

## References – Office of Naval Research’s Arctic Research Activities (Year 7) Proposed IHA

- AHROON, W. A., HAMERNIK, R. P. & LEI, S. F. 1996. The effects of reverberant blast waves on the auditory system. *The Journal of the Acoustical Society of America*, 100, 2247-2257.
- ALLISTON, W. G. 1980. The distribution of ringed seals in relation to winter icebreaking activities near McKinley Bay, NWT, January-June 1980. Toronto, Ont.: Dome Petroleum.
- ALLISTON, W. G. 1981. The distribution of ringed seals in relation to winter icebreaking activities in Lake Melville, Labrador. LGL Limited environmental research associates.
- ANSI 1986. Methods of measurement for impulse noise. *American National Standards Institute*. Woodbury, NY: Acoustical Society of America.
- ANSI 1995. Bioacoustical terminology. *American National Standards Institute*. Woodbury, NY: Acoustical Society of America.
- ANTUNES, R., KVADSHEIM, P. H., LAM, F.-P. A., TYACK, P. L., THOMAS, L., WENSVEEN, P. J. & MILLER, P. J. O. 2014. High thresholds for avoidance of sonar by free-ranging long-finned pilot whales (*Globicephala melas*). 83, 165-180.
- ARCHER, F. I., MESNICK, S. L. & ALLEN, A. C. 2010. Variation and predictors of vessel-response behavior in a tropical dolphin community. In: CENTER, S. F. S. (ed.) *National Oceanic and Atmospheric Administration*. National Oceanic and Atmospheric Administration.
- AU, W. W. L. & HASTINGS, M. C. 2008. *Principles of marine bioacoustics*, Springer.
- BEAUCHAMP, G. & LIVOREIL, B. 1997. The effect of group size on vigilance and feeding rate in spice finches (*Lonchura punctulata*). *Canadian Journal of Zoology-Revue Canadienne De Zoologie*, 75, 1526-1531.
- BEJDER, L., SAMUELS, A., WHITEHEAD, H., FINN, H. & ALLEN, S. 2009. Impact assessment research: use and misuse of habituation, sensitisation and tolerance in describing wildlife responses to anthropogenic stimuli. *Marine Ecology Progress Series*, 395, 177-185.
- BEJDER, L., SAMUELS, A., WHITEHEAD, H. & GALES, N. 2006. Interpreting short-term behavioural responses to disturbance within a longitudinal perspective. *Animal Behaviour*, 72, 1149-1158.
- BELAND, J. & IRELAND, D. 2010. Marine mammal monitoring and mitigation during a marine geophysical survey in the Arctic Ocean, August–September 2010: 90-day report. In: INC., L. A. R. A. (ed.) *Report for U.S. Geological Survey, National Marine Fisheries Service, and U.S. Fish and Wildlife Service*. Anchorage, AK.

- BLACKWELL, S. B., LAWSON, J. W. & WILLIAMS, M. T. 2004. Tolerance by ringed seals (*Phoca hispida*) to impact pipe-driving and construction sounds at an oil production island. *The Journal of the Acoustical Society of America*, 115, 2346-2357.
- BLECHA, F. 2000. Immune system response to stress. *The biology of animal stress: basic principles and implications for animal welfare.*: CABI Publishing Wallingford UK.
- BORN, E. W., TEILMANN, J., ACQUARONE, M. & RIGET, F. F. 2004. Habitat use of ringed seals (*Phoca hispida*) in the North Water area (North Baffin Bay). *Arctic*, 57, 129-142.
- BORN, E. W., TEILMANN, J. & RIGET, F. F. 2002. Haul-out activity of ringed seals (*Phoca hispida*) determined from satellite telemetry. *Marine Mammal Science*, 18, 167-181.
- BOWERS, M. T., FRIEDLAENDER, A. S., JANIK, V. M., NOWACEK, D. P., QUICK, N. J., SOUTHALL, B. L. & READ, A. J. 2018. Selective reactions to different killer whale call categories in two delphinid species. *Journal of Experimental Biology*, 221.
- BOWLES, A. E., SMULTEA, M., WURSIG, B., DEMASTER, D. P. & PALKA, D. 1994. Relative abundance and behavior of marine mammals exposed to transmissions from the Heard Island Feasibility Test. *The Journal of the Acoustical Society of America*, 96, 2469-2484.
- BRADSHAW, C. J. A., BOUTIN, S. & HEBERT, D. M. 1998. Energetic implications of disturbance caused by petroleum exploration to woodland caribou. *Canadian Journal of Zoology*, 76, 1319-1324.
- BRANSTETTER, B. K., TRICKEY, J. S., BAKHTIARI, K., BLACK, A., AIHARA, H. & FINNERAN, J. J. 2013. Auditory masking patterns in bottlenose dolphins (*Tursiops truncatus*) with natural, anthropogenic, and synthesized noise. *The Journal of the Acoustical Society of America*, 133, 1811-8.
- CAÑADAS, A., ROBERTS, J. J., SCHICK, R. S. & HALPIN, P. N. 2020. Updated marine species density models for the Arctic Study Area. *Draft Report*. Version 2, May 2023 ed. Prepared for Fleet Forces Command: Submitted to Naval Facilities Engineering Command Atlantic, Norfolk, Virginia, under Contract No. N62470-17-2-8004.
- CHAPSKII, K. K. 1940. The ringed seal of western seas of the Soviet Arctic (The morphological characteristic, biology and hunting production). In: SMIRNOV, N. A. (ed.) *Proceedings of the Arctic Scientific Research Institute, Chief Administration of the Northern Sea Route*. Leningrad, Moscow: Izd. Glavsevmorputi.
- CHRISTIANSEN, J. S. & REIST, J. D. 2013. Fishes. *Arctic Biodiversity Assessment*. Akureyri, Iceland: Conservation of Arctic Flora and Fauna (CAFF),.
- CLARK, C. W., ELLISON, W. T., SOUTHALL, B. L., HATCH, L., VAN PARIJS, S. M., FRANKEL, A. & PONIRAKIS, D. 2009. Acoustic masking in marine ecosystems: intuitions, analysis, and implication. *Marine Ecology Progress Series*, 395, 201-222.

