

Tongass Narrows IHA References

- ABR. 2016. Protected-Species Monitoring at the Kodiak Ferry Terminal & Dock Improvements Project, Kodiak, Alaska, 2015–2016.
- ADF&G. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2007. Technical Paper No. 345 from Alaska Department of Fish and Game, Division of Subsistence and Alaska Native Harbor Seal Commission. Available at: <http://www.adfg.alaska.gov/techpap/TP345.pdf>
- ADF&G. 2018. Subsistence in Alaska: Harvest Data and Reports. Available at: <http://www.adfg.alaska.gov/index.cfm?adfg=subsistence.harvest> Accessed: August 2018
- Ahroon, W.A., R.P. Hamernik, and S.-F., Lei. 1996. The effects of reverberant blast waves on the auditory system. *Journal of the Acoustical Society of America* 100:2247-2257.
- Allen, B.M., and R.P. Angliss. 2010. Alaska marine mammal stock assessments, 2009. NOAA Technical Memorandum NMFS-AFSC-233. National Marine Fisheries Service, Seattle, WA.
- ANSI (American National Standards Institute). 1986. Methods of measurement for impulse noise 3 (ANSI S12.7-1986). Acoustical Society of America, Woodbury, NY.
- ANSI. 1995. Bioacoustical Terminology (ANSI S3.20-1995). Acoustical Society of America, Woodbury, NY.
- ANSI, 2005. Measurement of sound pressure levels in air (ANSI S1.13-2005). Acoustical Society of America, Woodbury, NY.
- 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.
- Au, W. W. L. and Hastings, M. 2008. Principles of Marine Bioacoustics. Springer-Verlag, New York.
- Berger ABAM 2016. Icy Strait Point Cruise Ship Terminal Marine Mammal Monitoring Summary Report. Prepared for Huna Totem Corporation, Hoonah, Alaska. Prepared by BergerADAM, Vancouver, Washington. February 2016.
- Caltrans. 2015. Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish: Appendix I – Compendium of Pile Driving Sound Data. Updated November 2015.
- 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.

- Carretta, J.V., K.A. Forney, E.M. Oleson, D.W. Weller, A.R. Lang, J. . Baker, M.M. Muto, B. Hanson, A.J. Orr, H. Huber, M.S. Lowry, J. Barlow, J.E. Moore, D. Lynch, L. Carswell, and R.L. Brownwell Jr. 2018. U.S. Pacific marine mammal stock assessments: 2017. NOAA Tech. Memo. NOAA-TM-NMFS-SWFSC-577. Nat. Mar. Fish. Serv., Southwest Fish. Sci. Center, La Jolla, CA. 161 p.
- 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.
- Dahlheim, M.E., A.N. Zerbini, J.M. Waite, and A.S. Kennedy. 2015. Temporal changes in abundance of harbor porpoise (*Phocoena phocoena*) inhabiting the inland waters of Southeast Alaska. *Fishery Bulletin* 113(3): 242-255.
- Dahlheim, M.D., J.M. Waite, and P.A. White. 2009. Cetaceans of Southeast Alaska: Distribution and Seasonal Occurrence. *Journal of Biogeography* 36.3 (2009): 410-426.
- Dahlheim, M.E., and R.G. Towell. 1994. Occurrence and distribution of Pacific white-sided dolphins (*Lagenorhynchus obliquidens*) in southeastern Alaska, with notes on an attack by killer whales (*Orcinus orca*). *Marine Mammal Science* 10(4): 458-464.
- Denes, S. L., G.J. Warner, M.E. Austin, and A.O. MacGillivray. 2016. Hydroacoustic Pile Driving Noise Study – Comprehensive Report. Document 001285, Version 1.0. Technical report by JASCO Applied Sciences for Alaska Department of Transportation & Public Facilities.
- Ellison, W.T., B.L. 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* 26:21-28.
- 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.
- Ferrero, R.C. and W.A. Walker. 1996. Age, growth, and reproductive patterns of the Pacific white-sided dolphin (*Lagenorhynchus obliquidens*) taken in high seas drift nets in the central North Pacific Ocean. *Canadian Journal of Zoology*, 74:1673-1687, <https://doi.org/10.1139/z96-185>

