

References: Port of Nome Modification Project

- Aerts, L.A., A.E. McFarland, B.H. Watts, K.S. Lomac-MacNair, P.E. Seiser, S.S. Wisdom, A.V. Kirk, and C.A. Schudel. 2013. Marine mammal distribution and abundance in an offshore sub-region of the northeastern Chukchi Sea during the open-water season. *Continental Shelf Research*, 67, pp.116-126
- Alaska Department of Fish and Game (ADFG). 2012. Alaska's Nome Area Wildlife Viewing Guide, Exploring the Nome Roadways. Accessed at: https://www.adfg.alaska.gov/static/viewing/pdfs/nome_guidebook.pdf
- American National Standards Institute (ANSI). 1986. Methods of measurement for impulse noise 3 (ANSI S12.7-1986). Acoustical Society of America, Woodbury, NY.
- American National Standards Institute (ANSI). 1995. Bioacoustical Terminology (ANSI S3.20-1995). Acoustical Society of America, Woodbury, NY.
- Anderwald, P., A. Brandecker, M. Coleman, C. Collins, H. Denniston, M.D. Haberlin, M. O'Donovan, R. Pinfield, F. Visser, and L. Walshe. 2013. Displacement responses of a mysticete, an odontocete, and a phocid seal to construction-related vessel traffic. *Endangered Species Research* 21(3):231–240.
- Araújo, V.M.; Shukla, A.; Chion, C.; Gambs, S.; Michaud, R. Machine-Learning Approach for Automatic Detection of Wild Beluga Whales from Hand-Held Camera Pictures. *Sensors* 2022, 22, 4107. <https://doi.org/10.3390/s22114107>
- Archer, F.I., S.L. Mesnick, and A.C. Allen. 2010. Variation and predictors of vessel response behavior in a tropical dolphin community. NOAA Technical Memorandum NMFS-SWFSC-457, National Marine Fisheries Service, 60 p.
- Au, W.W.L. and M. Hastings. 2008. Principles of Marine Bioacoustics. Springer-Verlag, New York.
- Bejder, L., A. Samuels, H. Whitehead, and N. Gales. 2006. Interpreting short-term behavioural responses to disturbance within a longitudinal perspective. *Animal Behaviour*, 72, 1149–1158.
- Bengtson, J. L., L. Hiruki-Raring, M.A. Simpkins, and P.L. Boveng. 2005. Ringed and bearded seal densities in the eastern Chukchi Sea, 1999-2000. *Polar Biology* 28:833-845
- Beauchamp, G. and B. Livoreil. 1997. The effect of group size on vigilance and feeding rate in spice finches (*Lonchura punctulata*). *Canadian Journal of Zoology* 75 (9): 1526-1531.
- Bengtson, J. L., P.L. Boveng, L.M. Hiruki-Raring, K.L. Laidre, C. Pungowiyi, and M.A. Simpkins. 2000. Abundance and distribution of ringed seals (*Phoca hispida*) in the coastal Chukchi Sea, p. 149- 160. In A. L. Lopez and D. P. DeMaster (eds.), Marine Mammal Protection Act and Endangered Species Act Implementation Program 1999. AFSC Processed Rep. 2000-11, Alaska Fisheries Science Center, 7600 Sand Point Way NE, Seattle, WA 98115.
- Bengtson, J.L., L.M. Hiruki-Raring, M.A. Simpkins, P.L. Boveng. 2005. Ringed and bearded seal densities in the eastern Chukchi Sea, 1999–2000. *Polar Biology*. 28: 833. Accessed September 2019 via <https://doi-org.proxy.consortiumlibrary.org/10.1007/s00300-005-0009-1>
- Blackwell, S.B., J.W. Lawson, and M.T. Williams. 2004. Tolerance by ringed seals (*Phoca hispida*) to impact pipe-driving and construction sounds at an oil production island. *Journal of the Acoustical Society of America* 115 (5): 2346.

- Blecha, F. 2000. Immune system response to stress. Pages 111-122 in G.P. Moberg and J.A. Mench, eds. *The Biology of Animal Stress: Basic Principles and Implications for Animal Welfare*. CABI Publishing, Oxon, United Kingdom.
- Blees, M.K., G.A. Green, and P. Cartier. 2017. Quintillion 2016 Subsea Cable System Phase 1 Installation Program: Marine Mammal Monitoring and Mitigation 90-Day Report. Prepared by Owl Ridge Natural Resource Consultants, Inc. for Quintillion Subsea Operations, LLC, National Marine Fisheries Service, and U.S. Fish and Wildlife Service. 58 pp. + Appendices.
- Born, E. W., F. F. Riget, R. Dietz, and D. Andriashek. 1999. Escape responses of hauled out ringed seals (*Phoca hispida*) to aircraft disturbance. *Polar Biology* 21 (3): 171-178.
- Bouffaut, Léa, Kittinat Taweessintananon, Hannah J. Kriesell, Robin A. Rørstadbotnen, John R. Potter, Martin Landrø, Ståle E. Johansen et al. "Eavesdropping at the speed of light: Distributed acoustic sensing of baleen whales in the Arctic." *Frontiers in Marine Science* (2022): 994.
- Bowles, A.E., M. Smultea, B. Wursig, D.P. DeMaster, and D. Palka. 1994. Relative abundance and behavior of marine mammals exposed to transmissions from the Heard Island feasibility test. *Journal of the Acoustical Society of America* 96 (4): 2469-2484.
- Boveng, P.L., M.F. Cameron, Paul B. Conn, and E.E. Moreland. 2017. Abundance Estimates of Ice-Associated Seals: Bering Sea Populations that Inhabit the Chukchi Sea During the Open-Water Period. Final Report. BOEM Report 2016-077. Bureau of Ocean Energy Management, Alaska Outer Continental Shelf Region, Anchorage, Alaska, USA. ix + 119 pp with appendices.
- Bradshaw, C. J., S. Boutin, and D. M. Hebert. (1998). Energetic implications of disturbance caused by petroleum exploration to woodland caribou. *Canadian Journal of Zoology*, 76(7), 1319-1324.
- Braham, H.W., B.D Krogman, G.M. Carroll. 1984. Bowhead and white whale migration, distribution, and abundance in the Bering, Chukchi, and Beaufort Seas, 1975-78. NOAA Technical Report NMFS SSRF-778. U.S. Department of Commerce. National Oceanic and Atmospheric Administration. National Marine Fisheries Service. January 1984. Accessed September 2019 from http://www.north-slope.org/assets/images/uploads/Braham%20et%20al%201984_bowhead%20beluga%20migration%20distribution%20abundance.pdf
- Brower A, Ferguson M, Clarke J, Fujioka E and DeLand S (2022) Biologically Important Areas II for cetaceans within U.S. and adjacent waters – Aleutian Islands and Bering Sea Region. *Front. Mar. Sci.* 9:1055398. doi: 10.3389/fmars.2022.105539
- Braham, H.W., and M.E. Dahlheim. 1982. Killer whales in Alaska documented in the Platforms of Opportunity Program. *Rep. Int. Whal. Comm.* 32:643-646.
- Burns, J.J. 1967. The Pacific bearded seal. Alaska Department of Fish and Game, Pittman-Robertson Project Report W-6-R and W-14-R. 66 p
- Burns, J.J. 1981. Bearded seal *Erignatus barbatus* Erxleben, 1777. Pages 145-170 in S. H. Ridgway and R. J. Harrison, editors. *Handbook of Marine Mammals Volume 2: Seals*. Academic Press, New York, NY.
- Carretta, J., V. Helker, M. Muto, J. Greenman, K. Wilkinson, D. Lawson, J. Viezbicke, and J. Jannot. (2019a). *Sources of Human-Related Injury and Mortality for U.S. Pacific Coast Marine Mammal*

