

**Atlantic Shores South Final Rulemaking
Reference List**

A

- Adams, T.P., R.G. Miller, D. Aleynik and M.T. Burrows. 2014. Offshore marine renewable energy devices as stepping stones across biogeographical boundaries. *Journal of Applied Ecology* 51: 330-338. <https://doi.org/10.1111/1365-2664.12207>
- Aerts, L.A.M. and W.J. Richardson (eds.). 2008. Monitoring of industrial sounds, seals, and bowhead whales near BP's Northstar Oil Development, Alaskan Beaufort Sea, 2007: Annual Summary Report. LGL Rep. P1005b. Rep. from LGL Alaska Research Associates (Anchorage, AK), Greeneridge Sciences Inc. (Santa Barbara, CA) and Applied Sociocultural Research (Anchorage, AK) for BP Exploration (Alaska) Inc., Anchorage, AK.
- Allen, A.N., J.J. Schanze, A.R. Solow, and P.L. Tyack. 2014. Analysis of a Blainville's beaked whale's movement response to playback of killer whale vocalizations. *Marine Mammal Science*, 30(1): 154-168. <https://doi.org/10.1111/mms.12028>
- Andersson, M.H., Öhman, M.C. 2010. Fish and sessile assemblages associated with wind-turbine constructions in the Baltic Sea. *Marine and Freshwater Research*, 61 (6): 642-650. <https://doi.org/10.1071/MF09117>
- André, M., M. Solé, M. Lenoir, M. Durfort, C. Quero, A. Mas, A. Lombarte, M. Van Der Schaar, M. López-Bejar, M. Morell, and S. Zaugg. 2011. Low-frequency sounds induce acoustic trauma in cephalopods. *Frontiers in Ecology and the Environment* 9 (9): 489-493 <https://doi.org/10.1890/100124>
- ANSI (American National Standards Institute). 1986. *Methods of Measurement for Impulse Noise 3 (ANSI S12.7-1986)*. Acoustical Society of America, Woodbury, NY.
- ANSI. (American National Standards Institute). 1995. *Bioacoustical Terminology (ANSI S3.20-1995)*. Acoustical Society of America, Woodbury, NY.
- ANSI. (American National Standards Institute). 2005. *Measurement of Sound Pressure Levels in Air (ANSI S1.13-2005)*. Acoustical Society of America, Woodbury, NY.
- Astrup, J. 1999. Ultrasound detection in fish - a parallel to the sonar-mediated detection of bats by ultrasound sensitive insects? *Comparative Biochemistry and Physiology, Part A*, 124: 19-27. [https://doi.org/10.1016/S1095-6433\(99\)00093-8](https://doi.org/10.1016/S1095-6433(99)00093-8)
- Astrup, J., and B. Mohl. 1993. Detection of Intense Ultrasound by the Cod *Gadus Morhua*. *Journal of Experimental Biology*, 182: 71-80. <https://doi.org/10.1121/1.421612>

Atlantic Shores. 2021. Atlantic Shores Offshore Wind Construction and Operations Plan, Lease Area OCS-A 0499. Prepared by EDR, submitted to BOEM. Found at: <https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-offshore-wind-construction-and-operations-plan>

Atlantic Shores. 2023. Updated Construction and Operations Plan: Appendix II-K Fisheries Monitoring Plan. Available at: <https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-offshore-wind-construction-and-operations-plan>.

Au, D. W. K., and W. L. Perryman. 1985. Dolphin habitats in the eastern tropical Pacific. *Fishery Bulletin*, 83: 623– 643.

Au, W. W. L. 1993. *The Sonar of Dolphins*. New York: Springer-Verlag.

Au, W. W. L., R. W. Floyd, R. H. Penner, & A. E. Murchison. 1974. Measurement of echolocation signals of the Atlantic bottlenose dolphin, *Tursiops truncatus Montagu*, in open waters. *Journal of the Acoustical Society of America*, 56 (4): 1280–1290. <https://doi.org/10.1121/1.1903419>

Au, W.W.L. and M.C. Hastings. 2008. *Principles of Marine Bioacoustics*. Springer, New York.

Austin, M. E., Denes, S. L., MacDonnell, J. T., & Warner, G. A. 2016. Hydroacoustic Monitoring Report: Anchorage Port Modernization Project Test Pile Program. Version 3.0. Technical report by JASCO Applied Sciences for Anchorage Port Modernization Project Test Pile Program. Anchorage, AK.

B

Bailey, H., B. Senior, D. Simmons, J. Rusin, G. Picken, and P. M. Thompson. 2010. Assessing underwater noise levels during pile-driving at an offshore windfarm and its potential effects on marine mammals. *Marine Pollution Bulletin* 60:888-897. <https://doi.org/10.1016/j.marpolbul.2010.01.003>

Baird, R.W., D.L. Webster, G.S. Schorr, D.J. McSweeney, and J. Barlow. 2008. Diel variation in beaked whale diving behavior. *Marine Mammal Science* 24(3): 630-642. <https://doi.org/10.1111/j.1748-7692.2008.00211.x>

Barber, J.R., K.M. Fristrup, C.L. Brown, A.R. Hardy, L.M. Angeloni, and K.R. Crooks. 2009. Conserving the wild life therein—protecting park fauna from anthropogenic noise. *Park Science* 26: (3). <http://www.nature.nps.gov/ParkScience/index.cfm?ArticleID=370&Page=1>

Barco, S.G., W.A. McLellan, J.M. Allen, R. Asmutis-Silvia, E. M. Meagher, D.A. Pabst, J. Robbins, R.E. Seton, W. M. Swingle, M.T. Weinrich, and P.J. Clapham. 2002. Population identity of humpback whales (*Megaptera novaeangliae*) in the waters of the

- US mid-Atlantic states. *Journal of Cetacean Research Management* 4 (2): 135-141.
<https://doi.org/10.47536/jcrm.v4i2.849>
- Barkaszi, M.J., M. Butler, R. Compton, A. Unietis, and B. Bennet. 2012. Seismic survey mitigation measures and marine mammal observer reports. OCS Study BOEM 2012-015, Bureau of Ocean Energy Management, 51 pp.
- Barkaszi, M., Gillespie, D., Oswald, M., Thode, A., Snyder, D., and Martin, J. 2020. PAMguard Quality Assurance Module for Marine Mammal Detection Using Passive Acoustic Monitoring. E&P Sound and Marine Life Programme, prepared by CSA Ocean Sciences Inc.
- Barlow, J. and J.L. Taylor. 2005. Estimates of sperm whale abundance in the northeastern temperate Pacific from a combined acoustic and visual survey. *Marine Mammal Science* 21(3): 429-455. <https://digitalcommons.unl.edu/usdeptcommercepub/237>
- Barlow, J., G.S. Schorr, E.A. Falcone, and D. Moretti. 2020. Variation in dive behavior of Cuvier's beaked whales with seafloor depth, time-of-day, and lunar illumination. *Marine Ecology Progress Series* 644: 199-214. <https://doi.org/10.3354/meps13350>
- Baumgartner, M.F. and Mate, B.R., 2003. Summertime foraging ecology of North Atlantic right whales. *Marine Ecology Progress Series*, 264, pp.123-135.
<https://doi.org/10.3354/meps264123>
- 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.
<https://doi.org/10.1139/z97-77>
- Bednekoff, P. A., and S. L. Lima. 1998. Randomness, chaos and confusion in the study of antipredator vigilance. *Trends in Ecology & Evolution*, 13 (7): 284-287.
[https://doi.org/10.1016/S0169-5347\(98\)01327-5](https://doi.org/10.1016/S0169-5347(98)01327-5)
- Bejder, L., A. Samuels, H. Whitehead, H. Finn, & S. Allen. 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.
<https://doi.org/10.3354/meps07979>
- Bejder, L., A. Samuels, H. Whitehead, N. Gales, J. Mann, R. Connor, M. Heithus, J. Watson-Capps, C. Flaherty, and M. Krutzen. 2006. Decline in relative abundance of bottlenose dolphins exposed to long-term disturbance. *Conservation Biology* 20 (6): 1791-1798.
<https://doi.org/10.1111/j.1523-1739.2006.00540.x>
- Bellmann M. A., Brinkmann J., May A., Wendt T., Gerlach S. & Remmers P. 2020. Unterwasserschall während des Impulsrammverfahrens: Einflussfaktoren auf

Rammschall und technische Möglichkeiten zur Einhaltung von Lärmschutzwerten.“
Gefördert durch das Bundesministerium für Umwelt, Naturschutz und nukleare
Sicherheit (BMU), FKZ UM16 881500. Beauftragt und geleitet durch das Bundesamt für
Seeschifffahrt und Hydrographie (BSH), Auftrags-Nr. 10036866. Editiert durch die itap
GmbH.

Bellmann, M.A. 2019. Results from noise measurements in European offshore wind farms:
Noise Mitigation Systems for pile-driving activities Technical options for complying with
noise limits. Presentation at Orsted Underwater Noise Mini Workshop. Washington,
D.C., October 2, 2019. Data in Press (German with English translation).

Bellmann, M.A. 2014. Overview of existing Noise Mitigation Systems for reducing PileDriving
Noise. Inter-Noise 2014, Melbourne, Australia. 11 pp.

Bellman M. A. 2021. Expert opinion report regarding underwater noise emissions during UXO-
clearance activity and possible options for noise mitigation. Report by Institut für
Technische und angewandte Physik (ITAP) GmbH, for Orsted Wind Power A/S. Report
number 3960.

Bellmann, M.A., T. Müller, K. Scheiblich, and K. Betke. 2023. Experience report on
operational noise - Cross-project evaluation and assessment of under-water noise
measurements from the operational phase of offshore wind farms, itap report no. 3926,
funded by the German Federal Maritime and Hydrographic Agency, funding no.
1005441.

Bergström, L., F. Sundqvist, and U. Bergström. 2013. Effects of an offshore wind farm on
temporal and spatial patterns in the demersal fish community. *Marine Ecology Progress
Series* 485: 195-210. <https://doi.org/10.3354/meps10344>

Bergström, L., L. Kautsy, T. Malm, R. Rosenberg, M. Wahlberg, N.A. Capetillo, and D.
Wilhemsson. 2014. Effects of offshore wind farms on marine wildlife - a generalized
impact assessment. *Environmental Research Letters* 9: 034012.
<https://doi.org/10.1088/17489326/9/3/034012>

Betke, K. 2008. Measurement of Wind Turbine Construction Noise at Horns Rev II. Report
1256-08-a-KB. Technical report by Institut für technische und angewandte Physik GmbH
(ITAP) for BioConsultSH, Husum, Germany. 30 p.
<https://tethys.pnnl.gov/sites/default/files/publications/Betke-2008.pdf>.

Bettridge, S., C.S. Baker, J. Barlow, P.J. Clapham, M. Ford, D. Gouveia, D. Mattila, R. Mears
Pace, P. Rosel, G. Silber, and P. Wade. 2015. Status review of the humpback whale
(*Megaptera novaeangliae*) under the Endangered Species Act. NOAA Technical
Memorandum NMFS-SWFSC-540, National Marine Fisheries Service: 263.

- Biedron, I., N. Mihnovecs, A. Warde, J. Michalec, C.W. Clark, C. Diamond, B. Estabrook, B. Howard, C. McCarthy, J. Morano, C. Muirhead, A. Murray, D. Nelson, M. Pitzrick, D. Ponirakis, B. Roberts, E. Rowland, J. Tielens. 2009. Determining the seasonal distribution of cetaceans in New York coastal waters using passive acoustic monitoring. Abstracts, Eighteenth Biennial Conference on the Biology of Marine Mammals. 12-16 Oct 2009, Quebec City, Canada. p. 34.
- Bishop, M.J., M. Mayer-Pinto, L. Airoidi, L.B. Firth, R.L. Morris, L.H.L. Loke, S.J. Hawkins, L.A. Naylor, R.A. Coleman, S.Y. Chee, and K.A. Dafforn. 2017. Effects of ocean sprawl on ecological connectivity: impacts and solutions. *Journal of Experimental Marine Biology and Ecology* 492: 7-30. <https://doi.org/10.1016/j.jembe.2017.01.021>
- Blackwell, S. B., C. S. Nations, T. L. McDonald, A. M. Thode, D. Mathias, K. H. Kim, C. R. Greene, Jr., and A. M. Macrander. 2015. Effects of airgun sounds on bowhead whale calling rates: evidence for two behavioral thresholds. *PLoS ONE* 10 (6): e0125720. <https://doi.org/10.1371/journal.pone.0125720>
- 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. <https://doi.org/10.1121/1.1701899>
- Blecha, F. 2000. Immune system response to stress. Pages 111-122 in G.P. Moberg & J.A. Mench, eds. *The Biology of Animal Stress: Basic Principles and Implications for Animal Welfare*. CABI Publishing, Oxon, United Kingdom. <https://doi:10.1079/9780851993591.0111>
- Blees, M.K., K.G. Hartin, D.S. Ireland, and D. Hannay. (eds.) 2010. Marine mammal monitoring and mitigation during open water seismic exploration by Statoil USA E&P Inc. in the Chukchi Sea, August–October 2010: 90-day report. LGL Rep. P1119. Rep. from LGL Alaska Research Associates Inc., LGL Ltd., and JASCO Research Ltd. for by Statoil USA E&P Inc., Nat. Mar. Fish. Serv., and U.S. Fish and Wild. Serv. 102 pp, plus appendices.
- Boehlert, G.W. and A.B. Gill. 2010. Environmental and ecological effects of ocean renewable energy development. *Oceanography* 23 (2): 68-81. <https://doi.org/10.5670/oceanog.2010.46>
- Bolle, L. J., C. A. de Jong, S. M. Bierman, P. J. van Beek, O. A. van Keeken, P. W. Wessels, C. J. van Damme, H. V. Winter, D. de Haan and R. P. Dekeling. 2012. Common sole larvae survive high levels of pile-driving sound in controlled exposure experiments. *PLoS One* 7 (3): e33052. <https://doi.org/10.1371/journal.pone.0033052>

- Bonar, P.A.J., I.G. Bryden, and A.G.L. Borthwick. 2015. Social and ecological impacts of marine energy development. *Renewable and Sustainable Energy Reviews* 47: 486- 495. <https://doi.org/10.1016/j.rser.2015.03.068>
- Booman, C., J. Dalen, H. Leivestad, A. Levsen, T. van der Meeren, and K. Toklum. 1996. Effects of airguns on eggs, larvae, and fry. Experiments at the Institute for Marine Research and Zoological Laboratory, University of Bergen (in Norwegian, English Summary, and Figure Legends), Institute of Marine Research.
- Booth, C., Donovan, C., Plunkett, R., & Harwood, J. 2016. Using an interim PCoD protocol to assess the effects of disturbance associated with US Navy exercises on marine mammal populations Final Report (SMRUC-ONR-2016-004).
- Booth, C., J. Harwood, R. Plunkett, S. Mendes, and R. Walker. 2017. Using the Interim PCoD framework to assess the potential impacts of offshore wind developments in Eastern English Waters on harbour porpoises in the North Sea (Natural England Joint Publication JP024).
- 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. <https://doi.org/10.1121/1.410120>
- Boyd, I., D. Claridge, C. Clark, & B. Southall. 2008. BRS 2008 Preliminary Report. U.S. Navy NAVSEA PEO IWS 5, ONR, U.S. Navy Environmental Readiness Division, NOAA, SERDP.
- Brandt, M. J., A. Diederichs, K. Betke, and G. Nehls. 2011. Responses of harbour porpoises to pile driving at the Horns Rev II offshore wind farm in the Danish North Sea. *Marine Ecology Progress Series* 421:205-216. <https://doi.org/10.3354/meps08888>
- Brandt, M.J., A. Diederichs, K. Betke, and G. Nehls. 2012. Effects of offshore pile driving on harbor porpoises (*Phocoena phocoena*). In *The Effects of Noise on Aquatic Life* (pp. 281- 284). Springer, New York, NY. https://doi.org/10.1007/978-1-4419-7311-5_62
- Brandt, M.J., A.C. Dragon, A. Diederichs, A. Schubert, V. Kosarev, G. Nehls, V. Wahl, A. Michalik, A. Braasch, C. Hinz, and C. Ketzer. 2016. Effects of offshore pile driving on harbour porpoise abundance in the German Bight. Assessment of noise effects. Report by BioConsult SH, IBL Umweltplanung GmbH, and Institute of Applied Ecology (IfAO).
- Brandt, M.J., Dragon, A.C., Diederichs, A., Bellmann, M.A., Wahl, V., Piper, W., Nabe-Nielsen, J. and Nehls, G., 2018. Disturbance of harbour porpoises during construction of the first seven offshore wind farms in Germany. *Marine Ecology Progress Series*, 596: 213-232. <https://doi.org/10.3354/meps12560>.

- Brandt, M.J., S. Hansen, A. Diederichs, and G. Nehls. 2014. Do man-made structures and water depth affect the diel rhythms in click recordings of harbor porpoises (*Phocoena phocoena*)?. *Marine Mammal Science* 30(3): 1109-1121.
<https://doi.org/10.1111/mms.12112>
- Branstetter, B. K., and J. J. Finneran. 2008. Comodulation masking release in bottlenose dolphins (*Tursiops truncatus*). *The Journal of the Acoustical Society of America*, 1: 625–633. <https://doi.org/10.1121/1.2918545>
- Branstetter, B.K., J.S. Trickey, and H. Aihara. J.J. Finneran, and T.R. Liberman. 2013. Time and frequency metrics related to auditory masking of a 10 kHz tone in bottlenose dolphins (*Tursiops truncatus*). *J. Acoust. Soc. Am.* 134 (6):4556- 4565.
<https://doi.org/10.1121/1.4824680>
- Branstetter, B.K., K.L. Bakhtiari, J.S. Trickey, and J.J. Finneran. 2016. Hearing mechanisms and noise metrics related to auditory masking in bottlenose dolphins (*Tursiops truncatus*). p. 109-116 In: A.N. Popper and A. Hawkins (eds.), *The effects of noise on aquatic life II*. Springer, New York, NY. 1292 p. https://doi.org/10.1007/978-1-4939-2981-8_13
- Brasseur, S. M. J. M., T. van Polanen Petel, G.M. Aarts, H.W.G. Meesters, E.M. Dijkman, and P.J.H. Reijnders. 2010. Grey seals (*Halichoerus grypus*) in the Dutch North sea: population ecology and effects of wind farms. (Rapport / IMARES Wageningen UR; No. C137/10). IMARES. <https://edepot.wur.nl/260049>
- Brasseur, S.M.J.M., G. Aarts, E. Meesters, T. van Polanen Petel, E. Dijkman, J. Cremer, and P. Reijnders. 2012. Habitat preferences of harbour seals in the Dutch coastal area: analysis and estimate of effects of offshore wind farms. Report C043-10.
- Braun, C. B., and T. Grande. 2008. Evolution of Peripheral Mechanisms for the Enhancement of Sound Reception. Pgs. 99-144 In: J.F. Webb, R.R. Fay, and A.N. Popper (eds.) *Fish Bioacoustics*, Springer New York, NY, 322. <https://doi.org/10.1007/978-0-387-73029-5>
- Brenowitz, E.A. 1982. The active space of red-winged blackbird song. *Journal of Comparative Physiology*, 147:511–522. <https://doi.org/10.1007/BF00612017>
- Brenowitz, E.A. 2004. Plasticity of the adult avian song control system. *Annals of the New York Academy of Science* 1016: 560–585. <https://doi.org/10.1196/annals.1298.006>
- Brinkløv, S.M., Jakobsen, L. and Miller, L.A., 2022. Echolocation in bats, odontocetes, birds, and insectivores. *Exploring Animal Behavior Through Sound: Volume 1*, p.419.
https://doi.org/10.1007/978-3-030-97540-1_12.
- Brown, D.M., J. Robbins, P. L. Sieswerda, C. Ackerman, J. M. Aschettino, S. Barco, T. Boye, R. A. DiGiovanni Jr., K. Durham, A. Engelhaupt, A. Hill, L. Howes, K. F. Johnson, L.

