spotted by Todd and secondary observer
September 11, 2008	RI - CH	Janine	13:43	61 min							24		Starboard		2 groups seals (2 groups, 10-15 per group)

Date	Transect number	Observer	Actual Time	Time on Transect (min)	Sightability	Visibility	Weather	Glare	Sea State	Beluga	Seal	Behaviour	Port/ Starboard	Angle of Observation	Comment
September 11, 2008	RI - CH	Mark	13:55	61 min						1			Port observer comment		Secondary observer Ron sighted the animal, but no one else saw it
September 11, 2008		Mark	14:43	61 min						1		Headed east - in Chesterfield Inlet	Port		
September 11, 2008		Mark	14:48	61 min						1		Headed west	Port		
September 11, 2008		Mark	14:50	61 min						1		Headed east			
September 11, 2008	1	Todd	15:08	20 min						2			Starboard (seen by Port observer)		2 - 3 belugas
September 11, 2008	2	Mark	15:29	22 min						1		Headed south	Port		NOTE: All belugas seen thus far today, Sept 11th, have been well below the surface
September 11, 2008	2	Mark	15:43	22 min							1	Swimming to the east, appear to be diving	Starboard	75% = 35°	Angle of observation correction by Todd
September 11, 2008	6	Todd	17:26	13 min						1		Swimming slowly to the west, did not break the surface	Starboard	35o off the end of the aircraft	
September 12, 2008	Chesterfield Inlet	Janine	12:04	2 hours					Beaufort State 2	1			Starboard	30 degrees	
September 12, 2008	Off transect: circling to look for animals?	Janine	12:19	10 min							24	Heading for the shore	Starboard		Large group of marine mammals, not sure what they are
September 12, 2008	Shoreline CI to RI	Todd	14:43	24 min						1		Swimming north along coastline	Starboard	35	End of survey (landed in Rankin Inlet)
September 13, 2008	Off transect	Todd	14:49	33 min						1		Swimming north	Starboard	40°	Sighted south side of Baker Forelands
September 13, 2008		Mark	15:00	41 min						1			Port		
September 15, 2008	Coastline	Todd Goodsell	10:50	83 min					3-4	1		Travelling subsurface (1-2 m), did not breach the surface	Starboard		
September 15, 2008	Coastline survey	Todd Goodsell	11:42	83 min						1		Swimming north, subsurface		30°	

Attachment C 2009 Aerial Survey Data

Date	Transect	Time	Weather	Percent Ice Cover	Beaufort	Glare ¹	Sightability ²	Species	Number	Angle	Age	Activity	Behaviour	Comments
July 29, 2009	1	14:35:14	partly cloudy	0	1	NO	EX	seal	1				feeding	flock of birds
July 29, 2009	8	21:40:13	overcast	0	1	MO	GOOD	beluga	1				swimming	
July 29, 2009	8	21:40:52	overcast	0	1	MO	GOOD	beluga	2				swimming	3 - 4 km away
July 29, 2009	8	21:41:15	overcast	0	1	MO	GOOD	beluga	8		adult		swimming	
July 29, 2009	8	21:41:31	overcast	0	1	MO	GOOD	beluga	4		mother/calf		swimming	
July 29, 2009	8	21:41:40	overcast	0	1	MO	GOOD	beluga	1				swimming	
July 29, 2009	8	21:42:03	overcast	0	1	MO	GOOD	beluga	1				swimming	
July 29, 2009	9	21:44:50	overcast	0	1	NO	EX	beluga	1					
July 29, 2009	9	21:45:34	overcast	0	1	NO	EX	beluga	1				swimming	
July 29, 2009	9	21:46:07	overcast	0	1	NO	EX	beluga	2	20			swimming	
July 29, 2009	9	21:46:29	overcast	0	1	NO	EX	beluga	4		adult; mother/calf			
July 29, 2009	9	21:47:16	overcast	0	1	NO	EX	beluga	6				swimming	
July 29, 2009	9	21:47:53	overcast	0	1	NO	EX	beluga	35	65	adult; mother/calf			
July 29, 2009	9	21:48:45	overcast	0	1	NO	EX	beluga	2				swimming	
July 29, 2009	9	21:48:53	overcast	0	1	NO	EX	beluga	6		adult		swimming	
July 29, 2009	Coast	22:56:20	partly cloudy	0	1	MO	GOOD	beluga	2		mother/calf	milling		
July 29, 2009	Coast	22:57:44	partly cloudy	0	1	MO	GOOD	beluga	1		adult			
July 29, 2009	Coast	22:58:56	partly cloudy	0	1	MO	GOOD	beluga	1		adult		diving	
July 29, 2009	Coast	22:59:10	partly cloudy	0	1	MO	GOOD	beluga	4		adult		diving	
July 29, 2009	Coast	22:59:21	partly cloudy	0	1	MO	GOOD	beluga	4		adult		swimming	headed northwards
July 29, 2009	Coast	22:59:37	partly cloudy	0	1	MO	GOOD	beluga	1	30			swimming	headed northwards
July 29, 2009	Coast	23:00:51	partly cloudy	0	1	MO	GOOD	beluga	1		adult	resting		
July 29, 2009	Coast	23:01:12	partly cloudy	0	1	MO	GOOD	beluga	20	21	adult; mother/calf		swimming	
July 29, 2009	Coast	23:02:37	partly cloudy	0	1	MO	GOOD	beluga	4	13				
July 29, 2009	Coast	23:03:11	partly cloudy	0	1	MO	GOOD	beluga	3	35			swimming	
July 29, 2009	Coast	23:03:36	partly cloudy	0	1	MO	GOOD	beluga	15	70	adult; mother/calf	resting		
July 29, 2009	Coast	23:04:17	partly cloudy	0	1	MO	GOOD	beluga	5	65		milling	diving	
July 29, 2009	Coast	23:04:30	partly cloudy	0	1	MO	GOOD	beluga	3			milling		
July 29, 2009	Coast	23:04:38	partly cloudy	0	1	MO	GOOD	beluga	5			resting		
July 29, 2009	Coast	23:04:52	partly cloudy	0	1	MO	GOOD	beluga	7		adult; mother/calf			
July 29, 2009	Coast	23:05:02	partly cloudy	0	1	MO	GOOD	beluga	10				swimming	
July 29, 2009	Coast	23:05:23	partly cloudy	0	1	MO	GOOD	beluga	2	70	mother/calf	resting		
July 29, 2009	Coast	23:05:40	partly cloudy	0	1	MO	GOOD	beluga	3	20		resting		
July 29, 2009	Coast	23:06:03	partly cloudy	0	1	MO	GOOD	beluga	3	25				
July 29, 2009	Coast	23:06:20	partly cloudy	0	1	MO	GOOD	beluga	5	50		resting		
July 29, 2009	Coast	23:06:30	partly cloudy	0	1	MO	GOOD	beluga	1	40			swimming	
July 29, 2009	Coast	23:06:57	partly cloudy	0	1	MO	GOOD	beluga	3				diving	
July 29, 2009	Coast	23:07:15	partly cloudy	0	1	MO	GOOD	beluga	30	22	adult; mother/calf			
July 29, 2009	Coast	23:07:38	partly cloudy	0	1	MO	GOOD	beluga	2				diving	
July 29, 2009	Coast	23:07:43	partly cloudy	0	1	MO	GOOD	beluga	3	60			swimming	
July 29, 2009	Coast	23:07:53	partly cloudy	0	1	MO	GOOD	beluga	1	30			swimming	
July 29, 2009	Coast	23:08:13	partly cloudy	0	1	MO	GOOD	beluga	4				diving	
July 29, 2009	Coast	23:09:35	partly cloudy	0	1	MO	GOOD	beluga	7	35			swimming	heading northwards
July 29, 2009	Coast	23:10:04	partly cloudy	0	1	MO	GOOD	beluga	1				diving	
July 29, 2009	Coast	23:10:22	partly cloudy	0	1	MO	GOOD	beluga	2	30				
July 29, 2009	Coast	23:10:31	partly cloudy	0	1	MO	GOOD	beluga	3	25		resting		
July 29, 2009	Coast	23:10:47	partly cloudy	0	1	MO	GOOD	beluga	5	65		resting		
July 29, 2009	Coast	23:11:08	partly cloudy	0	1	MO	GOOD	beluga	2	70			swimming	
July 29, 2009	Coast	23:11:24	partly cloudy	0	1	MO	GOOD	beluga	40	70	adult; mother/calf		swimming	
July 29, 2009	Coast	23:11:42	partly cloudy	0	1	MO	GOOD	beluga	20	35				
July 29, 2009	Coast	23:11:56	partly cloudy	0	1	MO	GOOD	beluga	10	40			swimming	
July 29, 2009	Coast	23:12:14	partly cloudy	0	1	MO	GOOD	beluga	10	70		resting		
July 29, 2009	Coast	23:13:02	partly cloudy	0	1	MO	GOOD	beluga	5	50		resting		
July 29, 2009	Coast	23:13:44	partly cloudy	0	1	MO	GOOD	beluga	1	40		resting		
July 29, 2009	Coast	23:14:20	partly cloudy	0	1	MO	GOOD	beluga	5	40			diving	
July 29, 2009	Coast	23:14:40	partly cloudy	0	1	MO	GOOD	beluga	2	60		resting		
July 29, 2009	Coast	23:14:55	partly cloudy	0	1	MO	GOOD	beluga	4	30				
July 29, 2009	Coast	23:15:06	partly cloudy	0	1	MO	GOOD	beluga	2	55			diving	
July 29, 2009	Coast	23:15:12	partly cloudy	0	1	MO	GOOD	beluga	4	68			swimming	
July 29, 2009	Coast	23:15:25	partly cloudy	0	1	MO	GOOD	beluga	2	50			diving	

