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Your file *Votre référence*

Our file *Notre référence*

October 30, 2011

To Whom It May Concern:

In August 2010, I was asked by Dr. Niels van Elk of Dolfinarium Harderwijk, Netherlands, to provide expert advice on the releasability of the rescued killer whale known as 'Morgan'. My opinion, submitted in early November 2010, was that although rehabilitation to the wild would be desirable, there was a low probability that this could be achieved successfully with this whale. This opinion was based on numerous factors as described in my submission to Dr. van Elk (van Elk, 2010), but two issues in particular were pivotal:

- 1) although genetic analysis indicated that Morgan is a member of a killer whale population known from the coast of Norway, the few vocalizations recorded from her and analysed at the time were insufficient to make a strong link to any particular group(s) of Norwegian killer whales. Killer whales tend to live in stable matrilineal kin groups with distinctive vocal dialects, and acceptance into an unrelated social group is unlikely; and,
- 2) it was my understanding that the Norwegian killer whale population no longer enters protected fjords in the winter, and is distributed far from shore in the summer, so reintroduction of Morgan to this population was logistically unfeasible.

Since providing my advice in November 2010, new information on these two issues has recently come to my attention. First, more extensive analyses of recordings of Morgan have been undertaken and vocal patterns have been compared to recent recordings of killer whales off the coast of Norway (Vester and Samarra 2011). These analyses provide a much stronger link to the vocal repertoires of at least one Norwegian killer whale group ("P" group), and thus it can be inferred that this group is either Morgan's natal group or a related kin group. Second, it appears that killer whales groups are now sighted frequently near Vesterålen in northern Norway during summer (see sighting logs archived at www.arcticwhaletours.com). Although I am not aware of any photo-identification analyses of killer whales in these recent sightings, they took place well within the range of the population that includes group "P".

Given this new information, I now believe that rehabilitation back to the wild for Morgan is potentially feasible and an effort to accomplish this warrants serious consideration. A transport and release plan could be modelled after those developed for the whales Springer and Keiko, with appropriate modifications and contingency plans. Too little is currently known about factors leading to the successful rehabilitation of injured or stranded wild cetaceans, including killer whales, and Morgan would provide an important opportunity to gain valuable experience and knowledge.

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In the event that reintegration of Morgan to her natal group or another kin group is attempted but is unsuccessful, long-term holding in a floating enclosure in the sea would provide both an appropriate habitat for the whale and an opportunity to undertake a variety of important research projects. For example, studies on sound production and reception, physiology, and energetics in this semi-natural setting would provide useful and reliable information needed for conservation and management of human impacts on the species. Such studies are seldom possible in an aquatic park setting where animals undertake scheduled performances, and any results from this setting are likely to be influenced by the artificial holding enclosure and may not be representative of animals in the wild.

Should a decision be made to move Morgan to a sea pen for long-term study or for an attempt to rehabilitate her to the wild, I would be pleased to provide advice if requested and would be interested in collaborating on future research projects.

Sincerely,

A handwritten signature in blue ink, appearing to read 'J.K. Ford'.

John K.B. Ford, PhD
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Conservation Biology Section

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References Cited:

Van Elk, N. 2010. Expert advice on the releasability of the rescued killer whale (*Orcinus orca*) Morgan. Dolfinarium Harderwijk- SOS Dolfijn. 14 November 2010.

Vester, H., and F. Samarra. 2011 Comparison of Morgan's discrete stereotyped call repertoire with a recent catalogue of Norwegian killer whale calls. Unpubl. manuscript dated 23 September 2011.

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B.Sc. Hons., Ph.D. (UBC)

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PERSONAL DATA

Date and Place of Birth: 28 January 1955 Victoria, B.C., Canada *Citizenship* Canadian *Education* B.Sc. (Honours) Zoology (1972-76), University of British Columbia Ph.D. Zoology (1977-85), University of British Columbia

EMPLOYMENT HISTORY

1973-76 Marine Mammal Husbandry and Training, Vancouver Aquarium 1985-86 NSERC Postdoctoral Fellow, Pacific Biological Station, Fisheries & Oceans Canada, Nanaimo, BC 1987-88 NSERC Postdoctoral Fellow, ESL Environmental Sciences Ltd., Vancouver BC 1988-2001 Vancouver Aquarium Marine Science Centre: 1988-92 Curator of Marine Mammals 1992-96 Marine Mammal Scientist 1996-98 Director of Conservation and Research 1999-2001 Senior Marine Mammal Scientist 2001-present Research Scientist and Head, Cetacean Research Program, Pacific Biological Station, Fisheries & Oceans Canada, Nanaimo, B.C.