- CLARKE, J. T., FERGUSON, M. C., BROWER, A. A., FUJIOKA, E. & DELAND, S. 2023. Biologically important areas II for cetaceans in US and adjacent waters-Arctic region. *Frontiers in Marine Science*, 10, 1040123.
- CONN, P. B., VER HOEF, J. M., MCCLINTOCK, B. T., MORELAND, E. E., LONDON, J. M., CAMERON, M. F., DAHLE, S. P. & BOVENG, P. L. 2014. Estimating multispecies abundance using automated detection systems: ice-associated seals in the Bering Sea. *Methods in Ecology and Evolution*, 5, 1280-1293.
- CONNOR, R. C. & HEITHAUS, M. R. 1996. Approach by great white shark elicits flight response in bottlenose dolphins. *Marine Mammal Science*, 12, 602-606.
- CRAWFORD, J. A., FROST, K. J., QUAKENBUSH, L. T. & WHITING, A. 2012. Different habitat use strategies by subadult and adult ringed seals (*Phoca hispida*) in the Bering and Chukchi seas. *Polar Biology*, 35, 241-255.
- CROLL, D. A., CLARK, C. W., CALAMBOKIDIS, J., ELLISON, W. T. & TERSHY, B. R. 2001. Effect of anthropogenic low-frequency noise on the foraging ecology of Balaenoptera whales. *Animal Conservation forum*, 4, 13-27.
- DAAN, S., DEERENBERG, C. & DIJKSTRA, C. 1996. Increased daily work precipitates natural death in the kestrel. *Journal of Animal Ecology*, 65, 539-544.
- DI IORIO, L. & CLARK, C. W. 2010. Exposure to seismic survey alters blue whale acoustic communication. *Biology letters*, 6, 51-54.
- EICKMEIER, J. & VALLARTA, J. 2023. Estimation of High-Frequency Auditory Masking in Beluga Whales by Commercial Vessels in Cook Inlet, Alaska. *Transportation Research Record*, 2677, 959-967.
- ELLISON, W. T., SOUTHALL, B. L., CLARK, C. W. & FRANKEL, A. S. 2012. A new context-based approach to assess marine mammal behavioral responses to anthropogenic sounds. *Conservation Biology*, 26, 21-28.
- ELSNER, R., WARTZOK, D., SONAFRANK, N. B. & KELLY, B. P. 1989. Behavioral and physiological reactions of arctic seals during under-ice pilotage. *Canadian Journal of Zoology*, 67, 2506-2513.
- ERBE, C. 2008. Critical ratios of beluga whales (*Delphinapterus leucas*) and masked signal duration. *The Journal of the Acoustical Society of America*, 124, 2216-2223.
- ERBE, C., REICHMUTH, C., CUNNINGHAM, K., LUCKE, K. & DOOLING, R. 2016. Communication masking in marine mammals: A review and research strategy. *Marine Pollution Bulletin*, 103, 15-38.
- EVANS, D. R. & ENGLAND, G. R. 2001. Joint Interim Report Bahamas Marine Mammal Stranding Event of 15-16 March 2000. In: NATIONAL OCEANIC AND

ATMOSPHERIC ADMINISTRATION (ed.). NOAA, National Marine Fisheries Service; Department of the Navy.

- FAIR, P. A. & BECKER, P. R. 2000. Review of stress in marine mammals. *Journal of Aquatic Ecosystem Stress and Recovery*, 7, 335-354.
- FINLEY, K. J. 1982. The estuarine habitat of the beluga or white whale, *Delphinapterus leucas*. *Cetus*, 4, 4-5.
- FINNERAN, J. J. 2015. Noise-induced hearing loss in marine mammals: A review of temporary threshold shift studies from 1996 to 2015. *The Journal of the Acoustical Society of America*, 138, 1702-1726.
- FINNERAN, J. J. 2016. Auditory weighting functions and TTS/PTS exposure functions for marine mammals exposed to underwater noise. Space and Naval Warfare Systems Center Pacific San Diego United States.
- FINNERAN, J. J., CARDER, D. A., SCHLUNDT, C. E. & DEAR, R. L. 2010. Growth and recovery of temporary threshold shift at 3 kHz in bottlenose dolphins: Experimental data and mathematical models. *Journal of the Acoustical Society of America*, 127, 3256-3266.
- FINNERAN, J. J., DEAR, R., CARDER, D. A. & RIDGWAY, S. H. 2003. Auditory and Behavioral Responses of California Sea Lions (*Zalophus californianus*) to Single Underwater Impulses From an Arc-Gap Transducer. *Journal of the Acoustical Society of America*, 114, 1667-1677.
- FINNERAN, J. J. & SCHLUNDT, C. E. 2013. Effects of fatiguing tone frequency on temporary threshold shift in bottlenose dolphins (*Tursiops truncatus*). *Journal of the Acoustical Society of America*, 133, 1819-1826.
- FINNERAN, J. J., SCHLUNDT, C. E., CARDER, D. A., CLARK, J. A., YOUNG, J. A., GASPIN, J. B. & RIDGWAY, S. H. 2000. Auditory and Behavioral Responses of Bottlenose Dolphins (*Tursiops truncatus*) and a Beluga Whale (*Delphinapterus leucas*) to Impulsive Sounds Resembling Distant Signatures of Underwater Explosions. *Journal of the Acoustical Society of America*, 108, 417-431.
- FINNERAN, J. J., SCHLUNDT, C. E., DEAR, R., CARDER, D. A. & RIDGWAY, S. H. 2002. Temporary Shift in Masked Hearing Thresholds in Odontocetes After Exposure to Single Underwater Impulses From a Seismic Watergun. *Journal of the Acoustical Society of America*, 111, 2929-2940.
- FOOTE, A. D., OSBORNE, R. W. & HOELZEL, A. R. 2004. Whale-call response to masking boat noise. *Nature*, 428, 910.
- FORD, J. K. B. & REEVES, R. R. 2008. Fight or flight: antipredator strategies of baleen whales. *Mammal Review*, 38, 50-86.