- Stock Assessments, 2013–2017*. Silver Spring, MD: National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southwest Fisheries Science Center.
- Clarke, J.T., A.A. Brower, M.C. Ferguson, and A.L. Willoughby. 2019. Distribution and Relative Abundance of Marine Mammals in the Eastern Chukchi and Western Beaufort Seas, 2018. Annual Report, OCS Study BOEM 2019-021. Marine Mammal Laboratory, Alaska Fisheries Science Center, NMFS, NOAA, 7600 Sand Point Way NE, F/AKC3, Seattle, WA 98115-6349.
- Clarke, J.T., A.A. Brower, M.C. Ferguson, A.L. Willoughby, and A.D. Rotrock. 2020. Distribution and Relative Abundance of Marine Mammals in the Eastern Chukchi Sea, Eastern and Western Beaufort Sea, and Amundsen Gulf, 2019. Annual Report, OCS Study BOEM 2020-027. Marine Mammal Laboratory, Alaska Fisheries Science Center, NMFS, NOAA, 7600 Sand Point Way NE, F/AKC3, Seattle, WA 98115-6349.
- California Department of Transportation (Caltrans). 2015. Buehler, D., R. Oestman, J. Reyff, K. Pommerenck, B. Mitchell. 2015. Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish. Written for the California Dept. of Transportation, Div. of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office. Sacramento, CA.
- Caltrans. 2020. M. Molnar, D. Buehler, R. Oestman, J. Reyff, K. Pommerenck, B. Mitchell. 2015. Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish. Written for the California Dept. of Transportation, Div. of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office. Sacramento, CA. CTHWANP-RT-20-365.01.04
- Carlson, T.J., D.L. Woodruff, G.E. Johnson, N.P. Kohn, G.R. Ploskey, M.A. Weiland, et al. 2005. Hydroacoustic measurements during pile driving at the Hood Canal Bridge, September through November 2004. PNWD-3621, Prepared by Battelle Marine Sciences Laboratory for the Washington State Department of Transportation: 165.
- Casper, B.M., M.B. Halvorsen, F. Matthews, T.J. Carlson, and A.N. Popper. 2013. Recovery of barotrauma injuries resulting from exposure to pile driving sound in two sizes of hybrid striped bass. PLoS ONE 8 (9): e73844.
- Citta, J.J., P. Richard, L.F. Lowry, G. O'Corry-Crowe, M. Marcoux, R. Suydam, L.T. Quakenbush, R.C. Hobbs, D.I. Litovka, K.J. Frost, and T. Gray. 2017. Satellite telemetry reveals population specific winter ranges of beluga whales in the Bering Sea. *Marine Mammal Science*, 33(1), pp.236-250.
- Conn, P. B., Ver Hoef, J. M., McClintock, B. T., Moreland, E. E., London, J. M., Cameron, M. F., and Boveng, P. L. (2014). Estimating multispecies abundance using automated detection systems: Ice-associated seals in the Bering Sea. *Methods in Ecology and Evolution*, 5(12), 1280-1293.
- Connor, R.C. and M.R. Heithaus. 1996. Approach by great white shark elicits flight response in bottlenose dolphins. *Marine Mammal Science* 12 (4): 602-606.
- Croll, D.A., C.W. Clark, J. Calambokidis, W.T. Ellison, and B.R. Tershy. 2001. Effect of anthropogenic low-frequency noise on the foraging ecology of Balaenoptera whales. *Animal Conservation* 4(1):13-27.
- Daan, S., C. Deerenberg, and C. Dijkstra. (1996). Increased daily work precipitates natural death in the kestrel. *Journal of Animal Ecology*, 539-544.