- FHWA (Federal Highway Administration). 2017. Gravina Access Project Record of Decision and Final Supplemental Environmental Impact Statement. DOT&PF Project No: 67698. Federal Project No: ACHP-0922(5). Prepared for DOT&PF (Alaska Department of Transportation and Public Facilities) by HDR Inc.
- 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. and A.K. Jenkins. 2012. Criteria and thresholds for U.S. Navy acoustic and explosive effects analysis. Technical Report, Space and Naval Warfare Systems Center Pacific, U.S. Navy: 64.
- Finneran, J.J., C.E. Schlundt, B.K. Branstetter, J.S. Trickey, V. Bowman, and K. Jenkins. 2015. Effects of multiple impulses from a seismic air gun on bottlenose dolphin hearing and behavior. *J. Acoust. Soc. Am.* 137(4):1634-1646.
- Freitag, G. 2017. (As cited in 83 FR 22009, May 11, 2018). Personal communication between Kate Arduser, Solstice Alaska Consulting, Inc. and Gary Freitag, University of Alaska Fairbanks College of Fisheries and Ocean Sciences Associate Professor Marine Advisory Program, member of NOAA Marine Mammal Stranding Network, and longtime Ketchikan resident, regarding marine mammal occurrence, behavior, and typical groups size in Ketchikan vicinity.
- Ferguson, M.C., C. Curtice, and J. Harrison. 2015. 6. Biologically important areas for cetaceans within U.S. waters – Gulf of Alaska region. **Aquat. Mamm.** 41(1):65-78.
- Hastings, M.C., and A.N. Popper. 2005. Effects of sound on fish. Technical report for Jones and Stokes to California Department of Transportation.
- HDR. 2003. Gravina Access Project Threatened and Endangered Species Biological Assessment for Humpback Whale and Steller Sea Lion Updated November 2003. As viewed November 2017 at http://dot.alaska.gov/sereg/projects/gravina_access/documents.shtml
- 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.

- Hobbs, R. C., and J. M. Waite. 2010. Abundance of harbor porpoise (*Phocoena phocoena*) in three Alaskan regions, corrected for observer errors due to perception bias and species misidentification, and corrected for animals submerged from view. *Fish. Bull., U.S.* 108(3):251-267.
- Jefferson T.A., Dahlheim M.E., Zerbini A.N., Waite J.M., Kennedy A.S. 2019. Abundance and seasonality of Dall's porpoise (*Phocoenoides dalli*) in southeast Alaska. U.S. Department of Commerce. NOAA Technical Memorandum NMFS-AFSC-385.
- Jemison, L., Pendleton, G., Fritz, L., Hastings, K., Maniscalco, J., Trites, A. and T. Gelatt. 2013. Inter-Population Movements of Steller Sea Lions in Alaska with Implications for Population Separation. *PLOS One* 8(8) <https://doi.org/10.1371/journal.pone.0070167>
- Kastak, D., J. Mulsow, A. Ghaul, and C. Reichmuth. 2008. Noise-induced permanent threshold shift in a harbor seal. *Journal of the Acoustical Society of America* 123:2986.
- 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.
- Kryter, K.D. 1985. *The Effects of Noise on Man*. Academic Press, New York.
- London, J.M., K.M. Yano, D.E. Withrow, J.K. Jansen, S.P. Dahle, H.L. Ziel, G.M. Brady, M.F. Cameron, J.M. Ver Hoef, and P.L. Boveng. 2015. Aerial survey counts of harbor seals in Coastal Alaska (2004-2011). Alaska Fisheries Science Center, National Oceanic and Atmospheric Administration. Dataset available from: <https://jmlondon.shinyapps.io/akpvsurveys-app/> Accessed on 27 July 2016.
- Lusseau, D. and L. Bejder. 2007. The long-term consequences of short-term responses to disturbance experiences from whalewatching 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.
- Miller, J.D. 1974. Effects of noise on people. *Journal of the Acoustical Society of America* 56:729-764.

- Muto M. M., V. T. Helker, R. P. Angliss, B. A. Allen, P. L. Boveng, J. M. Breiwick, M. F. Cameron, P. J. Clapham, S. P. Dahle, M. E. Dahlheim, B. S. Fadely, M. C. Ferguson, L. W. Fritz, 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, R. G. Towell, P. R. Wade, J. M. Waite, and A. Zerbini. 2017a. Alaska Marine Mammal Stock Assessments, 2016. NOAA Technical Memorandum NMFS-AFSC-355
- Muto, M.M, V. T. Helker, R.P. Angliss, B.A. Allen, P.L. Boveng, J.M. Breiwick, M.F. Cameron, P.J. Clapham, S.P. Dahle, M.E. Dahlheim, B.S. Fadely, M.C. Ferguson, L.W. Fritz, 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, R.G. Towell, P.R. Wade, J.M. Waite, and A.N. Zerbini. 2018. Alaska marine mammal stock assessments, 2017. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-378, 382 p.
- Navy. 2015. Proxy source sound levels and potential bubble curtain attenuation for acoustic modeling of nearshore marine pile driving at Navy installations in Puget Sound. Prepared by Michael Slater, Naval Surface Warfare Center, Carderock Division, and Sharon Rainsberry, Naval Facilities Engineering Command Northwest. Revised January 2015.
- Nedwell, J. and B. Edwards. 2002. Measurements of underwater noise in the Arun River during piling at County Wharf, Littlehampton. Report No. 513R0108, Prepared by Subacoustech, Ltd. for David Wilson Homes, Ltd.: 28.
- NIOSH (National Institute for Occupational Safety and Health). 1998. Criteria for a recommended standard: Occupational noise exposure. United States Department of Health and Human Services, Cincinnati, OH.
- NMFS (National Marine Fisheries Service). 2016a. Killer whale (*Orcinus orca*). NOAA Fisheries, Office of Protected Resources. Available from: <http://www.nmfs.noaa.gov/pr/species/mammals/whales/killer-whale.html> Accessed on 28 July 2016.
- NMFS 2016b. Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing: Underwater Acoustic Thresholds for Onset of Permanent and Temporary Threshold Shifts. U.S. Department of Commerce, NOAA. NOAA Technical Memorandum NMFS-OPR-55.
- NMFS 2017. Essential Fish Habitat (EFH) Mapper. Available from: <http://www.habitat.noaa.gov/protection/efh/efhmapper/index.html>. Accessed on 28 September 2017.
- 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. U.S. Department of Commerce, NOAA. NOAA Technical Memorandum NMFS-OPR-59.