RESEARCH AND CONSERVATION ACTIVITIES

• **Life history, social ecology, and acoustic behaviour of killer whales in British Columbia** - Field studies on foraging ecology of killer whale ecotypes in British Columbia, including potential prey limitation of the salmon-feeding resident population (1990-present). - Annual field census using individual photo-identification of whales in coastal BC and adjacent waters, in collaboration with G. Ellis (DFO), and K. Balcomb (Center for Whale Research). 1977-present

- Ongoing acoustical monitoring of killer whale populations in the Northeast Pacific Ocean by means of analysis and interpretation of group-specific vocal dialects. 1977-present J.K.B. Ford – March 2010 Page 2 of 17 - Population genetic studies of killer whales in collaboration with G. Ellis and L. Barrett-Lennard (University of British Columbia). 1994-2001

• **Population status, ecology, and behaviour of humpback whales: British Columbia, Hawaii, and Japan** - Lead for Canada, multi-national SPLASH project (Structure of Populations, Levels of Abundance and Status of Humpbacks), a North Pacific-wide project to determine abundance and population structure of humpback whales. 2004-2007. - Studies on population abundance and identity, site fidelity, and feeding habits of humpback whales in the Queen Charlotte Islands and north BC mainland coast. 1991-present - Co-principal investigator in a study of the population status of humpback whales in the Bonin Islands, Japan, and its relationship to other North Pacific populations for World Wildlife Fund Canada and Japan. 1988 - Field assistant in study of population dynamics of humpback whales in Hawaii. Responsible for collecting identification photographs of individual whales, making acoustic recordings, and monitoring behavioural activities. New York Zoological Society. 1980-81

• **Status, distribution and abundance of cetaceans in British Columbia** - Chief scientist on annual DFO ship surveys for cetaceans in British Columbia waters, 2002-2009 - Three-year field census program undertaken for Gwaii Haanas/South Moresby National Marine Park Reserve, Parks Canada; first such study in area. 1991-93; follow-up survey, 2004-2006.

• **Management of human impacts on cetaceans** - Member, and Chair of Scientific Subcommittee, of the joint federal/provincial Johnstone Strait Killer Whale Committee, tasked with developing recommendations to government regarding disturbance effects of whale watching, logging, and fishing on killer whales off northern Vancouver Island. 1990-97 - Member, Board of Directors, Johnstone Strait Killer Whale Interpretive Centre Society. 1994-present - Invited participant, First International Workshop on the Scientific Aspects of Whale Watching Management, Montecastello di Vibio, Italy. Apr 1995 - Invited Expert, Workshop on the Identity, Structure, and Vital Rates of Killer Whales Populations, International Whaling Commission Scientific Committee, Cambridge, England Jun 1981.

• **Impacts of underwater noise on marine mammals** - Technical Specialist on impacts on marine mammals from acoustic deterrent devices, Salmon Aquaculture Review, B.C. Environmental Assessment Office. 1996-97. - Invited Specialist, Acoustic Deterrents Workshop, U.S. Marine Mammal Commission, Seattle. Mar 1996. - Co-investigator, effects of acoustic deterrent devices at salmon farms on harbour porpoise. 1994-95. - Technical Assistant, Beaufort Sea Environmental Impact Statement, regarding biological effects and potential impacts of

underwater noise on marine mammals. ESL Environmental Sciences Ltd. 1981-84 - Invited participant in 'The Question of Sound from Icebreaker Operations', a workshop on the effects of proposed Arctic LNG carriers on marine mammals. Petro Canada, Toronto. Feb 1981 - Designed and conducted field study of the potential effects of underwater industrial noise on J.K.B. Ford – March 2010 Page 3 of 17 belugas in the Beaufort Sea. F.F. Slaney & Co., environmental consultants. 1976-77.

• **Oil spill preparedness, response and recovery: marine mammals** - Member, Advisory Committee, Robson Bight Salvage Recovery Team, 2008 - Technical Advisor, Queen of the North Sinking Response Team, 2006 - Technical reviewer and advisor for research and recovery programs involving killer whales and humpback whales in aftermath of *Exxon Valdez* oil spill, Alaska. U.S. Dept. of Justice, 1989-92; Exxon Valdez Oil Spill Trustee Council, 1993-2001 - Assisted in rescue and rehabilitation of sea otters during *Exxon Valdez* oil spill. Apr-May 1989 - Assisted in coordination and completion of field surveys to assess impacts of *Nestucca* oil spill on sea otters along west coast of Vancouver Island. Jan-Mar 1989 - Technical Specialist advising on marine mammal issues on the coast of B.C. and potential impacts from renewed hydrocarbon exploration. West Coast Offshore Exploration