Date	Transect	Time	Weather	Percent Ice Cover	Beaufort	Glare ¹	Sightability ²	Species	Number	Angle	Age	Activity	Behaviour	Comments
July 29, 2009	Coast	23:24:12	partly cloudy	0	1	NO	EX	beluga	5	25		resting		
July 29, 2009	Coast	23:24:47	partly cloudy	0	1	NO	EX	beluga	4				swimming	
July 29, 2009	Coast	23:25:29	partly cloudy	0	1	NO	EX	beluga	4	50		resting		
July 29, 2009	Coast	23:26:15	clear	0	1	NO	EX	beluga	1	50			diving	
July 29, 2009	Coast	23:34:20	clear	0	1	NO	EX	beluga	1	25			swimming	
July 29, 2009	Coast	0:05:40	clear	0	1	NO	EX	beluga	2	25	adult	resting		
July 29, 2009	Coast	14:02:53	overcast	0	0	NO	EX	seal (unID)	1	61		milling		small, not bearded seals
July 29, 2009	Coast	14:02:54	overcast	0	0	NO	EX	seal (unID)	1	38		milling		small, not bearded seals
July 29, 2009	Coast	14:05:03	overcast	0	0	NO	EX	seal (unID)	1	45		milling		kelp bed
July 29, 2009	Coast	14:05:04	overcast	0	0	NO	EX	seal (unID)	1	56		milling		kelp bed
July 29, 2009	8	21:34:00	high overcast	5	2	MO	MI	walrus	20	12			hauled out	herd
July 29, 2009	8	21:39:00	high overcast	1	1	NO	GOOD	polar bear	1	40			swimming	
July 29, 2009	8	21:40:00	high overcast	1	2	MO	GOOD	beluga	1	50			swimming	
July 29, 2009	8	21:41:02	high overcast	1	2	MO	GOOD	beluga	15	43			swimming	
July 29, 2009	8	21:41:05	high overcast	1	2	MO	GOOD	beluga	9	65			swimming	
July 29, 2009	8	21:41:11	high overcast	1	2	MO	GOOD	beluga	5	25			swimming	
July 29, 2009	9	21:45:00	high overcast	0	2	NO	GOOD	beluga	6	53	mother/calf			
July 29, 2009	9	21:45:03	high overcast	0	2	NO	GOOD	beluga	2	22				
July 29, 2009	9	21:45:11	high overcast	0	2	NO	GOOD	beluga	1	30				
July 29, 2009	9	21:45:13	high overcast	0	2	NO	GOOD	beluga	4	43	mother/calf			
July 29, 2009	9	21:45:16	high overcast	0	2	NO	GOOD	beluga	1	19				
July 29, 2009	9	21:46:05	high overcast	0	2	NO	GOOD	beluga	5		mother/calf			
July 29, 2009	9	21:46:06	high overcast	0	2	NO	GOOD	beluga	4					
July 29, 2009	9	21:46:08	high overcast	0	2	NO	GOOD	beluga	1	25				
July 29, 2009	9	21:54:22	high overcast	0	1	NO	GOOD	beluga	200	4			socializing	
July 29, 2009	9	21:54:28	high overcast	0	1	NO	GOOD	beluga	1	41	adult			
July 29, 2009	9	21:54:29	high overcast	0	1	NO	GOOD	beluga	1	46	adult			
July 29, 2009	9	21:54:56	high overcast	0	1	NO	GOOD	beluga	6	20			feeding	
July 29, 2009	9	21:54:56	high overcast	0	1	NO	GOOD	beluga	6					
July 29, 2009	9	21:54:56	high overcast	0	1	NO	GOOD	beluga	8					
July 29, 2009	9	21:55:00	high overcast	0	1	NO	GOOD	beluga	12					
July 29, 2009	9	21:55:02	high overcast	0	1	NO	GOOD	beluga	6					
July 29, 2009	9	21:55:02	high overcast	0	1	NO	GOOD	beluga	5					
July 29, 2009	9	21:55:03	high overcast	0	1	NO	GOOD	beluga	8					
July 29, 2009	9	21:55:49	high overcast	0	1	NO	GOOD	beluga	2	31			swimming	
July 29, 2009	9	21:56:54	high overcast	0	1	NO	GOOD	beluga	7				swimming	
July 29, 2009	9	21:56:55	high overcast	0	1	NO	GOOD	beluga	8				swimming	
July 29, 2009	Coast	22:55:27	high overcast	0	3	SEV	MI	beluga	4	47	mother/calf			
July 29, 2009	Coast	22:56:05	high overcast	0	3	SEV	MI	beluga	30	10 - 63			feeding	
July 29, 2009	Coast	22:56:38	high overcast	0	3	SEV	MI	beluga	4	57	mother; subadult			right at shoreline
July 29, 2009	Coast	22:57:21	high overcast	0	3	SEV	MI	beluga	1	30	adult		surfacing	
July 29, 2009	Coast	23:01:12	high overcast	0	3	SEV	MI	beluga	2	60	mother/sub-adult			
July 29, 2009	Coast	23:03:25	high overcast	0	3	SEV	MI	beluga	6	58	2 mother/calf; 2 adults			
July 29, 2009	Coast	23:05:18	high overcast	0	3	SEV	MI	beluga	3	23	mother/calf			
July 29, 2009	Coast	23:05:26	high overcast	0	3	SEV	MI	beluga	5	60				
July 29, 2009	Coast	23:06:48	high overcast	0	2	SEV	SI	beluga	3					
July 29, 2009	Coast	23:06:49	high overcast	0	2	SEV	SI	beluga	1					
July 29, 2009	Coast	23:07:17	high overcast	0	2	SEV	SI	beluga	12		mother/calf			
July 29, 2009	Coast	23:07:40	high overcast	0	2	SEV	SI	beluga	4	55	mother/sub-adult			
July 29, 2009	Coast	23:07:50	high overcast	0	2	SEV	SI	beluga	8					
July 29, 2009	Coast	23:07:51	high overcast	0	2	SEV	SI	beluga	2					
July 29, 2009	Coast	23:08:06	high overcast	0	2	SEV	SI	beluga	1					
July 29, 2009	Coast	23:08:48	high overcast	0	2	SEV	SI	beluga	2		adult			
July 29, 2009	Coast	23:09:27	high overcast	0	2	SEV	SI	beluga	4	9				
July 29, 2009	Coast	23:09:41	high overcast	0	2	SEV	SI	beluga	1	23			surfacing	
July 29, 2009	Coast	23:09:43	high overcast	0	2	SEV	SI	beluga	1	48				
July 29, 2009	Coast	23:10:37	high overcast	0	2	MO	MI	beluga	1	47	adult		diving	
July 29, 2009	Coast	23:10:59	high overcast	0	2	MO	MI	beluga	6	20				
July 29, 2009	Coast	23:11:52	high overcast	0	2	MO	MI	beluga	50	9 - 70				scattered, small groups
July 29, 2009	Coast	23:11:56	high overcast	0	2	MO	MI	beluga	90	65			milling	

Date	Transect	Time	Weather	Percent Ice Cover	Beaufort	Glare ¹	Sightability ²	Species	Number	Angle	Age	Activity	Behaviour	Comments
July 29, 2009	Coast	23:13:10	high overcast	0	2	MO	MI	beluga	6	12				
July 29, 2009	Coast	23:14:20	high overcast	0	2	SEV	MI	beluga	2	23			milling	
July 29, 2009	Coast	23:17:36	high overcast	0	2	SEV	MI	polar bear	15	55	adults/cubs			feeding on beluga carcass
July 29, 2009	Coast	23:21:02	high overcast	0	2	SEV	MI	beluga	4	9			feeding	
July 29, 2009	Coast	23:24:02	high overcast	0	1	MO	GOOD	beluga	3	38				
July 29, 2009	Coast	23:24:54	high overcast	0	1	MO	GOOD	beluga	1	55			swimming	
July 29, 2009	Coast	23:25:55	high overcast	0	1	MO	GOOD	beluga	5	35	mother/calf			
July 29, 2009	Coast	23:25:56	high overcast	0	1	MO	GOOD	beluga	3	37	mother/subadult			
July 29, 2009	Coast	23:26:21	high overcast	0	1	MO	GOOD	beluga	1	18			swimming	
July 29, 2009	Coast	23:41:41	high overcast	0	3	SEV	SI	beluga	1	46			swimming	
July 29, 2009	Coast	23:41:43	high overcast	0	3	SEV	SI	beluga	2	58				
July 29, 2009	Coast	23:48:45	high overcast	0	3	SEV	SI	seal	6	60			hauled out	
July 30, 2009	Coast	13:52:15	partly cloudy	0	0	MO	EX	seals	7					
July 30, 2009	Coast	13:54:08	partly cloudy	0	0	MO	EX	seal	5					~10 km away
July 30, 2009	6	19:12:31	overcast	0	1	MO	GOOD	beluga	10	25			travelling	incidental
July 30, 2009	Coast	19:24:37	overcast/fog	0	1	MO	GOOD	beluga	10	60	adult; mother/calf pairs		milling	
July 30, 2009	Coast	19:31:53	overcast/fog	0	1	MO	MI	beluga	1	55	adult			
July 30, 2009	Coast	19:31:56	overcast/fog	0	1	MO	MI	beluga	10	55	adults; mother/calf pairs		milling	
July 30, 2009	Coast	19:38:15	overcast	0	1	MO	GOOD	beluga	2	35				
July 30, 2009	Coast	19:38:26	overcast	0	1	MO	GOOD	beluga	1	53			diving	
July 30, 2009	Coast	19:38:45	overcast	0	1	MO	GOOD	beluga	10	21				
July 30, 2009	Coast	19:38:58	overcast	0	1	MO	GOOD	beluga	5	10				
July 30, 2009	Coast	19:39:07	overcast	0	1	MO	GOOD	beluga	15	8				
July 30, 2009	Coast	19:39:57	overcast	0	1	MO	GOOD	beluga	2	31	adults		milling	
July 30, 2009	Coast	19:41:29	overcast	0	1	MO	GOOD	beluga	8	14				
July 30, 2009	Coast	19:42:14	overcast	0	1	MO	GOOD	beluga	4	13				
July 30, 2009	Coast	19:42:57	overcast	0	1	MO	GOOD	beluga	1	18	adult		diving	
July 30, 2009	Coast	19:44:23	overcast	0	1	MO	GOOD	beluga	15	6				
July 30, 2009	Coast	19:44:43	overcast	0	1	MO	GOOD	beluga	5				swimming	
July 30, 2009	Coast	19:44:49	overcast	0	1	MO	GOOD	beluga	2					
July 30, 2009	Coast	19:45:00	overcast	0	1	MO	GOOD	beluga	4		mother/calf		swimming	
July 30, 2009	Coast	19:46:00	overcast	0	1	MO	GOOD	beluga						
July 30, 2009	Coast	19:47:39	overcast	0	1	MO	GOOD	beluga	15					
July 30, 2009	Coast	19:47:55	overcast	0	1	MO	GOOD	beluga	6	48			swimming	
July 30, 2009	Coast	19:48:00	overcast	0	1	MO	GOOD	beluga	4				swimming	
July 30, 2009	Coast	19:48:20	overcast	0	1	MO	GOOD	beluga	50				milling	
July 30, 2009	Coast	19:48:37	overcast	0	1	MO	GOOD	beluga	2	14				
July 30, 2009	Coast	19:49:15	overcast	0	1	MO	GOOD	beluga	4	30			swimming	
July 30, 2009	Coast	19:49:51	overcast	0	1	MO	GOOD	beluga	4					just under surface
July 30, 2009	Coast	19:50:10	overcast	0	1	MO	GOOD	beluga	50					
July 30, 2009	Coast	19:50:25	overcast	0	1	MO	GOOD	beluga	8				swimming	
July 30, 2009	Coast	19:50:28	overcast	0	1	MO	GOOD	beluga	20	16				
July 30, 2009	Coast	19:50:51	overcast	0	1	MO	GOOD	beluga	60	30 - 60			milling	
July 30, 2009	Coast	19:51:50	overcast	0	1	MO	GOOD	beluga	10	20				
July 30, 2009	Coast	19:52:14	overcast	0	1	MO	GOOD	beluga	2	14			diving	
July 30, 2009	Coast	19:52:44	overcast	0	1	MO	GOOD	beluga	3		adult		swimming	
July 30, 2009	Coast	19:52:55	overcast	0	1	MO	GOOD	beluga	1	15	adult			
July 30, 2009	Coast	19:56:00	overcast	0	1	MO	GOOD	beluga	1				diving	
July 30, 2009	Coast	19:58:00	overcast	0	1	MO	GOOD	beluga	10				swimming	
July 30, 2009	Coast	19:58:02	overcast	0	1	MO	GOOD	beluga	30				milling	many groups of 5 - 15 individuals ranging from angles 10 - 70; take up entire field of view;
July 30, 2009	OFF	20:42:49	partly cloudy	0	1	MO	EX	beluga	7	30				incidental; spotted en route to transect waypoint right by churchill river
July 30, 2009	OFF	20:43:00	partly cloudy	0	1	MO	EX	beluga	3	70			diving	incidental; spotted en route to transect waypoint
July 30, 2009	OFF	20:43:19	partly cloudy	0	1	MO	EX	beluga	3	25			milling	incidental; spotted en route to transect waypoint
July 30, 2009	9	20:46:36	partly cloudy	0	1	MO	EX	beluga	1				diving	below surface
July 30, 2009	9	20:47:45	partly cloudy	0	1	MO	EX	beluga	2	20			diving	
July 30, 2009	9	20:48:02	partly cloudy	0	1	MO	EX	beluga	1				diving	skittish in response to plane
July 30, 2009	9	20:49:50	partly cloudy	0	1	MO	EX	beluga	10	13				
July 30, 2009	9	20:50:15	partly cloudy	0	1	MO	EX	beluga	3		adult		diving	
July 30, 2009	9	20:50:25	partly cloudy	0	1	MO	EX	beluga	12				swimming	
July 30, 2009	9	20:50:49	partly cloudy	0	1	MO	EX	beluga	3	23			milling	