- Evans, D.L. and G. R. England, G.R. (2001). Joint Interim Report Bahamas Marine Mammal Stranding Event 15-16 March 2000. US Navy and NMFS Report, Washington, DC and Silver Spring, MD USA.
- Everitt, R.D., C.H. Fiscus, and R.L. DeLong. 1980. Northern Puget Sound marine mammals. Interagency Energy/Environment R&D Program Report EPA-600/7-80-139, Prepared by National Marine Fisheries Service for Environmental Protection Agency 150p. Finneran, J.J. 2015. Noise-induced hearing loss in marine mammals: A review of temporary threshold shift studies from 1996 to 2015. *Journal of the Acoustical Society of America* 138:1702-1726.
- Ellison, W. T., B. Southall, C. W. Clark, and A. S. Frankel. 2012. A new context-based Approach to assess marine mammal behavioral responses to anthropogenic sounds. *Conservation Biology* 26(1): 21-28.
- Fair, P.A. and P.R. Becker. 2000. Review of stress in marine mammals. *Journal of Aquatic Ecosystem Stress and Recovery* 7 (4):335-354.
- Fay, R.R., A.N. Popper, and J.F. Webb. 2008. Introduction to fish bioacoustics. In: Webb, J.F., R.R. Fay, and A.N. Popper, eds. *Fish Bioacoustics*. Springer Handbook of Auditory Research 32:1-15.
- Fay, R. (2009). Soundscapes and the sense of hearing of fishes. *Integrative Zoology*, 4(1), 26-32.
- Ferguson, M. C., Angliss, R. P., Kennedy, A., Lynch, B., Willoughby, A., Helker, V., and Clarke, J. T. 2018a. Performance of manned and unmanned aerial surveys to collect visual data and imagery for estimating arctic cetacean density and associated uncertainty. *Journal of Unmanned Vehicle Systems*, 6(3), 128-154.
- Ferguson, M.C., et al. 2018b. Estimated abundance and distribution of eastern Bering Sea belugas from aerial surveys in 2017. Poster presentation to the Alaska Marine Science Symposium in Anchorage, Alaska, January 2018.
- Fewtrell, J. L., and R. D. McCauley. 2012. Impact of air gun noise on the behaviour of marine fish and squid. *Marine Pollution Bulletin* 64: 984-993.
- Finneran, J. J. 2018. Conditioned attenuation of auditory brainstem responses in dolphins warned of an intense noise exposure: Temporal and spectral patterns. *Journal of the Acoustical Society of America* 143 (2): 795.
- Finneran, J. J. 2016. Auditory weighting functions and TTS/PTS exposure functions for marine mammals exposed to underwater noise. Technical Report. San Diego: SPAWAR.
- Finneran, J.J. 2015. Noise-induced hearing loss in marine mammals: A review of temporary threshold shift studies from 1996 to 2015. *Journal of the Acoustical Society of America* 138(3): 1702-1726.
- Finneran, J. J., D. A. Carder, C. E. Schlundt, and R. L. Dear. 2010. Growth and recovery of temporary threshold shift at 3 kHz in bottlenose dolphins: Experimental data and mathematical models. *Journal of Acoustical Society of America* 127 (5): 3256–3266.
- Finneran, J.J., C.E. Schlundt, D.A. Carder, J.A. Clark, J.A. Young, J.B. Gaspin, and S.H. Ridgway. 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., C.E. Schlundt, R. Dear, D.A. Carder, and S.H. Ridgway. 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.
- Finneran, J. J., R. Dear, D. A. Carder, and S. H. Ridgway. (2003). Auditory and behavioral responses of California sea lions (*Zalophus californianus*) to single underwater impulses from an arc-gap transducer. *The Journal of Acoustical Society of America*, 114(3), 1667–1677.
- Frid, A. (2003). Dall's sheep responses to overflights by helicopter and fixed-wing aircraft. *Biological Conservation*, 110(3), 387-399.
- Ford, J.K. and R.R. Reeves. 2008. Fight or flight: antipredator strategies of baleen whale. *Mammal Review* 38(1): 50-86.
- Forney, K. A., B. L. Southall, E. Sloaten, S. Dawson, A. J. Read, R. W. Baird, and R. L. Brownell, Jr. (2017). Nowhere to go: noise impact assessments for marine mammal populations with high site fidelity. *Endangered Species Research*, 32, 391–413.
- Friday, N. A., A. N. Zerbini, J. M. Waite, S. E. Moore, and P. J. Clapham. 2013. Cetacean distribution and abundance in relation to oceanographic domains on the eastern Bering Sea shelf in June and July of 2002, 2008, and 2010. *Deep-Sea Res. II* 94:244-256.
- Fritz, H., M. Guillemain, and D. Durant. 2002. The cost of vigilance for intake rate in the mallard (*Anas platyrhynchos*): An approach through foraging experiments. *Ethology, Ecology and Evolution* 14 (2): 91-97.
- Frost, K. J. 1985. The ringed seal (*Phoca hispida*). Pages 79-87 in J. J. Burns, K. J. Frost, and L. F. Lowry, editors. *Marine Mammals Species Accounts*. Alaska Department Fish and Game, Juneau, AK.
- Frost, K. J., L. F. Lowry, J. R. Gilbert, & J. J. Burns. 1988. Ringed seal monitoring: relationships of distribution and abundance to habitat attributes and industrial activities.
- Gailey, G., B. Würsig, and T. L. McDonald. (2007). Abundance, behavior, and movement patterns of western gray whales in relation to a 3-D seismic survey, Northeast Sakhalin Island, Russia. *Environmental Monitoring and Assessment*, 134, 75–91.
- Gadamus, L., Raymond-Yakoubian, J., Ashenfelter, R., Ahmasuk, A., Metcalf, V. and Noongwook, G. 2015. Building an indigenous evidence-base for tribally-led habitat conservation policies. *Marine Policy*, 62, pp.116-124.
- Georgette, S., Coffing, M., Scott, C.L. and Utermohle, C.J. 1998. The subsistence harvest of seals and sea lions by Alaska Natives in the Norton Sound-Bering Strait Region, Alaska, 1996–97. Technical Paper No. 242. State of Alaska Department of Fish and Game, Juneau, AK.
- Goldbogen, J. A., Friedlaender, A. S., Calambodkis, J., McKenna, M. F., Simon, M. and D.P Nowacek. 2013. Integrative approaches to the study of baleen whale diving behavior, feeding performance, and foraging ecology. *Bioscience* 63: 90–100.
- Goold, J. 1996. Acoustic Assessment Of Populations Of Common Dolphin *Delphinus Delphis* In Conjunction With Seismic Surveying. *J. Mar. Biol. Ass. U.K.* 76: 811-820.