- FRANKEL, A. S. & CLARK, C. W. 2000. Behavioral responses of humpback whales (*Megaptera novaeangliae*) to full-scale ATOC signals. *J. Acoust. Soc. Am.*, 108, 1930-1937.
- FRISTRUP, K. M., HATCH, L. T. & CLARK, C. W. 2003. Variation in humpback whale (*Megaptera novaeangliae*) song length in relation to low-frequency sound broadcasts. *J. Acoust. Soc. Am.*, 113, 3411-3424.
- FRITZ, H., GUILLEMAIN, M. & DURANT, D. 2002. The cost of vigilance for intake rate in the mallard (*Anas platyrhynchos*): an approach through foraging experiments. *Ethology Ecology & Evolution*, 14, 91-97.
- FROST, K. J. 1985. The ringed seal (*Phoca hispida*). In: BURNS, J. J., FROST, K. J. & LOWRY, L. F. (eds.) *Marine Mammals Species Accounts*. Juneau, AK: Alaska Department of Fish and Game.
- FROST, K. J. & LOWRY, L. F. 1984. Trophic relationships of vertebrate consumers in the Alaskan Beaufort Sea. *The Alaskan Beaufort Sea -- Ecosystems and Environments*. New York, NY: Academic Press, Inc.
- FROST, K. J. & LOWRY, L. F. 1990. Distribution, abundance, and movements of beluga whales, *Delphinapterus leucas*, in coastal waters of western Alaska. *Canadian Bulletin of Fisheries and Aquatic Sciences*, 224, 39-57.
- FROST, K. J., LOWRY, L. F. & CARROLL, G. M. 1993. Beluga whale and spotted seal use of a coastal lagoon system in the northeastern Chukchi Sea. *Arctic*, 46, 8-16.
- FROST, K. J., LOWRY, L. F. & NELSON, R. R. 1985. Radiotagging studies of belukha whales (*Delphinapterus leucas*) in Bristol Bay, Alaska. *Marine Mammal Science*, 1, 191-202.
- GOLDBOGEN, J. A., FRIEDLAENDER, A. S., CALAMBOKIDIS, J., MCKENNA, M. F., SIMON, M. & NOWACEK, D. P. 2013a. Integrative approaches to the study of baleen whale diving behavior, feeding performance, and foraging ecology. *BioScience*, 63, 90-100.
- GOLDBOGEN, J. A., SOUTHALL, B. L., DERUITER, S. L., CALAMBOKIDIS, J., FRIEDLAENDER, A. S., HAZEN, E. L., FALCONE, E. A., SCHORR, G. S., DOUGLAS, A. & MORETTI, D. J. 2013b. Blue whales respond to simulated mid-frequency military sonar. *Proceedings of the Royal Society B: Biological Sciences*, 280, 20130657.
- GOMEZ, C., LAWSON, J. W., WRIGHT, A. J., BUREN, A. D., TOLLIT, D. & LESAGE, V. 2016. A systematic review on the behavioural responses of wild marine mammals to noise: the disparity between science and policy. *Canadian Journal of Zoology*, 94, 801-819.

- GÖTZ, T., JANIK, V. M. G., T. & JANIK, V. M. 2010. Aversiveness of sounds in phocid seals: psycho-physiological factors, learning processes and motivation. *The Journal of Experimental Biology*, 213, 1536-1548.
- GUREVICH, V. S. 1980. Worldwide distribution and migration patterns of the white whale (Beluga), *Delphinapterus leucas*. *Reports of the International Whaling Commission*, 30, 465-480.
- HALPIN, P. N., READ, A. J., FUJIOKA, E., BEST, B. D., DONNELLY, B., HAZEN, L. J., KOT, C., URIAN, K., LABRECQUE, E. & DIMATTEO, A. 2009. OBIS-SEAMAP: The world data center for marine mammal, sea bird, and sea turtle distributions. *Oceanography*, 22, 104-115.
- HAMILTON, C. D., KOVACS, K. M., IMS, R. A., AARS, J., STRØM, H. & LYDERSEN, C. 2017. Spatial overlap among an Arctic predator, prey and scavenger in the marginal ice zone. *Marine Ecology Progress Series*, 573, 45-59.
- HAMILTON, C. D., LYDERSEN, C., IMS, R. A. & KOVACS, K. M. 2015. Predictions replaced by facts: a keystone species' behavioural responses to declining arctic sea-ice. *Biology Letters*, 11, 20150803.
- HARWOOD, L. A., SMITH, T. G., AULD, J., MELLING, H. & YURKOWSKI, D. J. 2015. Seasonal movements and diving of ringed seals, *Pusa hispida*, in the Western Canadian Arctic, 1999-2001 and 2010-11. *Arctic*, 193-209.
- HARWOOD, L. A., SMITH, T. G. & AULD, J. C. 2012. Fall migration of ringed seals (*Phoca hispida*) through the Beaufort and Chukchi Seas, 2001 - 02. *Arctic*, 65, 35-44.
- HATCH, L. T., CLARK, C. W., VAN PARIJS, S. M., FRANKEL, A. S. & PONIRAKIS, D. W. 2012. Quantifying loss of acoustic communication space for right whales in and around a US National Marine Sanctuary. *Conservation Biology*, 26, 983-994.
- HAUSER, D. D., LAIDRE, K. L., SUYDAM, R. S. & RICHARD, P. R. 2014. Population-specific home ranges and migration timing of Pacific Arctic beluga whales (*Delphinapterus leucas*). *Polar Biology*, 37, 1171-1183.
- HAZARD, K. 1988. Beluga whale, *Delphinapterus leucas*. In: LENTFER, J. W. (ed.) *Selected marine mammals of Alaska. Species accounts with research and management recommendations*. Washington D. C.: Marine Mammal Commission.
- HEMILÄ, S., NUMMELA, S., BERTA, A. & REUTER, T. 2006. High-frequency hearing in phocid and otariid pinnipeds: An interpretation based on inertial and cochlear constraints. *The Journal of the Acoustical Society of America*, 120, 3463-3466.
- HENDERSON, D., HU, B. & BIELEFELD, E. 2008. Patterns and mechanisms of noise-induced cochlear pathology. *Auditory trauma, protection, and repair*, 195-217.