Date	Transect	Time	Weather	Percent Ice Cover	Beaufort	Glare ¹	Sightability ²	Species	Number	Angle	Age	Activity	Behaviour	Comments
July 30, 2009	9	20:51:08	partly cloudy	0	1	MO	EX	beluga	7	60				
July 30, 2009	9	20:51:15	partly cloudy	0	1	MO	EX	beluga	2	70	adult			
July 30, 2009	9	20:51:29	partly cloudy	0	1	MO	EX	beluga	5	40			milling	
July 30, 2009	9	20:51:57	partly cloudy	0	1	MO	EX	beluga	4	47			milling	
July 30, 2009	9	20:52:16	partly cloudy	0	1	MO	EX	beluga	12				milling	diving in response to plane
July 30, 2009	9	20:52:36	partly cloudy	0	1	MO	EX	beluga	15	50 - 70	adult;mother/calf		milling	
July 30, 2009	9	20:53:05	partly cloudy	0	1	MO	EX	beluga	1					
July 30, 2009	9	20:53:31	partly cloudy	0	1	MO	EX	beluga	8	15				
July 30, 2009	9	20:55:07	partly cloudy	0	1	MO	EX	beluga	4	46	mother/calf		milling	
July 30, 2009	9	20:57:07	partly cloudy	0	1	MO	EX	beluga	2	15			milling	
July 30, 2009	9	20:57:47	partly cloudy	0	1	MO	EX	beluga	1				diving	
July 30, 2009	9	20:58:01	partly cloudy	0	1	MO	EX	beluga	1				milling	
July 30, 2009	9	20:58:10	partly cloudy	0	1	MO	EX	beluga	5	45	adults			
July 30, 2009	9	20:58:24	partly cloudy	0	1	MO	EX	beluga	6	42				
July 30, 2009	9	20:58:45	partly cloudy	0	1	MO	EX	beluga	5	35			diving	
July 30, 2009	9	20:59:17	partly cloudy	0	1	MO	EX	beluga	10	8				
July 30, 2009	9	20:59:20	partly cloudy	0	1	MO	EX	beluga	4	18			milling	
July 30, 2009	9	20:59:39	partly cloudy	0	1	MO	EX	beluga	2	25			diving	
July 30, 2009	9	21:00:07	partly cloudy	0	1	MO	EX	beluga	4	18				
July 30, 2009	9	21:00:19	partly cloudy	0	1	MO	EX	beluga	20	48				
July 30, 2009	9	21:00:39	partly cloudy	0	1	MO	EX	beluga	2	70			milling	
July 30, 2009	8	21:03:29	partly cloudy	0	1	MO	EX	beluga	1	10				
July 30, 2009	8	21:03:55	partly cloudy	0	1	MO	EX	beluga	15	30				
July 30, 2009	8	21:04:38	partly cloudy	0	1	MO	EX	beluga	2	17			milling	
July 30, 2009	8	21:04:57	partly cloudy	0	1	MO	EX	beluga	3	14				
July 30, 2009	8	21:05:08	partly cloudy	0	1	MO	EX	beluga	5	40				
July 30, 2009	8	21:05:37	partly cloudy	0	1	MO	EX	beluga	1		adult		diving	
July 30, 2009	Coast	13:13:00	overcast	0	2	NO	GOOD	seal	1	47			surfacing	
July 30, 2009	Coast	13:48:11	high overcast	0	0	MO	EX	seal	2				surfacing	
July 30, 2009	4	17:30:03	rain/mist	0	2	NO	MI	beluga	1	35			resting	
July 30, 2009	6	18:53:11	partly cloudy	0	3	NO	GOOD	seal	3	31			travelling	
July 30, 2009	6	19:03:25	overcast	0	2	NO	GOOD	seal	1	23			surfacing	
July 30, 2009	OFF	19:16:34	high overcast	0	3	NO	GOOD	beluga	1	50				
July 30, 2009	OFF	19:19:28	high overcast	0	3	NO	GOOD	beluga	1	25	adult		swimming	
July 30, 2009	Coast	19:24:53	high overcast	0	3	NO	GOOD	beluga	10		adult; mother/calf pairs		travelling	
July 30, 2009	Coast	19:33:01	high overcast	0	3	NO	GOOD	polar bear	1				swimming	towards shore
July 30, 2009	Coast	19:38:24	high overcast	0	3	NO	GOOD	beluga	1	32			swimming	
July 30, 2009	Coast	19:38:49	high overcast	0	3	NO	GOOD	beluga	1	52			diving	
July 30, 2009	Coast	19:39:08	high overcast	0	3	NO	GOOD	beluga	4				diving	
July 30, 2009	Coast	19:43:10	high overcast	0	3	NO	GOOD	beluga	16	33				
July 30, 2009	Coast	19:43:12	high overcast	0	3	NO	GOOD	beluga	10	42			swimming	
July 30, 2009	Coast	19:45:33	high overcast	0	3	NO	GOOD	beluga	9	19	mother/calf			
July 30, 2009	Coast	19:46:55	high overcast	0	3	NO	GOOD	beluga	15	55				
July 30, 2009	Coast	19:47:20	high overcast	0	3	NO	GOOD	beluga	25		2 mother/calf pairs			
July 30, 2009	Coast	19:47:25	high overcast	0	3	NO	GOOD	beluga	6					
July 30, 2009	Coast	19:47:49	high overcast	0	3	NO	GOOD	beluga	6		mother/calf			
July 30, 2009	Coast	19:48:03	high overcast	0	3	NO	GOOD	beluga	40	10 - 68				
July 30, 2009	Coast	19:50:29	high overcast	0	3	NO	GOOD	beluga	100					entire field of view scattered groups
July 30, 2009	Coast	19:50:50	high overcast	0	3	NO	GOOD	beluga	30					
July 30, 2009	Coast	19:51:05	high overcast	0	3	NO	GOOD	beluga	8		mother/calf			
July 30, 2009	Coast	19:53:40	high overcast	0	3	NO	GOOD	beluga	5	28	mother/calf			
July 30, 2009	Coast	19:56:11	high overcast	0	3	NO	GOOD	beluga	1				diving	skittish
July 30, 2009	Coast	20:03:12	high overcast	0	2	NO	GOOD	beluga	3				milling	
July 30, 2009	OFF	20:03:44	high overcast	0	2	NO	GOOD	beluga	35	15 - 65			milling	skittish
July 30, 2009	9	20:46:51	high overcast	0	2	NO	GOOD	beluga	2	13			milling	
July 30, 2009	9	20:47:56	high overcast	0	2	NO	GOOD	beluga	2	37	adult; sub-adult			
July 30, 2009	9	20:48:49	high overcast	0	2	NO	GOOD	beluga	4	42	mother/calf; adult			
July 30, 2009	9	20:49:01	high overcast	0	2	NO	GOOD	beluga	3	28	mother/calf; adult			
July 30, 2009	9	20:50:02	high overcast	0	2	NO	GOOD	beluga	3	13				
July 30, 2009	9	20:50:30	high overcast	0	2	NO	GOOD	beluga	1	58				

Date	Transect	Time	Weather	Percent Ice Cover	Beaufort	Glare ¹	Sightability ²	Species	Number	Angle	Age	Activity	Behaviour	Comments
July 30, 2009	9	20:50:35	high overcast	0	2	NO	GOOD	beluga	1	45				
July 30, 2009	9	20:51:03	high overcast	0	2	NO	GOOD	beluga	3	35	adult			
July 30, 2009	9	20:51:12	high overcast	0	2	NO	GOOD	beluga	1	24				
July 30, 2009	9	20:51:13	high overcast	0	2	NO	GOOD	beluga	1	20				
July 30, 2009	9	20:51:27	high overcast	0	2	NO	GOOD	beluga	6	52	adult; sub-adult			
July 30, 2009	9	20:52:39	high overcast	0	2	NO	GOOD	beluga	2	27				
July 30, 2009	9	20:52:47	high overcast	0	2	NO	GOOD	beluga	50	15 - 60				
July 30, 2009	9	20:53:25	high overcast	0	2	NO	GOOD	beluga	4	27	adult; mother/calf pairs			
July 30, 2009	9	20:53:25	high overcast	0	2	NO	GOOD	beluga	2	30				
July 30, 2009	9	20:53:25	high overcast	0	2	NO	GOOD	beluga	4	15				
July 30, 2009	9	20:54:22	high overcast	0	2	NO	GOOD	beluga	4	35				
July 30, 2009	9	20:54:22	high overcast	0	2	NO	GOOD	beluga	6	12				
July 30, 2009	9	20:54:36	high overcast	0	2	NO	GOOD	beluga	2	45	mother.calf			
July 30, 2009	9	20:54:43	high overcast	0	2	NO	GOOD	beluga	4	22				
July 30, 2009	9	20:55:17	high overcast	0	2	NO	GOOD	beluga	30					
July 30, 2009	9	20:55:34	high overcast	0	2	NO	GOOD	beluga	8	29				
July 30, 2009	9	20:56:37	high overcast	0	1	NO	GOOD	beluga	22	19	adult; mother/calf pairs			
July 30, 2009	9	20:58:05	high overcast	0	1	NO	GOOD	beluga	1	37				
July 30, 2009	9	20:58:11	high overcast	0	1	NO	GOOD	beluga	1	13				
July 30, 2009	9	20:58:15	high overcast	0	1	NO	GOOD	beluga	15	12				facing each other; appeared to be a social interaction
July 30, 2009	9	20:58:45	high overcast	0	1	NO	GOOD	beluga	3	45	adult;mother/calf			
July 30, 2009	9	20:59:07	high overcast	0	1	NO	GOOD	beluga	2	60	mother/calf			
July 30, 2009	9	20:59:20	high overcast	0	1	NO	GOOD	beluga	1					
July 30, 2009	9	20:59:35	high overcast	0	1	NO	GOOD	beluga	6	27				
July 30, 2009	9	20:59:42	high overcast	0	1	NO	GOOD	beluga	1	45				
July 30, 2009	9	20:59:42	high overcast	0	1	NO	GOOD	beluga	2	50				
July 30, 2009	9	21:00:11	high overcast	0	1	NO	GOOD	beluga	7	33				
July 30, 2009	9	21:00:11	high overcast	0	1	NO	GOOD	beluga	5	30				
July 30, 2009	9	21:00:11	high overcast	0	1	NO	GOOD	beluga	2	27				
July 30, 2009	9	21:00:35	high overcast	0	1	NO	GOOD	beluga	7	52				
July 30, 2009	9	21:00:46	high overcast	0	1	NO	GOOD	beluga	3	45				
July 30, 2009	9	21:00:52	high overcast	0	1	NO	GOOD	beluga	12	47	mother/calf; adult			
July 30, 2009	9	21:01:08	high overcast	0	1	NO	GOOD	beluga	10	40				
July 30, 2009	9	21:01:17	high overcast	0	1	NO	GOOD	beluga	11	29				shallow water
July 30, 2009	8	21:03:58	high overcast	0	1	MO	GOOD	beluga	4	13				
July 30, 2009	8	21:04:14	high overcast	0	1	MO	GOOD	beluga	2	21				
July 30, 2009	8	21:04:52	high overcast	0	1	MO	GOOD	beluga	4	43	mother; subadult		travelling	
July 30, 2009	8	21:05:15	high overcast	0	1	MO	GOOD	beluga	7	30 - 40			milling	
July 30, 2009	8	21:30:29	high overcast	40	0	NO	EX	seal	1	47				
July 30, 2009	7	22:20:18	high overcast	0	3	NO	GOOD	beluga	1	48	adult			
August 31, 2009	8	12:18:36	clear	0	0	SEV	MI	beluga	1	35				
August 31, 2009	8	12:18:52	clear	0	0	SEV	MI	beluga	2					
August 31, 2009	8	12:19:03	clear	0	0	SEV	MI	beluga	1				diving	
August 31, 2009	8	12:19:10	clear	0	0	SEV	MI	beluga	1	75			swimming	
August 31, 2009	8	12:19:21	clear	0	0	SEV	MI	beluga	2	65	mother/calf		swimming	
August 31, 2009	8	12:19:32	clear	0	0	SEV	MI	beluga	8					
August 31, 2009	8	12:19:55	clear	0	0	MO	MI	beluga	50	43				
August 31, 2009	8	12:20:17	clear	0	0	MO	MI	beluga	1	20				
August 31, 2009	8	12:20:22	clear	0	0	MO	MI	beluga	2	70				
August 31, 2009	8	12:20:34	clear	0	0	MO	MI	beluga	2	20	mother/calf			
August 31, 2009	8	12:20:54	clear	0	0	MO	MI	beluga	2	35	adult		swimming	
August 31, 2009	8	12:21:40	clear	0	0	MO	MI	beluga	2	65	adult		swimming	
August 31, 2009	8	12:22:05	clear	0	0	MO	MI	beluga	1	30	adult		swimming	
August 31, 2009	8	12:22:16	clear	0	0	MO	MI	beluga	2	12				
August 31, 2009	8	12:22:25	clear	0	0	MO	MI	beluga	2	70	mother/calf			
August 31, 2009	8	12:22:44	clear	0	0	MO	MI	beluga	3	70	adult		swimming	
August 31, 2009	8	12:23:04	clear	0	0	MO	MI	beluga	4	65				
August 31, 2009	8	12:23:12	clear	0	0	MO	MI	beluga	5	20	adult		diving	
August 31, 2009	9	12:26:48	clear	0	0	MO	EX	beluga	100				milling	
August 31, 2009	9	12:27:40	clear	0	0	MO	EX	beluga	150	50	adult; mother/calf		swimming at surface	