- NMFS 2019. Endangered Species Act Section 7 Biological Opinion for Construction of the Tongass Narrows Project (Gravina Access). National Marine Fisheries Service, Alaska Region, Juneau, AK. February 6, 2019.
- Nowacek, D.P., Johnson, M.P. and Tyack, P.L., 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), pp.227-231.
- NRC. 2005. Marine mammal populations and ocean noise: Determining when noise causes biologically significant effects. National Academy of Sciences: 142.
- 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.
- 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.
- 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.
- 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.
- Reichmuth, C., A. Ghoul, J.M. Sillis, A. Rouse, and B.L. Southall. 2016. Low-frequency temporary threshold shift not observed in spotted or ringed seals exposed to single air gun impulses. *Journal of the Acoustical Society of America* 140:2648-2658
- Richardson, W.J., C.R. Greene, C.I. Malme, and D.H. Thomson. 1995. *Marine Mammals and Noise*. Academic Press, Inc., San Diego, CA.
- 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 (6):3496-3508.
- 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.
- 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.

- Skalski, J.R., Pearson, W.H. and Malme, C.I., 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), pp.1357-1365.
- Solstice Alaska Consulting, Inc. 2018. Request for an Incidental Harassment Authorization, Ketchikan Dock Company, LLS. Available online: <https://www.fisheries.noaa.gov/action/incidental-take-authorization-ketchikan-dock-company-ketchikan-berth-iv-expansion-project>
- 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., 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(2), 125-232. doi:<http://dx.doi.org/10.1578/AM.45.2.2019.125>
- Straley, J. 1990. Fall and winter occurrence of humpback whales (*Megaptera novaeangliae*) in Southeastern Alaska. *Reports of the International Whaling Commission (Special Issue 12)*: 319-323.
- 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.
- Ward, W.D. 1997. Effects of high-intensity sound. Pages 1497-1507 in M.J. Crocker, ed. *Encyclopedia of acoustics, Volume III*. John Wiley & Sons, New York.
- Ward, W.D. 1960. Recovery from high values of temporary threshold shift. *Journal of the Acoustical Society of America* 32:497-500.
- 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.
- Wade, P.R., T. J. Quinn II, J. Barlow, C. S. Baker, A. M. Burdin, J. Calambokidis, P. J. Clapham, E. Falcone, J. K. B. Ford, C. M. Gabriele, R. Leduc, D. K. Mattila, L. Rojas-Bracho, J. Straley, B. L. Taylor, Urbán R., D. Weller, B. H. Witteveen, and M. Yamaguchi. 2016. Estimates of abundance and migratory destination for North Pacific humpback whales in both summer feeding areas and winter mating and calving areas.

Paper SC/66b/IA21 submitted to the Scientific Committee of the International Whaling Commission, June 2016, Bled, Slovenia.

- Wartzok, D., & Ketten, D. R. 1999. Marine mammal sensory systems. In J. E. Reynolds II & S. A. Rommel (Eds.), *Biology of marine mammals* (pp. 117-175). Washington, DC: Smithsonian Institution Press.
- 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., A.N. Popper, J. Gordon J., and J.J. Merrill. 2004. Factors affecting the responses of marine mammals to acoustic disturbance. *Marine Technology Society Journal* 37:6-15.
- 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.
- Wolfe, R.J., J. Bryant, L. Hutchinson-Scarborough, M. Kookesh, and L.A. Sill. 2013. The Subsistence Harvest of Harbor Seal and Sea Lions by Alaska Natives in 2012. Alaska Native Harbor Seal Commission and Alaska Department of Fish & Game Subsistence Technical Paper No. 383, 87 p.
- 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.
- 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.