- Jones, C. D. King, A. H. Kopelman, M. Laurino, S. Lonergan, S. D. Mallette, M. Pepe, C. Ramp, K. Rayfield, M. Rekdahl, H. C. Rosenbaum, R. Schoelkopf, D. Schulte, R. Sears, J. E. F. Stepanuk, J. E. Tackaberry, M. Weinrich, E. C. M. Parsons, and J. Wiedenmann. 2022. Site fidelity, population identity and demographic characteristics of humpback whales in the New York Bight apex. *Journal of the Marine Biological Association of the United Kingdom*: 1–9. <https://doi.org/10.1017/S0025315422000388>
- Brown, D.M., J. Robbins, P.L. Sieswerda, R. Schoelkopf, and E.C.M. Parsons. 2017. Humpback whale (*Megaptera novaeangliae*) sightings in the New York-New Jersey harbor estuary. *Marine Mammal Science* 34 (1): 250-257. <https://doi.org/10.1111/mms.12450>.
- Brown, D., Sieswerda, P., Parsons, E. 2019. Potential encounters between humpback whales (*Megaptera novaeangliae*) and vessels in the New York Bight apex, USA. *Marine Policy*, <https://doi.org/10.1016/j.marpol.2019.103527>.
- Bruintjes, R., J. Purser, K. A. Everley, S. Mangan, S. D. Simpson, & A. N. Radford. 2015. Rapid recovery following short-term acoustic disturbance in two fish species. *Royal Society - Open Science* 3(1): 150686. <https://doi.org/10.1098/rsos.150686>
- Brumm, H. 2004. Causes and consequences of song amplitude adjustment in a territorial bird: a case study in nightingales. *Anais da Academia Brasileira de Ciências* 76(2): 289-295. <https://doi.org/10.1590/S0001-37652004000200017>
- Budelmann, B. U. 1992. Hearing in non arthropod invertebrates. In D. B. Webster, R. R. Fay, and A. N. Popper (Eds.), *Evolutionary Biology of Hearing* (pp. 141–155). New York, NY: Springer-Verlag. https://doi.org/10.1007/978-1-4612-2784-7_10
- Budelmann, B. U., and R.O.D.D.Y. Williamson. 1994. Directional sensitivity of hair cell afferents in the Octopus statocyst. *Journal of Experimental Biology* 187(1): 245-259. <https://doi.org/10.1242/jeb.187.1.245>
- Bureau of Ocean Energy Management (BOEM). 2012. Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore New Jersey, Delaware, Maryland, and Virginia: Final Environmental Assessment. U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs. OCS EIS/EA BOEM 2012-003. Available at: <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Mid-Atlantic-Final-EA-2012.pdf>.
- Buyse, J., K. Hostens, S. Degraer, and A. DeBacker. 2022. Offshore wind farms affect the spatial distribution pattern of plaice *Pleuronectes platessa* at both the turbine and wind farm scale. *ICES Journal of Marine Science* 79: 1777-1786. doi: 10.1093/icesjms/fsac107

C

- Carroll, A. G., R. Przeslawski, A. Duncan, M. Gunning, & B. Bruce. 2017. A Critical Review of the Potential Impacts of Marine Seismic Surveys on Fish & Invertebrates. *Marine Pollution Bulletin* 114: 16. <https://doi.org/10.1016/j.marpolbul.2016.11.038>
- Carroll, B., Cooper, B., Dewey, N., Whitehead, P., Dolphin, T., Rees, J., Judd, A., Whitehouse, R. and Harris, J., 2010. A further review of sediment monitoring data. Cowrie ScourSed-09, Southampton, UK, 106.
- Casper B.M., A.N. Popper, F. Matthews, T.J. Carlson, and M.B. Halvorsen. 2012. Recovery of barotrauma injuries in Chinook salmon, *Oncorhynchus tshawytscha* from exposure to pile driving sound. *PLOS ONE* 7: e39593. <https://doi.org/10.1371/journal.pone.0039593>. PubMed: 22745794
- Casper, B. M., M.B. Halvorsen, F. Matthews, T.J. Carlson, and A.N. Popper. 2013a. Recovery of barotrauma injuries resulting from exposure to pile driving sound in two sizes of hybrid striped bass. *PloS one* 8(9): e73844. <https://doi.org/10.1371/journal.pone.0073844>
- Casper, B.M., M.E. Smith, M.B. Halvorsen, H. Sun, T.J. Carlson, and A.N. Popper. 2013b. Effects of exposure to pile driving sounds on fish inner ear tissues. *Comparative Biochemistry and Physiology Part A* 166: 352-360. <https://doi.org/10.1016/j.cbpa.2013.07.008>
- Cerchio, S., S. Strindberg, T. Collins, C. Bennett, and H. Rosenbaum. 2014. Seismic surveys negatively affect humpback whale singing activity off northern Angola. *PLoS ONE* 9 (3): e86464. <https://doi.org/10.1371/journal.pone.0086464>
- CETAP (Cetacean and Turtle Assessment Program). 1982. A characterization of marine mammals and turtles in the mid- and north Atlantic areas of the U.S. outer continental shelf. Cetacean and Turtle Assessment Program, University of Rhode Island. Final Report #AA551CT8-48 to the Bureau of Land Management, Washington, DC, 538 pp.
- Charif, R.A., D.K. Mellinger, K.J. Dunsmore, K.M. Fristrup, and C.W. Clark. 2002. Estimated source levels on fin whale (*Balaenoptera physalus*) vocalizations: Adjustment for surface interference. *Marine Mammal Science* 18(1): 81-98. <https://doi.org/10.1111/j.1748-7692.2002.tb01020.x>.
- Charif, R.A., Y. Shiu, C.A. Muirhead, C.W. Clark, S.E. Parks, A.N. Rice. 2020. Phenological changes in North Atlantic right whale habitat use in Massachusetts Bay. *Global Change Biology*. 26: 734-745. <https://doi.org/10.1111/gcb.14867>
- Chen, X., Y. Liu, Q. Wang, J. Lv, J. Wen, X. Chen, C. Kang, S. Cheng, and M.B. McElroy. 2021. Pathway toward carbon-neutral electrical systems in China by mid-century with

- negative CO2 abatement costs informed by high-resolution modeling. *Joule* 5 (10): 2715-2741. <https://doi.org/10.1016/j.joule.2021.10.006>
- Cholewiak, D., D. Palka, S. Chavez-Rosales, G. Davis, E. Josephson, S. Van Parijs and S. Weiss. 2018. Updates on sei whale (*Balaenoptera borealis*) distribution, abundance estimates, and acoustic occurrence in the western North Atlantic. Unpublished Scientific Committee meeting document SC/67B/NH07. International Whaling Commission. Cambridge, UK.
- Christiansen N., U. Daewel, B. Djath, and C. Schrum. 2022. Emergence of large-scale hydrodynamic structures due to atmospheric offshore wind farm wakes. *Front. Mar. Sci.* 9: <https://doi.10.3389/fmars.2022.818501>
- Christiansen, F. and Lusseau, D. 2015. Linking behavior to vital rates to measure the effects of non-lethal disturbance on wildlife. *Conservation Letters* 8 (6): 424–431. <https://doi.org/10.1111/conl.12166>
- Christiansen, F., S.M. Dawson, J.W. Durban, H. Fearnbach, C.A. Miller, L. Bejder, M. Uhart, M. Sironi, P. Corkeron, W. Rayment, and E. Leunissen. 2020. Population comparison of right whale body condition reveals poor state of the North Atlantic right whale. *Marine Ecology Progress Series* 640: 1-16. <https://doi.org/10.3354/meps13299>
- Clark C.W. and G.C. Gagnon. 2002. Insights from IUSS detections, locations and tracking from 1992 to 1996. *J. Underwater Acoustics.* 52: 609–640.
- Clark, C.W., Ellison, W.T., Southall, B.L., Hatch, L., Van Parijs, S.M., Frankel, A. and Ponirakis, D., 2009. Acoustic masking in marine ecosystems: intuitions, analysis, and implication. *Marine Ecology Progress Series* 395: 201-222. <https://doi.org/10.3354/meps08402>
- Clark, C.W., M.W. Brown, and P. Corkeron. 2010. Visual and acoustic surveys for North Atlantic right whales, *Eubalaena glacialis*, in Cape Cod Bay, Massachusetts, 2001-2005: Management implications 26(4): 837-854. <https://doi.org/10.1111/j.1748-7692.2010.00376.x>
- Clyne H. 1999. Computer simulations of interactions between the North Atlantic right whale (*Eubalaena glacialis*) and shipping. Masters thesis in Software Technology, Napier University, Edinburgh.
- Coates, J.H., K.A. Hovel, J.L. Butler, and A.J. Bohonak. 2014. Recruitment and recovery of pink abalone (*Haliotis corrugata*) in a historically overexploited kelp forest: Are local populations self-sustaining? *Journal of Experimental Marine Biology and Ecology* 460:184-192. <https://doi.org/10.1016/j.jembe.2014.07.004>

- Cody, A.R. and B.M. Johnstone. 1981. Acoustic trauma: Single neuron basis for the 'half-octave shift'. *The Journal of the Acoustical Society of America* 70 (3): 707-711. <https://doi.org/10.1121/1.386906>
- Committee on Taxonomy. 2023. List of marine mammal species and subspecies. Available online at <https://marinemammalscience.org/science-and-publications/list-marine-mammal-species-subspecies/>. Accessed on 05 May 2023.
- Conn, P.B., and G.K. Silber. 2013. Vessel speed restrictions reduce risk of collision-related mortality for North Atlantic right whales. *Ecosphere* 4 (4): 1– 16. <https://doi.org/10.1890/ES13-00004.1>
- 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. <https://doi.org/10.1111/j.1748-7692.1996.tb00074.x>
- Conserve Wildlife Foundation of New Jersey. 2015. Harbor Seals in New Jersey (web page). <https://www.arcgis.com/apps/MapJournal/index.html?appid=d2266f32c36449e0b9630453e56c3888&webmap=564588c5cff04fa990aab644400475f9>. (Accessed September 17, 2024).
- Cooke, J.G. 2020. *Eubalaena glacialis* (errata version published in 2020). The IUCN Red List of Threatened Species 2020: e.T41712A178589687. <https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T41712A178589687.en>. Accessed on 5 May 2023
- Corkeron, P., R.M. Rolland, K.E. Hunt, and S.D. Kraus. 2017. A right whale pootree: classification trees of faecal hormones identify reproductive states in North Atlantic right whales (*Eubalaena glacialis*). *Conservation Physiology* 5 (1): cox006. <https://doi.org/10.1093/conphys/cox006>
- Costa, D.P., D.E. Crocker, J. Gedamke, P.M. Webb, D.S. Houser, S.B. Blackwell, D. Waples, S. Hayes, B. Le Boeuf. 2003. The effect of a low-frequency sound source (acoustic thermometry of the ocean climate) on the diving behavior of juvenile northern elephant seals, *Mirounga angustirostris*. *Journal of the Acoustical Society of America* 113 (2): 1155-1165. <https://doi.org/10.1121/1.1538248>
- Cowlshaw, G., M. J. Lawes, M. Lightbody, A. Martin, R. Pettifor, and J. M. Rowcliffe. 2004. A simple rule for the costs of vigilance: empirical evidence from a social forager. *Proceedings of the Royal Society of London. Series B: Biological Sciences* 271 (1534): 27- 33. <https://doi.org/10.1098/rspb.2003.2522>
- Cox, T.M., T.J. Ragen, A.J. Read, E. Vos, R.W. Baird, K. Balcomb, J. Barlow, J. Caldwell, T. Cranford, L. Crum, A. D'Amico, G.D. Spain, A. Fernandez, J. Finneran, R. Gentry, W.

- Gerth, F. Gulland, J. Hildebrand, D. Houser, T. Hullar, P.D. Jepson, D. Ketten, C. D. MacLeod, P. Miller, S. Moore, D. Mountain, D. Palka, P. Ponganis, S. Rommel, T. Rowles, B. Taylor, P. Tyack, D. Wartzok, R. Gisiner, J. Mead and L. Benner. 2006. Understanding the impacts of anthropogenic sound on beaked whales. *J. Cetacean Res. Manage.* 7 (3): 177-187.
- Crocker, S.E., and F.D. Fratantonio. 2016. Characteristics of sounds emitted during high resolution marine geophysical surveys. NUWC-NPT Technical Report 12,203, Naval Undersea Warfare Center Division: 265.
- 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. <https://doi.org/10.1017/S1367943001001020>
- Crum, N., T. Gowan, A. Krzystan, and J. Martin. 2019. Quantifying risk of whale– vessel collisions across space, time, and management policies. *Ecosphere* 10(4):e02713. <https://doi.org/10.1002/ecs2.2713>
- Cummings, E.W., D.A. Pabst, J.E. Blum, S.G. Barco, S.J. Davis, V.G. Thayer, N. Adimey, and W.B. McLellan. 2014. Spatial and temporal patterns of habitat use and mortality of the Florida manatee (*Trichechus manatus latirostris*) in the mid-Atlantic states of North Carolina and Virginia from 1991-2012. *Aquatic Mammals* 40 (2): 126-138. <https://doi.org/10.1578/AM.40.2.2014.126>
- Cummings, W.C., and P.O. Thompson. 1971. Gray whales, *Eschrichtius robustus*, avoid the underwater sounds of killer whales, *Orcinus orca*. *Fish Bull* 69: 525–530.
- Cunningham, K.A., Southall, B.L. and Reichmuth, C., 2014. Auditory sensitivity of seals and sea lions in complex listening scenarios. *The Journal of the Acoustical Society of America*, 136(6), pp.3410-3421. <https://dx.doi.org/10.1121/1.4900568>.
- Curé C, L.D. Sivle, F. Visser, P.J. Wensveen, S. Isojunno, C. Harris, P. Kvadsheim, F. Lam, and P. Miller. 2015. Predator sound playbacks reveal strong avoidance responses in a fight strategist baleen whale. *Mar Ecol Prog Ser* 526: 267–282. <https://doi.org/10.3354/meps11231>.
- Curé, C., S. Isojunno, F. Visser, P.J. Wensveen, L.D. Sivle, P.H. Kvadsheim, F.P.A. Lam, and P.J. Miller. 2016. Biological significance of sperm whale responses to sonar: comparison with anti-predator responses. *Endangered Species Research*, 31, pp.89-102. <https://doi.org/10.3354/esr00748>
- Curtis, K. A., J. Calambokidis, K. Audley, M.G. Castaneda, J. De Weerd, A. Jacqueline García Chávez, F. Garita, P. Martínez-Loustalot, J.D. Palacios-Alfaro, B. Pérez, E. Quintana-Rizzo, R. Ramírez Barragan, N. Ransome, K. Rasmussen, J. Urbán R., F. Villegas Zurita,

K. Flynn, T. Cheeseman, J. Barlow, D Steel, and J. Moore. 2022. Abundance of humpback whales (*Megaptera novaeangliae*) wintering in Central America and southern Mexico from a one-dimensional spatial capture-recapture model. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-661.
<https://doi.org/10.25923/9cq1-rx80>

Cusano, D.A., Conger, L.A., Van Parijs, S.M. and Parks, S.E., 2018. Implementing conservation measures for the North Atlantic right whale: considering the behavioral ontogeny of mother-calf pairs. *Animal Conservation*, 22(3), pp.228-237.
<https://doi.org/10.1111/acv.12457>

D

D'Amico, A., R.C. Gisiner, D.R. Ketten, J.A. Hammock, C. Johnson, P.L. Tyack, and J. Mead. 2009. Beaked whale strandings and naval exercises. *Aq. Mamm.* 35(4): 452-472.
<https://doi.org/10.1578/AM.35.4.2009.452>

Daan, S., C. Deerenberg, and C. Dijkstra. 1996. Increased daily work precipitates natural death in the kestrel. *Journal of Animal Ecology*: 539-544. <https://doi.org/10.2307/5734>

Daewel, U., N. Akhtar, N. Christiansen, C. Schrum. 2022. Offshore wind farms are projected to impact primary production and bottom water deoxygenation in the North Sea. *Communications Earth & Environment* 3, 292. <https://doi.org/10.1038/s43247-022-00625-0>

Dähne, M., A. Gilles, K. Lucke, V. Peschko, S. Adler, K. Krügel, J. Sundermeyer, and U. Siebert. 2013. Effects of pile-driving on harbour porpoises (*Phocoena phocoena*) at the first offshore wind farm in Germany. *Environmental Research Letters* 8(2): 025002.
<https://doi.org/10.1088/1748-9326/8/2/025002>

Dähne, M., J. Tougaard, J. Carstensen, A. Rose, and J. Nabe-Nielsen. 2017. Bubble curtains attenuate noise from offshore wind farm construction and reduce temporary habitat loss for harbour porpoises. *Marine Ecology Progress Series* 580: 221237.
<https://doi.org/10.3354/meps12257>

Dalen, J. and G. M. Knutsen. 1987. Scaring effects in fish and harmful effects on eggs, larvae and fry by offshore seismic explorations. *Progress in Underwater Acoustics*. H. M. Merklinger. Boston, MA, Springer. https://doi.org/10.1007/978-1-4613-1871-2_12

Daoust, P.Y., E.L. Couture, T. Wimmer, and L. Bourque. 2017. Incident Report: North Atlantic Right Whale Mortality Event in the Gulf of St. Lawrence, 2017. Collaborative Report Produced by: Canadian Wildlife Health Cooperative, Marine Animal Response Society, and Fisheries and Oceans Canada. 256 pp.