Date	Transect	Time	Weather	Percent Ice Cover	Beaufort	Glare ¹	Sightability ²	Species	Number	Angle	Age	Activity	Behaviour	Comments
August 31, 2009	9	12:28:10	clear	0	0	MO	EX	beluga	8	30				
August 31, 2009	9	12:28:22	clear	0	0	MO	EX	beluga	4	50			swimming	
August 31, 2009	9	12:28:35	clear	0	0	MO	EX	beluga	2	35	adult			
August 31, 2009	9	12:28:37	clear	0	0	MO	EX	beluga	10	12				
August 31, 2009	9	12:28:53	clear	0	0	MO	EX	beluga	55	60				
August 31, 2009	9	12:29:23	clear	0	0	MO	EX	beluga	100	48	adult; mother/calf		swimming/resting at surface	spaced out a bit; in little groups 2 - 8 but all relatively close to each other
August 31, 2009	9	12:30:08	clear	0	0	MO	EX	beluga	20	30				
August 31, 2009	9	12:30:32	clear	0	0	MO	EX	beluga	20	13				
August 31, 2009	9	12:31:02	clear	0	0	MO	EX	beluga	6	40			swimming	
August 31, 2009	9	12:31:10	clear	0	0	MO	EX	beluga	4	65				high densities in churchill river estuary
August 31, 2009	9	12:39:23	clear	0	0	MO	EX	beluga	30	30				
August 31, 2009	9	12:39:50	clear	0	0	MO	EX	beluga	2	70			diving	
August 31, 2009	9	12:40:00	clear	0	0	MO	EX	beluga	6	38			resting	
August 31, 2009	9	12:40:06	clear	0	0	MO	EX	beluga	1	46				
August 31, 2009	9	12:40:29	clear	0	0	MO	EX	beluga	1	41			diving	
August 31, 2009	9	12:40:50	clear	0	0	MO	EX	beluga	2	20	mother/calf		resting	
August 31, 2009	9	12:41:20	clear	0	0	MO	EX	beluga	10	45			resting	
August 31, 2009	9	12:41:33	clear	0	0	MO	EX	beluga	200				resting	whales take up entire field of view - can't get clinometer reading
August 31, 2009	Coast	13:36:25	clear	0	0	MO	GOOD	beluga	10	30				
August 31, 2009	Coast	13:36:36	clear	0	0	MO	GOOD	beluga	1	35			swimming	
August 31, 2009	Coast	13:36:47	clear	0	0	MO	GOOD	beluga	8	30				
August 31, 2009	Coast	13:36:55	clear	0	0	MO	GOOD	beluga	10	70	mother/calf; adult		diving	appear skittish in response to plane
August 31, 2009	Coast	13:46:36	clear	0	1	SEV	MI	beluga	2	12			resting at surface	
August 31, 2009	Coast	13:47:12	clear	0	1	SEV	MI	beluga	6	14				
August 31, 2009	Coast	13:47:29	clear	0	1	SEV	MI	beluga	5	55				
August 31, 2009	Coast	13:47:36	clear	0	1	SEV	MI	beluga	3	35				
August 31, 2009	Coast	13:47:40	clear	0	1	SEV	MI	beluga	5	18			resting at surface	
August 31, 2009	Coast	13:47:49	clear	0	1	SEV	MI	beluga	2	35	mother/calf		swimming	
August 31, 2009	Coast	13:48:00	clear	0	1	SEV	MI	beluga	15	24			swimming	
August 31, 2009	Coast	13:48:10	clear	0	1	SEV	MI	beluga	4	65			swimming	
August 31, 2009	Coast	13:48:30	clear	0	1	SEV	MI	beluga	1	40				
August 31, 2009	Coast	13:48:37	clear	0	1	SEV	MI	beluga	2	70	mother/calf			
August 31, 2009	Coast	13:48:46	clear	0	1	SEV	MI	beluga	7	18			resting	
August 31, 2009	Coast	13:49:23	clear	0	1	SEV	MI	beluga	10	50				
August 31, 2009	Coast	13:49:35	clear	0	1	SEV	MI	beluga	10	70				
August 31, 2009	Coast	13:49:43	clear	0	1	SEV	MI	beluga	2	65				
August 31, 2009	Coast	13:49:51	clear	0	1	SEV	MI	beluga	10	20			resting at surface	
August 31, 2009	Coast	13:50:01	clear	0	1	SEV	MI	beluga	3	10				
August 31, 2009	Coast	13:50:09	clear	0	1	SEV	MI	beluga	1	30				
August 31, 2009	Coast	13:50:15	clear	0	1	SEV	MI	beluga	1	15				
August 31, 2009	Coast	13:50:26	clear	0	1	SEV	MI	beluga	3	63				
August 31, 2009	Coast	13:50:33	clear	0	1	SEV	MI	beluga	10	39				
August 31, 2009	Coast	13:50:40	clear	0	1	SEV	MI	beluga	2	22				
August 31, 2009	Coast	13:50:45	clear	0	1	SEV	MI	beluga	1	70				
August 31, 2009	Coast	13:50:50	clear	0	1	SEV	MI	beluga	1	30				
August 31, 2009	Coast	13:50:55	clear	0	1	SEV	MI	beluga	3	36				
August 31, 2009	Coast	13:51:00	clear	0	1	SEV	MI	beluga	3	70			diving	
August 31, 2009	Coast	13:51:05	clear	0	1	SEV	MI	beluga	2	45				skittish
August 31, 2009	Coast	13:51:17	clear	0	1	SEV	MI	beluga	1	55				
August 31, 2009	Coast	13:51:24	clear	0	1	SEV	MI	beluga	2	30				
August 31, 2009	Coast	13:51:30	clear	0	1	SEV	MI	beluga	3	68				
August 31, 2009	Coast	13:51:37	clear	0	1	SEV	MI	beluga	20	40				
August 31, 2009	Coast	13:51:44	clear	0	1	SEV	MI	beluga	8	70				
August 31, 2009	Coast	13:51:56	clear	0	1	SEV	MI	beluga	1	30				
August 31, 2009	Coast	13:52:00	clear	0	1	SEV	MI	beluga	60	70				
August 31, 2009	Coast	13:52:16	clear	0	1	SEV	MI	beluga	50	10				
August 31, 2009	Coast	13:52:39	clear	0	1	SEV	MI	beluga	3	30			diving	
August 31, 2009	Coast	13:53:00	clear	0	1	SEV	MI	beluga	4	80				
August 31, 2009	Coast	13:53:06	clear	0	1	SEV	MI	beluga	3	50			swimming	
August 31, 2009	Coast	13:53:13	clear	0	1	SEV	MI	beluga	2	20				