- HOLBERTON, R. L., HELMUTH, B. & WINGFIELD, J. C. 1996. The corticosterone stress response in gentoo and king penguins during the non-fasting period. *Condor*, 850-854.
- HOLT, M. M., NOREN, D. P., VEIRS, V., EMMONS, C. K. & VEIRS, S. 2009. Speaking up: Killer whales (*Orcinus orca*) increase their call amplitude in response to vessel noise. *The Journal of the Acoustical Society of America*, 125, EL27-EL32.
- HOOD, L. C., BOERSMA, P. D. & WINGFIELD, J. C. 1998. The adrenocortical response to stress in incubating Magellanic penguins (*Spheniscus magellanicus*). *The Auk*, 115, 76-84.
- HOTCHKIN, C. & PARKS, S. 2013. The Lombard effect and other noise-induced vocal modifications: insight from mammalian communication systems. *Biological Reviews*, 88, 809-824.
- HOUSER, D. S., MARTIN, S. W. & FINNERAN, J. J. 2013a. Behavioral responses of California sea lions to mid-frequency (3250-3450 Hz) sonar signals. *Marine Environmental Research*, 92, 268-278.
- HOUSER, D. S., MARTIN, S. W. & FINNERAN, J. J. 2013b. Exposure amplitude and repetition affect bottlenose dolphin behavioral responses to simulated mid-frequency sonar signals. *Journal of Experimental Marine Biology and Ecology*, 443, 123-133.
- JESSOP, T. S., TUCKER, A. D., LIMPUS, C. J. & WHITTIER, J. M. 2003. Interactions between ecology, demography, capture stress, and profiles of corticosterone and glucose in a free-living population of Australian freshwater crocodiles. *General and comparative endocrinology*, 132, 161-170.
- JONES, J. M., THAYRE, B. J., ROTH, E. H., MAHONEY, M., SIA, I., MERCULIEF, K., JACKSON, C., ZELLER, C., CLARE, M. & BACON, A. 2014. Ringed, bearded, and ribbon seal vocalizations north of Barrow, Alaska: Seasonal presence and relationship with sea ice. *Arctic*, 67, 203-222.
- KASCHNER, K. 2004. *Modelling and mapping resource overlap between marine mammals and fisheries on a global scale*. University of British Columbia.
- KASCHNER, K., WATSON, R., TRITES, A. W. & PAULY, D. 2006. Mapping World-Wide Distributions of Marine Mammal Species Using a Relative Environmental Suitability (RES) Model. *Marine Ecology Progress Series*, 316, 285-310.
- KASTAK, D., MULSOW, J., GHOUL, A. & REICHMUTH, C. 2008. Noise-induced permanent threshold shift in a harbor seal. *The Journal of the Acoustical Society of America*, 123, 2986-2986.
- KASTAK, D., SCHUSTERMAN, R. J., SOUTHALL, B. L. & REICHMUTH, C. J. 1999. Underwater temporary threshold shift induced by octave-band noise in three species of pinniped. *J. Acoust. Soc. Am.*, 106, 1142-1148.

- KASTELEIN, R. A., CORNELISSE, S. A., HUIJSER, L. A. E. & HELDER-HOEK, L. 2020a. Temporary hearing threshold shift in harbor porpoises (*Phocoena phocoena*) due to one-sixth octave noise bands at 63 kHz. *Aquatic Mammals*, 46.
- KASTELEIN, R. A., GRANSIER, R., SCHOP, J. & HOEK, L. 2015. Effects of exposure to intermittent and continuous 6–7 kHz sonar sweeps on harbor porpoise (*Phocoena phocoena*) hearing. *The Journal of the Acoustical Society of America*, 137, 1623-1633.
- KASTELEIN, R. A., HELDER-HOEK, L., CORNELISSE, S. A., HUIJSER, L. A. E. & GRANSIER, R. 2019a. Temporary hearing threshold shift in harbor porpoises (*Phocoena phocoena*) due to one-sixth-octave noise band at 32 kHz. *Aquatic Mammals*, 45, 549-562.
- KASTELEIN, R. A., HELDER-HOEK, L., CORNELISSE, S. A., HUIJSER, L. A. E. & TERHUNE, J. M. 2020b. Temporary hearing threshold shift in harbor seals (*Phoca vitulina*) due to a one-sixth octave noise band centered at 32 kHz. *The Journal of the Acoustical Society of America*, 147, 1885-1896.
- KASTELEIN, R. A., HELDER-HOEK, L., VAN KESTER, R., HUISMAN, R. & GRANSIER, R. 2019b. Temporary hearing threshold shift in harbor porpoises (*Phocoena phocoena*) due to one-sixth octave noise band at 16 kHz. *Aquatic Mammals*, 45.
- KASTELEIN, R. A., HOEK, L., GRANSIER, R. & DE JONG, C. A. 2013. Hearing thresholds of a harbor porpoise (*Phocoena phocoena*) for playbacks of multiple pile driving strike sounds. *The Journal of the Acoustical Society of America*, 134, 2302-2306.
- KASTELEIN, R. A., JENNINGS, N. V., VERBOOM, W. C., DE HAAN, D. & SCHOONEMAN, N. M. 2006. Differences in the response of a striped dolphin (*Stenella coeruleoalba*) and a harbour porpoise (*Phocoena phocoena*) to an acoustic alarm. *Marine Environmental Research*, 61, 363-378.
- KASTELEIN, R. A., SCHOP, J., GRANSIER, R. & HOEK, L. 2014. Frequency of greatest temporary hearing threshold shift in harbor porpoises (*Phocoena phocoena*) depends on the noise level. *The Journal of the Acoustical Society of America*, 136, 1410-1418.
- KASTELEIN, R. A., VAN SCHIE, R., VERBOOM, W. C. & DE HAAN, D. 2005. Underwater hearing sensitivity of a male and a female Sella sea lion (*Eumetopias jubatus*). *J. Acoust. Soc. Am.*, 118, 1820-1829.
- KASTELEIN, R. A., WENSVEEN, P., HOEK, L. & TERHUNE, J. M. 2009. Underwater hearing sensitivity of harbor seals (*Phoca vitulina*) for narrow noise bands between 0.2 and 80 kHz. *The Journal of the Acoustical Society of America*, 126, 476-483.
- KELLY, B. P. 1988. Ringed Seal, *Phoca hispida*. In: LENTFER, J. W. (ed.) *Selected Marine Mammals of Alaska: Species Accounts with Research and Management Recommendations*. Washington, D.C.: Marine Mammal Commission.