- David, J.A. 2006. Likely sensitivity of bottlenose dolphins to pile-driving noise. *Water and Environment Journal* 20 (1): 48-54. <https://doi.org/10.1111/j.1747-6593.2005.00023.x>
- Davis G.E., M.F. Baumgartner, J.M. Bonnell, J. Bell, C. Berchok, J.B. Thornton, S. Brault, G. Buchanan, R. Charif, D. Cholewiak, C. Clark, P. Corkeron, J. Delarue, K. Dudzinski, L. Hatch, J. Hildebrand, L. Hodge, H. Klinck, S. Karus, B. Martin, D. Mellinger, H. Moors-Murphy, S. Niekirk, D. Nowacek, S. Parks, A. Read, A. Rice, D. Risch, A. Sirovic, M. Soldevilla, K. Stafford, J. Stanistreet, E. Summers, S. Todd, A. Warde, and S. Van Parjis 2017. Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (*Eubalaena glacialis*) from 2004 to 2014. *Scientific Reports* 7 (1): 13460. <https://doi.org/10.1038/s41598-017-13359-3>
- Davis, G.E., M.F. Baumgartner, P.J. Corkeron, J. Bell, C. Berchok, J.M. Bonnell, J. Bort Thornton, S. Brault, G.A. Buchanan, D.M. Cholewiak, and C.W. Clark. 2020. Exploring movement patterns and changing distributions of baleen whales in the western North Atlantic using a decade of passive acoustic data. *Global Change Biology* 26 (9): 4812-4840. <https://doi.org/10.1111/gcb.15191>
- Davis, K.T.A. and S.W. Brillant. 2019. Mass human-caused mortality spurs federal action to protect endangered North Atlantic right whales in Canada. *Marine Policy* 104: 157-162. <https://doi.org/10.1016/j.marpol.2019.02.019>
- Davis, G., Tennant, S., van Parjis, S. 2023. Upcalling behaviour and patterns in North Atlantic right whales, implications for monitoring protocols during wind energy development. *ICES Journal of Marine Science*. 0 ,1–15. DOI : <https://doi.org/10.1093/icesjms/fsad174>.
- De Mesel, I., F. Kerckhof, A. Norro, B. Rumes, and S. Degraer. 2015. Succession and seasonal dynamics of the epifauna community on offshore wind farm foundations and their role as stepping stones for non-indigenous species. *Hydrobiologia* 756: 37-50. <https://doi.org/10.1007/s10750-014-2157-1>
- de Soto, N. A. 2016. Peer-Reviewed Studies on the Effects of Anthropogenic Noise on Marine Invertebrates: From Scallop Larvae to Giant Squid. In A. N. Popper, and A. Hawkins (Eds.), *The Effects of Noise on Aquatic Life II* (pp. 10). New York: Springer Science.
- Deecke, V. B., P. J. B. Slater, & J. K. B. Ford. 2002. Selective habituation shapes acoustic predator recognition in harbour seals. *Nature* 420 (14 November): 171–173. <https://doi.org/10.1038/nature01030>
- Degraer, S., D.A. Carey, J.W.P. Coolen, Z.L. Hutchison, F. Kerckhof, B. Rumes and J. Vanaverbeke. 2020. Offshore wind farm artificial reefs affect ecosystem structure and functioning. *Oceanography* 33 (4): 48-57. <https://www.jstor.org/stable/26965749>

- Department of Commerce (DoC). 2016b. North Atlantic Right Whale (*Eubalaena glacialis*) Source Document for the Critical Habitat Designation: A review of information pertaining to the definition of “critical habitat”. National Marine Fisheries Service, Greater Atlantic Regional Fisheries Office. Available at: <https://media.fisheries.noaa.gov/dam-migration/16narwchbiologicalsourcedocument122115-508.pdf>.
- Department of Energy (DOE). 2024a. Wind Energy Projects and Safety. Available at: <https://windexchange.energy.gov/projects/safety>.
- Department of Energy (DOE). 2024b. Wind Vision. Available at: <https://www.energy.gov/eere/wind/wind-vision-1>.
- Department of Energy (DOE). 2023. Offshore Wind Market Report: 2023 Edition. Available at: <https://www.energy.gov/eere/wind/articles/offshore-wind-market-report-2023-edition>.
- Department of Fisheries and Oceans (DFO). 2011. 2011–2015 Integrated fisheries management plan for Atlantic seals. <http://www.dfo-mpo.gc.ca/fm-gp/seal-phoque/reports-rapports/mgtplan-planges20112015/mgtplanplanges20112015-eng.htm#c2>
- DeRuiter, S.L. and K.L. Doukara. 2012. Loggerhead turtles dive in response to airgun sound exposure. *Endangered Species Research* 16(1): 55-63. <https://doi.org/10.3354/esr00>
- DeRuiter, S.L., B.L. Southall, J. Calambokidis, W.M.X. Zimmer, D. Sadykova, E.A. Falcone, A.S. Friedlaender, J.E. Joseph, D. Moretti, G.S. Schorr, L. Thomas, and P.L. Tyack. 2013. First direct measurements of behavioural responses by Cuvier’s beaked whales to mid-frequency active sonar. *Biology Letters* 9: 20130223. <https://doi.org/10.1098/rsbl.2013.0223>
- DeRuiter, S.L., R. Langrock, T. Skirbutas, J.A. Goldbogen, J. Calambokidis, A.S. Friedlaender, and B.L. Southall. 2017. A multivariate mixed hidden Markov model for blue whale behaviour and responses to sound exposure. *The Annals of Applied Statistics* 11(1): 362-392. <https://doi.org/10.1214/16-AOAS1008>
- Di Iorio, L. and C.W. Clark. 2009. Exposure to seismic survey alters blue whale acoustic communication. *Biology Letters* 6 (3): 334-335. <https://doi.org/10.1098/rsbl.2009.0651>
- Discovery of Sounds in the Sea (DOSITS). 2023. Discovery of Sounds in the Sea. Available at: <https://dosits.org/>. (Accessed September 17, 2024).
- Doksaeter, L., N. O. Handegard, O. R. Godo, P. H. Kvadsheim, and N. Nordlund. 2012. Behavior of captive herring exposed to naval sonar transmissions (1.0–1.6 kHz) throughout a yearly cycle. *The Journal of Acoustical Society of America* 131 (2): 1632–1642. <https://doi.org/10.1121/1.3675944>

- Doksaeter, L., O. R. Godo, N. O. Handegard, P. H. Kvadsheim, F. P. A. Lam, C. Donovan, and P. J. O. Miller. 2009. Behavioral responses of herring (*Clupea harengus*) to 1-2 and 6-7 kHz sonar signals and killer whale feeding sounds. *The Journal of Acoustical Society of America* 125 (1): 554–564. <https://doi.org/10.1121/1.3021301>
- Dombroski, J., Parks, S., Nowacek, D. 2021. Dive behavior of North Atlantic right whales on the calving ground in the Southeast USA: implications for conservation. *Endangered Species Research*. Vol. 46: 35–48, 2021. <https://doi.org/10.3354>.
- Dooling, R.J. 2004. Audition: Can Birds Hear Everything They Sing? *Nature's Music: The Science of Birdsong*. P. Marler and H. Slabbekoorn, Eds., pp 206-225. Elsevier-Academic Press, San Diego.
- Dorrell R. M., C.J. Lloyd, B.J. Lincoln, T.P. Rippeth, J.R. Taylor, C.C.P. Caulfield, J. Sharples, J. Polton, B. Scannel, D. Greaves, R. Hall, and J. Simpson. 2022. Anthropogenic mixing in seasonally stratified shelf seas by offshore wind farm infrastructure *Front. Mar. Sci.* 9, 830927. <https://doi.org/10.3389/fmars.2022.830927/abstract>.
- Dukas, R. 2002. Behavioural and ecological consequences of limited attention. *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences* 357 (1427): 15391547. <https://doi.org/10.1098/rstb.2002.1063>
- Dunlop, R. A. 2016. The effect of vessel noise on humpback whale, *Megaptera novaeangliae*, communication behaviour. *Animal Behaviour* 111: 13–21. <https://doi.org/10.1016/j.anbehav.2015.10.002>
- Dunlop, R. A., D.H. Cato, and M.J. Noad. 2014.. Evidence of a Lombard response in migrating humpback whales (*Megaptera novaeangliae*). *The Journal of the Acoustical Society of America* 136(1): 430–437. <https://doi.org/10.1016/j.marpolbul.2015.12.044>
- Dunlop, R.A., D.H. Cato, and M.J. Noad. 2010. Your attention please: increasing ambient noise levels elicits a change in communication behaviour in humpback whales (*Megaptera novaeangliae*). *Proceedings of the Royal Society B: Biological Sciences* 277 (1693): 2521-2529. <https://doi.org/10.1098/rspb.2009.2319>
- Dunlop, R.A., J. Braithwaite, L.O. Mortensen, and C.M. Harris. 2021. Assessing population level effects of anthropogenic disturbance on a marine mammal population. *Frontiers in Marine Science* 8: 624981. <https://doi.org/10.3389/fmars.2021.624981>
- Dunlop, R.A., M.J. Noad, R.D. McCauley, E. Kniest, R. Slade, D. Paton, and D.H. Cato. 2017a. The behavioural response of migrating humpback whales to a full seismic airgun array. *Proceedings of the Royal Society B: Biological Sciences* 284 (1869): 20171901. <https://doi.org/10.1098/rspb.2017.1901>

Dunlop, R.A., M.J. Noad, R.D. McCauley, E. Kniest, R. Slade, D. Paton, and D.H. Cato. 2018. A behavioural dose-response model for migrating humpback whales and seismic air gun noise. *Marine Pollution Bulletin* 133: 506-516.

<https://doi.org/10.1016/j.marpolbul.2018.06.009>

Dunlop, R.A., M.J. Noad, R.D. McCauley, L. Scott-Hayward, E. Kniest, R. Slade, D. Paton, and D.H. Cato. 2017b. Determining the behavioural dose-response relationship of marine mammals to air gun noise and source proximity. *Journal of Experimental Biology* 220 (16): 2878-2886. <https://doi.org/10.1242/jeb.160192>

E

Edren, S.M., S.M. Andersen, J. Teilmann, J. Carstensen, P.B. Harders, R. Dietz, and L.A. Miller. 2010. The effect of a large Danish offshore wind farm on harbor and gray seal haul-out behavior. *Marine Mammal Science* 26 (3): 614-634. <https://doi.org/10.1111/j.1748-7692.2009.00364.x>

Edwards, E.F., C. Hall, T.J. Moore, C. Sheredy, and J.V. Redfern. 2015. Global distribution of fin whales *Balaenoptera physalus* in the post-whaling era (1980-2012). *Mammal Review* 45: 197-214. <https://doi.org/10.1111/mam.12048>

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 (1): 21-28. <https://doi.org/10.1111/j.1523-1739.2011.01803.x>

Erbe, C. 2008. Critical ratios of beluga whales (*Delphinapterus leucas*) and masked signal duration. *Journal of the Acoustical Society of America* 124 (4): 2216-2223. <https://doi.org/10.1121/1.2970094>

Erbe, C. and Farmer, D. M. 2000. A software model to estimate zones of impact on marine mammals around anthropogenic noise. *The Journal of the Acoustical Society of America* 108(3): 1327-1331. <https://doi.org/10.1121/1.1288939>

Erbe, C., C. Reichmuth, K. Cunningham, K. Lucke, and R. Dooling. 2016. Communication masking in marine mammals: a review and research strategy. *Marine Pollution Bulletin* 103:15- 38. <https://doi.org/10.1016/j.marpolbul.2015.12.007>

Eschmeyer, W. N., and J. D. Fong. 2016. *Species by Family/Subfamily in the Catalog of Fishes*. San Francisco, CA: California Academy of Sciences.

Estabrook, B.J., J.T. Tielens, A. Rahaman, D.W. Ponirakis, C.W. Clark, A.N. Rice. 2022. Dynamic spatiotemporal acoustic occurrence of North Atlantic right whales in the offshore Rhode Island and Massachusetts Wind Energy Areas. *Endangered Species Research*, 49 115-133. <https://doi.org/10.3354/esr01206>

F

- 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.
<http://dx.doi.org/10.1023/A:1009968113079>
- Falcone, E. A., G. S. Schorr, S. L. Watwood, S. L. DeRuiter, A. N. Zerbini, R. D. Andrews, R. P. Morrissey, and D. J. Moretti. 2017. Diving behaviour of Cuvier's beaked whales exposed to two types of military sonar. *Royal Society Open Science* 4 (170629): 1–21.
<https://doi.org/10.1098/rsos.170629>
- Farmer, N.A., K. Baker, D.G. Zeddies, S.L. Denes, D.P. Noren, L.P. Garrison, A. Machernis, E.M. Fougères, and M. Zykov. 2018. Population consequences of disturbance offshore oil and gas activity for endangered sperm whales (*Physeter macrocephalus*). *Biological Conservation* 227: 189-204. <https://doi.org/10.1016/j.biocon.2018.09.006>
- Fay, R.R. 2009. Soundscapes and the sense of hearing of fishes. *Integrative Zoology* 4: 26-32.
<https://doi.org/10.1111/j.1749-4877.2008.00132.x>
- 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. https://doi.org/10.1007/978-0-387-73029-5_1
- Feare, C. J. 1976. Desertion and abnormal development in a colony of Sooty Terns *Sterna fuscata* infested by virus-infected ticks. *Ibis* 118 (1): 112-115.
<https://doi.org/10.1111/j.1474919X.1976.tb02015.x>
- Fernandez-Betelu, O., I.M. Graham, and P.M. Thompson. 2022. Reef effect of offshore structures on the occurrence and foraging activity of harbour porpoises. *Front. Mar. Sci.* 16: 9: 980388. <https://doi.org/10.3389/fmars.2022.980388>
- 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 (5): 984–993.
<https://doi.org/10.1016/j.marpolbul.2012.02.009>
- Fields, D.M., N.O. Handegard, J. Dalen, C. Eichner, K. Malde, O. Karlsen, A.B. Skiftesvik, C.M.F. Durif, and H.I Browman. 2019. Airgun blasts used in marine seismic surveys have limited effects on mortality, and no sublethal effects on behaviour or gene expression, in the copepod *Calanus finmarchicus*. *ICES Journal of Marine Science* 76 (7): 2033-2044. <https://doi.org/10.1093/icesjms/fsz126>
- 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. <https://doi.org/10.1121/1.429475>
- 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. *Journal of the Acoustical Society of America* 114(3): 1667. <https://doi.org/10.1121/1.1598194>
- 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. <https://doi.org/10.1121/1.4927418>
- Finneran, J.J., 2018. Conditioned attenuation of auditory brainstem responses in dolphins warned of an intense noise exposure: Temporal and spectral patterns. *The Journal of the Acoustical Society of America* 143(2): 795-810. <https://doi.org/10.1121/1.5022784>
- Fish J.F. and J.S. Vania. 1971. Killer whale, *Orcinus orca*, sounds repel white whales, *Delphinapterus leucas*. *Fish Bull* 69: 531–536.
- Floeter, J., Pohlmann, T., Harmer, A. 2022. Chasing the offshore wind farm wind-wake-induced upwelling/downwelling dipole. *Front. Mar. Sci.*, Volume 9 - 2022 <https://doi.org/10.3389/fmars.2022.884943>.
- Foote, A.D., R.W. Osborne, and A.R. Hoelzel. 2004. Whale-call response to masking boat noise. *Nature* 428: 910. <https://doi.org/10.1038/428910a>
- Ford, J.K. and R.R. Reeves. 2008. Fight or flight: antipredator strategies of baleen whale. *Mammal Review* 38(1): 50-86. <https://doi.org/10.1111/j.1365-2907.2008.00118.x>
- Forney, K. A., B. L. Southall, E. Slooten, 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. <https://doi.org/10.3354/esr00820>
- Francis, C. and J. Barber. 2013. A framework for understanding noise impacts on wildlife: An urgent conservation priority. *Frontiers in Ecology and the Environment* <https://doi.org/10.1890/120183>.
- Frankel, A.S. and C.W. Clark. 2000. Behavioral responses of humpback whales (*Megaptera novaeangliae*) to full-scale ATOC signals. *Journal of the Acoustical Society of America* 108 (4): 1930-1937. <https://doi.org/10.1121/1.1289668>
- Frid, A., and Dill, L. 2002. Human-caused disturbance stimuli as a form of predation risk. *Conservation Ecology* 6 (1): 11. <https://doi.org/10.5751/ES-00404-060111>

Friedlaender, A. S., E. L. Hazen, J. A. Goldbogen, A. K. Stimpert, J. Calambokidis, and B. L. Southall. 2016. Prey– mediated behavioral responses of feeding blue whales in controlled sound exposure experiments. *Ecological Applications* 26 (4): 1075–1085. <https://doi.org/10.1002/15-0783>

Frings, H. and Frings, M., 1967. Underwater sound fields and behavior of marine invertebrates. *Marine bio-acoustics*, 2, pp .261-282.

Fristrup, K. M., L. T. Hatch and C. W. Clark. 2003. Variation in humpback whale (*Megaptera novaeangliae*) song length in relation to low-frequency sound broadcasts. *The Journal of Acoustical Society of America* 113 (6): 3411–3424. <https://doi.org/10.1121/1.1573637>

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 & Evolution* 14 (2): 91-97. <https://doi.org/10.1080/08927014.2002.9522748>

G

Gailey, G., B. Wursig, 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 (1-3): 75-91. <https://doi.org/10.1007/s10661-007-9812-1>

Gailey, G., O. Sychenko, T. McDonald, R. Racca, A. Rutenko, and K. Bröker. 2016. Behavioural responses of western gray whales to a 4-D seismic survey off northeastern Sakhalin Island, Russia. *Endangered Species Research* 30: 53–71. <https://doi.org/10.3354/esr00713>

Gallagher, C.A., V. Grimm, L.A. Kyhn, C.C. Kinze, and J. Nabe-Nielsen. 2021. Movement and seasonal energetics mediate vulnerability to disturbance in marine mammal populations. *The American Naturalist* 197 (3): 296-311. <https://doi.org/10.1086/712798>

Ganley, L.C., S. Brault, and C.A. Mayo. 2019. What we see is not what there is: estimating North Atlantic right whale *Eubalaena glacialis* local abundance. *Endang Species Res.* 38:101– 113. <https://doi.org/10.3354/esr00938>

Gende, S. M., A. N. Hendrix, K. R. Harris, B. Eichenlaub, J. Nielsen, and S. Pyare. 2011. A Bayesian approach for understanding the role of ship speed in whale-ship encounters. *Ecological Applications* 21 (6): 2232–2240. <https://doi.org/10.1890/10-1965.1>

Geo-Marine. 2007. Navy OPAREA Density Estimates (NODE) for the Northeast OPAREAS: Boston, Narragansett Bay, and Atlantic City. Report Prepared for Department of the Navy, U.S. Forces Fleet Command. Contract N62470-02-D9997, vol. 75074, Prepared by Geo-Marine, Inc. Plano, Texas (2007), p. 217

- Geo-Marine. 2010. Ocean/Wind Power Ecological Baseline Studies: January 2008 – December 2009. Final Report. Volume III: Marine Mammal and Sea Turtle Studies. Report by Geo-Marine, Inc. for the New Jersey Department of Environmental Protection, Office of Science. <https://tethys.pnnl.gov/sites/default/files/publications/Ocean-Wind-Power-Baseline-Volume3.pdf>.
- Gero, S., Gordon, J. and Whitehead, H., 2013. Calves as social hubs: dynamics of the social network within sperm whale units. *Proceedings of the Royal Society B: Biological Sciences*, 280(1763), p.20131113. <https://doi.org/10.1098/rspb.2013.1113>
- Gerrodette, T., B.T. Taylor, R. Swift, R. Rankin, A.M. Jaramillo-Legorreta, and L. Rojas-Bracho. 2011. A combined visual and acoustic estimate of 2008 abundance, and change in abundance since 1997, for the vaquita, *Phocoena sinus*. *Marine Mammal Science* 27(2): E79-E100. <https://doi.org/10.1111/j.1748-7692.2010.00438.x>
- Gervaise, C., N. Roy, Y. Simard, B. Kinda, and N. Menard. 2012. Shipping noise in whale habitat: characteristics, sources, budget, and impact on belugas in Saguenay-St. Lawrence Marine Park hub. *J. Acoust. Soc. Am.* 132 (1):76-89. <https://doi.org/10.1121/1.4728190>
- Gill, A.B., Degraer, S., Lipsky, A., Mavraki, N., Methratta, E. and Brabant, R., 2020. Setting the context for offshore wind development effects on fish and fisheries. *Oceanography*, 33(4), pp.118-127. <https://doi.org/10.5670/oceanog.2020.411>
- Gilles A., M.Scheidat, and U. Siebert. 2009. Seasonal distribution of harbour porpoises and possible interference of offshore windfarms in the German North Sea. *Marine Ecology Progress Series* 383: 295–307. <https://doi.org/10.3354/meps08020>.
- Goldbogen, J. A., A.S. Friedlaender, J. Calambokidis, M.F. McKenna, M. Simon, and D.P. Nowacek. 2013b. Integrative approaches to the study of baleen whale diving behavior, feeding performance, and foraging ecology. *Bioscience* 63: 90–100. <https://doi.org/10.1525/bio.2013.63.2.5>
- Goldbogen, J. A., B. L. Southall, S. L. DeRuiter, J. Calambokidis, A. S. Friedlaender, E. L. Hazen, E. A. Falcone, G. S. Schorr, A. Douglas, D. J. Moretti, C. Kyburg, M. F. McKenna, and P. L. Tyack. 2013a. Blue whales respond to simulated mid-frequency military sonar. *Proc Biol Sci* 280(1765): 20130657. <https://doi.org/10.1098/rspb.2013.0657>
- Gomez, C., J.W. Lawson, A.J. Wright, A.D. Buren, D. Tollit, and V. Lesaged. 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 (12): 801-819. <https://doi.org/10.1139/cjz-2016-0098>.