Date	Transect	Time	Weather	Percent Ice Cover	Beaufort	Glare ¹	Sightability ²	Species	Number	Angle	Age	Activity	Behaviour	Comments
August 31, 2009	Coast	13:53:23	clear	0	1	SEV	MI	beluga	5	10				
August 31, 2009	Coast	13:53:30	clear	0	1	SEV	MI	beluga	1	45				
August 31, 2009	Coast	13:53:34	clear	0	1	SEV	MI	beluga	10	60				
August 31, 2009	Coast	13:53:53	clear	0	1	SEV	MI	beluga	7	30				
August 31, 2009	Coast	13:53:59	clear	0	1	SEV	MI	beluga	10	35			diving	
August 31, 2009	Coast	13:54:05	clear	0	1	SEV	MI	beluga	3	50				
August 31, 2009	Coast	13:54:14	clear	0	1	SEV	MI	beluga	1	25				
August 31, 2009	Coast	13:54:27	clear	0	1	SEV	MI	beluga	2	27				
August 31, 2009	Coast	13:54:34	clear	0	1	SEV	MI	beluga	1	70				
August 31, 2009	Coast	13:54:43	clear	0	1	SEV	MI	beluga	2	40				
August 31, 2009	Coast	13:54:54	clear	0	1	SEV	MI	beluga	2	20				
August 31, 2009	Coast	13:55:05	clear	0	1	SEV	MI	beluga	2	37				
August 31, 2009	Coast	13:55:16	clear	0	1	SEV	MI	beluga	2	70	mother/calf			
August 31, 2009	Coast	13:55:25	clear	0	1	SEV	MI	beluga	1	70				
August 31, 2009	Coast	13:55:33	clear	0	1	SEV	MI	beluga	4	68				
August 31, 2009	Coast	13:55:42	clear	0	1	SEV	MI	beluga	2	55			diving	
August 31, 2009	Coast	13:57:20	clear	0	1	SEV	MI	beluga	1	30				in the shallows
August 31, 2009	Coast	14:07:07	clear	0	0	SEV	MI	beluga	2	10	adults		swimming	
August 31, 2009	Coast	14:07:48	clear	0	0	SEV	MI	beluga	2	13	adults		swimming	
August 31, 2009	Coast	14:10:11	clear	0	1	SEV	MI	beluga	1	69			divnig	
August 31, 2009	Coast	14:10:54	clear	0	1	SEV	MI	beluga	1	13			swimming	
August 31, 2009	Coast	14:11:28	clear	0	1	SEV	MI	beluga	2	35				
August 31, 2009	Coast	14:19:30	clear	0	1	SEV	MI	beluga	1,000	40	adult; mother/calf		milling	took up entire FOV, clinometer range 10 - 70
August 31, 2009	Coast	14:33:53	clear	0	1	MO	GOOD	beluga	100	30	adult		swimming	
August 31, 2009	Coast	14:35:15	clear	0	1	MO	GOOD	beluga	1	30	adult		diving	
August 31, 2009	Coast	14:35:51	clear	0	1	MO	GOOD	beluga	15	22				
August 31, 2009	Coast	14:36:04	clear	0	1	MO	GOOD	beluga	1	40	adult		swimming	
August 31, 2009	Coast	14:38:41	clear	0	1	MO	EX	beluga	3	40				
August 31, 2009	Coast	14:39:00	clear	0	1	MO	EX	beluga	2	55	mother/calf		moulting	appear to be rubbing against bottom; substrate is sand/rock
August 31, 2009	Coast	14:45:40	clear	0	1	MO	GOOD	beluga	2	33	adult		swimming	in the shallows
August 31, 2009	Coast	14:46:53	clear	0	1	MO	GOOD	beluga	1	20	adult		diving	submerged so off transect
August 31, 2009	Coast	14:47:46	clear		1	MO	GOOD	Unidentified-Seal	2	20			swimming	
August 31, 2009	Coast	14:48:00	clear	0	1	MO	GOOD	beluga	1	55			resting	
August 31, 2009	Coast	14:49:53	clear	0	1	MO	GOOD	beluga	1	18			swimming	
August 31, 2009	Coast	14:51:03	clear	0	1	MO	GOOD	beluga	3	70	adult		resting/moulting	appear to be rubbing on ocean floor
August 31, 2009	Coast	15:08:50	clear	0	1	NO	EX	beluga	1	65	calf		diving	
August 31, 2009	Coast	18:05:40	overcast	0	2	MO	GOOD	beluga	1	33	adult		diving	fog bank couple km away port side
August 31, 2009	Coast	8:42:45	Clear	0	3	NO	GOOD	HARP SEAL	1	30		swimming		
August 31, 2009	6	10:21:09	Clear	0	2	NO	GOOD	Unidentified-Seal	1	56		resting		
August 31, 2009	6	10:25:03	Clear	0	2	NO	GOOD	Unidentified-Seal	1	56		resting		
August 31, 2009	6	10:25:53	Clear	0	2	NO	GOOD	Unidentified-Seal	1	56		resting		
August 31, 2009	7	10:33:53	Clear	0	1	NO	EX	beluga	2	26	MC	resting		In very shallow water
August 31, 2009	7	10:36:36	Clear	0	1	NO	EX	beluga	1	64	AD	resting		
August 31, 2009	7	10:42:01	Clear	0	1	NO	EX	Unidentified-Seal	1	54	AD		surfacing	Likely Ring
August 31, 2009	7	10:42:35	Clear	0	1	NO	EX	Unidentified-Seal	1	47	AD		surfacing	Likely Ring
August 31, 2009	7	10:43:18	Clear	0	1	NO	EX	Unidentified-Seal	1	39	AD		surfacing	Likely Ring
August 31, 2009	7	10:47:54	Clear	0	1	NO	EX	Unidentified-Seal	1	40	AD		surfacing	Likely Harp or Bearded
August 31, 2009	7		Clear	0	1	NO	EX	RING SEAL	1	54	AD		surfacing	
August 31, 2009	7	10:53:36	Clear	0	1	NO	EX	HARP SEAL	3	54	AD		surfacing	
August 31, 2009	7	10:54:13	Clear	0	1	NO	EX	RING SEAL	1	57	AD		surfacing	
August 31, 2009	7	10:54:55	Clear	0	1	NO	EX	RING SEAL	1	55	AD		surfacing	
August 31, 2009	8	12:14:59	Clear	0	1	NO	EX	RING SEAL	1	43	AD		surfacing	
August 31, 2009	8	12:19:18	Clear	0	0	NO	EX	beluga	2	64	MC	resting		
August 31, 2009	8	12:19:41	Clear	0	0	NO	EX	beluga	1	65		resting		
August 31, 2009	8	12:19:50	Clear	0	0	NO	EX	beluga	2	16	MC	resting		
August 31, 2009	8	12:19:57	Clear	0	0	NO	EX	beluga	10	42				Groups of 3ish
August 31, 2009	8	12:20:16	Clear	0	0	NO	EX	beluga	25	38				scattered groups
August 31, 2009	8	12:21:14	Clear	0	0	NO	EX	beluga	57	37				scattered groups
August 31, 2009	8	12:21:35	Clear	0	0	NO	EX	beluga	14					5 MC pairs
August 31, 2009	8	12:21:52	Clear	0	0	NO	EX	beluga	2	24	MC	resting	milling	

Date	Transect	Time	Weather	Percent Ice Cover	Beaufort	Glare ¹	Sightability ²	Species	Number	Angle	Age	Activity	Behaviour	Comments
August 31, 2009	8	12:22:00	Clear	0	0	NO	EX	beluga	1	22	AD	resting	milling	
August 31, 2009	8	12:22:00	Clear	0	0	NO	EX	beluga	1	30	AD	resting	milling	
August 31, 2009	8	12:22:00	Clear	0	0	NO	EX	beluga	2	16	AD	resting	milling	
August 31, 2009	8	12:22:17	Clear	0	0	NO	EX	beluga	7	30	AD, 2SA	resting	milling	
August 31, 2009	8	12:22:28	Clear	0	0	NO	EX	beluga	1	40		resting	milling	
August 31, 2009	8	12:22:52	Clear	0	0	NO	EX	beluga	2	14	MC	resting	milling	
August 31, 2009	8	12:23:01	Clear	0	0	NO	EX	beluga	5	53		resting	milling	
August 31, 2009	8	12:23:12	Clear	0	0	NO	EX	beluga	5	18	AD, 2SA	resting	milling	
August 31, 2009	8	12:23:38	Clear	0	0	NO	EX	beluga	8	70		resting	milling	
August 31, 2009	8	12:23:53	Clear	0	0	NO	EX	beluga	7	15		resting	milling	
August 31, 2009	8	12:23:55	Clear	0	0	NO	EX	beluga	5	35		resting	milling	
August 31, 2009	8	12:24:10	Clear	0	0	NO	EX	beluga	12	40		resting	milling	
August 31, 2009	8	12:24:10	Clear	0	0	NO	EX	beluga	7	12		resting	milling	
August 31, 2009	8	12:24:10	Clear	0	0	NO	EX	beluga	6	36		resting	milling	
August 31, 2009	8	12:24:46	Clear	0	0	NO	EX	beluga	2	53	MC	resting	milling	
August 31, 2009	9	12:27:48	Clear	0	0	NO	EX	beluga	59	35				scattered goups
August 31, 2009	9	12:29:59	Clear	0	0	NO	EX	beluga	15	12				
August 31, 2009	9	12:29:59	Clear	0	0	NO	EX	beluga	10	19				
August 31, 2009	9	12:29:59	Clear	0	0	NO	EX	beluga	12	12				
August 31, 2009	9	12:29:59	Clear	0	0	NO	EX	beluga	2	60	MC			
August 31, 2009	9	12:30:06	Clear	0	0	NO	EX	beluga	17	42	ALL	resting	milling	
August 31, 2009	9	12:31:04	Clear	0	0	NO	EX	beluga	260	39	ALL	resting	milling	40 groups, over a few minutes
August 31, 2009	9	12:33:00	Clear	0	0	NO	EX	beluga	24	39	ALL	resting	milling	
August 31, 2009	9	12:34:00	Clear	0	0	NO	EX	beluga	10	25	ALL	resting	milling	3 groups
August 31, 2009	9	12:40:00	Clear	0	0	MO	GOOD	beluga	2	24	MC			
August 31, 2009	9	12:40:17	Clear	0	0	MO	GOOD	beluga	18	50	MC			All most all MC
August 31, 2009	9	12:41:08	Clear	0	0	MO	GOOD	beluga	15	43				small groups
August 31, 2009	9	12:41:20	Clear	0	0	MO	GOOD	beluga	2	40				
August 31, 2009	9	12:41:25	Clear	0	0	MO	GOOD	beluga	6	50	AD, MC			
August 31, 2009	9	12:41:30	Clear	0	0	MO	GOOD	beluga	19		MC			
August 31, 2009	9	12:41:52	Clear	0	0	MO	GOOD	beluga	4	28				
August 31, 2009	9	12:41:59	Clear	0	0	MO	GOOD	beluga	2					
August 31, 2009	9	12:43:32	Clear	0	0	MO	GOOD	beluga	1000	38	ALL	resting	milling	groups of 10 average
August 31, 2009	Coast	13:37:37	Clear	0	1	NO	EX	beluga	1	60	AD			
August 31, 2009	Coast	13:37:45	Clear	0	1	NO	EX	beluga	2	55	MC			
August 31, 2009	Coast	13:37:54	Clear	0	1	NO	EX	beluga	6	35				
August 31, 2009	Coast	13:38:02	Clear	0	1	NO	EX	beluga	1	20				
August 31, 2009	Coast	13:38:08	Clear	0	1	NO	EX	beluga	8	35				
August 31, 2009	Coast	13:38:08	Clear	0	1	NO	EX	beluga	1	37				
August 31, 2009	Coast	13:38:08	Clear	0	1	NO	EX	beluga	1	32				
August 31, 2009	Coast	13:38:08	Clear	0	1	NO	EX	beluga	1	34				
August 31, 2009	Coast	13:48:17	Clear	0	1	NO	EX	beluga	3	35	MC			
August 31, 2009	Coast	13:48:22	Clear	0	1	NO	EX	beluga	4	48				
August 31, 2009	Coast	13:48:30	Clear	0	1	NO	EX	beluga	10	50				
August 31, 2009	Coast	13:48:38	Clear	0	1	NO	EX	beluga	6					
August 31, 2009	Coast	13:48:50	Clear	0	1	NO	EX	beluga	7					
August 31, 2009	Coast	13:48:50	Clear	0	1	NO	EX	beluga	3					
August 31, 2009	Coast	13:48:50	Clear	0	1	NO	EX	beluga	2					
August 31, 2009	Coast	13:48:50	Clear	0	1	NO	EX	beluga	2					
August 31, 2009	Coast	13:48:50	Clear	0	1	NO	EX	beluga	4					
August 31, 2009	Coast	13:48:50	Clear	0	1	NO	EX	beluga	1					
August 31, 2009	Coast	13:48:50	Clear	0	1	NO	EX	beluga	1					
August 31, 2009	Coast	13:48:50	Clear	0	1	NO	EX	beluga	4					
August 31, 2009	Coast	13:48:50	Clear	0	1	NO	EX	beluga	15	14				
August 31, 2009	Coast	13:49:05	Clear	0	1	NO	EX	beluga	1	18				
August 31, 2009	Coast	13:49:05	Clear	0	1	NO	EX	beluga	2	20	MC			
August 31, 2009	Coast	13:49:05	Clear	0	1	NO	EX	beluga	2	36	AD,SA			
August 31, 2009	Coast	13:49:05	Clear	0	1	NO	EX	beluga	3	30				
August 31, 2009	Coast	13:49:30	Clear	0	1	NO	EX	beluga	30	12-65				several groups
August 31, 2009	Coast	13:49:45	Clear	0	1	NO	EX	beluga	7	50				