- KELLY, B. P., BADAJOS, O. H., KUNNASRANTA, M., MORAN, J. R., MARTINEZ-BAKKER, M., WARTZOK, D. & BOVENG, P. 2010a. Seasonal home ranges and fidelity to breeding sites among ringed seals. *Polar Biology*, 33, 1095-1109.
- KELLY, B. P., BENGTSON, J. L., BOVENG, P. L., CAMERON, M. F., DAHLE, S. P., JANSEN, J. K., LOGERWELL, E. A., OVERLAND, J. E., SABINE, G. L., WARING, G. T. & WILDER, J. M. 2010b. Status review of the ringed seal (*Phoca hispida*). Seattle, WA: U.S. Department of Commerce, NOAA, National Marine Fisheries Service (NMFS), Alaska Fisheries Science Center.
- KELLY, B. P., BURNS, J. J. & QUAKENBUSH, L. T. 1988. Responses of ringed seals (*Phoca hispida*) to noise disturbance. *Port and ocean engineering under arctic conditions*, 2, 27-38.
- KETTEN, D. R., SIMMONS, J. A., RIQUEMAROUX, H. & SIMMONS, A. M. 2021. Functional analyses of peripheral auditory system adaptations for echolocation in air vs. water. *Frontiers in Ecology and Evolution*, 9, 661216.
- KRAUSMAN, P. R., HARRIS, L. K., BLASCH, C. L., KOENEN, K. K. G. & FRANCINE, J. 2004. Effects of military operations on behavior and hearing of endangered Sonoran pronghorn. *Wildlife Monographs*, 157, 1-41.
- KRYTER, K. D., WARD, W. D., MILLER, J. D. & ELDREDGE, D. H. 1966. Hazardous exposure to intermittent and steady-state noise. *The Journal of the Acoustical Society of America*, 39, 451-464.
- KVADSHEIM, P. H., SEVALDSEN, E. M., FOLKOW, L. P. & BLIX, A. S. 2010. Behavioural and physiological responses of hooded seals (*Cystophora cristata*) to 1 to 7 kHz sonar signals. *Aquatic Mammals*, 36, 239-247.
- LAIDRE, K. L., STIRLING, I., LOWRY, L. F., WIIG, Ø., HEIDE-JØRGENSEN, M. P. & FERGUSON, S. H. 2008. Quantifying the sensitivity of Arctic marine mammals to climate-induced habitat change. *Ecological applications*, 18, S97-S125.
- LANKFORD, S. E., ADAMS, T. E., MILLER, R. A. & CECH JR., J. J. 2005. The cost of chronic stress: impacts of a nonhabituating stress response on metabolic variables and swimming performance in sturgeon. *Physiological and Biochemical Zoology*, 78, 599-609.
- LENTFER, J. W. 1972. Alaska Polar Bear Research and Management, 1970-1971. Alaska Department of Fish and Game.
- LUSSEAU, D. & BEJDER, L. 2007. The long-term consequences of short-term responses to disturbance experiences from whalewatching impact assessment. *International Journal of Comparative Psychology*, 20.
- LYDERSEN, C. & HAMMILL, M. O. 1993. Diving in ringed seal (*Phoca hispida*) pups during the nursing period. *Canadian Journal of Zoology*, 71, 991-996.

- MADSEN, P. T., JOHNSON, M., MILLER, P. J. O., AGUILAR SOTO, N., LYNCH, J. & TYACK, P. L. 2006. Quantitative measures of air-gun pulses recorded on sperm whales (*Physeter macrocephalus*) using acoustic tags during controlled exposure experiments. *The Journal of the Acoustical Society of America*, 120, 2366-2379.
- MCLAREN, I. A. 1958. The biology of the ringed seal (*Phoca hispida* Schreber) in the eastern Canadian Arctic. *Fisheries Research Board of Canada*, 118, 97.
- MECKLENBURG, C. W., MØLLER, P. R. & STEINKE, D. 2011. Biodiversity of arctic marine fishes: taxonomy and zoogeography. *Marine Biodiversity*, 41, 109-140.
- MILLER, J. D. 1974. Effects of noise on people. *The Journal of the Acoustical Society of America*, 56, 729-764.
- MILLER, P., ANTUNES, R., ALVES, A. C., WENSVEEN, P., KVADSHEIM, P., KLEIVANE, L., NORDLUND, N., LAM, F.-P., IJSSELMUIDE, S. V., VISSER, F. & TYACK, P. 2011. The 3S experiments: Studying the behavioural effects of naval sonar on killer whales (*Orcinus orca*), sperm whales (*Physeter macrocephalus*), and long-finned pilot whales (*Globicephala melas*) in Norwegian waters. 289.
- MILLER, P. J., BIASSONI, N., SAMUELS, A. & TYACK, P. L. 2000. Whale songs lengthen in response to sonar. *Nature*, 405, 903-903.
- MILLER, P. J. O., ANTUNES, R. N., WENSVEEN, P. J., SAMARRA, F. I. P., ALVES, A. C., TYACK, P. L., KVADSHEIM, P. H., KLEIVANE, L., LAM, F.-P. A., AINSLIE, M. A. & THOMAS, L. 2014. Dose-response relationships for the onset of avoidance of sonar by free-ranging killer whales. 135, 975-993.
- MILLER, P. J. O., KVADSHEIM, P. H., LAM, F.-P. A., WENSVEEN, P. J., ANTUNES, R., ALVES, A. C., VISSER, F., KLEIVANE, L., TYACK, P. L. & SIVLE, L. D. 2012. The severity of behavioral changes observed during experimental exposures of killer (*Orcinus orca*), long-finned pilot (*Globicephala melas*), and sperm (*Physeter macrocephalus*) whales to naval sonar. *Aquatic Mammals*, 38, 362-401.
- MISUND, O. A. 1997. Underwater acoustics in marine fisheries and fisheries research. *Reviews in Fish Biology and Fisheries*, 7, 1-34.
- MOBERG, G. P. 1987. Influence of the adrenal axis upon the gonads. In: CLARKE, J. R. (ed.) *Oxford reviews of reproductive biology*. New York, NY: Oxford University Press.
- MOBERG, G. P. 2000. Biological response to stress: Implications for animal welfare. In: MOBERG, G. P. & MENCH, J. A. (eds.) *The biology of animal stress: Basic principles and implications for animal welfare*. Wallingford, UK: CABI.
- MOONEY, T. A., NACHTIGALL, P. E. & VLACHOS, S. 2009. Sonar-induced temporary hearing loss in dolphins. *Biology letters*, 5, 565-567.