Environmental Review Panel. 1984-85

• **Underwater acoustic behaviour and stock identity of narwhals in the Canadian Arctic** - Field investigation of potential role of underwater vocalization in population studies of narwhals, "Whales Beneath the Ice" program, World Wildlife Fund Canada. 1984-85. - First comprehensive recording and analysis of vocal signals of narwhals. 1975-76

• **Abundance and distribution of cetaceans in the Canadian Arctic** - Principal investigator in field study of distribution, abundance and age segregation of bowhead whales and other marine mammals, Beaufort Sea. 1986. - Co-investigator, aerial surveys of the distribution of white whales as related to physical and chemical oceanographic factors, southern Beaufort Sea. 1977. - Conducted systematic aerial surveys of marine mammals in Baffin Bay and Davis Strait. Aug-Oct 1976.

ACADEMIC RELATED ACTIVITIES

- Department of Zoology, Faculty of Science, University of B.C.: Research Associate, 1989-92; Adjunct Professor 1993-present - Marine Mammal Research Unit, Fisheries Centre, Faculty of Graduate Studies, University of B.C.: Adjunct Professor, 1993-present
- Honourary Reader, Department of Zoology, University of St. Andrews, Scotland, 2000-2003 - Guest Investigator, Woods Hole Oceanographic Institution, 1997-99 - Co-instructor, undergraduate level course on biology of marine mammals, Bamfield Marine Station. 1992-2002 - Co-instructor, UBC field course in earth and ocean sciences, Baja California, Jan-Mar 2000 - Supervisor of BSc Honours, MSc and PhD students at the University of B.C., including: - Barrett-Lennard, L.G. 1992. Echolocation in wild killer whales (*Orcinus orca*). MSc thesis. - Deecke, V. 1994. Using an artificial neural network to investigate dialect development in killer whales (*Orcinus orca*). BSc Honours thesis. - Heise, K. 1996. Life history parameters of the Pacific white-sided dolphins (*Lagenorhynchus obliquidens*) and its diet and occurrence in the coastal waters of British Columbia. MSc thesis. - Harms, E. 1997. Association patterns and pod cohesion of northern resident killer whales (*Orcinus orca*). MSc thesis. - O, Miriam. 1998. Investigation of intraspecific scars and nicks within the northern J.K.B. Ford – March 2010 Page 4 of 17 resident killer whale (*Orcinus orca*) population of the northeast Pacific. BSc Honours thesis. - Barrett-Lennard, L.G. 2000. Population structure and mating patterns of killer whales (*Orcinus orca*) as revealed by DNA analysis. PhD thesis. - Keple, A. 2002. Seasonal abundance and distribution of marine mammals in the Strait of Georgia, British Columbia. MSc thesis. - Yurk, H. 2005. Stability of vocal culture in killer whales (*Orcinus orca*). PhD thesis. - Dalla Rosa, L. in progress. The relationship between oceanographic parameters and distribution of humpback whales. PhD thesis. - Rambeau, A. 2008. Determining abundance and stock structure for a widespread migratory animal: the case of humpback whales (*Megaptera novaeangliae*) in British Columbia, Canada. MSc thesis, University of BC. - Advisory Committee for the following students: - Recchia, C.A. 1994. Social behaviour of captive belugas, *Delphinapterus leucas*. Woods Hole Oceanographic Institution, Massachusetts Institute of Technology. PhD thesis. - Strager, H. 1994. Pod specific call repertoires and compound calls of killer whales, *Orcinus orca* L. 1758, in the waters of northern Norway. MSc thesis, University of Aarhus, Denmark. - Thomsen, F. 1995. An analysis of whistles and calls from the sound repertoire of killer whales (*Orcinus orca*) off the coast of Vancouver Island, British Columbia, Canada. Diploma thesis, University of Hamburg, Germany (co-supervisor) - Erbe, C. 1997. The masking of beluga whale (*Delphinapterus leucas*) vocalizations by icebreaker noise. Ph.D. thesis, University of British Columbia. 215 pp. - Similä, T. 1997. Behavioral ecology of killer whales in northern Norway. PhD thesis, University of Tromsø, Norway.