Date	Transect	Time	Weather	Percent Ice Cover	Beaufort	Glare ¹	Sightability ²	Species	Number	Angle	Age	Activity	Behaviour	Comments
August 31, 2009	Coast	13:49:45	Clear	0	1	NO	EX	beluga	3	17				
August 31, 2009	Coast	13:50:38	Clear	0	1	NO	EX	beluga	1	50				
August 31, 2009	Coast	13:50:45	Clear	0	1	NO	EX	beluga	1	50				
August 31, 2009	Coast	13:50:51	Clear	0	1	NO	EX	beluga	7		MC			
August 31, 2009	Coast	13:50:51	Clear	0	1	NO	EX	beluga	2					
August 31, 2009	Coast	13:50:51	Clear	0	1	NO	EX	beluga	12					
August 31, 2009	Coast	13:50:51	Clear	0	1	NO	EX	beluga	1					
August 31, 2009	Coast	13:50:51	Clear	0	1	NO	EX	beluga	1					
August 31, 2009	Coast	13:51:14	Clear	0	1	NO	EX	beluga	15	20				
August 31, 2009	Coast	13:51:14	Clear	0	1	NO	EX	beluga	12					
August 31, 2009	Coast	13:51:14	Clear	0	1	NO	EX	beluga	15					
August 31, 2009	Coast	13:51:14	Clear	0	1	NO	EX	beluga	7					
August 31, 2009	Coast	13:51:27	Clear	0	1	NO	EX	beluga	5	50				
August 31, 2009	Coast	13:51:33	Clear	0	1	NO	EX	beluga	10	19				
August 31, 2009	Coast	13:51:40	Clear	0	1	NO	EX	beluga	5	50				
August 31, 2009	Coast	13:51:45	Clear	0	1	NO	EX	beluga	12	50				
August 31, 2009	Coast	13:51:50	Clear	0	1	NO	EX	beluga	5	45				
August 31, 2009	Coast	13:51:50	Clear	0	1	NO	EX	beluga	5	30				
August 31, 2009	Coast	13:51:50	Clear	0	1	NO	EX	beluga	5	20				
August 31, 2009	Coast	13:51:50	Clear	0	1	NO	EX	beluga	6	18				
August 31, 2009	Coast	13:51:50	Clear	0	1	NO	EX	beluga	7	12				
August 31, 2009	Coast	13:52:09	Clear	0	1	NO	EX	beluga	70	12		resting	milling	30 groups of 2 or3 individuals
August 31, 2009	Coast	13:52:34	Clear	0	1	NO	EX	beluga	200	10-60	ALL	resting	milling	small goups
August 31, 2009	Coast	13:52:00	Clear	0	1	NO	EX	beluga	20	10				
August 31, 2009	Coast	13:53:20	Clear	0	1	NO	EX	beluga	15					
August 31, 2009	Coast	13:53:20	Clear	0	1	NO	EX	beluga	4					
August 31, 2009	Coast	13:53:20	Clear	0	1	NO	EX	beluga	1					
August 31, 2009	Coast	13:53:20	Clear	0	1	NO	EX	beluga	2					
August 31, 2009	Coast	13:53:33	Clear	0	1	NO	EX	beluga	8	31				
August 31, 2009	Coast	13:53:33	Clear	0	1	NO	EX	beluga	1					
August 31, 2009	Coast	13:53:37	Clear	0	1	NO	EX	beluga	7			resting	milling	
August 31, 2009	Coast	13:53:50	Clear	0	1	NO	EX	beluga	27	10-60		resting	milling	small groups
August 31, 2009	Coast	13:54:37	Clear	0	0	NO	EX	beluga	10	20		resting	milling	
August 31, 2009	Coast	13:54:44	Clear	0	1	NO	EX	beluga	45					moving towards shore
August 31, 2009	Coast	13:55:10	Clear	0	0	NO	EX	beluga	16	18				
August 31, 2009	Coast	13:55:23	Clear	0	0	NO	EX	beluga	7	32				
August 31, 2009	Coast	13:55:30	Clear	0	0	NO	EX	beluga	5	35				
August 31, 2009	Coast	13:55:30	Clear	0	0	NO	EX	beluga	6	20				
August 31, 2009	Coast	13:55:47	Clear	0	0	NO	EX	beluga	9	12				
August 31, 2009	Coast	13:55:47	Clear	0	0	NO	EX	beluga	1	20				
August 31, 2009	Coast	13:55:47	Clear	0	0	NO	EX	beluga	1	55				
August 31, 2009	Coast	13:56:12	Clear	0	0	NO	EX	beluga	1	27				
August 31, 2009	Coast	13:56:29	Clear	0	0	NO	EX	beluga	5					
August 31, 2009	Coast	13:56:54	Clear	0	0	NO	EX	beluga	15					
August 31, 2009	Coast	13:57:02	Clear	0	0	NO	EX	beluga	5	17		resting	milling	
August 31, 2009	Coast	13:57:49	Clear	0	0	NO	EX	beluga	12	12-30	AD	resting	milling	spread out
August 31, 2009	Coast	13:58:15	Clear	0	0	NO	EX	beluga	1	26	AD	resting	milling	
August 31, 2009	Coast	13:58:15	Clear	0	0	NO	EX	beluga	1	28	AD	resting	milling	
August 31, 2009	Coast	14:07:00	Clear	0	0	NO	EX	Polar bear	1	50	AD		swimming	swimming in Shallow water close to shore
August 31, 2009	Coast	14:10:30	Clear	0	0	NO	EX	beluga	1	25	AD	resting	diving	dive when they hear the plan
August 31, 2009	Coast	14:10:40	Clear	0	0	NO	EX	beluga	1	54	AD	resting	diving	
August 31, 2009	Coast	14:11:23	Clear	0	0	NO	EX	beluga	2	26	MC	resting	swimming	
August 31, 2009	Coast	14:15:47	Clear	0	0	NO	EX	beluga	1	26	AD	resting	swimming	
August 31, 2009	Coast	14:16:03	Clear	0	0	NO	EX	beluga	5	50	AD	resting	swimming	
August 31, 2009	Coast	14:16:45	Clear	0	0	NO	EX	beluga	10	25	AD	resting	swimming	
August 31, 2009	Coast	14:18:29	Clear	0	1	NO	EX	beluga	1	47	AD	resting	swimming	
August 31, 2009	Coast	14:20:18	Clear	0	1	NO	EX	beluga	2	60	MC	resting	swimming	
August 31, 2009	Coast	14:20:33	Clear	0	1	NO	EX	beluga	1	34	AD	resting	swimming	
August 31, 2009	Coast	14:21:37	Clear	0	1	NO	EX	beluga	2	60	M, SA	resting	swimming	
August 31, 2009	Coast	14:21:37	Clear	0	1	NO	EX	beluga	1	62	AD	resting	swimming	

Date	Transect	Time	Weather	Percent Ice Cover	Beaufort	Glare ¹	Sightability ²	Species	Number	Angle	Age	Activity	Behaviour	Comments
August 31, 2009	Coast	14:24:04	Clear	0	1	NO	EX	beluga	2	41	MC			
August 31, 2009	Coast	14:24:04	Clear	0	1	NO	EX	beluga	1	50	AD			
August 31, 2009	Coast	14:24:40	Clear	0	1	NO	EX	beluga	1	24	AD			
August 31, 2009	Coast	14:25:04	Clear	0	1	NO	EX	beluga	5	61				
August 31, 2009	Coast	14:26:26	Clear	0	1	NO	EX	beluga	1	54				
August 31, 2009	Coast	14:28:17	Clear	0	1	NO	EX	beluga	3	47	M,SA			
August 31, 2009	Coast	13:29:13	Clear	0	1	NO	EX	beluga	5	23				
August 31, 2009	Coast	14:30:31	Clear	0	1	NO	EX	beluga	4	14			milling	
August 31, 2009	Coast	14:31:53	Clear	0	1	NO	EX	Polar bear	1	33	AD	swimming	looking	
August 31, 2009	Coast	14:33:35	Clear	0	2	NO	EX	beluga	2	33				
August 31, 2009	Coast	14:34:16	Clear	0	2	NO	EX	beluga	2	30	MC			
August 31, 2009	Coast	14:34:24	Clear	0	2	NO	EX	beluga	2	27	MC			
August 31, 2009	Coast	14:34:34	Clear	0	2	NO	EX	beluga	1	30				
August 31, 2009	Coast	13:35:19	Clear	0	2	NO	EX	beluga	41	13-65		milling		groups of 5 - 6, and scattered individuals
August 31, 2009	Coast	14:37:10	Clear	0	2	NO	EX	beluga	4		20			
August 31, 2009	Coast	14:37:10	Clear	0	2	NO	EX	beluga	1		30			
August 31, 2009	Coast	14:37:10	Clear	0	2	NO	EX	beluga	1		40			
August 31, 2009	Coast	14:37:37	Clear	0	2	NO	EX	beluga	2			travel	swimming	
August 31, 2009	Coast	14:37:53	Clear	0	2	NO	EX	beluga	1			travel	swimming	
August 31, 2009	Coast	14:38:17	Clear	0	2	NO	EX	beluga	2	46	MC			
August 31, 2009	Coast	14:39:24	Clear	0	2	NO	EX	beluga	1	12	AD		diving	
August 31, 2009	Coast	14:39:34	Clear	0	2	NO	EX	beluga	1	50	AD		swimming	
August 31, 2009	Coast	14:42:32	Clear	0	2	NO	EX	beluga	5	42		milling		
August 31, 2009	Coast	14:42:52	Clear	0	2	NO	EX	beluga	1	49	AD	milling		
August 31, 2009	Coast	14:43:43	Clear	0	2	NO	EX	beluga	1	50				close to bottom
August 31, 2009	Coast	14:53:22	Clear	0	2	NO	EX	beluga	3	65	AD	milling		
August 31, 2009	Coast	14:56:31	Clear	0	2	NO	GOOD	beluga	1	61	AD		swimming	
August 31, 2009	Coast	15:00:14	Clear	0	3	NO	GOOD	beluga	1	24	AD		swimming	
August 31, 2009	Coast	15:00:14	Clear	0	3	NO	GOOD	beluga	1	30	AD		swimming	
August 31, 2009	Coast	15:09:29	Overcast	0	3	NO	GOOD	beluga	2	50	AD		swimming	
September 3, 2009	Coast	10:03:08	Clear	0	3	SEV	SI	beluga	1	48	adult		resting	not moving, shallow water
September 3, 2009	Coast	10:22:15	Clear	0	2	MO	GOOD	beluga	9	42		adult	milling	
September 3, 2009	Coast	10:24:12	Clear	0	2	SEV	SI	beluga	2	65		mother/calf	milling	
September 3, 2009	Coast	10:50:49	Partly cloudy	0	3	SEV	SI	beluga	10	55-65	adult; mother/calf		swimming	in a line
September 3, 2009	Coast	10:52:41	Partly cloudy	0	2	MO	MI	beluga	2	45	mother/calf		milling	
September 3, 2009	Coast	10:53:52	Partly cloudy	0	2	MO	MI	beluga	4	20			swimming	
September 3, 2009	Coast	10:55:33	Partly cloudy	0	2	MO	MI	beluga	2	23	adults		swimming	
September 3, 2009	Coast	10:55:56	Partly cloudy	0	2	MO	MI	beluga	2	15; 20	adults		swimming	
September 3, 2009	Coast	10:57:05	Partly cloudy	0	2	MO	GOOD	beluga	3	25;30;35			swimming	
September 3, 2009	Coast	10:57:54	Partly cloudy	0	2	MO	GOOD	beluga	2	24	mother/calf		swimming	
September 3, 2009	Coast	10:58:36	Partly cloudy	0	2	MO	MI	beluga	6	60				
September 3, 2009	Coast	10:58:45	Partly cloudy	0	2	MO	MI	beluga	10				swimming	
September 3, 2009	Coast	10:59:51	Partly cloudy	0	2	MO	MI	beluga	8	43			swimming	tight group
September 3, 2009	Coast	11:00:05	Partly cloudy	0	2	MO	GOOD	beluga	3	40			swimming	heading north in tight group
September 3, 2009	Coast	11:00:49	Partly cloudy	0	2	MO	GOOD	beluga	1	29			milling	
September 3, 2009	Coast	11:01:03	Partly cloudy	0	2	MO	GOOD	beluga	3	60	adult; mother/calf		milling	
September 3, 2009	Coast	11:01:40	Partly cloudy	0	2	MO	GOOD	beluga	1	37			milling	
September 3, 2009	Coast	11:02:20	Partly cloudy	0	3	MO	GOOD	beluga	2	60	mother/calf			
September 3, 2009	Coast	11:02:23	Partly cloudy	0	3	MO	GOOD	beluga	4	42	adults; sub-adult			
September 3, 2009	Coast	11:02:25	Partly cloudy	0	3	MO	GOOD	beluga	1	38	adult			
September 3, 2009	Coast	11:02:49	Partly cloudy	0	3	MO	GOOD	beluga	3	60			milling	underwater
September 3, 2009	Coast	11:03:21	Partly cloudy	0	3	MO	GOOD	beluga	5				swimming	
September 3, 2009	Coast	11:03:28	Partly cloudy	0	3	MO	GOOD	beluga	2	41	mother/calf			
September 3, 2009	Coast	11:03:40	Partly cloudy	0	3	MO	GOOD	beluga	1	46	adult			
September 3, 2009	Coast	11:03:56	Partly cloudy	0	3	MO	GOOD	beluga	1	30			swimming	
September 3, 2009	Coast	11:04:11	Partly cloudy	0	2	MO	MI	beluga	1	47				
September 3, 2009	Coast	11:04:48	Partly cloudy	0	2	MO	MI	beluga	1	24			swimming	
September 3, 2009	Coast	11:05:07	Partly cloudy	0	2	MO	MI	beluga	3				milling	underwater
September 3, 2009	Coast	11:05:40	Partly cloudy	0	2	MO	MI	beluga	4	20-40	mother/calf			
September 3, 2009	Coast	11:05:42	Partly cloudy	0	2	MO	MI	beluga	3	20-40				