- MORETTI, D., THOMAS, L., MARQUES, T., HARWOOD, J., DILLEY, A., NEALS, B., SHAFFER, J. A., MCCARTHY, E., NEW, L., JARVIS, S. & MORRISSEY, R. 2014. A risk function for behavioral disruption of Blainville's beaked whales (*Mesoplodon densirostris*) from mid-frequency active sonar. *PLoS One*, 9, e85064.
- MORTON, A. B. & SYMONDS, H. K. 2002. Displacement of *Orcinus orca* (L.) by high amplitude sound in British Columbia, Canada. *Journal of Marine Science*, 59, 71-80.
- MUTO, M., HELKER, V. T., ANGLISS, R. P., ALLEN, B. A., BOVENG, P. L., BREIWICK, J. M., CAMERON, M. F., CLAPHAM, P., DAHLE, S. P., DAHLHEIM, M. E., FADELY, B. S., FERGUSON, M. C., FRITZ, L. W., HOBBS, R. C., IVASHCHENKO, Y. V., KENNEDY, A. S., LONDON, J. M., MIZROCH, S. A., REAM, R. R., RICHMOND, E. L., SHELDEN, K. E. W., TOWELL, R. G., WADE, P. R., WAITE, J. M. & ZERBINI, A. N. 2018. Alaska Marine Mammal Stock Assessments, 2017.
- MUTO, M. M., HELKER, V. T., DELEAN, B. J., YOUNG, N. C., FREED, J. C., ANGLISS, R. P., FRIDAY, N. A., BOVENG, P. L., BREIWICK, J. M., BROST, B. M., CAMERON, M. F., CLAPHAM, P. J., CRANCE, J. L., DAHLE, S. P., DAHLHEIM, M. E., FADELY, B. S., FERGUSON, M. C., FRITZ, L. W., GOETZ, K. T., HOBBS, R. C., IVASHCHENKO, Y. V., KENNEDY, A. S., LONDON, J. M., MIZROCH, S. A., REAM, R. R., RICHMOND, E. L., SHELDEN, K. E. W., SWEENEY, K. L., TOWELL, R. G., WADE, P. R., WAITE, J. M. & ZERBINI, A. N. 2021. Alaska Marine Mammal Stock Assessments, 2020. *In*: CENTER, A. F. S. (ed.). National Oceanic and Atmospheric Administration.
- NACHTIGALL, P. E., SUPIN, A. Y., PACINI, A. F. & KASTELEIN, R. A. 2018. Four odontocete species change hearing levels when warned of impending loud sound. *Integrative zoology*, 13, 160-165.
- NAVY, U. S. 2013. Hawaii-Southern California Training and Testing Environmental Impact Statement/Overseas Environmental Impact Statement. *In*: NAVY, D. O. T. (ed.). Pearl Harbor, Hawaii: Naval Facilities Engineering Command.
- NIOSH 1998. Occupational noise exposure. *In*: HEALTH, N. I. F. O. S. A. (ed.). Cincinnati, OH: U.S. Department of Health and Human Services.
- NMFS 2018. 2018 revision to: Technical guidance for assessing the effects of anthropogenic sound on marine mammal hearing (version 2.0): Underwater thresholds for onset of permanent and temporary threshold shifts. *In*: SERVICE, N. M. F. (ed.). Silver Spring, MD: National Oceanic and Atmospheric Administration.
- NORTH ATLANTIC MARINE MAMMAL COMMISSION 2004. The ringed seal. Tromsø, Norway: North Atlantic Marine Mammal Commission (NAMMCO).
- NOWACEK, D. P., JOHNSON, M. & TYACK, P. L. 2004. North Atlantic right whales (*Eubalaena glacialis*) ignore ships but respond to alerting stimuli. *Proc. R. Soc. Lond. B*, 271, 227-231.