- Goold, J. C., and P. J. Fish. (1998). Broadband spectra of seismic survey air-gun emissions, with reference to dolphin auditory thresholds. *The Journal of the Acoustical Society of America*, 103(4), 2177-2184.
- Gulland, F.M.D., H. Pérez-Cortés M., J. Urgán R., L. Rojas-Bracho, G. Ylitalo, J. Weir, S.A. Norman, M.M. Muto, D.J. Rugh, C. Kreuder, and T. Rowles. 2005. Eastern North Pacific gray whale (*Eschrichtius robustus*) unusual mortality event, 1999-2000. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-150, 33 pp.
- Halvorsen, M.B., D.G. Zeddies, W.T. Ellison, D.R. Chicoine, and A.N. Popper. 2012a. Effects of mid-frequency active sonar on hearing in fish. *Journal of the Acoustical Society of America* 131 (1): 599-607.
- Halvorsen, M.B., B.M. Casper, C.M. Woodley, T.J. Carlson, and A.N. Popper. 2012b. Threshold for onset of injury in chinook salmon from exposure to impulsive pile driving sounds. *PLoS ONE* 7 (6).
- Harrington, F.H. and A.M. Veitch. 1992. Calving success of woodland caribou exposed to low level jet fighter overflights. *Arctic* 45 (3): 213-218.
- Harrison J, Ferguson MC, New L, Cleary J, Curtice C, DeLand S, Fujioka E, Halpin PN, Tyson Moore RB and Van Parijs SM (2023) Biologically Important Areas II for cetaceans within U.S. and adjacent waters - Updates and the application of a new scoring system. *Front. Mar. Sci.* 10:1081893. doi: 10.3389/fmars.2023.1081893
- Hastings, M. C., and A. N. Popper. 2005. Effects of sound on fish. Technical report for Jones and Stokes to California Department of Transportation.
- Hauser, D.D., Laidre, K.L., Suydam, R.S. and Richard, P.R. 2014. Population-specific home ranges and migration timing of Pacific Arctic beluga whales (*Delphinapterus leucas*). *Polar Biology*, 37(8), pp.1171-1183.
- Hemilä, S., S. Nummela, A. Berta, and T. Reuter. 2006. High-frequency hearing in phocid and otariid pinnipeds: An interpretation based on inertial and cochlear constraints (L). *Journal of the Acoustical Society of America* 120(6):3463-3466.
- Henderson, D., B. Hu, and E. Bielefeld. 2008. Patterns and mechanisms of noise-induced cochlear pathology. pp. 195-217 In Schacht, J., A.N. Popper, and R.R Fay (Eds.) *Auditory Trauma, Protection, and Repair*. New York: Springer.
- Hiley, H. M., V. Janik, and T. Götz. 2021. Behavioral reactions of harbor porpoises *Phocoena phocoena* to startle-eliciting stimuli: movement responses and practical applications. *Marine Ecology Progress Series* 672: 223–241.
- Holberton, R.L., B. Helmuth, and J.C. Wingfield. 1996. The corticosterone stress response in gentoo and king penguins during the non-fasting period. *Condor* 98 (4):850-854.
- Hood, L.C., P.D. Boersma, and J.C. Wingfield. 1998. The adrenocortical response to stress in incubating Magellanic penguins (*Spheniscus magellanicus*). *Auk* 115 (1):76-84.
- Huntington, H. P., Nelson, M., & Quakenbush, L. T. 2015. Traditional Knowledge regarding walrus, ringed seals, and bearded seals near Barrow, Alaska. Final Report to the Eskimo Walrus Commission, the Ice Seal Committee and the Bureau of Ocean Energy Management for contract.

- Jessop, T.S., A.D. Tucker, C.J. Limpus, and J.M. Whittier. 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** (1):161-170.
- Jewett, S. C. 1997. Assessment of the benthic environment following offshore placer gold mining in Norton Sound, northeastern Bering Sea. University of Alaska Fairbanks.
- Jorgenson, J.K., and E.C. Gyselman. 2009. Hydroacoustic measurements of the behavioral response of arctic riverine fishes to seismic airguns. *Journal of the Acoustical Society of America* **126** (3): 1598-1606.
- Kajimura, H. and Loughlin, T.R. 1988. Marine mammals in the oceanic food web of the eastern subarctic Pacific. *Bulletin of the Ocean Research Institute-University of Tokyo* (Japan).
- Kastak, D., J. Mulsow, A. Ghoull, and C. Reichmuth. 2008. Noise-induced permanent threshold shift in a harbor seal: Abstract. *Journal of the Acoustical Society of America* **123**:2986.
- Kastelein, R. A., D. de Haan, N. Vaughan, C. Staal, and N. M. Schooneman. (2001). The influence of three acoustic alarms on the behaviour of harbour porpoises (*Phocoena phocoena*) in a floating pen. *Marine Environmental Research*, **52**, 351-371.
- Kastelein, R. A., N. Jennings, W. C. Verboom, D. De Haan, and N. M. Schooneman. (2006a). Differences in the response of a striped dolphin (*Stenella coeruleoalba*) and a harbour porpoise (*Phocoena phocoena*) to an acoustic alarm. *Marine Environmental Research*, **61**(3), 363-378.
- Kastelein, R. A., S. van der Heul, W. C. Verboom, R. J. Triesscheijn, and N. V. Jennings. (2006b). The influence of underwater data transmission sounds on the displacement behaviour of captive harbour seals (*Phoca vitulina*). *Marine Environmental Research*, **61**(1), 19-39.
- Kastelein, R.A., J. Schop, R. Gransier, and L. Hoek. 2014. Frequency of greatest temporary hearing threshold shift in harbor porpoise (*Phocoena phocoena*) depends on the noise level. *Journal of the Acoustical Society of America* **136**:1410-1418.
- Kastelein, R.A., P. Wensveen, L. Hoek, and J.M. Terhune. 2009. Underwater hearing sensitivity of harbor seals (*Phoca vitulina*) for narrow noise bands between 0.2 and 80 kHz. *Journal of the Acoustical Society of America* **126**(1):476-483.
- Ketten, D. R., J.A. Simmons, H. Riquimaroux, and A.M. Simmons. 2021. Functional analyses of peripheral auditory system adaptations for echolocation in air vs. water. *Frontiers in Ecology and Evolution* **9**. <https://doi.org/10.3389/fevo.2021.661216>.
- Krausman, P.R., L.K. Harris, C.L. Blasch, K.K.G. Koenen, and J. Francine. 2004. Effects of military operations on behavior and hearing of endangered Sonoran pronghorn. *Wildlife Monographs* **157**:1-41.
- Kryter, K.D., W.D. Ward, J.D. Miller, and D.H. Eldredge. 1966. Hazardous exposure to intermittent and steady-state noise. *Journal of the Acoustical Society of America* **39**:451-464.
- Kastelein, R. A., S. A. Cornelisse, L. A. Huijser, and L. Helder-Hoek. 2020a. Temporary hearing threshold shift in harbor porpoises (*Phocoena phocoena*) due to one-sixth-octave noise bands at 63 kHz. *Aquatic Mammals* **46** (2): 167–182.