Date	Transect	Time	Weather	Percent Ice Cover	Beaufort	Glare ¹	Sightability ²	Species	Number	Angle	Age	Activity	Behaviour	Comments
September 3, 2009	Coast	11:05:44	Partly cloudy	0	2	MO	MI	beluga	1	20-40				
September 3, 2009	Coast	11:05:46	Partly cloudy	0	2	MO	MI	beluga	3	20-40				
September 3, 2009	Coast	11:05:48	Partly cloudy	0	2	MO	MI	beluga	7	20-40				
September 3, 2009	Coast	11:05:50	Partly cloudy	0	2	MO	MI	beluga	6	20-40				
September 3, 2009	Coast	11:05:52	Partly cloudy	0	2	MO	MI	beluga	1	20-40				
September 3, 2009	Coast	11:06:58	Clear	0	2	SEV	MI	beluga	2	24	adults			
September 3, 2009	Coast	11:07:08	Clear	0	2	SEV	MI	beluga	1	21				
September 3, 2009	Coast	11:07:08	Clear	0	2	SEV	MI	beluga	1					
September 3, 2009	Coast	11:07:08	Clear	0	2	SEV	MI	beluga	2		mother/calf			
September 3, 2009	Coast	11:07:08	Clear	0	2	SEV	MI	beluga	2	60	mother/calf			
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	3					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	8					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	1					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	1					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	2		mother/calf			
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	2		mother/calf			
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	3					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	4					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	1					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	7					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	4					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	2					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	1					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	2					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	1					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	1					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	2					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	3					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	3					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	5					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	2		mother/calf			
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	1					
September 3, 2009	Coast	11:07:20	Clear	0	2	SEV	MI	beluga	6					~200 in area; associated with plume line; facing different directions;
September 3, 2009	Coast	11:19:48	Clear	0	2	MO	MI	beluga	32	12			resting	
September 3, 2009	Coast	11:19:48	Clear	0	2	MO	MI	beluga	1	25			resting	
September 3, 2009	Coast	11:19:48	Clear	0	2	MO	MI	beluga	1	40			resting	
September 3, 2009	Coast	11:20:02	Clear	0	2	MO	MI	beluga	3	36			resting	
September 3, 2009	Coast	11:20:05	Clear	0	2	MO	MI	beluga	8	60			resting	
September 3, 2009	Coast	11:21:30	Clear	0	2	MO	MI	beluga	3	60			resting	skittish; diving when hear plane
September 3, 2009	Coast	11:22:17	Clear	0	2	MO	MI	beluga	1	43			surfacing	
September 3, 2009	Coast	11:22:46	Clear	0	2	MO	MI	beluga	1	14				
September 3, 2009	Coast	11:22:50	Clear	0	2	MO	MI	beluga	20	26				a lot of whales coming around point
September 3, 2009	Coast	11:22:56	Clear	0	2	MO	MI	beluga	18					swimming along shoreline; heading north
September 3, 2009	Coast	11:23:02	Clear	0	2	MO	MI	beluga	8					swimming along shoreline; heading north
September 3, 2009	OFF	12:09:04	Partly cloudy	0	2	SEV	MI	beluga	200	20-60	mother/calf; sub-adults			incidental
September 3, 2009	OFF	12:11:19	Partly cloudy	0	2	MO	MI	beluga	2	40	mother/calf			incidental
September 3, 2009	OFF	12:11:24	Partly cloudy	0	2	MO	MI	beluga	1	65				incidental
September 3, 2009	OFF	12:11:27	Partly cloudy	0	2	MO	MI	beluga	2	37	mother/calf			incidental
September 3, 2009	OFF	12:11:29	Partly cloudy	0	2	MO	MI	beluga	1	30				incidental
September 3, 2009	OFF	12:11:33	Partly cloudy	0	2	MO	MI	beluga	1	40				incidental
September 3, 2009	OFF	12:12:12	Partly cloudy	0	2	MO	MI	beluga	1	24	sub-adult			incidental
September 3, 2009	OFF	12:12:14	Partly cloudy	0	2	MO	MI	beluga	1	30	adult			incidental
September 3, 2009	OFF	12:12:14	Partly cloudy	0	2	MO	MI	beluga	1	14				incidental
September 3, 2009	OFF	12:12:30	Partly cloudy	0	2	MO	MI	beluga	2	60			surfacing	incidental
September 3, 2009	OFF	12:12:30	Partly cloudy	0	2	MO	MI	beluga	2	60				incidental
September 3, 2009	OFF	12:12:30	Partly cloudy	0	2	MO	MI	beluga	1	60	subadult			incidental
September 3, 2009	OFF	12:12:57	Partly cloudy	0	2	MO	MI	beluga	2	47	mother; subadult			incidental
September 3, 2009	OFF	12:16:17	Partly cloudy	0	2	NO	GOOD	beluga	1	27	adult		milling	incidental

Date	Transect	Time	Weather	Percent Ice Cover	Beaufort	Glare ¹	Sightability ²	Species	Number	Angle	Age	Activity	Behaviour	Comments
September 3, 2009	OFF	12:17:13	Partly cloudy	0	2	NO	GOOD	beluga	2	60	mother/calf			incidental
September 3, 2009	OFF	12:17:20	Partly cloudy	0	2	NO	GOOD	beluga	2		mother/calf			incidental
September 3, 2009	OFF	12:17:25	Partly cloudy	0	2	NO	GOOD	beluga	6	22				tightly packed
September 3, 2009	OFF	12:17:27	Partly cloudy	0	2	NO	GOOD	beluga	2	55	mother/calf			incidental
September 3, 2009	OFF	12:17:27	Partly cloudy	0	2	NO	GOOD	beluga	1	55				incidental
September 3, 2009	OFF	12:17:27	Partly cloudy	0	2	NO	GOOD	beluga	1	55				incidental
September 3, 2009	OFF	12:17:57	Partly cloudy	0	2	NO	GOOD	beluga	1	40				incidental
September 3, 2009	OFF	12:17:57	Partly cloudy	0	2	NO	GOOD	beluga	10	35				incidental
September 3, 2009	OFF	12:17:57	Partly cloudy	0	2	NO	GOOD	beluga	2	20				incidental
September 3, 2009	OFF	12:17:57	Partly cloudy	0	2	NO	GOOD	beluga	3	20				incidental
September 3, 2009	OFF	12:18:15	Partly cloudy	0	2	NO	GOOD	beluga	4	24	mother/calf; adults			incidental
September 3, 2009	OFF	12:18:15	Partly cloudy	0	2	NO	GOOD	beluga	4	30	mother/calf; adults			incidental
September 3, 2009	OFF	12:25:36	Partly cloudy	0	2	NO	GOOD	beluga	7	22-60				spread out
September 3, 2009	OFF	12:25:36	Partly cloudy	0	2	NO	GOOD	beluga	16	22-60				incidental
September 3, 2009	OFF	13:36:58	Partly cloudy	0	3	NO	GOOD	beluga	3	58	mother/calf; adult		diving	
September 3, 2009	Coast	14:07:42	Overcast	0	3	NO	GOOD	beluga	1	64			swimming	large; underwater
September 3, 2009	Coast	14:12:17	Overcast	0	3	NO	GOOD	beluga	2	20	adult; sub-adult		swimming	
September 3, 2009	Coast	14:12:20	Overcast	0	3	NO	GOOD	beluga	4	25	adult; sub-adult; mother		swimming	
September 3, 2009	Coast	14:15:04	Overcast	0	3	NO	GOOD	beluga	1	40	adult		swimming	
September 3, 2009	Coast	14:16:36	Overcast	0	3	NO	GOOD	beluga	1	65			swimming	
September 3, 2009	Coast	14:20:00	Overcast	0	3	NO	GOOD	beluga	2	20	mother/calf		swimming	
September 3, 2009	Coast	14:20:25	Overcast	0	3	NO	GOOD	beluga	3		adult			
September 3, 2009	Coast	14:21:59	Overcast	0	3	NO	GOOD	beluga	10	30	adults; mother/calf		swimming	tightly packed, hugging shoreline
September 3, 2009	Coast	14:49:52	Overcast	0	2	NO	GOOD	beluga	7	47	adult; mother/calf		swimming	
September 3, 2009	Coast	14:56:51	Overcast	0	1	NO	GOOD	beluga	1	51	adult		milling	
September 3, 2009	Coast	14:58:27	Overcast	0	1	NO	GOOD	beluga	1	25	adult		resting	
September 3, 2009	OFF	15:15:27	Overcast/Low lying fog	0	1	NO	MI	beluga	1	30	adult		swimming	
September 3, 2009	1	15:17:51	Overcast/Low lying fog	0	1	NO	GOOD	polar bear	2	61	mother/cub			on land; on an island; spooked from plane
September 3, 2009	Coast	10:04:30	clear	0	2	NO	GOOD	beluga	2	40	mother/calf		milling	in shallows
September 3, 2009	Coast	10:11:10	clear	0	3	NO	GOOD	beluga	4	7				
September 3, 2009	Coast	10:12:33	clear	0	3	NO	GOOD	beluga	10	10			swimming	close to coast; protected area
September 3, 2009	Coast	10:15:49	clear	0	1	NO	GOOD	beluga	2	32	adult		swimming	
September 3, 2009	Coast	10:17:32	clear	0	1	NO	GOOD	beluga	2	45	mother/calf		swimming	
September 3, 2009	Coast	10:18:21	clear	0	1	NO	GOOD	beluga	3	12			swimming	
September 3, 2009	Coast	10:18:35	clear	0	1	NO	GOOD	beluga	3	24			swimming	
September 3, 2009	Coast	10:18:44	clear	0	1	NO	GOOD	beluga	50	25-40	mother/calf; adult; sub-adult		milling; resting; moulting	loosely congregated in shallows; some rubbing against bottom
September 3, 2009	Coast	10:19:05	clear	0	1	NO	GOOD	beluga	20	40	mother/calf; adult; sub-adult		swimming	
September 3, 2009	Coast	10:27:35	clear	0	2	NO	GOOD	beluga	3	38	adult		milling	
September 3, 2009	Coast	10:27:49	clear	0	2	NO	GOOD	beluga	1	29	adult		milling	
September 3, 2009	Coast	10:29:13	clear	0	1	NO	EX	beluga	6	13	adult			
September 3, 2009	Coast	10:29:29	clear	0	1	NO	EX	beluga	2	38			milling	
September 3, 2009	Coast	10:29:41	clear	0	1	NO	EX	beluga	3	18	adults		milling	
September 3, 2009	Coast	10:30:43	partly cloudy	0	1	NO	GOOD	seal	2	70			swimming	
September 3, 2009	Coast	10:32:07	partly cloudy	0	1	NO	GOOD	beluga	1	23				underwater
September 3, 2009	Coast	10:34:26	partly cloudy	0	1	MOD	GOOD	beluga	1	14	adult		milling	
September 3, 2009	Coast	10:34:37	partly cloudy	0	1	MOD	GOOD	beluga	5	12				
September 3, 2009	Coast	10:34:54	partly cloudy	0	1	MOD	GOOD	beluga	1	18	adult			
September 3, 2009	Coast	10:35:04	partly cloudy	0	1	MOD	GOOD	beluga	1	16	adult			
September 3, 2009	Coast	10:35:13	partly cloudy	0	1	MOD	GOOD	beluga	2	8	adult			
September 3, 2009	Coast	10:39:24	partly cloudy	0	2	MOD	GOOD	beluga	2	39	mother/calf		milling	
September 3, 2009	Coast	10:39:46	partly cloudy	0	2	MOD	GOOD	beluga	2	50	mother/calf		diving	
September 3, 2009	Coast	10:39:53	partly cloudy	0	2	MOD	GOOD	beluga	2	43	adults		swimming	
September 3, 2009	Coast	10:42:58	partly cloudy	0	2	MOD	GOOD	beluga	1	34	adult		milling	
September 3, 2009	Coast	10:43:20	partly cloudy	0	2	MOD	GOOD	beluga	4	14			milling	
September 3, 2009	Coast	10:45:04	clear	0	2	NO	GOOD	polar bear	1	30				on spit of land
September 3, 2009	Coast	10:52:04	clear	0	2	NO	GOOD	beluga	8	12	mother/calf; adults		swimming	
September 3, 2009	Coast	10:52:22	clear	0	2	NO	GOOD	beluga	3	70	adult		resting	
September 3, 2009	Coast	10:52:26	clear	0	2	NO	GOOD	beluga	3	50	mother/calf; adult		swimming	