- Gong, Z., Jain, A.D., Tran, D., Yi, D.H., Wu, F., Zorn, A., Ratilal, P. and Makris, N.C., 2014. Ecosystem scale acoustic sensing reveals humpback whale behavior synchronous with herring spawning processes and re-evaluation finds no effect of sonar on humpback song occurrence in the Gulf of Maine in Fall 2006. *PloS one*, 9(10), p.e104733. <https://doi.org/10.1371/journal.pone.0104733>.
- 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. <https://doi.org/10.1017/S0025315400031477>
- Gordon, J., D. Gillespie, J. Potter, A. Frantzis, M.P. Simmonds, R. Swift, and D. Thompson. 2003. A review of the effects of seismic surveys on marine mammals. *Marine Technology Society Journal* 37(4): 16-34. <https://doi.org/10.4031/002533203787536998>
- Götz, T., G. Hastie, L.T. Hatch, O. Raustein, B.L. Southall, M. Tasker, and F. Thomsen. 2009. Overview of the impacts of anthropogenic underwater sound in the marine environment. OSPAR Commission, 134 pp.
- Gowan, T. A., J.G. Ortega-Ortiz, J.A. Hostetler, P.K. Hamilton, A.R. Knowlton, K.A. Jackson, R.C. George, C.R. Taylor, and P.J. Naessig. 2019. Temporal and demographic variation in partial migration of the North Atlantic right whale. *Scientific Reports* 9 (1): 353 Article 353. <https://doi.org/10.1038/s41598-018-36723-3>
- Graham, I.M., N.D. Merchant, A. Farcas, T.R. Barton, B. Cheney, S. Bono, and P.M. Thompson. 2019. Harbour porpoise responses to pile driving diminish over time. *Royal Society Open Science* 6 (6): 190335. <https://doi.org/10.1098/rsos.190335>

H

- Haelters, J., V. Dulière, L. Vigin, and S. Degraer. 2015. Towards a numerical model to simulate the observed displacement of harbour porpoises, *Phocoena phocoena*, due to pile driving in Belgian waters. *Hydrobiologia* 756 (1): 105-116. <https://doi.org/10.1007/s10750-014-2138-4>
- Hain, J.H.W., M.J. Ratnaswamy, R.D. Kenney, and H.E. Winn. 1992. The fin whale, *Balaenoptera physalus*, in waters of the northeastern United States continental shelf. *Reports of the International Whaling Commission* 42:653B669.
- Hain, J., Hampp, J., McKenney, S., Albert, J., Kenney, R. 2013. Swim, speed, behavior, and movement of North Atlantic right whales (*Eubalaena glacialis*) in coastal waters of Northeastern Florida, USA. *PLoS ONE* 8(1):e54340. <https://doi.org/10.1371/journal.pone.0054340>

- Halpin, P.N., A.J. Read, E. Fujioka, B.D. Best, B. Donnelly, L.J. Hazen, C. Kot, K. Urian, E. LaBrecque, A. Dimatteo, J. Cleary, C. Good, L.B. Crowder, and K.D. Hyrenbach. 2009. OBIS-SEAMAP: The world data center for marine mammal, sea bird, and sea turtle distributions. *Oceanography* 22:104–115.
- 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): e38968. <https://doi.org/10.1371/journal.pone.0038968>
- Halvorsen, M. B., B.M. Casper, F. Matthews, T.J. Carlson, and A.N. Popper. 2012a. Effects of exposure to piledriving sounds on the lake sturgeon, Nile tilapia and hogchoker. *Proceedings of the Royal Society of London B: Biological Sciences* 279 (1748): 4705-4714. <https://doi.org/10.1098/rspb.2012.1544>
- Halvorsen, MB, Heaney KD. (2018). Propagation characteristics of high-resolution geophysical surveys: open water testing. Sterling (VA): U.S. Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2018-052. https://epis.boem.gov/final%20reports/BOEM_2018-052.pdf. 806 p.
- Hamilton P.K., A.R. Knowlton, M.N. Hagbloom, K.R. Howe, M.K. Marx, H.M. Pettis, A.M. Warren, and M.A. Zani. 2021. Maintenance of the North Atlantic right whale catalog, whale scarring and visual health databases, anthropogenic injury case studies, and near real-time matching for biopsy efforts, entangled, injured, sick, or dead right whales. Woods Hole (MA): U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Northeast Fisheries Science Center. 105 p.
- Hammond, P.S., P. Berggren, H. Benke, D.L. Borchers, A. Collet, M.P. Heide-Jørgensen, S. Heimlich, A.R. Hiby, M.F. Leopold, and N. Øien. 2002. Abundance of harbour porpoise and other cetaceans in the North Sea and adjacent waters. *Journal of Applied Ecology* 39 (2): pp.361- 376. <https://doi.org/10.1046/j.1365-2664.2002.00713.x>
- Hamre, L., S.F. Khankandi, P.J. Strøm, and C. Athanasiu. 2011. Lateral behaviour of large diameter monopiles at Sheringham Shoal Wind Farm. *Frontiers in offshore geotechnics II*: 575-580. <https://doi.org/10.1201/b10132-77>
- Harnois, V., H.C.M, Smith, and S. Benjamin. 2015. Assessment of entanglement risk to marine megafauna due to offshore renewable energy mooring systems. *International Journal of Marine Energy*. Available at: <https://ore.exeter.ac.uk/repository/>.
- Harris, C. M., L.J. Wilson, C.G. Booth, and J. Harwood. 2017. Population consequences of disturbance: A decision framework to identify priority populations for PCoD modeling.

Paper presented at the 22nd Biennial Conference on the Biology of Marine Mammals, Halifax, Nova Scotia, Canada, October 21-28, 2017.

Harris, C.M., ed. 1998. Handbook of Acoustical Measurements and Noise Control. Acoustical Society of America, Woodbury, NY.

Harrison, S. and M. Rousseau. 2020. Comparison of artificial and natural reef productivity in Nantucket Sound, MA, USA. *Estuaries and Coasts* 43: 2092-2105.
<https://doi.org/10.1007/s12237-020-00749-6>

Harwood, J., and C. Booth. 2016. The application of an interim PCoD (PCoD Lite) protocol and its extension to other marine mammal populations and sites Final Report (SMRUCONR-2016004).

Hastie, G., D. J. F. Russell, B. McConnell, S. Moss, D. Thompson, and V. M. Janik. 2015. Sound exposure in harbour seals during the installation of an offshore wind farm: predictions of auditory damage. *Journal of Applied Ecology* 52:631-640.
<https://doi.org/10.1111/1365-2664.12403>.

Hastings, M.C., and A.N. Popper. 2005. Effects of sound on fish. Prepared by Jones & Stokes for the California Department of Transportation: 82.

Hatch, L.T., C.W. Clark, S.M. van Parijs, A.S. Frankel, and D.W. Ponirakis. 2012. Quantifying loss of acoustic communication space for right whales in and around a U.S. National Marine Sanctuary. *Conservation Biology* 26 (6): 983-994. <https://doi.org/10.1111/j.1523-1739.2012.01908.x>

Hawkins, A.D. and A.D.F. Johnstone. 1978. The hearing of the Atlantic salmon, *Salmo salar*. *Fish Biology* 13: 655-673. <https://doi.org/10.1111/j.1095-8649.1978.tb03480.x>

Hayes, S.A., E. Josephson, K. Maze-Foley, and P.E. Rosel (eds.). 2020. U.S. Atlantic and Gulf of Mexico marine mammal stock assessments: 2019. NOAA Technical Memorandum NMFSNE-264, National Marine Fisheries Service: 479.

Hayes, S.A., E. Josephson, K. Maze-Foley, P.E. Rosel, and J. Wallace (eds). 2022. U.S. Atlantic and Gulf of Mexico marine mammal stock assessments: 2021. NOAA Technical Memorandum NMFS-NE-271, National Marine Fisheries Service: 386.

Hayes, S.A., E. Josephson, K. Maze-Foley, P.E. Rosel, J. McCordic, J. Wallace. 2023. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments 2022. NOAA Technical Memorandum NMFS-NE-304.

HDR. 2019. Field Observations during Wind Turbine Operations at the Block Island Wind Farm, Rhode Island. Final Report to the U.S. Department of the Interior, Bureau of Ocean

- Energy Management, Office of Renewable Energy Programs. OCS Study BOEM 2019-028. 281pp.
- HDR. 2023. Field Observations During Offshore Wind Structure Installation and Operation, Volume 2. Final Report to U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs. Contract No. M15PC00002. Report No. OCS Study BOEM 2023-033, pp 48.
- 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. *Journal of the Acoustical Society of America* 120 (6): 3463-3466.
<https://doi.org/10.1121/1.2372712>
- Henderson, D., B. Hu, and E. Bielefeld. 2008. Patterns and mechanisms of noise-induced cochlear pathology. In *Auditory trauma, protection, and repair* (pp. 195-217). Springer, Boston, MA. https://doi.org/10.1007/978-0-387-72561-1_7
- Henderson, E.E., S.W. Martin, R. Manzano-Roth, and B.M. Matsuyama. 2016. Occurrence and habitat use of foraging Blainville's beaked whales (*Mesoplodon densirostris*) on a US Navy range in Hawaii. *Aquatic Mammals* 42(4): 549. doi: 10.1578/AM.42.4.2016.549
- Hermannsen, L., J. Tougaard, K. Beedholm, J. Nabe-Nielsen, and P.T. Madsen. 2014. High frequency components of ship noise in shallow water with a discussion of implications for harbor porpoises (*Phocoena phocoena*). *J. Acoust. Soc. Am.* 136 (4): 1640-1653.
<https://doi.org/10.1121/1.4893908>
- Hildebrand, J. A. 2009. Anthropogenic and natural sources of ambient noise in the ocean. *Marine Ecology Progress Series* 395: 5–20. <https://doi.org/10.3354/meps08353>
- Holberton, R. L., B. Helmuth, B., and J.C. Wingfield. 1996. The corticosterone stress response in gentoo and king penguins during the non-fasting period. *The Condor* 98 (4): 850-854.
<https://doi.org/10.2307/1369869>
- Holme, C., M. Simurda, S. Gerlach, and M.A. Bellman. 2023. Relation Between Underwater Noise and Operating Offshore Wind Turbines. Conference: The Effects of Noise on Aquatic Life. http://dx.doi.org/10.1007/978-3-031-10417-6_66-1
- Holt, M. M., D. P. Noren, and C. K. Emmons. 2011. Effects of noise levels and call types on the source levels of killer whale calls. *The Journal of the Acoustical Society of America*, 130(5): 3100–3106. <https://doi.org/10.1121/1.3641446>
- Holt, M.M., D.P. Noren, R.C. Dunkin, and T.M. Williams. 2015. Vocal performance affects metabolic rate in dolphins: implications for animals communicating in noisy

- environments. *The Journal of Experimental Biology* 218 (11): 1647-1654.
<https://doi.org/10.1242/jeb.122424>
- Holt, M.M., D.P. Noren, V. Veirs, C. K. Emmons, and S. Veirs. 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 (1): EL27-EL32.
<https://doi.org/10.1121/1.3040028>
- Holt, M.M., J.B. Tennessen, E.J. Ward, M.B. Hanson, C.K. Emmons, D.A. Giles, and J.T. Hogan. 2021. Effects of vessel distance and sex on the behavior of endangered killer whales. *Frontiers in Marine Science* 7: 582182.
<https://doi.org/10.3389/fmars.2020.582182>
- Hood, L. C., P.D. Boersma, and J.C. Wingfield. 1998. The adrenocortical response to stress in incubating Magellanic penguins (*Spheniscus magellanicus*). *The Auk*: 76-84.
<https://doi.org/10.2307/4089113>
- Hooper, T., N. Beaumont, and C. Hattam. 2017. The implications of energy systems for ecosystem services: A detailed case study of offshore wind. *Renewable and Sustainable Energy Reviews* 70: 230-241. <http://dx.doi.org/10.1016/j.rser.2016.11.248>
- Houser, D. S., S.W. Martin, and J.J. Finneran. 2013a. Behavioral responses of California sea lions to mid-frequency (3250-3450 Hz) sonar signals. *Marine Environmental Research* 92: 268- 278. <https://doi.org/10.1016/j.marenvres.2013.10.007>
- Houser, D. S., S.W. Martin, and J.J. Finneran. 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.
<http://dx.doi.org/10.1016/j.jembe.2013.02.043>
- Houser, D.S. and P.W. Moore. 2014. Report on the current and future status of underwater hearing research. Report NMMF-001-14, National Marine Mammal Foundation: 46 pp.
- Hu, M., H. Y. Yan, W. S. Chung, J. C. Shiao, and P. P. Hwang. 2009. Acoustical evoked potentials in two cephalopods inferred using the auditory brainstem response (ABR) approach. *Comparative Biochemistry and Physiology Part A: Molecular and Integrative Physiology*, 153, 278-283. <https://doi.org/10.1016/j.cbpa.2009.02.040>
- Hutchison, Z.L., Secor, D.H. and Gill, A.B., 2020. The interaction between resource species and electromagnetic fields associated with electricity production by offshore wind farms. *Oceanography*, 33(4), pp.96-107. <https://doi.org/10.5670/oceanog.2020.409>

I

- ICES. (International Council for the Exploration of the Sea). 1995. Underwater noise of research vessels: review and recommendations. ICES Cooperative Research Report No. 209. pp. 61. <https://doi.org/10.17895/ices.pub.5317>.
- Illingworth & Rodkin, Inc. 2017. Pile-Driving Noise Measurements at Atlantic Fleet Naval Installations: 28 May 2013-28 April 2016. Report by Illingworth & Rodkin, Inc. under contract with HDR Environmental for NAVFAC. 152 p. https://www.navy-marinespeciesmonitoring.us/files/4814/9089/8563/Piledriving_Noise_Measurements_Final_Report_12Jan2017.pdf.
- ISO (International Organization for Standardization). 2003. Acoustics – Description, Measurement and Assessment of Environmental Noise – Part 1: Basic Quantities and Assessment Procedures (ISO 1996-1:2003(E)). International Organization for Standardization, Geneva.
- ISO (International Organization for Standardization). 2017. Underwater Acoustics ISO 18405. Geneva, Switzerland: International Organization for Standardization.
- Isojunno, S., C. Curé, P.H. Kvadsheim, F.P.A. Lam, P.L. Tyack, P.J. Wensveen, and P.J.O.M. Miller. 2016. Sperm whales reduce foraging effort during exposure to 1–2 kHz sonar and killer whale sounds. *Ecological Applications* 26 (1): 77-93. <https://doi.org/10.1890/15-0040>

J

- Jansen, E., and C.D. Jong. 2016. Underwater noise measurements in the North Sea in and near the Princess Amalia Wind Farm in operation, in Proceedings from InterNois, Hamburg, 2016. <https://www.semanticscholar.org/paper/Underwater-noise-measurements-in-the-North-Sea-in-Jansen-Jong/9015c18a4d4afe381231f4a204b14b12c11a0d98>
- JASCO Applied Sciences and LGL. 2019. Request for an Incidental Harassment Authorization to Allow the Non-Lethal Take of Marine Mammals Incidental to Construction Activities in the Vineyard Wind BOEM Lease Area OCS-A 0501. Version 4.1, Document No. 01648. Prepared by JASCO Applied Sciences (USA) Ltd. and LGL Ecological Research Associates, for Vineyard Wind, LLC.
- JASCO Applied Sciences. 2022. Atlantic Shores Offshore Wind: Application for Marine Mammal Protection Act (MMPA) Rulemaking and Letter of Authorization. Prepared by JASCO Applied Sciences for Atlantic Shores Offshore Wind, LLC.
- Jensen, A. S., and G. K. Silber. 2004. Large Whale Ship Strike Database. Retrieved from: <http://www.nmfs.noaa.gov/pr/overview/publicat.html>

- Jensen, O.P., Zemeckis, D., and Clarke, P. 2018. Year 3 Report: A Pilot Trap Survey of Artificial Reefs in New Jersey for Monitoring of Black Sea Bass, Tautog, and Lobster. Submitted to the New Jersey Department of Environmental Protection, Division of Fish and Wildlife. 32 pp.
- 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. [https://doi.org/10.1016/S0016-6480\(03\)00078-9](https://doi.org/10.1016/S0016-6480(03)00078-9)
- Johnson T.L., J.J. van Berkel, L.O. Mortensen, M.A. Bell, I. Tiong, B. Hernandez, D.B. Snyder, F. Thomsen, and O. Svenstrup Petersen. 2021. Hydrodynamic modeling, particle tracking and agent-based modeling of larvae in the U.S. mid-Atlantic bight. Lakewood (CO): US Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2021-049. 232 p. https://epis.boem.gov/final%20reports/BOEM_2021-049.pdf
- Jones, I.T., J.A. Stanley, and T.A. Mooney. 2020. Impulsive pile driving noise elicits alarm responses in squid (*Doryteuthis pealeii*). *Marine pollution bulletin* 150: 110792. <https://doi.org/10.1016/j.marpolbul.2019.110792>
- Jørgensen, R., K. K. Olsen, I. B. Falk-Petersen, and P. Kanapthippilai. 2005. Investigations of Potential Effects of Low Frequency Sonar Signals on Survival, Development and Behaviour of Fish Larvae and Juveniles. Tromsø, Norway: University of Tromsø.
- Juanes, F., K. Cox, & L. Brennan. 2017. The effect of anthropogenic and biological noise on fish behavior and physiology: A meta-analysis. *Journal of the Acoustic Society of America* 141 (3862). <https://doi.org/10.1111/gcb.14106>

K

- Kaifu K., T. Akamatsu, and S. Segawa. 2008. Underwater sound detection by cephalopod statocyst. *Fisheries Sci* 74: 781–86. <https://doi.org/10.1111/j.1444-2906.2008.01589.x>
- Kane, A. S., J. Song, M. B. Halvorsen, D. L. Miller, J. D. Salierno, L. E. Wysocki, D. Zeddies, and A. N. Popper. 2010. Exposure of fish to high intensity sonar does not induce acute pathology. *Journal of Fish Biology* 76 (7): 1825–1840. <https://doi.org/10.1111/j.10958649.2010.02626.x>
- 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. <https://doi.org/10.1578/AM.44.4.2018.389>