- Thomsen, F. 1999. An investigation of the acoustic signals of killer whales (*Orcinus orca*) off Vancouver

Island, British Columbia. PhD thesis, University of Hamburg, Germany (co-supervisor). - Williams, R.M. 1999. Behavioural responses of killer whales to whale-watching: opportunistic observations and experimental approaches. MSc thesis, University of British Columbia. - Hall, A.M. 2004. Seasonal abundance, distribution and prey species of harbour porpoise (*Phocoena phocoena*) in southern Vancouver Island waters. MSc thesis, University of British Columbia. - McCluskey, S. 2006. Space Use Patterns and Population Trends of Southern Resident Killer Whales (*Orcinus orca*) in Relation to Distribution and Abundance of Pacific Salmon (*Oncorhynchus* spp.) in the Inland Marine Waters of Washington State and British Columbia. MSc thesis, University of Washington. –

AWARDS and FELLOWSHIPS

Dean's Honours List, University of B.C., 1976 Vancouver Natural History Society Award, 1976 Kit Malkin Memorial Scholarship, 1977-80 Maclean Fraser Memorial Scholarship, 1978-82 J.K.B. Ford – March 2010 Page 5 of 17 University of B.C. Graduate Fellowship, 1979-82 Best Student Paper Award, Society for Marine Mammalogy Biennial Conf., Boston, MA, 1983 NSERC Postdoctoral Fellowship in Canadian Government Laboratories, 1985-86 NSERC Industrial Fellowship, 1986-88 Murray A. Newman Award for Significant Achievement in Aquatic Research, Vancouver Aquarium Marine Science Centre, 2009.

COMMITTEE MEMBERSHIPS

- Cetacean Specialist Group, International Union for the Conservation of Nature (IUCN), 2009-present - Species Specialist Group, Marine Mammals, Committee on the Status of Endangered Wildlife in Canada, 2005-present - Marine Mammal Subcommittee, Canadian Council on Animal Care, 2003-present - Killer Whale Recovery Team, 2004-present - Sea Otter Recovery Team, 2002-present - Chair, North Pacific Right Whale Recovery Team, 2002-2005

PUBLIC EDUCATION ACTIVITIES

- Frequent public lectures on whale biology and conservation. Host organizations and facilities include Smithsonian Institution, Washington; Field Museum of Natural History, Chicago; Cleveland Natural History Museum, Ohio; National Aquarium, Baltimore; Columbus Zoo, Ohio; Canadian Geographical Society, Vancouver, Victoria, Nanaimo, Ottawa; Vancouver Island University; Royal British Columbia Museum, Victoria; Alberta Provincial Museum, Edmonton; Vancouver Institute, Vancouver. - Numerous popular magazine articles, including: National Geographic Magazine, Natural History (New York). - Contributions to numerous television documentaries, including productions for National Geographic, Discovery Channel (Canada and US), Canadian Broadcasting Corporation, Australian Broadcasting Corporation, British Broadcasting Corporation, NHK Tokyo, TBS Tokyo. - Co-developed public displays and exhibits on marine mammals, Vancouver Aquarium Marine Science Centre.

REPORTS AND PUBLICATIONS

Scientific Journals:

Ford, J.K.B., G.M. Ellis, P.F. Olesiuk, and K.C. Balcomb. 2010. Linking killer whale survival and prey abundance: food limitation in the oceans' apex predator? Biology Letters, 6:139-142. Published on-line before print September 15, 2009. Himworth, C.G., M. Haulena, D. M. Lambourn, J.K. Gaydos, J. Huggins, K. Zaremba, J. Calambokidis, J. Ford, P. Ross, and S. Raverty. In press. Pathology and epidemiology of phocid herpesvirus-1 infections in wild and rehabilitating harbor seals (*Phoca vitulina*) in the Northeastern Pacific. J. Wildlife Diseases Calambokidis, J., Barlow, J., Ford, J.K.B., Chandler, T.E., and Douglas, A.B. 2009. Insights into the population structure of blue whales in the eastern North Pacific from recent sightings and photographic identification. Marine Mammal Science 25:816-832. Parsons, K.M., Balcomb, K.C. III, Ford, J.K.B., and Durban, J.W. 2009. The social dynamics of southern resident killer whales and conservation implications for this endangered population. Animal Behaviour 77:963-971 Ward, E.J., Parsons, K., Holmes, E.E., Balcomb, K.C. III, and Ford, J.K.B. 2009. The role of menopause and reproductive senescence in a long-lived social mammal. Frontiers in Zoology, 6:4. Riesch, R., Ford, J.K.B., and Thomsen, F. 2008. Whistle sequences in wild killer whales (*Orcinus orca*). J. Acoustical Soc. Amer. 124:1822-1829. Ford, J.K.B., and Reeves, R.R. 2008. Fight or flight: antipredator strategies of baleen whales. Mammal Review, 38:50-86. Steiger, G. H., Calambokidis, J., Straley, J. M., Herman, L. M., Cerchio, S., Salden, D. R., Urbán R., J. Jacobsen, J. K., von Ziegesar, O., Balcomb, K. C., Gabriele, C. M., Dahlheim, M. E., Uchida, S., Ford, J. K. B., Ladrón de Guevara P., P., Yamaguchi, M., Barlow, J. 2008. Geographic variation in killer whale attacks on humpback whales in the North Pacific: implications for predation pressure. Endangered Species Research, 4: 247–256. Gregr, E.J., Nichol, L.M., Watson, J.C., Ford, J.K.B., and Ellis, G.M. 2008. Estimating carrying capacity for sea otters in British Columbia. Journal of Wildlife Management, 72:382-388. Hickie, B.E.,