- Kastelein, R. A., L. Helder-Hoek, S. A. Cornelisse, L. A. E. Huijser, and J. M. Terhune. 2020b. Temporary hearing threshold shift in harbor seals (*Phoca vitulina*) due to a one-sixth-octave noise band centered at 32 kHz. *Journal of the Acoustical Society of America* 147 (3).
- Kastelein, R. A., L. Helder-Hoek, S. Cornelisse, L. A. E. Huijser, and R. Gransier. 2019a. Temporary hearing threshold shift in harbor porpoises (*Phocoena phocoena*) due to one-sixth octave noise band at 32 kHz. *Aquatic Mammals* 45 (5): 549–562.
- Kastelein, R. A., L. Helder-Hoek, R. van Kester, R. Huisman, and R. Gransier. 2019b. Temporary hearing threshold shift in harbor porpoises (*Phocoena phocoena*) due to one-sixth octave noise band at 16 kHz. *Aquatic Mammals* 45 (3): 280–292.
- Kastelein, R. A., R. Gransier, J. Schop, and L. Hoek. 2015a. Effects of exposure to intermittent and continuous 6–7 kHz sonar sweeps on harbor porpoise (*Phocoena phocoena*) hearing. *Journal of the Acoustical Society of America* 137 (4): 1623–1633.
- Kastelein, R. A., L. Helder-Hoek, G. Janssens, R. Gransier, and T. Johansson. 2015b. Behavioral responses of harbor seals (*Phoca vitulina*) to sonar signals in the 25-kHz range. *Aquatic Mammals* 41 (4): 388–399.
- Kastelein, R. A., L. Hoek, R. Gransier, C. A. F. de Jong, J. M. Terhune, and N. Jennings. 2015c. Hearing thresholds of a harbor porpoise (*Phocoena phocoena*) for playbacks of seal scarer signals, and effects of the signals on behavior. *Hydrobiologia* 756 (1): 89–103.
- Kastelein, R. A., L. Helder-Hoek, S. Van de Voorde, S. de Winter, S. Janssen, and M. A. Ainslie. (2018). Behavioral responses of harbor porpoises (*Phocoena phocoena*) to sonar playback sequences of sweeps and tones (3.5-4.1 kHz). *Aquatic Mammals*, 44(4), 389–404.
- Landrø, Martin, Léa Bouffaut, Hannah Joy Kriesell, John Robert Potter, Robin André Rørstadbotnen, Kittinat Taweessintananon, Ståle Emil Johansen et al. "Sensing whales, storms, ships and earthquakes using an Arctic fibre optic cable." *Scientific Reports* 12, no. 1 (2022): 19226.
- Lankford, S.E., T.E. Adams, R.A. Miller, and J.J. Cech. 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.
- LeBoeuf, B.J. & Perez-Cortes, Hector & Mate, B.R. & Ollervides, U.F.. (2000). High gray whale mortality and low recruitment in 1999: Potential causes and implications. *Journal of Cetacean Research and Management*. 2. 85-99.
- Ljungblad, D. K., S. E. Moore, D. R. Van Schoik, and C. S. Winchell. 1982. Aerial Surveys of Endangered Whales in the Beaufort, Chukchi & Northern Bering Seas. NAVAL OCEAN SYSTEMS CENTER SAN DIEGO, CA.
- Ljungblad, Donald K., and Sue E. Moore. 1983. Killer whales (*Orcinus orca*) chasing gray whales (*Eschrichtius robustus*) in the northern Bering Sea. *Arctic*: 361-364.
- Lomac-MacNair, K., Wisdom, S., de Andrade, J.P., Stepanuk, J., Anderson, M., Zoidis, A. and Esteves, E. 2022. Large whale occurrence in northeastern Chukchi and southern Beaufort seas from vessel surveys, 2008–2014. *Northwestern Naturalist*, 103(2), pp.136-153
- Lowry, L.F., Citta, J.J., O’corry-Crowe, G.R.E.G., Quakenbush, L.T., Frost, K.J., Suydam, R., Hobbs, R.C. and Gray, T. 2019. Distribution, abundance, harvest, and status of Western Alaska beluga whale, *Delphinapterus leucas*, stocks. *Mar Fish Rev*, 81, pp.54-71.