- NOWACEK, D. P., THORNE, L. H., JOHNSTON, D. W. & TYACK, P. L. 2007. Responses of cetaceans to anthropogenic noise. *Mammal Review*, 37, 81-115.
- NRC 2003. *Ocean noise and marine mammals*, National Research Council.
- NRC 2005. *Marine mammal populations and ocean noise: determining when noise causes biologically significant effects*, National Academies Press.
- PARKS, S. E., KETTEN, D. R., O'MALLEY, J. T. & ARRUDA, J. 2007. Anatomical predictions of hearing in the North Atlantic right whale. *The Anatomical Record: Advances in Integrative Anatomy and Evolutionary Biology: Advances in Integrative Anatomy and Evolutionary Biology*, 290, 734-744.
- PIKE, G. C. 1962. Migration and feeding of the gray whale (*Eschrichtius gibbosus*). *Journal of the Fisheries Board of Canada*, 19, 815-838.
- POPPER, A. N. 2003. Effects of anthropogenic sounds on fishes. *Fisheries Research*, 28, 24-31.
- POPPER, A. N. 2008. Effects of mid- and high-frequency sonars on fish. Newport, RI: Department of the Navy (DoN).
- PURSER, J. & RADFORD, A. N. 2011. Acoustic noise induces attention shifts and reduces foraging performance in three-spined sticklebacks (*Gasterosteus aculeatus*). *PloS one*, 6, e17478.
- REEVES, R., STEWART, B., CLAPHAM, P. & POWELL, J. 2002. *Guide to Marine Mammals of the World*, New York, New York, Alfred A. Knopf.
- REICHMUTH, C., GHOUL, A., SILLS, J. M., ROUSE, A. & SOUTHALL, B. L. 2016. Low-frequency temporary threshold shift not observed in spotted or ringed seals exposed to single air gun impulses. *The Journal of the Acoustical Society of America*, 140, 2646-2658.
- REICHMUTH, C., HOLT, M. M., MULSOW, J., SILLS, J. M. & SOUTHALL, B. L. 2013. Comparative assessment of amphibious hearing in pinnipeds. *Journal of Comparative Physiology A: Neuroethology, Sensory, Neural and Behavioral Physiology*, 199, 491-507.
- RICHARDSON, W. J., GREENE JR., C. R., MALME, C. I. & THOMSON, D. H. 1995. *Marine mammals and noise*, Academic press.
- RIDGWAY, S., CARDER, D., FINNERAN, J., KEOGH, M., KAMOLNICK, T., TODD, M. & GOLDBLATT, A. 2006. Dolphin continuous auditory vigilance for five days. *Journal of Experimental Biology*, 209, 3621-3628.
- RIDGWAY, S. H., CARTER, D. A., SMITH, R. R., KAMOLNICK, T. & SCHLUNDT, C. E. 1997. Behavioral Responses and Temporary Shift in Masked Hearing Threshold of Bottlenose Dolphins, *Tursiops truncatus*, to 1-second Tones of 141 to 201 dB re 1

Micron Pa. NAVAL COMMAND CONTROL AND OCEAN SURVEILLANCE  
CENTER RDT AND E DIV SAN DIEGO CA.

- ROLLAND, R. M., PARKS, S. E., HUNT, K. E., CASTELLOTE, M., CORKERON, P. J., NOWACEK, D. P., WASSER, S. K. & KRAUS, S. D. 2012. Evidence that ship noise increases stress in right whales. *Proceedings of the Royal Society B: Biological Sciences*, 279, 2363-2368.
- ROMANO, T. A., KEOGH, M. J. & DANIL, K. 2002a. Investigation of the effects of repeated chase and encirclement on the immune system of spotted dolphins (*Stenella attenuata*) in the Eastern Tropical Pacific. In: SERVICE, N. M. F. (ed.) *National Oceanic and Atmospheric Administration*. La Jolla, CA: National Oceanic and Atmospheric Administration.
- ROMANO, T. A., KEOGH, M. J., KELLY, C., FENG, P., BERK, L., SCHLUNDT, C. E., CARDER, D. A. & FINNERAN, J. J. 2004. Anthropogenic sound and marine mammal health: measures of the nervous and immune systems before and after intense sound exposure. *Canadian Journal of Fisheries and Aquatic Sciences*, 61, 1124-1134.
- ROMANO, T. A., OLSCHOWKA, J., FELTEN, S. Y., QUARANTA, V., RIDGWAY, S. & FELTEN, D. L. 2002b. Immune response, stress, and environment: implications for cetaceans. In: PFEIFFER, C. J. (ed.) *Cell and Molecular Biology of Marine Mammals*. Krieger Publishing Company.
- ROTH, E. H., SCHMIDT, V., HILDEBRAND, J. A. & WIGGINS, S. M. 2013. Underwater radiated noise levels of a research icebreaker in the central Arctic Ocean. *Journal of Acoustical Society of America*, 133, 1971-1980.
- SCHLUNDT, C. E., FINNERAN, J. J., CARDER, D. A. & RIDGWAY, S. H. 2000. Temporary shift in masked hearing thresholds of bottlenose dolphins, *Tursiops truncatus*, and white whales, *Delphinapterus leucas*, after exposure to intense tones. *The Journal of the Acoustical Society of America*, 107, 3496-3508.
- SELYE, H. 1950. Stress and the general adaptation syndrome. *British medical journal*, 1, 1383.
- SERGEANT, D. E. & BRODIE, P. F. 1969. Body size in white whales, *Delphinapterus leucas*. *Journal of the Fisheries Board of Canada*, 26, 2561-2580.
- SILLS, J. M., RUSCHER, B., NICHOLS, R., SOUTHALL, B. L. & REICHMUTH, C. 2020. Evaluating temporary threshold shift onset levels for impulsive noise in seals. *The Journal of the Acoustical Society of America*, 148, 2973-2986.
- SIVLE, L. D., KVADSHEIM, P. H., FAHLMAN, A., LAM, F. P. A., TYACK, P. L. & MILLER, P. J. O. 2012. Changes in dive behavior during naval sonar exposure in killer whales, long-finned pilot whales, and sperm whales. *Frontiers in Physiology*, 3, 1-11.
- SMITH, T. G. & HAMMILL, M. O. 1981. Ecology of the ringed seal, *Phoca hispida*, in its fast ice breeding habitat. *Canadian Journal of Zoology*, 59, 966-981.