- Kastelein, R. A., W. C. Verboom, M. Muijsers, N. V. Jennings, and S. van der Heul. 2005. Influence of acoustic emissions for underwater data transmission on the behaviour of harbour porpoises (*Phocoena phocoena*) in a floating pen. *Marine Environmental Research* 59: 287–307. <https://doi.org/10.1016/j.marenvres.2004.05.005>
- 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 (4): 351-371. [https://doi.org/10.1016/S01411136\(01\)00090-3](https://doi.org/10.1016/S01411136(01)00090-3)
- 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. <https://doi.org/10.1016/j.marenvres.2005.11.005>
- 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. <https://doi.org/10.1121/1.3132522>
- Katsaprakakis, D.A.; Papadakis, N.; and Ntintakis, I. 2021. A Comprehensive Analysis of Wind Turbine Blade Damage. *Energies*, 14, 5974. <https://doi.org/10.3390/en14185974>
- Keen, K.A., R.S. Beltran, R. Pirotta, and D.P. Costa. 2021. Emerging themes in population consequences of disturbance models. *Proceedings of the Royal Society Biological Sciences* B288: 20210325. <https://doi.org/10.1098/rspb.2021.0325>
- King, C.D., E. Chou, M.L. Rekdahl, S.G. Trabue, and H.C. Rosenbaum. 2021. Baleen whale distribution, behaviour and overlap with anthropogenic activity in coastal regions of the New York Bight. *Marine Biology Research*, pp.1-21. <https://doi.org/10.1080/17451000.2021.1967993>.
- King, S., Schick, R., Donovan, C., Booth, C., Burgman, M., Thomas, L., and Harwood, J. 2015. An interim framework for assessing the population consequences of disturbance. *Methods in Ecology and Evolution* 6 (10): 1150–1158. <https://doi.org/10.1111/2041-210x.12411>
- Knowlton, A. R., F. T. Korsmeyer, J. E. Kerwin, H. Wu, and B. Hynes. 1995. The hydrodynamic effects of large vessels on right whales. Pages 62 in Eleventh Biennial Conference on the Biology of Marine Mammals, Orlando, Florida.
- Knowlton, A.R. and S.D. Kraus. 2001. Mortality and serious injury of northern right whales (*Eubalaena glacialis*) in the western North Atlantic Ocean. *Journal of Cetacean Research and Management Special Issue* 2:193-208. <https://doi.org/10.47536/jcrm.vi.288>

- Knowlton, A.R., Clark, J. S., Hamilton, P.K., Kraus, S.D., Pettis, H.M., Rolland, R.M., and R.S. Schick. 2022. Fishing gear entanglement threatens recovery of critically endangered North Atlantic right whales. *Conservation Science and Practice*, 4(8): e12736. <https://doi.org/10.1111/csp2.12736>
- Knowlton, A.R., J. Beaudin Ring, B. Russell, and New England Aquarium. 2002. Right whale sightings and survey effort in the Mid Atlantic Region: Migratory corridor, time frame, and proximity to port entrances. Report for the NMFS Ship Strike Working Group. 25 p.
- Knowlton, A.R., P.K. Hamilton, M.K. Marx, H.M. Pettis and S.D. Kraus. 2012. Monitoring North Atlantic right whale *Eubalaena glacialis* entanglement rates: A 30 year retrospective. *Mar. Ecol. Prog. Ser.* 466: 293–302. <https://doi.org/10.3354/meps09923>
- Koschinski, S., & Lüdemann, K. 2013. Development of Noise Mitigation Measures in Offshore Wind Farm Construction. Commissioned by the Federal Agency for Nature Conservation (Bundesamt für Naturschutz, BfN). Original report (in German) published Jul 2011, updated Feb 2013. Nehnten and Hamburg, Germany.
- Kostyuchenko, L. P. 1973. Effect of elastic waves generated in marine seismic prospecting on fish eggs in the Black Sea. *Hydrobiological Journal* 9: 45-48.
- Kraus, S.D., R.D Kenney, and L. Thomas. 2019. A framework for studying the effects of offshore wind development on marine mammals and turtles. Report prepared for the Massachusetts Clean Energy Center, Boston, MA, 2110.
- Kraus, S.D., S. Leiter, K. Stone, B. Wikgren, C. Mayo, P. Hughes, R. D. Kenney, C. W. Clark, A. N. Rice, B. Estabrook and J. Tielens. 2016. Northeast Large Pelagic Survey Collaborative Aerial and Acoustic Surveys for Large Whales and Sea Turtles. OCS Study BOEM 2016-054, Bureau of Ocean Energy Management: 110.
- 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. [https://doi.org/10.2193/0084-0173\(2004\)157\[1:EOMOOB\]2.0.CO;2](https://doi.org/10.2193/0084-0173(2004)157[1:EOMOOB]2.0.CO;2)
- Krone, R., L. Gutow, T.J. Joschko, and A. Schröder. 2013. Epifauna dynamics at an offshore foundation- Implications of future wind power farming in the North Sea. *Marine Environmental Research* 85: 1-12. <https://doi.org/10.1016/j.marenvres.2012.12.004>
- Krumpel, A., A. Rice, K.E. Frasier, F. Reese, J.S. Trickey, A.E. Simonis, J.P. Ryan, S.M. Wiggins, A. Denzinger, H.U. Schnitzler, and S. Baumann-Pickering. 2021. Long-Term Patterns of Noise from Underwater Explosions and Their Relation to Fisheries in Southern California. *Frontiers in Marine Science* 8. <https://doi.org/10.3389/fmars.2021.796849>

- 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 (3): 451- 464. <https://doi.org/10.1121/1.1909912>
- Krzystan, A. M., Gowan, T. A., Kendall, W. L., Martin, J., Ortega-Ortiz, J. G., Jackson, K., Knowlton, A. R., Naessig, P., Zani, M., Schulte, D. W., and Taylor, C. R. 2018. Characterizing residence patterns of North Atlantic right whales in the southeastern USA with a multistate open robust design model. *Endangered Species Research* 36: 279-295. <https://doi.org/10.3354/esr00902>
- Kuroda, M., Miki, N. and Matsuishi, T.F., 2020. Determinants of echolocation click frequency characteristics in small toothed whales: recent advances from anatomical information. *Mammal Review*, 50(4), pp.413-425. <https://doi.org/10.1111/mam.12212>
- Küsel, E.T., C. Graupe, T. J. Stephen, C. Lawrence, M. P. Cotter, and D.G. Zeddies. 2024. Underwater Sound Field Verification: Vineyard Wind 1 Final Report. Document 03233, Version 1.0. Technical report by JASCO Applied Sciences for DEME Group.
- Kvadsheim, P. H., and E. M. Sevaldsen. 2005. The potential impact of 1-8 kHz active sonar on stocks of juvenile fish during sonar exercises. Forsvarets Forskningsinstitut, Norwegian Defence Research Establishment, P.O. Box 25, NO-2027 Kjeller, Norway.

L

- LaBrecque, E., C. Curtice, J. Harrison, S.M. Van Parijs, and P.N. Halpin. 2015. Biologically Important Areas for Cetaceans within US Waters: Gulf of Mexico region. *Aquatic Mammals* 41 (1): 30-38. <http://dx.doi.org/10.1578/AM.41.1.2015.1>
- Ladich, F., and A. N. Popper. 2004. Parallel Evolution in Fish Hearing Organs. In G. A. Manley, A. N. Popper & R. R. Fay (Eds.), *Evolution of the Vertebrate Auditory System*, Springer Handbook of Auditory Research. New York, NY: Springer-Verlag
- Ladich, F., and R. R. Fay. 2013. Auditory evoked potential audiometry in fish. *Reviews in Fish Biology and Fisheries* 23 (3): 317–364. <https://doi.org/10.1007/s11160-012-9297-z>
- Ladich, F., and T. Schulz-Mirbach. 2016. Diversity in Fish Auditory Systems: One of the Riddles of Sensory Biology. *Frontiers in Ecology and Evolution*, 4, 26. <https://doi.org/10.3389/fevo.2016.00028>
- Laist, D. W., A. R. Knowlton, J. G. Mead, A. S. Collet, and M. Podesta. 2001. Collisions between ships and whales. *Marine Mammal Science* 17 (1): 35–75. <https://doi.org/10.1111/j.1748-7692.2001.tb00980.x>

- Lambrechts, M. M. 1996. Organization of bird song and constraints on performance. - In: Kroodsma, D. E. and Miller, E. H. (eds). Ecology and evolution of acoustic communication in birds. Cornell Univ. Press, Ithaca and London, pp. 305-320.
- Langhamer, O. and D. Wilhelmsson. 2009. Colonisation of fish and crabs of wave energy foundations and the effects of manufactured holes- a field experiment. *Marine Environmental Research* 68 (4): 151-7. <https://doi.org/10.1016/j.marenvres.2009.06.003>
- Langhamer, O., 2012. Artificial reef effect in relation to offshore renewable energy conversion: state of the art. *The Scientific World Journal*, 2012(1), p.386713. <https://doi.org/10.1100/2012/386713>
- Lankford, S. E., T.E Adams, R.A. Miller, and J.J. Cech Jr. 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 (4): 599-609. <https://doi.org/10.1086/430687>
- Lentz SJ. 2017. Seasonal warming of the Middle Atlantic Bight Cold Pool. *Journal of Geophysical Research: Oceans*. 122(2):941-954. <https://doi.org/10.1002/2016JC012201>
- Lesage, V., C. Barrette, M.C. Kingsley, and B. Sjare. 1999. The effect of vessel noise on the vocal behavior of belugas in the St. Lawrence River estuary, Canada. *Marine Mammal Science*, 15 (1): 65-84. <https://doi.org/10.1111/J.1748-7692.1999.TB00782.X>
- Lillis, A., D. D. Bohnenstiehl, and D. Eggleston. 2015. Soundscape manipulation enhances larval recruitment of a reef-building mollusk. *PeerJ*, 3, <https://doi.org/10.7717/peerj.999>.
- Lindeboom, H.J., H.J. Kouwenhoven, M.J.N. Bergman, S. Bouma, S.M.J.M. Brasseur, R. Daan, R.C. Fijn, D. De Haan, S. Dirksen, R. Van Hal, and R.H.R. Lambers. 2011. Short-term ecological effects of an offshore wind farm in the Dutch coastal zone; a compilation. *Environmental Research Letters* 6 (3): 035101. <https://doi.org/10.1088/1748-9326/6/3/035101>
- Liu, M., L. Dong, M. Lin, and S. Li. 2017. Broadband ship noise and its potential impacts on Indo-Pacific humpback dolphins: Implications for conservation and management. *The Journal of the Acoustical Society of America* 142 (5): 2766. <https://doi.org/10.1121/1.5009444>
- Lohr, B., T.F. Wright, and R.J. Dooling. 2003. Detection and discrimination of natural calls in masking noise by birds: estimating the active space of a signal. *Animal Behaviour* 65 (4): 763- 777. <https://doi.org/10.1006/anbe.2003.2093>

- Lomac-MacNair, K., Zoidis, A.M., Anderson, M. and Brees, M., 2018. Humpback whale calf vulnerability to small-vessel collisions; assessment from underwater videography in Hawaiian waters. *Journal of Coastal Sciences*, 5, pp.28-36.
- Lomac-MacNair, K., Thissen, C. and Smultea, M.A. 2014. Draft NMFS 90-Day Report for Marine Mammal Monitoring and Mitigation during SAExploration's Colville River Delta 3D Seismic Survey, Beaufort Sea, Alaska, August to September 2014. Submitted to SAE, Prepared by Smultea Environmental Sciences, PO Box, 256.
- Lovell, J. M., M.M. Findlay, R.M. Moate, and H.Y. Yan. 2005. The hearing abilities of the prawn *Palaemon serratus*. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology* 140 (1): 89-100. <https://doi.org/10.1016/j.cbpb.2004.11.003>
- Lucke, K., M. Dähne, S. Adler, A. Brandecker, K. Krügel, J.K. Sundermeyer, and U. Siebert. 2012. Evaluating the effects of offshore pile driving on *Phocoena phocoena* (harbor porpoises) by using passive acoustic monitoring. In *The Effects of Noise on Aquatic Life* (pp. 285-287). Springer, New York, NY. https://doi.org/10.1007/978-1-4419-7311-5_63
- Lucke, K., S. Storch, J. Cooke, and U. Siebert. 2006. Literature Review of offshore wind farms with regard to marine mammals. *Ecological Research on Offshore Wind Farms: International Exchange of Experiences. Part B: Literature Review of Ecological Impacts*, pp.199-284.
- 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* 20: 228-236. <https://doi.org/10.46867/IJCP.2007.20.02.04>

M

- MacGillivray, A.O. 2013. A model for underwater sound levels generated by marine impact pile driving. *Proceedings of Meetings on Acoustics* 20(1). <https://doi.org/10.1121/2.0000030>
- 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. <https://doi.org/10.1121/1.2229287>
- Mallette, S.D., G.G. Lockhart, J. Robbins, A. Rabon, K. Rayfield, N. Mathies, P. Stevick, T. Fernald, J. Allen, J. Aschettino, M. Swingle, J. B. Thornton, M. Pepe, A. Engelhaupt, and S. Barco. 2017. Seasonality and site-fidelity of humpback whales off the mid-Atlantic region of the U.S. 2nd Biennial Conference on the Biology of Marine Mammals, Halifax, Nova Scotia.

- 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 2: January 1984 migration (No. PB-86-218377/XAB; BBN5586). Bolt, Beranek and Newman, Inc., Cambridge, MA (USA).
- Mann, D. A. 2016. Acoustic Communications in Fishes and Potential Effects of Noise. In A. N. Popper & A. D. Hawkins (Eds.), *The Effects of Noise on Aquatic Life II* (pp. 673–678). New York, NY: Springer
- Mann, D. A., A. N. Popper, and B. Wilson. 2005. Pacific herring hearing does not include ultrasound. *Biology Letters* 1: 158–161. <https://doi.org/10.1098/rsbl.2004.0241>
- Marine Mammal Commission (2023) Marine Mammal Commission Newsletter: Spring 2023. Accessed 23 August, 2024. Available at: <https://myemail.constantcontact.com/MMC-Newsletter--Spring-2023.html?soid=1119223236081&aid=091a23wASjQ>
- Marten, K., and P. Marler. 1977. Sound transmission and its significance for animal vocalization. *Behavioral ecology and sociobiology* 2 (3): 271-290. <https://doi.org/10.1007/BF00299740>.
- Martin, S. B., Matthews, M. N. R., MacDonnell, J. T., & Bröker, K. (2017). Characteristics of seismic survey pulses and the ambient soundscape in Baffin Bay and Melville Bay, West Greenland. *The Journal of the Acoustical Society of America*, 142(6), 3331-3346. <https://doi.org/10.1121/1.5014049>
- Martin, J., Q. Sabatier, T.A. Gowan, C. Giraud, E. Gurarie, C.S. Calleson, J.G. Ortega-Ortiz, C.J. Deutsch, A. Rycyk, and S.M. Koslovsky. 2016. A quantitative framework for investigating risk of deadly collisions between marine wildlife and boats. *Methods in Ecology and Evolution* 7 (1): 42–50. <https://doi.org/10.1111/2041-210X.12447>
- Matthews, L. 2017. Harbor seal (*Phoca vitulina*) reproductive advertisement behavior and the effects of vessel noise. Ph.D. Thesis, Syracuse University. 139 p.
- Mavraki, N., Coolen, J.W., Kapasakali, D.A., Degraer, S., Vanaverbeke, J. and Beermann, J., 2022. Small suspension-feeding amphipods play a pivotal role in carbon dynamics around offshore man-made structures. *Marine Environmental Research*, 178, p.105664. <https://doi.org/10.1016/j.marenvres.2022.105664>.
- Mayo, C.A, L. Ganley, C.A. Hudak, S. Brault, M.K. Marx, E. Burke, and M.W. Brown. 2018. Distribution, demography, and behavior of North Atlantic right whales (*Eubalaena glacialis*) in Cape Cod Bay, Massachusetts, 1998–2013. *Mar. Mam. Sci.* 34 (4): 979–996. <https://doi.org/10.1111/mms.12511>

- McCauley, R. D., J. Fewtrell, A. J. Duncan, C. Jenner, M. N. Jenner, J. D. Penrose, R. I. T. Prince, A. Adhitya, J. Murdoch, and K. McCabe. 2000. Marine seismic surveys—A study of environmental implications. *Australian Petroleum Production Exploration Association Journal*, 692–708. <https://doi.org/10.1071/AJ99048>
- McCauley, R.D., R. Day, K.M. Swadling, Q.P Fitzgibbon, R.A. Watson, and J.M. Semmens. 2017. Widely used marine seismic survey air gun operations negatively impact zooplankton. *Nature Ecology & Evolution* 1: 0195. <https://doi.org/10.1038/s41559-017-0195>
- McDonald, M. A., J. A. Hildebrand, and S. C. Webb. 1995. Blue and fin whales observed on a seafloor array in the Northeast Pacific. *The Journal of Acoustical Society of America* 98 (2): 712–721. <https://doi.org/10.1121/1.413565>
- McDonald, M. A., J. A. Hildebrand, S. M. Wiggins, D. W. Johnston, and J. J. Polovina. 2009. An acoustic survey of beaked whales at Cross Seamount near Hawaii. *The Journal of the Acoustical Society of America*, 125(2): 624–627. <https://doi.org/10.1121/1.305031>
- McFadden D. 1986. The curious half-octave shift: evidence for a basalward migration of the traveling-wave envelope with increasing intensity. In: Salvi RJ, Henderson D, Hamernik RP, Coletti V (eds) *Basic and applied aspects of noise-induced hearing loss*, vol 111. Proceedings of a NATO advanced studies institute on applied and basic aspects of noise-induced hearing loss, held September 23–29, 1985, in Lucca. NATO ASI Series A, Life Sciences edn. Plenum, New York, pp 295–312.
- McHuron, E.A., L.K. Schwarz, D.P. Costa, and M. Mangel. 2018. A state-dependent model for assessing the population consequences of disturbance on income-breeding mammals. *Ecological Modeling* 385: 133-144. <https://doi.org/10.1016/j.ecolmodel.2018.07.016>
- 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): 1-6. <https://doi.org/10.1371/journal.pone.0032681>
- Meyer-Gutbrod, E., C. Greene, K. Davies, and D. Johns. 2021. Ocean regime shift is driving collapse of the North Atlantic right whale population. *Oceanography* 34 (3): 22-31. <https://doi.org/10.5670/oceanog.2021.308>
- Meyer-Gutbrod, E.L., Davies, K.T.A., Johnson, C.L., Plourde, S., Sorochan, K.A., Kenney, R.D., Ramp, C., Gosselin, J., Lawson, J.W., and Greene, C.H. 2022. Redefining North Atlantic right whale habitat-use patterns under climate change. *Limnology and Oceanography* 9999: 1-16. <https://doi.org/10.1002/lno.12242>