Ross, P.S., Macdonald, R.W., and Ford, J.K.B. 2007. Killer whales (*Orcinus orca*) face protracted health risks associated with lifetime exposure to PCBs. *Environmental Science and Technology* 41: 6613-6619. Krahn M.M., Hanson, M.B., Baird, R.W., Boyer, R.H., Burrows, D.G., Emmons, C.K., Ford, J.K.B., Jones, L.L., Noren, D.P., Ross, P.S., Schorr, G.S., and Collier, T.K. 2007. Persistent organic pollutants and stable isotopes in biopsy samples (2004/2006) from Southern Resident killer whales. *Marine Pollution Bulletin*, 54:1903–1911. Guinet, C., Domenici, P., de Stephanis, R., Barrett-Lennard, L., Ford, J. K. B., and Verborgh, P. 2007. Killer whale predation on bluefin tuna: exploring the hypothesis of the endurance-exhaustion technique. *Marine Ecology Progress Series* 347:111-119. Pitman, R. L., Fearnbach, H., LeDuc, R., Gilpatrick, J. W. Jr., Ford, J. K. B., and Ballance, L. T. 2007. Killer whales prey on a blue whale calf on the Costa Rica Dome: genetics, morphometrics, vocalizations and composition of the group. *Journal of Cetacean Research and Management* 9:151- 157. Trites, A.W., Deecke, V.B., Greg, E.J., Ford, J.K.B., and Olesiuk, P.F. 2007. Killer whales, whaling and sequential megafaunal collapse in the North Pacific: a comparative analysis of the dynamics J.K.B. Ford – March 2010 Page 7 of 17 Of marine mammals in Alaska and British Columbia following commercial whaling. *Marine Mammal Science* 23:751-765. Wade, P.R., Barrett-Lennard, L.G., Black, N.A., Burkanov, V.N., Burdin, A.M., Calambokidis, J., Cerchio, S., Dahlheim, M.E., Ford, J.K.B., Friday, N. A., Fritz, L.W., Jacobsen, J.K. Loughlin, T.R., Matkin, C.O. Matkin, D.R., McCluskey, S.M., Mehta, A.V., Mizroch, S.A. , Muto, M.M., Rice, D.W., Robe, P., and Clapham, P. 2007. Killer whales and marine mammal trends in the North Pacific – a re-examination of evidence for sequential megafauna collapse and the preyswitching hypothesis. *Marine Mammal Science* 23:766-802. Ford, J.K.B., and Ellis, G.M. 2006. Selective foraging by fish-eating killer whales *Orcinus orca* in British Columbia. *Marine Ecology Progress Series* 316:185-199. Reisch, R., Ford, J.K.B., and Thomsen, F. 2005. Stability and group-specificity of stereotyped whistles in resident killer whales, *Orcinus orca*, off British Columbia. *Animal Behaviour* 71:79-93. Ford, J.K.B. 2005. First records of long-beaked common dolphins, *Delphinus capensis*, in Canadian waters. *Canadian Field-Naturalist* 119:110-113. Ford, J.K.B., Ellis, G.M., Matkin, D.R., Balcomb, K.C., Briggs, D., and Morton, A.B. 2005. Killer whale attacks on minke whales: prey capture and antipredator tactics. *Marine Mammal Science* 21:603-618. Deecke, V.B., Ford, J.K.B., and Slater, P.J.B. 2005. The vocal behaviour of mammal-eating killer whales: communicating with costly calls. *Animal Behaviour* 69:395-405. Vagle, S., Ford, J.K.B., Erickson, N., Hall-Patch, N., and Kamitakahara, G. 2004. Acoustic recording systems for baleen whales and killer whales on the west coast of Canada. *Canadian Acoustics* 32:23- 32. Au, W.W.L., Ford, J.K.B., Horne, J.K. and Newman Allman, K.A. 2004. Echolocation signals of freeranging killer whales (*Orcinus orca*) and modeling of foraging for chinook salmon (*Oncorhynchus tshawytscha*). *J. Acoust. Soc. Am.* 115:901-909. Deecke, V.B., Slater, P.J.B., and Ford, J.K.B. 2002. Selective habituation shapes acoustic predator recognition in harbour seals. *Nature*, 420:171-173. Williams, R., Bain, D.E., Ford, J.K.B., and Trites, A.W. 2002. Behavioural responses of male killer whales to a ‘leapfrogging’ vessel. *J. Cetacean Research and Management* 4:305-310. Thomsen, F., Franck, D. and Ford, J.K.B. 2002. On the communicative significance of whistles in wild killer whales (*Orcinus orca*). *Naturwissenschaften* 89 (9): 404-407. Yurk, H., Barrett-Lennard, L., Ford, J.K.B., Matkin, C.O. 2002. Cultural transmission within maternal lineages: vocal clans in resident killer whales in southern Alaska. *Animal Behaviour* 63:1103-1119. Olesiuk, P.F., Nichol, L.M., Sowden, M.J. and Ford, J.K.B. 2002. Effect of the sound generated by an acoustic deterrent device on the relative abundance and distribution of harbour porpoise (*Phocoena phocoena*) in Retreat Passage, British Columbia. *Marine Mammal Science* 18:843-862. Barrett-Lennard, L.G., Deecke, V.B., Yurk, H., and Ford, J.K.B. 2001. A sound approach to the study of culture. *Behavioural and Brain Sciences*, 24:325-326. Thomsen, F., Frank D., and Ford, J.K.B. 2001. Characteristics of whistles from the acoustic repertoire of resident killer whales (*Orcinus orca*) off Vancouver Island, British Columbia. *Journal of the Acoustical Society of America*. 109:1240-1246. Deecke, V.B., Ford, J.K.B. and Spong, P. 2000. Dialect change in resident killer whales (*Orcinus orca*): implications for vocal learning and cultural transmission. *Animal Behaviour*, 60:629-638. Greg, E.J., Nichol, L., Ford, J.K.B., Ellis, G., and Trites, A.W. 2000. Migration and population structure of northeastern Pacific whales off coastal British Columbia: an analysis of commercial whaling records from 1908-1967. *Marine Mammal Science*, 16:699-727. Deecke, V.B., Ford, J.K.B. and Spong, P. 1999. Quantifying complex patterns of bioacoustic variation: use of a neural network to compare killer whale (*Orcinus orca*) dialects. *Journal of the Acoustical Society of America*, 105(4): 2499-2507. Ford, J.K.B., Ellis, G.M., Barrett-Lennard, L., Morton, A., Palm, R., and Balcomb, K.C. 1998. Dietary specialization in two sympatric populations of killer whales (*Orcinus orca*) in coastal British Columbia and adjacent waters. *Canadian Journal of Zoology*, 76:1456-1471. Watson, J.C., Ellis, G.M., Smith, T.G. and Ford, J.K.B. 1997. Updated status of the sea otter, *Enhydra lutris*, in Canada. *Canadian Field-Naturalist* 111:277-286. Barrett-Lennard, L.G., Ford, J.K.B., and Heise, K.A. 1996. The mixed blessing of echolocation: differences in sonar use by fish-eating and mammal-eating killer whales. *Animal Behaviour*, 51:553- 565. Thomsen, F., Ford, J.K.B., and Franck, D. 1996. Whistles as close range emotive signals in wild killer whales (*Orcinus orca*) off Vancouver Island, British Columbia, Canada. *Bioacoustics*, 6:309-310. Kastelein, R.A., Ford, J., Berghout, E., Wiepkema, P.R., and van Boxsel, M.