- Lusseau, D. and L. Bejder. 2007. The long-term consequences of short-term responses to disturbance experiences from whale watching impact assessment. *International Journal of Comparative Psychology* 201(2-3):228-236.
- Madsen, P.T., M. Johnson, P.J.O. Miller, N.A. Soto, J. Lynch, and P. Tyack. 2006. Quantitative measures of air-gun pulses recorded on sperm whales (*Physeter macrocephalus*) using acoustic tags during controlled exposure experiments. *Journal of the Acoustical Society of America* 120(4):2366-2379.
- Malme, C. I., P. R. Miles, C. W. Clark, P. Tyack, and J. E. Bird. (1984). Investigations of the potential effects of underwater noise from petroleum industry activities on migrating gray whale behavior/Phase II: January 1984 migration. BBN Rep. 5586. Rep. from Bolt Beranek & Newman Inc., Cambridge, MA, for MMS, Alaska OCS Region, Anchorage, AK. NTIS PB86-218377.
- McCauley, R. D., J. Fewtrell, A. J. Duncan, C. Jenner, M. N. Jenner, J. D. Penrose, R. I. T. Prince, A. Adhitya, J. Murdoch, & K. McCabe. (2000). Marine seismic surveys—A study of environmental implications. *Australian Petroleum Production Exploration Association Journal*, 692–708.
- McKinley Research Group. 2022. Bering Strait Community Needs Assessment. Prepared for Kawerak, Inc. 163 pp. Retrieved from: <file:///C:/Users/Leah.Davis/Downloads/Bering-Strait-Community-NEEDS-Assessment.pdf>
- Melcón, M. L., A. J. Cummins, S. M. Kerosky, L. K. Roche, S. M. Wiggins, and J. A. Hildebrand. (2012). Blue whales respond to anthropogenic noise. *PLoS ONE*, 7(2).
- Miller, J.D. 1974. Effects of noise on people. *Journal of the Acoustical Society of America* 56:729-764.
- Minobe, S. 2002. Interannual to interdecadal changes in the Bering Sea and concurrent 1998/99 changes over the North Pacific. *Prog.Oceanogr.* 55(1-2):45-64.
- Moberg, G. P. (1987). A model for assessing the impact of behavioral stress on domestic animals. *Journal of Animal Science*, 65(5), 1228-1235.
- Moberg, G.P. 2000. Biological response to stress: Implications for animal welfare. Pages 1-21 in G.P. Moberg and J.A. Mench, eds. *The Biology of Animal Stress: Basic Principles and Implications for Animal Welfare*. CABI Publishing, Oxon, United Kingdom.
- Moore, S. E., J. M. Waite, N. A. Friday, and T. Honkalehto. 2002. Cetacean distribution and relative abundance on the central-eastern and the southeastern Bering Sea shelf with reference to oceanographic domains. *Prog. Oceanogr.* 55:249-261.
- Moore, S.E., J. Urbán R., W.L. Perryman, F. Gulland, H. Pérez-Cortés M., P.R. Wade, L. Rojas-Bracho and T. Rowles. 2001. Are gray whales hitting ‘K’ hard? *Mar. Mammal Sci.* 17(4):954-958.
- Mooney, T. A., P. E. Nachtigall, M. Breese, S. Vlachos, and W. W. L. Au. (2009). Predicting temporary threshold shifts in a bottlenose dolphin (*Tursiops truncatus*): The effects of noise level and duration. *Journal of Acoustical Society of America*, 125(3), 1816–1826.
- Moreland, E., M. Cameron, and P. Boveng. 2013. Bering Okhotsk Seal Surveys (BOSS), joint U.S.-Russian aerial surveys for ice-associated seals, 2012-13. Alaska Fisheries Science Center Quarterly Report (July-August-September 2013):1-6.
- Morton, A. B., and H. K. Symond. (2002). Displacement of *Orcinus orca* (L.) by high amplitude sound in British Columbia, Canada. *ICES Journal of Marine Science*, 59(1), 71-80.

- Muto, M. M., V. T. Helker, B. J. Delean, N. C. Young, J. C. Freed, R. P. Angliss, N. A. Friday, P. L. Boveng, J. M. Breiwick, B. M. Brost, M. F. Cameron, P. J. Clapham, J. L. Crance, S. P. Dahle, M. E. Dahlheim, B. S. Fadely, M. C. Ferguson, L. W. Fritz, K. T. Goetz, R. C. Hobbs, Y. V. Ivashchenko, A. S. Kennedy, J. M. London, S. A. Mizroch, R. R. Ream, E. L. Richmond, K. E. W. Shelden, K. L. Sweeney, R. G. Towell, P. R. Wade, J. M. Waite, and A. N. Zerbini. 2022. Alaska marine mammal stock assessments, 2021. U.S. Dep. Commer., NOAA Tech. Memo. NMFSAFSC-441, 295 p
- Nachtigall, P. E., A. Y. Supin, A. F. Pacini, and R. A. Kastelein. (2018). Four odontocete species change hearing levels when warned of impending loud sound. *Integrative Zoology*, 13, 2–20.
- National Marine Fisheries Service (NMFS). 2018. 2018 Revisions to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0): Underwater Acoustic Thresholds for Onset of Permanent and Temporary Threshold Shifts. U.S. Department of Commerce, NOAA. NOAA Technical Memorandum NMFS-OPR-59, 169 p
- National Marine Fisheries Service (NMFS). 2008. Recovery Plan for the Steller Sea Lion (*Eumetopias jubatus*). Revision. National Marine Fisheries Service, Silver Spring, MD. 325 pages.
- NMFS. (2023). 2019-2023 Gray Whale Unusual Mortality Event Along the West Coast. Retrieved from <https://www.fisheries.noaa.gov/national/marine-life-distress/2019-2023-gray-whale-unusual-mortality-event-along-west-coast-and>
- NMFS. 2022a. Fisheries Home » Protected Resources » Bearded Seal (*Erignathus barbatus*). Accessed October 2022 at <https://www.fisheries.noaa.gov/species/bearded-seal>
- NMFS. 2022b. Fisheries Home » Protected Resources » Spotted Seal (*Phoca largha*). Accessed October 2022 <https://www.fisheries.noaa.gov/species/spotted-seal>
- NMFS. 2022c. Fisheries Home » Protected Resources » Beluga Whale (*Delphinapterus leucas*). Accessed October 2022 at <https://www.fisheries.noaa.gov/species/beluga-whale>
- NMFS. 2022g. Fisheries Home » Protected Resources » Minke Whale (*Balaenoptera acutorostrata*). Accessed October 2022 at <https://www.fisheries.noaa.gov/species/minke-whale#management>
- National Institute for Occupational Safety and Health (NIOSH). 1998. Criteria for a recommended standard: Occupational noise exposure. United States Department of Health and Human Services, Cincinnati, OH.
- National Research Council (NRC). 2005. Marine mammal populations and ocean noise: Determining when noise causes biologically significant effects. National Academy of Sciences: 142.
- NRC. (2003). *Ocean Noise and Marine Mammals*. Washington, DC: National Academies Press.
- Nedwell, J. and B. Edwards. 2002. Measurements of underwater noise in the Arun River during piling at County Wharf, Li
- Nowacek, D.P., M.P. Johnson, and P.L. Tyack. 2004. North Atlantic right whales (*Eubalaena glacialis*) ignore ships but respond to alerting stimuli. *Proceedings of the Royal Society of London B: Biological Sciences* 271(1536):227-231.
- North Slope Borough (NSB). 2022. Documentation of Beluga Harvest. <https://www.northslope.org/departments/wildlife-management/co-management->

organizations/alaska-beluga-whalecommittee/abwc-research-projects/documentation-of-beluga-harvest/. Accessed 9/28/2022.