- Miksis-Olds, J.L. 2006. Manatee Response to Environmental Noise. A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in Oceanography. University of Rhode Island, 2006.
- Miller, J.D. 1974. Effects of noise on people. *Journal of the Acoustical Society of America* 56 (3): 729- 764. <https://doi.org/10.1121/1.1903322>
- Miller, P. J. O., M. P. Johnson, P. T. Madsen, N. Biassoni, M. Quero, & P. L. Tyack. (2009). Using at-sea experiments to study the effects of airguns on the foraging behavior of sperm whales in the Gulf of Mexico. *Deep Sea Research I*, 56(7), 1168–1181. <https://doi.org/10.1016/j.dsr.2009.02.008>
- Miller, P.J.O., N. Biassoni, A. Samuels, and P.L. Tyack. 2000. Whale songs lengthen in response to sonar. *Nature* 405 (6789): 903. <https://doi.org/10.1038/35016148>
- Milliman, J. 1972. Atlantic Continental Shelf and Slope of the United States: Petrology of the Sand Fraction of Sediments, Northern New Jersey to Southern Florida. U.S. Geological Survey Professional Paper 529-J. <https://doi.org/10.3133/pp529J>
- Mitchell, E. 1975. Preliminary report on Nova Scotia fishery for sei whales (*Balaenoptera borealis*). *Rep. Int. Whal. Comm.* 25:218–225.
- Mitchell, E. and D.G. Chapman. 1977. Preliminary assessment of stocks of northwest Atlantic sei whales (*Balaenoptera borealis*). *Rep. Int. Whal. Comm.* (Special Issue) 1:117–120.
- Moberg, G. P. 1987. A model for assessing the impact of behavioral stress on domestic animals. *Journal of Animal Science* 65 (5): 1228-1235. <https://doi.org/10.2527/jas1987.6551228x>
- Mooney, T. A., R.T. Hanlon, J. Christensen-Dalsgaard, P.T. Madsen, D.R. Ketten, and P.E. Nachtigall. 2010. Sound detection by the longfin squid (*Loligo pealeii*) studied with auditory evoked potentials: sensitivity to low-frequency particle motion and not pressure. *Journal of Experimental Biology* 213 (21): 3748-3759. <https://doi.org/10.1242/jeb.048348>
- Moore, J.E. and J.P. Barlow. 2013. Declining abundance of beaked whales (*Family Ziphiidae*) in the California current large marine ecosystem. *PLoS One* 8(1): p.e52770. <https://doi.org/10.1371/journal.pone.0052770>
- Moore, M. J., Rowles, T. K., Fauquier, D. A., Baker, J. D., Biedron, I., Durban, J. W., Hamilton, P. K., Henry, A. G., Knowlton, A. R., McLellan, W. A., Miller, C. A., Pace, R. M., Pettis, H. M., Raverty, S., Rolland, R. M., Schick, R. S., Sharp, S. M., Smith, C. R., Thomas, L., van der Hoop, J., and Ziccardi, M. H. 2021. Assessing North Atlantic right whale health: threats, and development of tools critical for conservation of the species. *Diseases of Aquatic Organisms*, 143, 205-226. <https://doi.org/10.3354/dao03578>

- Morano, J.L., D.P. Salisbury, A.N. Rice, K.L. Conklin, K.L. Falk, and C.W. Clark. 2012. Seasonal changes in fin whale song in the western North Atlantic Ocean. *Journal of the Acoustical Society of America* 132 (2): 1207-1212. <https://doi.org/10.1121/1.4730890>
- Morgan, L.W. J.A. Musick, and C.W. Potter. 2002. Temporal and geographic occurrences of cetacean strandings and manatee sightings in Virginia, with notes on adverse human-cetacean interactions, from 1983-1989. *Journal of the North Carolina Academy of Science* 118 (1): 12-26. <https://www.jstor.org/stable/24336394>
- Morton, A.B. and H.K. Symonds. 2002. Displacement of *Orcinus orca* (L.) by high amplitude sound in British Columbia, Canada. *ICES Journal of Marine Science* 59 (1): 71-80. <https://doi.org/10.1006/jmsc.2001.1136>
- Mueller-Blenkle, C., P.K. McGregor, A.B. Gill, M.H. Andersson, J. Metcalfe, V. Bendall, P. Sigray, D.T. Wood, and F. Thomsen. 2010. Effects of Pile-driving Noise on the Behaviour of Marine Fish. COWRIE Ref: Fish 06-08, Technical Report 31st March 2010.
- Müllner, A., K. E. Linsenmair, and M. Wikelski. 2004. Exposure to ecotourism reduces survival and affects stress response in hoatzin chicks (*Opisthocomus hoazin*). *Biological Conservation* 118 (4): 549-558. <https://doi.org/10.1016/j.biocon.2003.10.003>

N

- Nabe-Nielsen, J., F.M. van Beest, V. Grimm, R.M. Sibly, J. Teilmann, and P.M. Thompson. 2018. Predicting the impacts of anthropogenic disturbances on marine populations. *Conserv. Lett.* 11:e12563. <https://doi.org/10.1111/conl.12563>
- Nachtigall P.E. and A.Y.A. Supin. 2013. False killer whales reduce their hearing sensitivity if a loud sound is preceded by a warning. *Journal of Experimental Biology* 216: 3062–70. <https://doi.org/10.1242/jeb.085068>
- Nachtigall P.E. and A.Y.A. Supin. 2015. Conditioned frequency dependent hearing sensitivity reduction in the bottlenose dolphin (*Tursiops truncatus*). *Journal of Experimental Biology* 218: 999–1005. <https://doi.org/10.1242/jeb.114066>
- Nachtigall P.E., A.Y.A. Supin, A.B. Smith, and A.F. Pacini. 2016b. Expectancy and conditioned hearing sensation level in the bottlenose dolphin (*Tursiops truncatus*). *Journal of Experimental Biology* 219: 844–50. <https://doi.org/10.1242/jeb.133777>
- Nachtigall P.E., A.Y.A. Supin, A.H. Pacini, and R. Kastelein. 2016c. Conditioned sensitivity change in the harbour porpoise (*Phocoena phocoena*). *Journal of the Acoustical Society of America* 140: 960–67. <https://doi.org/10.1121/1.4960783>

- Nachtigall P.E., A.Y.A. Supin, J.A. Esteban, and A.F. Pacini. 2016a. Learning and extinction of conditioned hearing sensation change in the beluga whale (*Delphinapterus leucas*). *Journal of Comparative Physiology A* 202: 105–13. <https://doi.org/10.1111/1749-4877.12286>
- Nachtigall, P.E. and A. Supin. 2008. A false killer whale adjusts its hearing when it echolocates. *Journal of Experimental Biology* 211(11): 1714-1718. <https://doi.org/10.1242/jeb.013862>
- 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): pp.160-165. <https://doi.org/10.1111/1749-4877.12286>
- Nachtsheim, D.A., S. Viquerat, N.C. Ramírez-Martínez, B. Unger, U. Siebert, and A. Gilles. 2021. Small cetacean in a human high-use area: trends in harbor porpoise abundance in the North Sea over two decades. *Frontiers in Marine Science*: 7: 606609. <https://doi.org/10.3389/fmars.2020.606609>
- NAS (National Academies of Sciences). 2017. *Approaches to Understanding the Cumulative Effects of Stressors on Marine Mammals*.
- 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.
- Nedelec S.L., A.N. Radford, S.D. Simpson, B. Nedelec, D. Lecchini, and S.C. Mills. 2014. Anthropogenic noise playback impairs embryonic development and increases mortality in a marine invertebrate. *Scientific Reports* 2831. <https://doi.org/10.1038/srep05891>
- Nedwell, J. R., B. Edwards, A. W. H. Turnpenny, and J. Gordon. 2004. *Fish and marine mammal audiograms: A summary of available information*. (Subacoustech Report ref: 534R0214). Hampshire, UK.
- Nehls, G., A. Rose., A. Diederichs, M.A. Bellmann, and H. Pehlke. 2016. Noise mitigation during pile driving efficiently reduces disturbance of marine mammals. In A. N. Popper 43 & A. D. Hawkins (Eds.), *The Effects of Noise on Aquatic Life II* (2015/11/28 ed., Vol. 875, pp. 755-762). New York: Springer.
- New, L. F., J.S. Clark, D.P. Costa, E. Fleishman, M.A. Hindell, T. Klanjscek, J. Lloyd-Smith, D. Lusseau, S. Kraus, C. McMahon, P. Robinson, R. Schnick, L. Schwarz, S. Simmons, L. Thomas, P. Tyack, J. Harwood. 2014. Using short-term measures of behaviour to estimate long-term fitness of southern elephant seals. *Mar. Ecol. Prog. Ser.* 496, 99–108. <https://doi.org/10.3354/meps10547>

- New, L.F., J. Harwood, L. Thomas, C. Donovan, J.S. Clark, G. Hastie, P.M. Thompson, B. Cheney, L. Scott-Hayward, and D. Lusseau. 2013. Modeling the biological significance of behavioural change in coastal bottlenose dolphins in response to disturbance. *Funct Ecol* 27: 314-322. <https://doi.org/10.1111/1365-2435.12052>
- Ng, S.L. and S. Leung. 2003. Behavioral response of Indo-Pacific humpback dolphin (*Sousa chinensis*) to vessel traffic. *Marine Environmental Research* 56 (5): 555. [https://doi.org/10.1016/S0141-1136\(03\)00041-2](https://doi.org/10.1016/S0141-1136(03)00041-2)
- National Marine Fisheries Service. 2005. Recovery plan for the North Atlantic right whale (*Eubalaena glacialis*). National Marine Fisheries Service, Silver Spring, Maryland.
- National Marine Fisheries Service (2010). Biological Opinion on the Cape Wind Energy Project. Available at: <https://www.epa.gov/sites/default/files/2015-08/documents/cape-wind-biological-opinion-2010dec30.pdf>
- National Marine Fisheries Service. 2018. 2018 revision to: Technical guidance for assessing the effects of anthropogenic sound on marine mammal hearing (Version 2.0). NOAA Technical Memorandum NMFS-OPR-59, National Marine Fisheries Service: 178.
- NOAA Fisheries. 2021b. Draft U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments: 2021. 314 p. <https://media.fisheries.noaa.gov/2021-10/Draft%202021%20NE%26SE%20SARs.pdf>.
- NOAA Fisheries. 2022. Sei Whale. Available at: <https://www.fisheries.noaa.gov/species/sei-whale>
- Noren, D.P., Holt, M.M., Dunkin, R.C., Thometz, N.M. and Williams, T.M. 2017. July. Comparative and cumulative energetic costs of odontocete responses to anthropogenic disturbance. In Proceedings of Meetings on Acoustics 4ENAL (Vol. 27, No. 1, p. 040011). Acoustical Society of America. <http://dx.doi.org/10.1121/2.0000357>.
- Noren, D.P., M.M. Holt, R.C. Dunkin, and T.M. Williams. 2020. The metabolic cost of whistling is low but measurable in dolphins. *Journal of Experimental Biology* 223 (11): .jeb224048. <https://doi.org/10.1242/jeb.224048>
- Nowacek, D.P., L.H. Thorne, D.W. Johnston, and P.L. Tyack. 2007. Responses of cetaceans to anthropogenic noise. *Mammal Review* 37 (2): 81-115. <https://doi.org/10.1111/j.1365-2907.2007.00104.x>
- 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. <https://doi.org/10.1098/rspb.2003.2570OBIS>

NRC (National Research Council). 2003. Ocean noise and marine mammals. National Academy of Sciences: 220. <https://doi.org/10.17226/10564>

NRC (National Research Council). 2017. Approaches to understanding the cumulative effects of stressors on marine mammals. National Academy of Sciences, Engineering, and Medicine, Washington, D.C: The National Academies Press. <https://doi.org/10.17226/23479>

O

O'Brien, O., D.E. Pendleton, L.C. Ganley, K.R. McKenna, R.D. Kenney, E. Quintana-Rizzo, C.A. Mayo, S.D. Kraus, and J.V. Redfern. 2022. Repatriation of a historical North Atlantic right whale habitat during an era of rapid climate change. *Nature* 12: 12407. <https://doi.org/10.1038/s41598-022-16200-8>

OBIS. 2021. Ocean Biodiversity Information System. Intergovernmental Oceanographic Commission of UNESCO. <https://www.obis.org/>

OBIS. 2022. Ocean Biodiversity Information System. <https://www.obis.org> (Accessed 10 February 2022).

Oleson, E.M., J. Baker, J. Barlow, J.E. Moore, and P. Wade. 2020. North Atlantic Right Whale Monitoring and Surveillance: Report and Recommendations of the National Marine Fisheries Service's Expert Working Group. NOAA Tech. Memo. NMFSF/OPR-64, 47 p. <https://doi.org/10.25923/xnwj-5629>

P

Pace, R. M., R. Williams, S.D. Kraus, A.R. Knowlton, and H.M. Pettis. 2021. Cryptic mortality of North Atlantic right whales. *Conservation Science and Practice*, 3(2), Article e346. <https://doi.org/10.1111/csp2.346>

Pace, R.M, and G. Silber. 2005. Simple analyses of ship and large whale collisions: Does speed kill? Pages 1 In National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Protected Resources.

Pace, R.M., P.J. Corkeron, and S.D. Kraus. 2017. State space estimates reveal a recent decline in abundance of North Atlantic right whales. *Ecol Evol* 7: 8730–8741. <https://doi.org/10.1002/ece3.3406>

Packard, A., H.E. Karlsen, and O. Sand. 1990. Low frequency hearing in cephalopods. *Journal of Comparative Physiology A* 166 (4): 501-505. <https://doi.org/10.1007/BF00192020>

Palka D, L. Aichinger Dias, E. Broughton , S. Chavez-Rosales , D. Cholewiak , G. Davis, A. DeAngelis, L. Garrison, H. Haas, J. Hatch, K. Hyde, M. Jech, E. Josephson, L. Mueller-

- Brennan, C. Orphanides, N. Pegg, C. Sasso, D. Sigourney, M. Soldevilla, and H. Walsh. 2021. Atlantic Marine Assessment Program for Protected Species: FY15 – FY19. Washington DC: US Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2021-051. 330 p.
- Palka, D. L., S. Chavez-Rosales, E. Josephson, D. Cholewiak, H. L. Haas, L. Garrison, M. Jones, D. Sigourney, G. Waring, M. Jech, E. Broughton, M. Soldevilla, G. Davis, A. DeAngelis, C. R. Sasso, M. V. Winton, R. J. Smolowitz, G. Fay, E. LaBrecque, J. B. Leiness, Dettloff, M. Warden, K. Murray, and C. Orphanides. 2017. Atlantic Marine Assessment Program for Protected Species: 2010-2014. OCS Study BOEM 2017-071, Washington, D.C.
- Papale, E., M. Gamba, M. Perez-Gil, V.M. Martin, and C. Giacoma. 2015. Dolphins adjust species-specific frequency parameters to compensate for increasing background noise. PLoS ONE 10(4):e0121711. <https://doi.org/10.1371/journal.pone.0121711>
- Parks, S. E. 2009. Assessment of acoustic adaptations for noise compensation in marine mammals. Paper presented at the 2009 Office of Naval Research Marine Mammal Program Review. Alexandria, VA.
- Parks, S.E., D.R. Ketten, J.T. O'Malley, and J. Arruda. 2007. Anatomical predictions of hearing in the North Atlantic right whale. *The Anatomical Record* 290 (6): 734-744. <https://doi.org/10.1002/ar.20527>
- Parks, S. and Clark, C. Acoustic communication: Social sounds and the potential impacts of noise *The Urban Whale: North Atlantic right whales at the crossroads*, Harvard University Press, Cambridge, MA (2007), pp. 310-322. <https://doi.org/10.2307/j.ctv1pnc1q9.15>
- Parks, S.E., Cusano, D.A., Van Parijs, S.M. and Nowacek, D.P., 2019. North Atlantic right whale (*Eubalaena glacialis*) acoustic behavior on the calving grounds. *The Journal of the Acoustical Society of America*, 146(1), pp.EL15-EL21. <https://doi.org/10.1121/1.5115332>
- Parks, S.E., M. Johnson, D. Nowacek, and P.L. Tyack. 2011. Individual right whales call louder in increased environmental noise. *Biol. Lett.* 7 (1): 33-35. <https://doi.org/10.1098/rsbl.2010.0451>
- Patricelli, G. L. and J.L. Blickley. 2006. Avian communication in urban noise: causes and consequences of vocal adjustment. *The Auk* 123 (3): 639-649. <https://doi.org/10.1093/auk/123.3.639>

- 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. <https://doi.org/10.1016/j.marpol.2016.12.017>
- Payne, J.F. 2004. Potential effect of seismic surveys on fish eggs, larvae and zooplankton. DFO Can. Sci. Advis. Sec. Res. Doc. 2004/125.
- Payne, P.M. and D. W. Heinemann 1990. A distributional assessment of cetaceans in the shelf and shelf edge waters of the northeastern United States based on aerial and shipboard surveys, 1978–1988. Report to NMFS: 253.
- Pearson, W. H., J. R. Skalski, S. D. Sulkin and C. Malme. 1994. Effects of seismic energy releases on the survival and development of zoeal larvae of Dungeness Crab (*Cancer magister*). *Marine Environmental Research* 38: 93-113. [https://doi.org/10.1016/0141-1136\(94\)90003-5](https://doi.org/10.1016/0141-1136(94)90003-5)
- 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. <https://doi.org/10.1139/f92-150>
- Pettis, H.M., Pace, R.M. III, and Hamilton, P.K. (2023) North Atlantic Right Whale Consortium 2022 Annual Report Card. North Atlantic Right Whale Consortium. Accessed on 25 April 2023 at: <https://www.narwc.org/report-cards.html>
- Pettis, H.M., R.M. Pace III, and P.K. Hamilton (2022) North Atlantic right whale consortium 2021 annual report card. Report to the North Atlantic Right Whale Consortium. Accessed on 25 April 2023 at: <https://www.narwc.org/report-cards.html>
- Pezy, J.P., Raoux, A., and Dauvin, J.C., 2020. An ecosystem approach for studying the impact of offshore wind farms: a French case study. *ICES Journal of Marine Science*, 77(3), pp.1238-1246. <https://doi.org/10.1093/icesjms/fsy125>.
- Pijanowski, B., L. Villanueva-Rivera, S. Dumyahn, A. Farina, B. Krause, B. Napoletano, S. Gage, and N. Pieretti. 2011. Soundscape Ecology: The Science of Sound in the Landscape. *BioScience* 61 (3): 203-216. <https://doi.org/10.1525/bio.2011.61.3.6>
- Pile Dynamics, Inc. 2010. GRLWEAP. <https://www.pile.com/>.
- Pirotta, E., C. G. Booth, D. P. Costa, E. Fleishman, S. D. Kraus, D. Lusseau, D. Moretti, L. F. New, R. S. Schick, L. K. Schwarz, S. E. Simmons, L. Thomas, P. L. Tyack, M. J. Weise, R. S. Wells, and J. Harwood. 2018a. Understanding the population consequences of disturbance. *Ecology and Evolution* 8 (19): 9934–9946. <https://doi.org/10.1002/ece3.4458>