1994. Food consumption, growth and reproduction of belugas (*Delphinapterus leucas*) in human care. *Aquatic Mammals* 20:81- 97. Ford, J.K.B. 1991. Vocal traditions among resident killer whales (*Orcinus orca*) in coastal waters of British Columbia. *Canadian Journal of Zoology*, 69:1454-1483. Hoelzel, A.R., Ford, J.K.B., and Dover, G.A. 1991. A paternity test case for the killer whale (*Orcinus orca*) by DNA fingerprinting. *Marine Mammal Science*, 7(1):35-43. Bigg, M.A., Olesiuk, P.F., Ellis, G.M., Ford, J.K.B. and Balcomb, K.C. III. 1990. Social organization and genealogy of resident killer whales (*Orcinus orca*) in the coastal waters of British Columbia and Washington State. Report of the International Whaling Commission (Special Issue 12):383-405. Ford, J.K.B. 1989. Acoustic behaviour of resident killer whales (*Orcinus orca*) in British Columbia. *Canadian Journal of Zoology*, 67:727-745. Moore, S.E., Francine, J.K., Bowles, A.E. and Ford, J.K.B.. 1988. Analysis of calls of killer whales, *Orcinus orca*, from Iceland and Norway. In: J. Sigurjonsson and S. Leatherwood (eds.), North Atlantic killer whales. *Journal of the Marine Research Institute (Reykjavik)* 11:225-250. Ford, J.K.B., and Fisher, H.D. 1982. Killer whale (*Orcinus orca*) dialects as an indicator of stocks in British Columbia. Report of the International Whaling Commission, 32:671-679. Ford, J.K.B., and Fisher, H.D. 1978. Underwater acoustic signals of the narwhal (*Monodon monoceros*). *Canadian Journal of Zoology*, 56:552-560.