- Oceana & Kawerak. 2014. Bering Strait Marine Life and Subsistence Use Data Synthesis.
- Oestman, R., D. Buehler, J. Reyff, and R. Rodkin. 2009. Technical guidance for assessment and mitigation of the hydroacoustic effects of pile driving on fish. Prepared by ICF Jones & Stokes and Illingworth & Rodkin, Inc. for the California Department of Transportation: 298.
- Olnes, J., Crawford, J., Citta, J. J., Druckenmiller, M. L., Von Duyke, A. L., & Quakenbush, L. 2020. Movement, diving, and haul-out behaviors of juvenile bearded seals in the Bering, Chukchi and Beaufort seas, 2014–2018. *Polar Biology*, 43(9), 1307-1320.
- Paxton, A.B., J.C. Taylor, D.P. Nowacek, J. Dale, E. Cole, C.M. Voss, and C.H. Peterson. 2017. Seismic survey noise disrupted fish use of a temperate reef. *Marine Policy* 78: 68-73.
- Pearson, W.H., J.R. Skalski, and C.I. Malme. 1992. Effects of sounds from a geophysical survey device on behavior of captive rockfish (*Sebastes* spp.). *Canadian Journal of Fisheries and Aquatic Sciences* 49:1343-1356.
- Pena, H., N.O. Handegard, and E. Ona. 2013. Feeding herring schools do not react to seismic air gun surveys. *ICES Journal of Marine Science* 70 (6): 1174-1180.
- PND Engineers, Inc. 2016. Request for an Incidental Harassment Authorization Under the Marine Mammal Protection Act for the Unalaska Marine Center Dock Positions III and IV Replacement Project. Revised Sept. 30, 2016.
- PND Engineers, Inc. 2020. Request for an Incidental Harassment Authorization Under the Marine Mammal Protection Act for the Kotzebue Dock Upgrade Project. Revised February 2020.
- Popper, A.N. and M.C. Hastings. 2009. The effects of anthropogenic sources of sound on fishes. *Journal of Fish Biology* 75 (3):455-489.
- Purser, J., and A.N. Radford. 2011. Acoustic noise induces attention shifts and reduces foraging performance in three-spined sticklebacks (*Gasterosteus aculeatus*). *PLoS ONE* 6 (2): e17478. <https://doi.org/10.1371/journal.pone.0017478>.
- Reichmuth, C. and M.M. Holt. 2013. Comparative assessment of amphibious hearing in pinnipeds. *Journal of Comparative Physiology A: Neuroethology, Sensory, Neural and Behavioral Physiology* 199(6):491-507.
- Richardson, W.J., C.R. Greene, C.I. Malme, and D.H. Thomson. 1995. *Marine Mammals and Noise*. Academic Press, Inc., San Diego, CA.
- Rolland, R. M., S. E. Parks, K. E. Hunt, M. Castellote, P. J. Corkeron, D. P. Nowacek, et al. 2012. Evidence that ship noise increases stress in right whales. *Proceedings of the Royal Society of London Series B Biological Sciences* 279(1737):2363-2368.
- Romano, T.A., D.L. Felten, S.Y. Stevens, J.A. Olschowka, V. Quaranta, and S.H. Ridgway. 2002b. Immune response, stress, and environment: Implications for cetaceans. Pages 253-279 in C.J. Pfeiffer, ed. *Molecular and Cell Biology of Marine Mammals*. Krieger Publishing Co., Malabar, Florida.