- Pirotta, E., C.G. Booth, D.E. Cade, J. Calambokidis, D.P. Costa, J.A. Fahlbusch, A.S. Friedlaender, J.A. Goldbogen, J. Harwood, E.L. Hazen, and L. New. 2021. Context-dependent variability in the predicted daily energetic costs of disturbance for blue whales. *Conservation Physiology* 9 (1): p.coaa137. <https://doi.org/10.1093/conphys/coaa137>
- Pirotta, E., M. Mangel, D.P. Costa, B. Mate, J.A. Goldbogen, D.M. Palacios, L.A. Hückstädt, E.A. McHuron, L. Schwarz, and L. New. 2018b. A dynamic state model of migratory behavior and physiology to assess the consequences of environmental variation and anthropogenic disturbance on marine vertebrates. *The American Naturalist* 191 (2): pp.E40-E56. <https://doi.org/10.1086/695135>
- Pirotta E, Harwood J, Thompson PM, New L, Cheney B, Arso M, Hammond PS, Donovan C, Lusseau D. 2015. Predicting the effects of human developments on individual dolphins to understand potential long-term population consequences. *Proc. R. Soc. B* 282: 20152109. <http://dx.doi.org/10.1098/rspb.2015.2109>.
- Pittman, S., B. Costa, C. Kot, D. Wiley, and R.D. Kenney. 2006. Cetacean distribution and diversity. Pgs. 265-326 In: *An ecological characterization of the Stellwagen Bank National Marine Sanctuary Region: oceanographic, biogeographic, and contaminants assessment* (eds. T. Battista, R. Clark, and S. Pittman). NOAA Technical Memorandum NCCOS 45.
- Popper, A. N., J. Ramcharitar, and S. E. Campana. 2005. Why Otoliths? Insights from Inner Ear Physiology and Fisheries Biology. *Marine and Freshwater Research* 56: 8. <https://doi.org/10.1071/MF04267>
- Popper, A. N., A. D. Hawkins, R. R. Fay, D. A. Mann, S. M. Bartol, T. J. Carlson, S. Coombs, W. T. Ellison, R. L. Gentry, M. B. Halvorsen, S. Løkkeborg, P. H. Rogers, B. L. Southall, D. G. Zeddies, and W. N. Tavolga. 2014. *Sound Exposure Guidelines for Fishes and Sea Turtles*. Springer Cham, 76 pp. <https://doi.org/10.1007/978-3-319-06659-2>
- Popper, A. N., and R. R. Fay. 2011. Rethinking sound detection by fishes. *Hearing Research* 273(1–2): 25–36. <https://doi.org/10.1016/j.heares.2009.12.023>
- Popper, A. N., J. A. Gross, T. J. Carlson, J. Skalski, J. V. Young, A. D. Hawkins, and D. G. Zeddies. 2016. Effects of exposure to the sound from seismic airguns on pallid sturgeon and paddlefish. *PLoS ONE* 11 (8): e0159486. <https://doi.org/10.1371/journal.pone.0159486>
- Popper, A. N., M. B. Halvorsen, A. Kane, D. L. Miller, M. E. Smith, J. Song, P. Stein, and L. E. Wysocki. 2007. The effects of high-intensity, low-frequency active sonar on rainbow trout. *The Journal of Acoustical Society of America* 122 (1): 623–635. <https://doi.org/10.1121/1.2735115>

- Popper, A. N., R. R. Fay, C. Platt, and O. Sand. 2003. Sound detection mechanisms and capabilities of teleost fishes. In S. P. Collin & N. J. Marshall (Eds.), *Sensory Processing in Aquatic Environment*. New York, NY: Springer-Verlag.
- Popper, A.N. and M.C. Hastings. 2009a. The effects of human-generated sound on fish. *Integrative Zoology* 4: 43–52. <https://doi.org/10.1111/j.1749-4877.2008.00134.x>
- Popper, A.N. and M.C. Hastings. 2009b. The effects of anthropogenic sources of sound on fishes. *Journal of Fish Biology* 75: 455–489. <https://doi.org/10.1111/j.1095-8649.2009.02319.x>
- Popper, A.N., A.D. Hawkins, and M.B. Halvorsen. 2019. Anthropogenic sounds and fishes. WSDOT Research Report, WA-RD 891.1, 170 pp.
- Posner, M. I. 1994. Attention: the mechanisms of consciousness. *Proceedings of the National Academy of Sciences* 9 (16): 7398-7403. <https://doi.org/10.1073/pnas.91.16.7398>
- Precoda, K. and Orphanides, C.D., 2022. Estimates of cetacean and pinniped bycatch in the 2019 New England sink and Mid-Atlantic gillnet fisheries.
- Pumphrey, R.J. 1950, January. Hearing. In *Symposia of the Society for Experimental Biology* (Vol. 4, pp. 3-18). UNIV CAMBRIDGE DEPT ZOOLOGY, DOWNING ST, CAMBRIDGE CB2 3EJ, CAMBS, ENGLAND: COMPANY BIOLOGISTS LTD.
- 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>

Q

- Quintana-Rizzo, E., S. Leiter, T.V.N. Cole, M.N. Hagbloom, A.R. Knowlton, P. Nagelkirk, O. O'Brien, C.B. Khan, A.G. Henry, P.A. Duley, L.M. Crowe, C.A. Mayo, and S.D. Kraus. 2021. Residency, demographics, and movement patterns of North Atlantic right whales *Eubalaena glacialis* in an offshore wind energy development area in southern New England, USA. *Endangered Species Research* 45: 251-268. <https://doi.org/10.3354/esr01137>

R

- Rand, R.W., "Pile Driving Noise Survey", Rand Acoustics, LLC, 28 March, 2024.
- Rand, R.W., "Sonar Vessel Noise Survey", Rand Acoustics, LLC, 22 September 2023.
- Raoux, A., S. Tecchio, J. Pezy, G. Lassalle, S. Degraer, D. Wilhelmsson, M. Cachera, B. Ernande, C. Le Guen, M. Haraldsson, K. Grangeré, F. Le Loc'h, J. Dauvin, and N.

- Niquil. 2017. Benthic and fish aggregation inside an offshore wind farm: Which effects on the trophic web functioning? *Ecological Indicators* 72: 33-46.
<https://doi.org/10.1016/j.ecolind.2016.07.037>
- Record, N.R., J.A. Runge, D.E. Pendleton, W.M. Balch, K.T.A. Davies, A.J. Pershing, C.L. Johnson, K. Stamieszkin, R. Ji, Z. Feng, S.D. Kraus, R.D. Kenney, C.A. Hudak, C.A. Mayo, C. Chen, J.E. Salisbury, and C.R.S. Thompson. 2019. Rapid climate-driven circulation changes threaten conservation of endangered North Atlantic right whales. *Oceanography* 32 (2): 162169. <https://doi.org/10.5670/oceanog.2019.201>
- Reed, J., L. New, P. Corkeron, and R. Harcourt. 2022. Multi-event modeling of true reproductive states of individual female right whales provides new insights into their decline. *Frontiers in Marine Science*, 994481. <https://doi.org/10.3389/fmars.2022.994481>
- Reed, J., R. Harcourt, L. New, and K. Bilgmann. 2020. Extreme Effects of Extreme Disturbances: A Simulation Approach to Assess Population Specific Responses. *Frontiers in Marine Science*. 7:519845. <https://doi.org/10.3389/fmars.2020.519845>
- 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. <https://doi.org/10.1007/s00359-013-0813-y>
- Reichmuth, C., J.M. Sills, J. Mulsow, and A. Ghouil. 2019. Long-term evidence of noise- induced permanent threshold shift in a harbor seal (*Phoca vitulina*). *Journal of the Acoustical Society of America* 146: 2552–2561. <https://doi.org/10.1121/1.5129379>
- Reubens, J.T., S. Degraer, and M. Vincx. 2013. The ecology of benthopelagic fishes at offshore wind farms: a synthesis of 4 years of research. *Hydrobiologia* 727: 121-236.
<https://doi.org/10.1007/s10750-013-1793-1>
- Reynolds, J. 2021. Sandy Hook Bay, New Jersey seal monitoring, year-end report for 2021. Accessed on 13 June 2023 at: <https://www.savecoastalwildlife.org/winter-seal-survey>.
- Rhode Island Coastal Resources Management Council (RI-CRMC). 2010. Rhode Island Ocean Special Area Management Plan. Adopted by the RI CRMC on October 19, 2010.
- Richardson, A.J.,R.J. Matear, and A. Lenton. 2017. Potential impacts zooplankton of seismic surveys. CSIRO, Australia. 34pp.
- Richardson, W.J., C.R. Greene, C.I. Malme, and D.H. Thomson. 1995. *Marine Mammals and Noise*. Academic Press, Inc., San Diego, California.
- Richardson, J., Fraker, M., Wursig, B., Wells, R. 1985. Behaviour of Bowhead whales *Balaena mysticetus* summering in the Beaufort Sea: reactions to industrial activities. *Biological Conservation* 32 (1985) 195-230. [https://doi.org/10.1016/0006-3207\(85\)90111-9](https://doi.org/10.1016/0006-3207(85)90111-9).

- Ridgway, S.H., D.A. Carder, R.R. Smith, T. Kamolnick, C.E. Schlundt, and W.R. Elsberry. 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 μ Pa. Technical Report 1751, Naval Command, Control and Ocean Surveillance Center: 32.
- Risch, D., C.W. Clark, P.J. Dugan, M. Popescu, U. Siebert and S.M. VanParijs. 2013. Minke whale acoustic behavior and multi-year seasonal and diel vocalization patterns in Massachusetts Bay, USA. *Mar. Ecol. Prog. Ser.* 489:279–295.
<https://doi.org/10.3354/meps10426>
- Risch, D., M. Castellote, C.W. Clark, G.E. Davis, P.J. Dugan, L.E.W. Hodge, A. Kumar, K. Lucke, D.K. Mellinger, S.L. Nieukirk, C.M. Popescu, C. Ramp, A.J. Read, A.N. Rice, M.A. Silva, U. Siebert, K.M. Stafford, H. Verdatt, and S.M. Van Parijs. 2014. Seasonal migrations of North Atlantic minke whales: novel insights from large-scale passive acoustic monitoring networks. *Movement Ecology* 2:24. <https://doi.org/10.1186/s40462-014-0024-3>
- Risch, D., P. J. Corkeron, W. T. Ellison, and S. M. Van Parijs. 2012. Changes in humpback whale song occurrence in response to an acoustic source 200 km away. *PLoS ONE* 7(1): e29741. <https://doi.org/10.1371/journal.pone.0029741>
- Roberts J., Yack, T., Fujioka, E., Halpin, P., Baumgartner, M., Boisseau, O., Chavez-Rosales, S., Cole, T., Cotter, M., Davis, G., DiGiovanni Jr., R., Ganley, L., Garrison, L., Good, C., Gowan, T., Jackson, K., Kenney, R., Khan, C., Knowlton, A., Kraus, S., Lockhart, G., Lomac-MacNair, K., Mayo, C., McKenna, B., McLellan, W., Nowacek, D., O'Brien, O., Pabst, D., Palka, D., Patterson, E., Pendleton, D., Quintana-Rizzo, E., Record, N., Redfern, J., Rickard, M., White, M., Whitt, A., Zoidis, A.(2024) North Atlantic right whale density surface model for the U.S. Atlantic evaluated with passive acoustic monitoring. *Marine Ecology Progress Series* 732: 167-192.
<https://doi.org/10.3354/meps14547>
- Roberts J.J., T.M. Yack, and P.N. Halpin. 2023. Marine mammal density models for the U.S. Navy Atlantic Fleet Training and Testing (AFTT) study area for the Phase IV Navy Marine Species Density Database (NMSDD). Document version 1.3. Report prepared for Naval Facilities Engineering Systems Command, Atlantic by the Duke University Marine Geospatial Ecology Lab, Durham, North Carolina.
- Roberts, J.J., B. McKenna, L. Ganley, and C. Mayo. 2021b. Right Whale Abundance Estimates for Cape Cod Bay in December. Document version 3. Duke University Marine Geospatial Ecology Lab, Durham, NC.
- Roberts, J.J., B.D. Best, L. Mannocci, E. Fujioka, P.N. Halpin, D.L. Palka, L.P. Garrison, K.D. Mullin, T.V.N. Cole, C.B. Khan, W.A. McLellan, D.A. Pabst and G.G. Lockhart. 2016a.

- Habitat based cetacean density models for the US Atlantic and Gulf of Mexico. *Sci. Rep.* 6: 22615. <https://doi.org/10.1038/srep22615>
- Roberts, J.J., L. Mannocci, and P.N. Halpin. 2016b. Final Project Report: Marine Species Density Data Gap Assessments and Update for the AFTT Study Area, 2015-2016 (Base Year). Version 1.0. Report by the Duke University Marine Geospatial Ecology Lab for Naval Facilities Engineering Command, Atlantic Durham, NC, USA.
- Roberts, J.J., L. Mannocci, and P.N. Halpin. 2017. Final Project Report: Marine Species Density Data Gap Assessments and Update for the AFTT Study Area, 2016-2017 (Opt. Year 1). Version 1.4. Report by Duke University Marine Geospatial Ecology Lab for Naval Facilities Engineering Command, Atlantic, Durham, NC, USA.
- Roberts, J.J., L. Mannocci, R.S. Schick, and P.N. Halpin. 2018. Final Project Report: Marine Species Density Data Gap Assessments and Update for the AFTT Study Area, 2017-2018 50 (Opt. Year 2). Version 1.2. Report by the Duke University Marine Geospatial Ecology Lab for Naval Facilities Engineering Command, Atlantic Durham, NC, USA.
- Roberts, J.J., R.S. Schick, and P.N. Halpin. 2021a. Final Project Report: Marine Species Density Data Gap Assessments and Update for the AFTT Study Area, 2020 (Option Year 4). Document version 1.0 (DRAFT). Report prepared for Naval Facilities Engineering Command, Atlantic by the Duke University Marine Geospatial Ecology Lab, Durham, NC.
- Rolland, R. M., S. E. Parks, K. E. Hunt, M. Castellote, P. J. Corkeron, D. P. Nowacek, S. K. Wasser, and S. D. Kraus. 2012. Evidence that ship noise increases stress in right whales. *Proceedings of the Royal Society B: Biological Sciences* 279 (1737): 2363–2368. <https://doi.org/10.1098/rspb.2011.2429>
- Romano, T. A., J.A. Olschowka, S.Y. Felten, V. Quaranta, S.H. Ridgway, and D.L. Felten. 2002b. Immune response, stress, and environment: Implications for cetaceans. Pages 253-279 In *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.
- Romano, T.A., M.J. Keogh, C. Kelly, P. Feng, L. Berk, C.R. Schlundt, and J. Finneran. 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. <https://doi.org/10.1139/f04-055>

- Root-Gutteridge, H., Cusano, D. A., Shiu, Y., Nowacek, D. P., Van Parijs, S. M., and Parks, S. E. 2018. “A lifetime of changing calls: North Atlantic right whales, *Eubalaena glacialis*, refine call production as they age,” *Anim. Behav.* 137, 1–34.
<https://doi.org/10.1016/j.anbehav.2017.12.016>
- ROSA. 2021. Offshore Wind Project Monitoring Framework and Guidelines. Available at:
<https://www.rosascience.org/offshore-wind-and-fisheries-resources/>
- RPS. 2024. Vineyard Wind 1 Protected Species Observer Annual Report | Construction 2023. Final Report Version 1 March 1, 2024. 209 pp.
- Ruppel, C., Weber, C., Staaterman, E., Labak, S., and Hart, P. (2022) Categorizing active marine acoustic sources based on their potential to affect marine animals. *Journal of Marine Science and Engineering* 2022 Vol. 10 Issue 9 Pages 1278. doi:10.3390/jmse10091278.
- Russell, D.J., G.D. Hastie, D. Thompson, V.M. Janik, P.S. Hammond, L.A. Scott-Hayward, J. Matthiopoulos, E.L. Jones, and B.J. McConnell. 2016. Avoidance of wind farms by harbour seals is limited to pile driving activities. *Journal of Applied Ecology* 53(6): 1642-1652. <https://doi.org/10.1111/1365-2664.12678>
- S**
- Saetre, R. and E. Ona. 1996. The effects of seismic surveys on fish eggs and larvae. *Fiskens Og Havet* 8: 24.
- Saino, N. 1994. Time budget variation in relation to flock size in carrion crows, *Corvus corone corone*. *Animal Behaviour* 47 (5): 1189-1196. <https://doi.org/10.1006/anbe.1994.1157>
- Salisbury, D., Clark, C., Rice, A. 2015. Right whale occurrence in the coastal waters of Virginia, U.S.A.: Endangered species presence in a rapidly developing energy market. *Marine Mammal Science*. <https://doi.org/10.1111/mms.12276>
- Samson, J.E., T.A. Mooney, S.W. Gussekloo, and R.T. Hanlon. 2014. Graded behavioral responses and habituation to sound in the common cuttlefish *Sepia officinalis*. *Journal of Experimental Biology* 217 (24): 4347-4355. <https://doi.org/10.1242/jeb.113365>
- Santulli, A., A. Modica, C. Messina, L. Ceffa, A. Curatolo, G. Rivas, G. Fabi, and V. D’Amelio. 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. [https://doi.org/10.1016/S0025-326X\(99\)00136-8](https://doi.org/10.1016/S0025-326X(99)00136-8).
- Scheifele, P. M., S. Andrew, R.A. Cooper, M. Darre, F.E. Musiek, and L. Max. 2005. Indication of a Lombard vocal response in the St. Lawrence River beluga. *The Journal of the Acoustical Society of America* 117 (3): 1486-1492. <https://doi.org/10.1121/1.1835508>

- 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. <https://doi.org/10.1121/1.429420>
- Schorr, G.S., E.A. Falcone, D.J. Moretti, and R.D. Andrews. 2014. First long-term behavioral records from Cuvier's beaked whales (*Ziphius cavirostris*) reveal record breaking dives. *PLoS one* 9(3): e92633. <https://doi.org/10.1371/journal.pone.0092633>
- Schultze, L.K.P., L.M. Merckelbach, J. Horstmann, S. Raasch, and J.R. Carpenter. 2020. Increased mixing and turbulence in the wake of offshore wind farm foundations. *Journal of Geophysical Research: Oceans* 125(8): e2019JC015858. <https://doi.org/10.1029/2019JC015858>
- Selye, H. 1950. Stress and the general adaptation syndrome. *British Medical Journal* June 17: 1383-1392. <https://doi.org/10.1136/bmj.1.4667.1383>
- Sergeant, D.E. 1977. Stocks of fin whales *Balaenoptera physalus* L. in the North Atlantic Ocean. *Rep. Int. Whal. Comm.* 27: 460–473.
- Sharp, S.M., W.A. McLellan, D.S. Rotstein, A.M. Costidis, S.G. Barco, K. Durham, T.D. Pitchford, K.A. Jackson, P.Y. Daoust, T. Wimmer, E.L. Couture, L. Bourque, T. Frasier, B. Frasier, D. Fauquier, T.K. Rowles, P.K. Hamilton, H. Pettis, and M.J. Moore. 2019. Gross and histopathologic diagnoses from North Atlantic right whale *Eubalaena glacialis* mortalities between 2003 and 2018. *Diseases of Aquatic Organisms* 135: 1-31. <https://doi.org/10.3354/dao03376>
- Silber, G. K., J. Slutsky, and S. Bettridge. 2010. Hydrodynamics of a ship/whale collision. *Journal of Experimental Marine Biology and Ecology* 391: 10–19. <https://doi.org/10.1016/j.jembe.2010.05.013>
- Simpson S. D., J. Purser and A. N. Radford. 2014. Anthropogenic noise compromises antipredator behaviour in European eels. *Global Change Biology* 21: 586– 593. <https://doi.org/10.1111/gcb.12685>
- Sivle, L. D., P. H. Kvadsheim, and M. A. Ainslie. 2014. Potential for population-level disturbance by active sonar in herring. *ICES Journal of Marine Science* 72 (2): 558–567. <https://doi.org/10.1093/icesjms/fsu154>
- Sivle, L. D., P. H. Kvadsheim, C. Curé, S. Isojunno, P. J. Wensveen, F. A. Lam, F. Visser, L. Kleivane, P. L. Tyack, C. M. Harris, and P. J. O. Miller. 2015. Severity of expert-identified behavioural responses of humpback whale, minke whale, and northern bottlenose whale to naval sonar. *Aquatic Mammals* 41(4): 469–502. <http://dx.doi.org/10.1578/AM.41.4.2015.469>