Books, Book Chapters, and Theses

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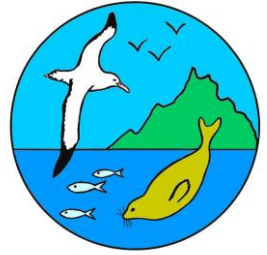
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Centre d'Etudes Biologiques de Chizé

Groupe : Ecologie des
Oiseaux et Mammifères
Marins

Villiers en Bois le 03/11/11

To Whom It May Concern:

In August 2010, I was asked by Dr. Niels van Elk of Dolfinarium Harderwijk, Netherlands, to provide expert advice on the releasability of the rescued killer whale known as 'Morgan'. My opinion, like most of the researcher contacted was that rehabilitation to the wild without any knowledge of the pod origin of this killer whales was equivalent to "a death sentence" as killer whales rely on social grouping to forage efficiently, and I was suggested to maintain Morgan in a semi captive situation in a Norwegian Fjord.

Newly collected acoustic information reveals that that Morgan is related to the Norwegian P pod Morgan's natal group or a related kin group. Furthermore new information indicate that killer whales groups are now sighted frequently near Vesterålen in northern Norway during summer. Given this new information, I believe that rehabilitation back to the wild for Morgan is potentially feasible.

In the event that reintegration of Morgan to her natal group or another kin group is attempted but unsuccessful, long-term holding in a semi-natural situation, such as keeping her in a Norwegian Fjord could provide both an appropriate intermediate measure which would be more satisfactory in terms of habitat for the whale and provide the opportunity to undertake a variety of research projects as well as raise public awareness about the protection and conservation of the marine environment.

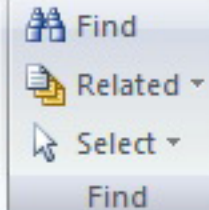
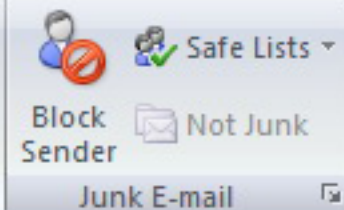
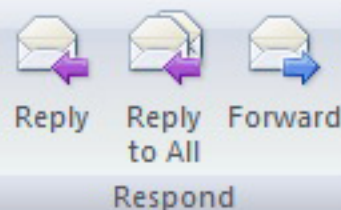
Should a decision be made to move Morgan to a sea pen for long-term study or for an attempt to rehabilitate her to the wild, I would be pleased to provide advice if requested.

Christophe Guinet
Directeur de recherche
CEBC-CNRS

Message

Add-Ins

Adobe PDF



This message has been replied to or forwarded.

From: Christina Lockyer [mailto:christina@age-dynamics.com]
To: ingrid@orca.org.nz
Cc:
Subject: Morgan

Sent: Wed 02/11/11 21:31

Dear Ingrid,

Thank you again for the information. I am reluctant at this time to write an official letter because I really have not had the time to investigate the entire situation. It is true that there has been additional research on the acoustic dialects of pods off Norway, but although we are getting closer to identifying relatives of Morgan there is still no assurance that she would be adopted if released. What also concerns me is that I personally have not been to Loro Parque, although I imagine that the facilities are less than ideal with respect to space (<http://www.loroparque.com/en/orcas.asp>), however modern they might be, and also the characteristics of the other captivity-born killer whales therein are unknown to me, and so, like others who have expressed opinions, I have concerns about the quality and appropriateness of this facility.