- Romano, T., M. Keogh, and K. Danil. 2002a. Investigation of the effects of repeated chase and encirclement on the immune system of spotted dolphins (*Stenella attenuata*) in the eastern tropical Pacific. Administrative Report LJ-02-35C, National Marine Fisheries Service: 37.
- Santulli, A., A. Modica, C. Messina, L. Ceffa, A. Curatolo, G. Rivas, et al. 1999. Biochemical responses of European sea bass (*Dicentrarchus labrax L.*) to the stress induced by offshore experimental seismic prospecting. *Marine Pollution Bulletin* 38 (12): 1105-1114.
- Seyle, H. (1950). *The Physiology and Pathology of Exposure to Stress*. Oxford, England: Acta, Inc. 203 pp.
- Simpkins, M. A., Hiruki-Raring, L. M., Sheffield, G., Grebmeier, J. M., & Bengtson, J. L. 2003. Habitat selection by ice-associated pinnipeds near St. Lawrence Island, Alaska in March 2001. *Polar Biology*, 26(9), 577-586.
- Schlundt, C.E., J.J. Finneran, D.A. Carder, and S.H. Ridgway. 2000. Temporary shift in masked hearing thresholds of bottlenose dolphins, *Tursiops truncatus*, and white whales, *Delphinapterus leucas*, after exposure to intense tones. *Journal of the Acoustical Society of America* 107:3496-3508.
- Scholik, A.R. and H.Y. Yan. 2001. The effects of underwater noise on auditory sensitivity of fish. *Proceedings of the Institute of Acoustics* 23(4):27.
- Scholik, A. R. and H. Y. Yan. 2002. The effects of noise on the auditory sensitivity of the bluegill sunfish, *Lepomis macrochirus*. *Comparative Biochemistry and Physiology - Part A: Molecular & Integrative Physiology* 133(1): 43-52.
- Sivle, L. D., P. J. Wensveen, P. H. Kvadsheim, F. P. A. Lam, F. Visser, C. Curé, C. M. Harris, P. L. Tyack, and P. J. O. Miller. 2016. Naval sonar disrupts foraging in humpback whales. *Marine Ecology Progress Series* 562: 211–220.
- Skalski, J.R., W.H. Pearson, and C.I. Malme. 1992. Effects of sounds from a geophysical survey device on catch-per-unit-effort in a hook-and-line fishery for rockfish (*Sebastes* spp.). *Canadian Journal of Fisheries and Aquatic Sciences* 49(7):1357-1365.
- Southall, B.L., A.E. Bowles, W.T. Ellison, J.J. Finneran, R.L. Gentry, C.R. Greene, et al. 2007. Marine mammal noise exposure criteria: initial scientific recommendations. *Aquatic Mammals* 33(4):411-521.
- Southall, B. L., J. J. Finneran, C. Reichmuth, P. E. Nachtigall, D. R. Ketten, A. E. Bowles, W. T. Ellison, D. P. Nowacek, and P. L. Tyack. (2019). Marine Mammal Noise Exposure Criteria: Updated Scientific Recommendations for Residual Hearing Effects. *Aquatic Mammals*, 45(2), 125-232.
- Southall, B. L., D.P. Nowacek, A.E. Bowles, V. Senigaglia, L. Bejder, P.L. Tayak. (2021). Marine mammal noise exposure criteria: Assessing the severity of marine mammal behavioral responses to human noise. *Aquatic Mammals* 47(5): 421–464.
- Suydam, R.S. 2009. Age, growth, reproduction, and movements of beluga whales (*Delphinapterus leucas*) from the eastern Chukchi Sea. University of Washington.
- Thorson, P. and J.A. Reyff. 2006. San Francisco-Oakland Bay Bridge East Span Seismic Safety Project: marine mammal 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, 51 p.

- Teilmann, J., J. Tougaard, L. A. Miller, T. Kirketerp, K. Hansen, and S. Brando. 2006. Reactions of captive harbor porpoises (*Phocoena phocoena*) to pinger-like sounds. *Marine Mammal Science* 22 (2): 240–260.
- Ver Hoef, J.M., Cameron, M.F., Boveng, P.L., London, J.M. & Moreland, E.E. 2013. A hierarchical model for abundance of three ice-associated seal species in the eastern Bering Sea. *Statistical Methodology*, doi:10.1016/j.stamet.
- Waite JM, Friday NA, Moore SE (2002) Killer whale (*Orcinus orca*) distribution and abundance in the central and south-eastern Bering Sea, July 1999 and June 2000. *Mar Mammal Sci* 18:779–786
- Wensveen, P. J., P. H. Kvadsheim, F.-P. A. Lam, A. M. Von Benda-Beckmann, L. D. Sivle, F. Visser, C. Curé, P. Tyack, and P. J. O. Miller. 2017. Lack of behavioural responses of humpback whales (*Megaptera novaeangliae*) indicate limited effectiveness of sonar mitigation. *The Journal of Experimental Biology* 220: 1–12.
- Weilgart LS. 2007. A brief review of known effects of noise on marine mammals. *International Journal of Comparative Psychology* 20: 159–168.
- Wolfe, R. J., and L. B. Hutchinson-Scarborough. 1999. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 1998. Alaska Dep. Fish Game, Div. Subsistence, Juneau, Tech. Paper 250, 72 p. + appendices.
- Wolfe, R.J. and Mishler, C. 1999. The subsistence harvest of harbor seal and sea lion by Alaska Natives in 1998. Alaska Department of Fish and Game, Division of Subsistence.
- Ward, W. D. 1997. Effects of high intensity sound. In M. J. Crocker (Ed.) *Encyclopedia of acoustics*, (Volume III, pp. 1497–1507). New York: John Wiley & Sons.
- Ward, W.D., A. Glorig, and D.L. Sklar. 1958. Dependence of temporary threshold shift at 4 kc on intensity and time. *Journal of the Acoustical Society of America* 30:944-954.
- Ward, W.D., A. Glorig, and D.L. Sklar. 1959. Temporary threshold shift from octave-band noise: Application to damage-risk criteria. *Journal of the Acoustical Society of America* 31:522-528.
- Ward, W.D. 1960. Recovery from high values of temporary threshold shift. *Journal of the Acoustical Society of America* 32:497-500.
- Wardle, C.S., T.J. Carter, G.G. Urquhart, A.D.F. Johnstone, A.M. Ziolkowski, G. Hampson, and D. Mackie. 2001. Effects of seismic air guns on marine fish. *Continental Shelf Research* 21: 1005-1027.
- Wartzok, D., A.N. Popper, J. Gordon, and J. Merrill. 2003. Factors affecting the responses of marine mammals to acoustic disturbance. *Marine Technology Society Journal* 37(4):6-15.
- Wartzok, D., and D.R. Ketten. 1999. Marine mammal sensory systems. pp 117-175 In J.E. Reynolds II & S.A. Rommel (Eds.), *Biology of marine mammals*. Washington, DC: Smithsonian Institution Press.
- Weilgart, L.S. 2007. A brief review of known effects of noise on marine mammals. *International Journal of Comparative Psychology* 201(2-3):159-168.

- Yazvenko, S.B., T.L. McDonald, S.A. Blokhin, S.R. Johnson, H.R. Melton, M.W. Newcomer, et al. 2007. Feeding of western gray whales during a seismic survey near Sakhalin Island, Russia. *Environmental Monitoring and Assessment* 134(1-3):93-106.
- Zelick, R., and D.A. Mann. 1999. Acoustic communication in fishes and frogs. In: Fay, R.R. and A.N. Popper, eds. *Comparative hearing: Fishes and amphibians*. Springer-Verlag, New York.
- Zerbini, A.N., J.M. Waite, J.L. Laake, and P.R. Wade. 2006. Abundance, trends, and distribution of baleen whales off Western Alaska and the Central Aleutian Islands. *Deep-Sea Research* 53:1772-1790.