Date	Transect	Time	Weather	Percent Ice Cover	Beaufort	Glare ¹	Sightability ²	Species	Number	Angle	Age	Activity	Behaviour	Comments
September 3, 2009	Coast	10:54:27	partly cloudy	0	2	NO	GOOD	beluga	1	19			milling	
September 3, 2009	Coast	10:54:47	partly cloudy	0	2	NO	GOOD	beluga	4	25			milling	
September 3, 2009	Coast	10:54:56	partly cloudy	0	2	NO	GOOD	beluga	10	30	adults; mother/calf		swimming	
September 3, 2009	Coast	10:57:02	partly cloudy	0	2	NO	GOOD	beluga	1	51	adult		swimming	
September 3, 2009	Coast	10:57:12	partly cloudy	0	2	NO	GOOD	beluga	2	70	mother/calf		swimming	
September 3, 2009	Coast	10:57:40	partly cloudy	0	2	NO	GOOD	beluga	1	37	adult		swimming	underwater
September 3, 2009	Coast	10:57:52	partly cloudy	0	2	NO	GOOD	beluga	2	68				
September 3, 2009	Coast	10:57:59	partly cloudy	0	2	NO	GOOD	beluga	1	51	adult		swimming	
September 3, 2009	Coast	10:59:28	partly cloudy	0	2	MOD	MI	beluga	1	56	adult		swimming	
September 3, 2009	Coast	10:59:40	partly cloudy	0	2	MOD	MI	beluga	12	72	adults; sub-adults		swimming	
September 3, 2009	Coast	11:00:42	cloudy	0	2	MOD	GOOD	beluga	8	73	adults		resting	approaching Seal River Estuary
September 3, 2009	Coast	11:02:10	partly cloudy	0	2	MOD	GOOD	beluga	2	73				
September 3, 2009	Coast	11:02:14	partly cloudy	0	2	MOD	GOOD	beluga	4	55	adults; calf		milling	
September 3, 2009	Coast	11:03:47	partly cloudy	0	2	MOD	GOOD	beluga	1	50	adults		resting	
September 3, 2009	Coast	11:03:47	partly cloudy	0	2	MOD	GOOD	beluga	2	61	adults		resting	
September 3, 2009	Coast	11:03:58	partly cloudy	0	2	MOD	GOOD	beluga	6	34			swimming	
September 3, 2009	Coast	11:04:10	partly cloudy	0	2	MOD	GOOD	beluga	5	75	adults		diving	
September 3, 2009	Coast	11:05:50	partly cloudy	0	2	MOD	GOOD	beluga	2	32	mother/calf			
September 3, 2009	Coast	11:06:04	partly cloudy	0	2	MOD	GOOD	beluga	2	70			swimming	
September 3, 2009	Coast	11:06:13	partly cloudy	0	2	MOD	GOOD	beluga	3	36	adults		resting	
September 3, 2009	Coast	11:06:23	partly cloudy	0	2	MOD	GOOD	beluga	2	40	adults		swimming	
September 3, 2009	Coast	11:06:28	partly cloudy	0	2	MOD	GOOD	beluga	10	55	adults		swimming	
September 3, 2009	Coast	11:06:38	partly cloudy	0	2	MOD	GOOD	beluga	3	25			swimming	
September 3, 2009	Coast	11:07:53	partly cloudy	0	2	MOD	GOOD	beluga	1	47	adult			
September 3, 2009	Coast	11:08:03	clear	0	1	NO	GOOD	beluga	2	40	mother/calf		diving	
September 3, 2009	Coast	11:08:21	clear	0	1	NO	GOOD	beluga	1	80			swimming	
September 3, 2009	Coast	11:08:27	clear	0	1	NO	GOOD	beluga	3	55			swimming	
September 3, 2009	Coast	11:08:35	clear	0	1	NO	GOOD	beluga	30	40				
September 3, 2009	Coast	11:08:49	clear	0	1	NO	GOOD	beluga	20	70				
September 3, 2009	Coast	11:08:54	clear	0	1	NO	GOOD	beluga	10	55				
September 3, 2009	Coast	11:08:58	clear	0	1	NO	GOOD	beluga	8	53				
September 3, 2009	Coast	11:09:04	clear	0	1	NO	GOOD	beluga	6	58				
September 3, 2009	Coast	11:09:11	clear	0	1	NO	GOOD	beluga	3	70				
September 3, 2009	Coast	11:09:22	clear	0	1	NO	GOOD	beluga	15	65				shallows
September 3, 2009	Coast	11:20:20	clear	0	1	MOD	MI	beluga	2	34	adults			
September 3, 2009	Coast	11:21:21	clear	0	1	MOD	MI	beluga	3	58	adults			
September 3, 2009	Coast	11:21:21	clear	0	1	MOD	MI	beluga	2	33	adults			
September 3, 2009	Coast	11:21:21	clear	0	1	MOD	MI	beluga	1	18	adults			
September 3, 2009	Coast	11:25:44	clear	0	1	SEV	SI	beluga	4	74				
September 3, 2009	OFF	12:10:30	clear	0	2	NO	GOOD	beluga	12	46			swimming	incidental
September 3, 2009	OFF	12:10:46	clear	0	2	NO	GOOD	beluga	4	48			swimming	incidental
September 3, 2009	OFF	12:10:56	clear	0	2	NO	GOOD	beluga	1	62	adult		swimming	incidental
September 3, 2009	OFF	12:11:00	clear	0	2	NO	GOOD	beluga	1	40			swimming	incidental
September 3, 2009	OFF	12:11:04	clear	0	2	NO	GOOD	beluga	20	45				incidental
September 3, 2009	OFF	12:11:38	clear	0	2	NO	GOOD	beluga	2	58				incidental
September 3, 2009	OFF	12:11:47	clear	0	2	NO	GOOD	beluga	4	66				incidental
September 3, 2009	OFF	12:11:52	clear	0	2	NO	GOOD	beluga	4	35				incidental
September 3, 2009	OFF	12:11:57	clear	0	2	NO	GOOD	beluga	2	46				incidental
September 3, 2009	OFF	12:12:02	clear	0	2	NO	GOOD	beluga	1	70				incidental
September 3, 2009	OFF	12:12:06	clear	0	2	NO	GOOD	beluga	1	37				incidental
September 3, 2009	OFF	12:12:12	clear	0	2	NO	GOOD	beluga	3	30			swimming	incidental
September 3, 2009	OFF	12:12:18	clear	0	2	NO	GOOD	beluga	2	34			milling	incidental
September 3, 2009	OFF	12:12:25	clear	0	2	NO	GOOD	beluga	2	52	mother/calf			incidental
September 3, 2009	OFF	12:12:38	clear	0	2	NO	GOOD	beluga	10	20				incidental
September 3, 2009	OFF	12:12:43	clear	0	2	NO	GOOD	beluga	1	35	adult			incidental
September 3, 2009	OFF	12:13:05	clear	0	2	NO	GOOD	beluga	1	39				incidental
September 3, 2009	OFF	12:13:14	clear	0	2	NO	GOOD	beluga	1	24				incidental
September 3, 2009	OFF	12:13:21	clear	0	2	NO	GOOD	beluga	3	45			swimming	incidental
September 3, 2009	OFF	12:13:29	clear	0	2	NO	GOOD	beluga	2	71	mother/calf			incidental
September 3, 2009	OFF	12:13:40	clear	0	2	NO	GOOD	beluga	5	38			swimming	incidental

Date	Transect	Time	Weather	Percent Ice Cover	Beaufort	Glare ¹	Sightability ²	Species	Number	Angle	Age	Activity	Behaviour	Comments
September 3, 2009	OFF	12:13:46	clear	0	2	NO	GOOD	beluga	3	46			diving	incidental
September 3, 2009	OFF	12:13:55	clear	0	2	NO	GOOD	beluga	5	25				incidental
September 3, 2009	OFF	12:14:05	clear	0	2	NO	GOOD	beluga	3	42			diving	incidental
September 3, 2009	OFF	12:14:10	clear	0	2	NO	GOOD	beluga	6	28			diving	incidental
September 3, 2009	OFF	12:15:06	clear	0	2	NO	GOOD	beluga	1	56			diving	incidental
September 3, 2009	OFF	12:18:18	clear	0	2	NO	GOOD	beluga	5	20				incidental
September 3, 2009	OFF	12:18:40	clear	0	2	NO	GOOD	beluga	3	60	adults		diving	incidental
September 3, 2009	OFF	12:18:55	clear	0	2	NO	GOOD	beluga	5	32	adults			incidental
September 3, 2009	OFF	12:19:11	clear	0	2	NO	GOOD	beluga	1	15				incidental
September 3, 2009	Coast	14:22:06	overcast/light mist	0	2	MOD	GOOD	beluga	1	29	adult		resting	
September 3, 2009	Coast	14:28:40	overcast/light mist	0	2	NO	MI	beluga	20	40			swimming	close to shore; following contours of coast
September 3, 2009	Coast	14:28:54	overcast/light mist	0	2	NO	MI	beluga	4	30			swimming	close to shore; following contours of coast
September 3, 2009	Coast	14:29:01	overcast/light mist	0	2	NO	MI	beluga	7	15			swimming	close to shore; following contours of coast
September 3, 2009	Coast	14:48:04	overcast/light mist	0	2	NO	GOOD	beluga	2	21	adult			
September 3, 2009	Coast	14:51:08	overcast	0	2	NO	GOOD	beluga	20	26	adult; sub-adult		swimming	
September 3, 2009	Coast	14:53:31	overcast	0	2	NO	GOOD	beluga	1	71	adult		swimming	
September 3, 2009	Coast	14:54:15	overcast	0	1	NO	GOOD	beluga	1	26	adult		swimming	
September 3, 2009	Coast	14:59:59	overcast	0	2	MOD	MI	beluga	1	65	adult		diving	
September 3, 2009	Coast	15:00:10	overcast	0	2	MOD	MI	beluga	1	48	adult		diving	
September 3, 2009	Coast	15:00:45	overcast	0	2	MOD	MI	beluga	6	25	adult		swimming	
September 3, 2009	Coast	15:02:00	overcast/light mist	0	2	NO	MI	beluga	1	38	adult		swimming	
September 3, 2009	Coast	15:04:01	overcast/light mist	0	2	NO	MI	beluga	1	20	adult			
September 3, 2009	2	16:20:40	overcast		2	NO	GOOD	beluga	3	16			swimming	

NOTES:

¹ Glare abbreviations: NO = none, MO = moderate, SEV = severe

² Sightability abbreviations: EX = excellent, GOOD = good, MI = moderately impaired, SI = severely impaired,

Grey = Coastal surveys

White = Offshore suveys