However, I am very concerned that something is done very soon and Morgan is relocated for two main reasons: 1) Morgan is growing and is hampered by lack of space where she is currently (this everyone agrees upon); 2) Morgan is deprived of social contact which is essential for her wellbeing and development. It could be that from the space point of view, the sea pen may be a temporary solution, but this does not afford a long term solution for contact with other killer whales which Morgan would at least have contact with in Loro Parque.

I have often thought that live-stranded and sick animals should possibly be euthanised at source, simply because the problems that subsequently arise often do not have simple or appropriate solutions for the animal. There have been successful rehabilitations, Morgan being one of them, but I do not want to enter this field of argument. Death is something that every living organism must experience sooner or later, but the quality of life while living is important. The costs of maintaining rehabilitated animals and also releasing them are very high, and I find this kind of finance being invested in one animal somewhat immoral when there are so many other causes to support today.

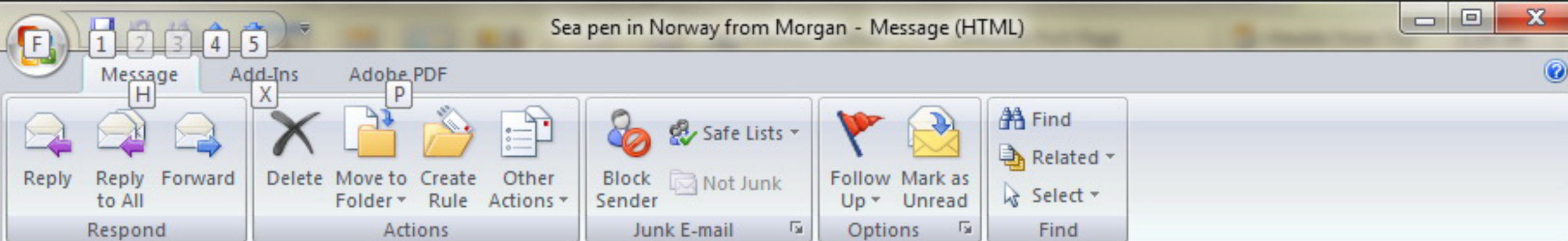
One thing that I do think is that it would be a very interesting scientific experiment to prepare Morgan for ultimate release into the open sea, **providing she is tagged for tracking and monitoring on release**. One could take the pragmatic view that she would be an indicator of potential survival and the results might be very helpful as guidance in future cases should they arise. Taking this experimental approach - because that is how I see it, does not necessarily place the animal's wellbeing as a priority, but might possibly make strides forward in our understanding of how killer whales adapt to new situations and how they might (or might not) survive. Are we ready to take this step?

You may use my arguments as you wish, but I cannot at this time make a firm new recommendation regarding Morgan's future.

Best regards,
Christina.

NB Please note that my affiliation is with Age Dynamics.

Dr Christina Lockyer
Age Dynamics
c/o Inneivveien 201
Kaldfjord
N-9100 Kvaløysletta
Norway



From: Fernando Ugarte []
To: Ingrid Visser
Cc: Malene J. Simon
Subject: Sea pen in Norway from Morgan

Sent: Fri 04/11/11 01:05

Dear Ingrid,

Thank you for showing me the documents from the Free Morgan projects. The plan of moving Morgan to a sea pen in a fjord in Vesterålen or Lofoten is very much in line with my original recommendation, which was to place Morgan under human care in a sea pen with plenty of activity.

I have worked with Jeff Foster in the past and I do not know any one better qualified than him to advice during the transport and setting up of a sea pen.

Thus, the first steps in the Free Morgan project: transport to Norway and rehabilitation in a sea pen seem like a very good option for Morgan's near future.

I am not in the position to comment as to whether the next step after moving the whale to a sea pen should be release into the wild or a future under human care. Such an evaluation would need more time than what is available for me.

When Keiko swam into Norway, I participated in the discussions between the Norwegian government, the local authorities and Keiko's caretakers. Norway took the welfare of Keiko very seriously and implemented legislation for his protection. With basis on this experience I assume that establishing a sea-pen for a killer whale will only be allowed by the Norwegian authorities if the operation is done in a responsible way.

I understand that it may seem hard to choose between sending Morgan to a tank in Tenerife where she can have social interactions with other killer whales or sending her to a not yet established sea pen in Norway where she could have a large natural environment to live in. I believe that the large natural environment in Norway, coupled and good quality human care including social interactions with humans could be the healthiest option for the animal.

Feel free to include this text in your file case.

All best,

Fernando Ugarte
Head of Department of Birds and Mammals.
Greenland Institute of Natural Resources
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<http://www.natur.gl/en/>