- SMITH, T. G. & STIRLING, I. 1975. The breeding habitat of the ringed seal (*Phoca hispida*). The birth lair and associated structures. *Canadian Journal of Zoology*, 53, 1297-1305.
- SOUTHALL, B. L., BOWLES, A. E., ELLISON, W. T., FINNERAN, J. J., GENTRY, R. L., GREENE JR., C. R., KASTAK, D., KETTEN, D. R., MILLER, J. H., NACHTIGALL, P. E., RICHARDSON, W. J., THOMAS, J. A. & TYACK, P. L. 2007. Marine Mammal Noise Exposure Criteria: Initial Scientific Recommendations. *Aquatic Mammals*, 33, 411-521.
- SOUTHALL, B. L., FINNERAN, J. J., REICHMUTH, C., NACHTIGALL, P. E., KETTEN, D. R., BOWLES, A. E., ELLISON, W. T., NOWACEK, D. P. & TYACK, P. L. 2019. Marine mammal noise exposure criteria: Updated scientific recommendations for residual hearing effects. *Aquatic Mammals*, 45, 125-232.
- SOUTHALL, B. L., NOWACEK, D. P., BOWLES, A. E., SENIGAGLIA, V., BEJDER, L. & TYACK, P. L. 2021. Marine mammal noise exposure criteria: Assessing the severity of marine mammal behavioral responses to human noise. *Aquatic Mammals*, 47, 421-464.
- STAFFORD, K., MOORE, S., SPILLANE, M. & WIGGINS, S. 2007. Gray whale calls recorded near Barrow, Alaska, throughout the winter of 2003-04. *Arctic*, 167-172.
- STEPHEN R. BRAUND & ASSOCIATES 2010. Subsistence mapping of Nuiqsut, Kaktovik, and Barrow. Anchorage, AK: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.
- SUYDAM, R. S. 2009. Age, growth, reproduction, and movements of beluga whales (*Delphinapterus leucas*) from the eastern Chukchi Sea. University of Washington, School of Aquatic and Fishery Sciences.
- SUYDAM, R. S., LOWRY, L. F. & FROST, K. J. 2005. Distribution and movements of Beluga whales from the eastern Chukchi Sea stock during summer and early autumn. Bureau of Ocean Energy Management, Outer Continental Shelf, Minerals Management Service.
- SUYDAM, R. S., LOWRY, L. F., FROST, K. J., O'CORRY-CROWE, G. M. & PIKOK JR., D. 2001. Satellite tracking of eastern Chukchi Sea beluga whales in to the Arctic Ocean. *Arctic*, 54, 237-243.
- SWARTZ, S. L., TAYLOR, B. L. & RUGH, D. J. 2006. Gray whale *Eschrichtius robustus* population and stock identity. *Mammal Review*, 36, 66-84.
- THORSON, P. & REYFF, J. 2006. San Francisco-Oakland Bay bridge east span seismic safety project marine mammals and acoustic monitoring for the marine foundations at piers E2 and T1, January-September 2006. Prepared by SRS Technologies and Illingworth & Rodkin, Inc. for the California Department of Transportation.
- TYACK, P. L. 2008. Implications for marine mammals of large-scale changes in the marine acoustic environment. *Journal of Mammalogy*, 89, 549-558.

- U.S. DEPARTMENT OF THE NAVY 2011. U.S. Navy Integrated Comprehensive Monitoring Program. 2010 Update ed.
- U.S. DEPARTMENT OF THE NAVY 2014. Commander Task Force 3rd and 7th Fleet Navy Marine Species Density Database. *In: PACIFIC, N. F. E. C. (ed.) NAVFAC Pacific Technical Report*. Pearl Harbor, HI.
- U.S. DEPARTMENT OF THE NAVY 2017a. Criteria and Thresholds for U.S. Navy Acoustic and Explosive Effects Analysis (Phase III).
- U.S. DEPARTMENT OF THE NAVY 2017b. U.S. Navy Marine Species Density Database Phase III for the Atlantic Fleet Training and Testing Study Area.
- VON DUYKE, A. L., DOUGLAS, D. C., HERREMAN, J. K. & CRAWFORD, J. A. 2020. Ringed seal (*Pusa hispida*) seasonal movements, diving, and haul-out behavior in the Beaufort, Chukchi, and Bering Seas (2011–2017). *Ecology and Evolution*, 10, 5595-5616.
- WARD, W. D. 1960. Recovery from high values of temporary threshold shift. *The Journal of the Acoustical Society of America*, 32, 497-500.
- WARD, W. D. 1997. Effects of high intensity sound. *In: CROCKER, M. J. (ed.) Encyclopedia of Acoustics*. New York, NY: John Wiley and Sons, Inc.
- WARD, W. D., GLORIG, A. & SKLAR, D. 1958. Dependence of temporary threshold shift at 4 kc on intensity and time. *The Journal of the Acoustical Society of America*, 30, 944-954.
- WARD, W. D., GLORIG, A. & SKLAR, D. L. 1959. Temporary threshold shift from octave-band noise: applications to damage-risk criteria. *The Journal of the Acoustical Society of America*, 31, 522-528.
- WARTZOK, D., ELSNER, R., STONE, H., KELLY, B. P. & DAVIS, R. W. 1992. Under-ice movements and the sensory basis of hole finding by ringed and Weddell seals. *Canadian Journal of Zoology*, 70, 1712-1722.
- WARTZOK, D. & KETTEN, D. R. 1999. Marine mammal sensory systems. *In: REYNOLDS, J. E. & ROMMEL, S. A. (eds.) Biology of marine mammals*. Washington, DC: Smithsonian Institution Press.
- WARTZOK, D., POPPPER, A. N., GORDON, J. & MERRILL, J. 2004. Factors affecting the responses of marine mammals to acoustic disturbance. *Marine Technology Society Journal*, 37.
- WEILGART, L. S. 2007. A brief review of known effects of noise on marine mammals. *International Journal of Comparative Psychology*, 20.
- YAZVENKO, S. B., MCDONALD, T. L., BLOKHIN, S. A., JOHNSON, S. R., MELTON, H. R., NEWCOMER, M. W., NIELSON, R. & WAINWRIGHT, P. W. 2007. Feeding of

western gray whales during a seismic survey near Sakhalin Island, Russia. *Environmental Monitoring and Assessment*, 134, 93-106.

YOUNG, N. C., BROWER, A. A., MUTO, M. M., FREED, J. C., ANGLISS, R. P., FRIDAY, N. A., BOVENG, P. L., BROST, B. M., CAMERON, M. F., CRANCE, J. L., DAHLE, S. P., FADELY, B. S., FERGUSON, M. C., GOETZ, K. T., LONDON, J. M., OLESON, E. M., REAM, R. R., RICHMOND, E. L., SHELDEN, K. E. W., SWEENEY, K. L., TOWELL, R. G., WADE, P. R., WAITE, J. M. & ZERBINI, A. N. 2023. Alaska Marine Mammal Stock Assessments, 2022. *In: ALASKA FISHERIES SCIENCE*, C. (ed.).