- Sivle, L. D., P. H. Kvadsheim, M. A. Ainslie, A. Solow, N. O. Handegard, N. Nordlund, and F. P. A. Lam. (2012). Impact of naval sonar signals on Atlantic herring (*Clupea harengus*) during summer feeding. *ICES Journal of Marine Science*, 69(6), 1078–1085.
<https://doi.org/10.1093/icesjms/fss080>
- 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. <https://doi.org/10.3354/meps11969>
- 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, 1357-1365.
<https://doi.org/10.1139/f92-151>
- Skeate, E.R., M.R. Perrow, and J.J. Gilroy. 2012. Likely effects of construction of Scroby Sands offshore wind farm on a mixed population of harbour (*Phoca vitulina*) and grey (*Halichoerus grypus*) seals. *Marine pollution bulletin* 64 (4): 872-881.
<https://doi.org/10.1016/j.marpolbul.2012.01.029>
- Slabbekoorn, H., N. Bouton, I. van Opzeeland, A. Coers, C. ten Cate, and A. N. Popper, A. N. 2010. A noisy spring: the impact of globally rising underwater sound levels on fish. *Trends in Ecology & Evolution* 25 (7): 419-427.
<https://doi.org/10.1016/j.tree.2010.04.005>
- Slavik, K., Lemmen, C., Zhang, W., Kerimoglu, O., Klingbeil, K. and Wirtz, K.W., 2019. The large-scale impact of offshore wind farm structures on pelagic primary productivity in the southern North Sea. *Hydrobiologia*, 845, pp.35-53.
<https://doi.org/10.48550/arXiv.1709.02386>
- Smith, M. E. 2016. Relationship Between Hair Cell Loss and Hearing Loss in Fishes. In A. N. Popper & A. Hawkins (Eds.), *The Effects of Noise on Aquatic Life II* (pp. 8). New York: Springer.
- Smith, M. E., A.B. Coffin, L.D. Miller, and A.N. Popper. 2006. Anatomical and functional recovery of the goldfish (*Carassius auratus*) ear following noise exposure. *Journal of Experimental Biology* 209 (21): 4193-4202. <https://doi.org/10.1242/jeb.02490>
- Smith, T.D., J. Allen, P.J. Clapham, P.S. Hammond, S. Katona, F. Larsen, J. Lien, D. Mattila, P.J. Palsboll, J. Sigurjonsson, P.T. Stevick and N. Øien. 1999. An ocean-basin-wide mark-recapture study of the North Atlantic humpback whale (*Megaptera novaeangliae*). *Mar. Mamm. Sci.* 15: 1–32. <https://doi.org/10.1111/j.1748-7692.1999.tb00779.x>
- Solé, M., M. Lenoir, M. Durfort, M. López-Bejar, A. Lombarte, M. Van Der Schaar, and M. André. 2013. Does exposure to noise from human activities compromise sensory

- information from cephalopod statocysts? *Deep Sea Research Part II: Topical Studies in Oceanography* 95: pp.160-181. <https://doi.org/10.1016/j.dsr2.2012.10.006>
- Solé, M., P. Sigray, M. Lenoir, M. Van der Schaar, E. Lalander, and M. André. 2017. Offshore exposure experiments on cuttlefish indicate received sound pressure and particle motion levels associated with acoustic trauma. *Scientific Reports* 7 (45899): 1–13. <https://doi.org/10.1038/srep45899>
- Sørensen, P.M., Haddock, A., Guarino, E., Jaakkola, K., McMullen, C., Jensen, F.H., Tyack, P.L. and King, S.L., 2023. Anthropogenic noise impairs cooperation in bottlenose dolphins. *Current Biology*, 33(4), pp.749-754. <https://doi.org/10.1016/j.cub.2022.12.063>
- Sorochan, K. A., Plourde, S., Morse, R., Pepin, P., Runge, J., Thompson, C., and Johnson, C. L. 2019. North Atlantic right whale (*Eubalaena glacialis*) and its food: (II) interannual variations in biomass of *Calanus spp.* on western North Atlantic shelves. *Journal of Plankton Research* 41(5): 687-708. <https://doi.org/10.1093/plankt/fbz044>.
- Southall, B. L., D. Moretti, B. Abraham, J. Calambokidis, S.L. DeRuiter, and P.L. Tyack. 2012. Marine Mammal Behavioral Response Studies in Southern California: Advances in Technology and Experimental Methods. *Marine Technology Society Journal* 46(4): 46-59. <https://doi.org/10.4031/MTSJ.46.4.1>.
- Southall, B. L., P. L. Tyack, D. Moretti, C. Clark, D. Claridge, and I. Boyd. 2009. Behavioral responses of beaked whales and other cetaceans to controlled exposures of simulated sonar and other sounds. Paper presented at the 18th Biennial Conference on the Biology of Marine Mammals, Quebec City, Canada.
- Southall, B., J. Calambokidis, P. Tyack, D. Moretti, J. Hildebrand, C. Kyburg, R. Carson, A. Friedlaender, E. Falcone, G. Schorr, A. Douglas, S. DeRuiter, J. Goldbogen, & J. Barlow. 2011. Biological and Behavioral Response Studies of Marine Mammals in Southern California, 2010 (“SOCAL-10”). Pearl Harbor, HI: U.S. Navy Pacific Fleet.
- Southall, B.L., A.E. Bowles, W.T. Ellison, J.J. Finneran, R.L. Gentry, C.R. Greene, D. Kastak, D. Ketten, J. Miller, P. Nachtigall, W. Richardson, J. Thomas, and P. Tyack. 2008. Marine mammal noise exposure criteria: Initial scientific recommendations. *Aquatic Mammals* 33(4): 411-521. <https://doi.org/10.1080/09524622.2008.9753846>.
- Southall, B.L., D.P. Nowacek, A.E. Bowles, V. Senigaglia, L. Bejder, and P.L. Tyack. 2021. Marine Mammal Noise Exposure Criteria: Assessing the Severity of Marine Mammal Behavioral Responses to Human Noise. *Aquatic Mammals* 47 (5): 421-464. <https://doi.org/10.1578/AM.47.5.2021.421>
- Southall, B.L., J.J. Finneran, C.J. Reichmuth, P.E. Nachtigall, D.R. Ketten, A.E. Bowles, W.T. Ellison, D.P. Nowacek, and P.L. Tyack. 2019a. Marine Mammal Noise Exposure

- Criteria: Updated Scientific Recommendations for Residual Hearing Effects. *Aquatic Mammals* 45(2): 125-232. <https://doi.org/10.1578/AM.45.2.2019.125>.
- Southall, B.L., S. L. DeRuiter, A. Friedlaender, A.K. Stimpert, J.A. Goldbogen, E. Hazen, C. Casey, S. Fregosi, D.E. Cade, A.N. Allen, C.M. Harris, G. Schorr, D. Moretti, S. Guan, and J. Calambokidis. 2019b. Behavioral responses of individual blue whales (*Balaenoptera musculus*.) *Journal of Experimental Biology* 222:1-15. <https://doi.org/10.1242/jeb.190637>
- Southall, B.L., Rowles, T., Gulland, F., Baird, R. W., and Jepson, P.D. 2013. Final report of the Independent Scientific Review Panel investigating potential contributing factors to a 2008 mass stranding of melon-headed whales (*Peponocephala electra*) in Antsohihy, Madagascar.
- South Fork Wind. 2024. Marine Mammal and Sea Turtle Monitoring During Windfarm Construction. South Fork Wind Farm Construction Project. Submitted on February 9, 2024.
- Stanley, J.A., C.A. Radford, and A.G. Jeffs. 2011. Behavioural Response Thresholds in New Zealand Crab Megalopae to Ambient Underwater Sound. *PLoS ONE* 6 (12):e28572. <https://doi.org/10.1371/journal.pone.0028572>
- Steimle, F.W. and C. Zetlin. 2000. Reef Habitats in the Middle Atlantic Bight: Abundance, Distribution, Associated Biological Communities, and Fishery Resource Use. *Marine Fisheries Review*, 62(2) 24-42. URI: <http://hdl.handle.net/1834/26392>
- Stenberg, C., Støttrup, J.G., van Deurs, M., Berg, C.W., Dinesen, G.E., Mosegaard, H., Grome, T.M. and Leonhard, S.B., 2015. Long-term effects of an offshore wind farm in the North Sea on fish communities. *Marine Ecology Progress Series*, 528, pp.257-265. <https://doi.org/10.3354/meps11261>
- Stepanuk, J., E. Heywood, J. Lopez, R. DiGiovanni Jr., and L. Thorne. 2021. Age-specific behavior and habitat use in humpback whales: implications for vessel strike. *Mar. Ecol. Progress Ser.* 663: 209–222. <https://doi.org/10.3354/meps13638>
- Stevick, P.T., J. Allen, P.J. Clapham, N. Friday, S.K. Katona, F. Larsen, J. Lien, D.K. Mattila, P.J. Palsbll, J. Sigurjansson, T.D. Smith, N. Øien and P.S. Hammond. 2003. North Atlantic humpback whale abundance and rate of increase four decades after protection from whaling. *Mar. Ecol. Prog. Ser.* 258: 263–273. <https://doi.org/10.3354/meps258263>
- Stewart, J.D., J.W. Durban, A.R. Knowlton, M.S. Lynn, H. Fearnbach, J. Barbaro, W.L. Perryman, C.A. Miller, and M.J. Moore. 2021. Decreasing body lengths in North Atlantic right whales. *Current Biology* 31 (14): 3174-3179. <https://doi.org/10.1016/j.cub.2021.04.067>

- Stewart, J.D., J.W. Durban, H. Fearnbach, P.K. Hamilton, A.R. Knowlton, M.S. Lynn, C.A. Miller, W.L. Perryman, B.W. Tao, and M.J. Moore. 2022. Larger females have more calves: influence of maternal body length on fecundity in North Atlantic right whales. *Marine Ecology Progress Series* 689: 179-189. <https://doi.org/10.3354/meps14040>.
- Stimpert, A.K., Mattila, D., Nosal, E.M. and Au, W.W., 2012. Tagging young humpback whale calves: methodology and diving behavior. *Endangered Species Research*, 19(1), pp.11-17. <https://doi.org/10.3354/esr00456>
- Stöber U, and F. Thomsen. 2021. How could operational underwater sound from future offshore wind turbines impact marine life? *J Acoust Soc Am*. 2021 Mar;149 (3):1791. <https://doi.org/10.1121/10.0003760>
- Stone, C. J. 2015. Marine mammal observations during seismic surveys from 1994–2010. JNCC Rep. No. 463a. 64 p.
- Stone, G. S., L. Cavagnaro, A. Hutt, S. Kraus, K. Baldwin, and J. Brown. 2000. Reactions of Hector's dolphins to acoustic gillnet pingers. New Zealand Department of Conservation: 28.
- Stone, K.M., S.M. Leiter, R.D. Kenney, B.C. Wikgren, J.L. Thompson, J.K.D. Taylor, and S.D. Kraus. 2017. Distribution and abundance of cetaceans in a wind energy development area offshore of Massachusetts and Rhode Island. *Journal of Coastal Conservation* 21: 527 - 543. <https://doi.org/10.1007/s11852-017-0526-4>
- Sutcliffe, W.H. and P.F. Brodie. 1977. Whale distributions in Nova Scotia waters. Fisheries and Marine Service Tech. Rep. 722. Canada.
- Sutherland, W. J., and N. J. Crockford. 1993. Factors affecting the feeding distribution of redbreasted geese *Branta ruficollis* wintering in Romania. *Biological Conservation*, 63 (1): 61- 65. [https://doi.org/10.1016/0006-3207\(93\)90074-B](https://doi.org/10.1016/0006-3207(93)90074-B)
- Swingle, W.M., S.G. Barco, T.D. Pitchford, W.A. McLellan, and D.A. Pabst. 1993. Appearance of juvenile humpback whales feeding in the nearshore waters of Virginia. *Marine Mammal Science* 9: 309-315. <https://doi.org/10.1111/j.1748-7692.1993.tb00458.x>

T

- Tal, D., H. Shachar-Bener, D. Hershkovitz, Y. Arieli, and A. Shupak. 2015. Evidence for the initiation of decompression sickness by exposure to intense underwater sound. *Journal of Neurophysiology* 114 (3): 1521-1529. <https://doi.org/10.1152/jn.00466.2015>
- Taormina, B., M. Laurans, M.P. Marzloff, N. Dufournaud, M. Lejart, N. Desroy, D. Leroy, S. Martin, and A. Carlier. 2020. Renewable energy homes for marine life: Habitat potential

- of a tidal energy project for benthic megafauna. *Marine Environmental Research* 161: 105131. <https://doi.org/10.1016/j.marenvres.2020.105131>
- Techer, D., S. Milla, and D. Banas. 2017. Sublethal Effect Assessment of a Low-power and Dual-frequency Anticyanobacterial Ultrasound Device on the Common Carp (*Cyprinus carpio*): a Field Study. *Environmental Science and Pollution Research* 24: 10. <https://doi.org/10.1007/s11356-016-8305-6>
- Teilmann, J. and J. Carstensen. 2012. Negative long term effects on harbour porpoises from a large scale offshore wind farm in the Baltic—evidence of slow recovery. *Environmental Research Letters* 7 (4): 045101. <https://doi.org/10.1088/1748-9326/7/4/045101>
- 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. <https://doi.org/10.1111/j.1748-7692.2006.00031.x>
- Tennessen, J.B. and Parks, S.E., 2016. Acoustic propagation modeling indicates vocal compensation in noise improves communication range for North Atlantic right whales. *Endangered Species Research* 30: 225-237. <https://doi.org/10.3354/esr00738>
- ter Hofstede, R., F.M.F. Driessen, P.J. Elzinga, M. Van Koningsveld, and M. Schutter. 2022. Offshore wind farms contribute to epibenthic biodiversity in the North Sea. *Journal of Sea Research* 185: 102229. <https://doi.org/10.1016/j.seares.2022.102229>
- Tetra Tech. 2020. Site Assessment Plan for the Atlantic Shores Offshore Wind Project. Prepared for Atlantic Shores Offshore Wind by Tetra Tech. Found at: <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/OCS-A-0499-SAP.pdf>
- Thode, A.M., S. B. Blackwell, A.S. Conrad, K.H. Kim, T. Marques, L. Thomas, C.S. Oedekoven, D. Harris, and K. Bröker. 2020. Roaring and repetition: How bowhead whales adjust their call density and source level (Lombard effect) in the presence of natural and seismic airgun survey noise. *The Journal of the Acoustical Society of America* 147 (3): 2061-2080. <https://doi.org/10.1121/10.0000935>
- Thode A, Abadie S, Barkaszi MJ. 2021. Optimization of Towed Passive Acoustic Monitoring (PAM) Array Design and Performance Study (Passive Acoustic Monitoring Study). Sterling (VA): US Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2021-086. 32 p.
- Thompson, PM., G.D. Hastie, J. Nedwell, R. Barham, K.L. Brookes, L.S. Cordes, H. Bailey, and N. McLean. 2013. Framework for assessing impacts of pile-driving noise from offshore wind farm construction on a harbour seal population. *Environmental Impact Assessment Review* 43: pp.73-85. <https://doi.org/10.1016/j.eiar.2013.06.005>

- Thomsen, F., K. Lüdemann, R. Kafemann, and W. Piper. 2006. Effects of offshore wind farm noise on marine mammals and fish, biola, Hamburg, Germany on behalf of COWRIE Ltd.
https://tethys.pnnl.gov/sites/default/files/publications/Effects_of_offshore_wind_farm_noise_on_marine-mammals_and_fish-1-.pdf
- Thomsen, F., Stober, U., and Sarnocinska-Kot, J. (2023). Hearing Impact on Marine Mammals Due to Underwater Sound from Future Wind Farms. *The Effects of Noise on Aquatic Life*, 1-7. https://doi.org/10.1007/978-3-031-10417-6_163-1.
- Thomsen, F., Ram, M., Chreptowicz, M., Nocoń, M., & Balicka, I. (2023) Noise modeling and environmental risk assessment of a geophysical survey and its impact on herring and minke whales in Irish coastal waters. Marine Institute, Galway.
<http://hdl.handle.net/10793/1872>
- Thorne, L. and Wiley, D. 2023 Evaluating drivers of recent large whale strandings on the East Coast of the United States. *Conservation Biology* 2024 Pages e14302.
<https://doi.org/10.1111/cobi.14302>
- Todd, Victoria L. G., Ian B. Todd, Jane C. Gardiner, Erica C. N. Morrin, Nicola A. MacPherson, Nancy A. DiMarzio, Frank Thomsen. 2015. A review of impacts of marine dredging activities on marine mammals. *ICES Journal of Marine Science*, Volume 72, Issue 2, January/February 2015, Pages 328–340, <https://doi.org/10.1093/icesjms/fsu187>.
- Toth, J., Evert, S., Zimmermann, E., Sullivan, M., Dotts, L., Able, K., Hagan, R., Slocum, C. 2018. Annual Residency Patterns and Diet of *Phoca vitulina concolor* (Western Atlantic Harbor Seal) in a Southern New Jersey Estuary. *Northeastern Naturalist*. 25(4):611–626.
<https://www.jstor.org/stable/26860527>.
- Tougaard, J., Hermensenn, L., Madsen, P. 2020. How loud is the underwater noise from operating offshore wind turbines? *J. Acoust. Soc. Am.* 148: (5) (2020): 2885
<https://asa.scitation.org/doi/10.1121/10.0002453>
- Tougaard, J., O.D. Henriksen, and L.A. Miller. 2009. Underwater noise from three types of offshore wind turbines: Estimation of impact zones for harbor porpoises and harbor seals. *The Journal of the Acoustical Society of America* 125 (6): 3766-3773.
<https://doi.org/10.1121/1.3117444>
- Treves, A. 2000. Theory and method in studies of vigilance and aggregation. *Animal Behaviour* 60 (6): 711-722. <https://doi.org/10.1006/anbe.2000.1528>
- Trygonis, V., E. Gerstein, J. Moir, and S. McCulloch. 2013. Vocalization characteristics of North Atlantic right whale surface active groups in the calving habitat, southeastern United

States. *Journal of the Acoustical Society of America* 134(6):4518.
<https://doi.org/10.1121/1.4824682>

Tyack, P. L. 2000. Functional aspects of cetacean communication. In J. Mann, R. C. Connor, P. L. Tyack, and H. Whitehead (Eds.), *Cetacean societies: Field studies of dolphins and whales*. Chicago, IL: University of Chicago Press.

Tyack, P.L., C. Clark, J. Bird, and V. Rowntree. 1983. Effects of underwater noise on migrating gray whales off the coast of California. *The Journal of the Acoustical Society of America* 74 S54; <https://doi.org/10.1121/1.2021028>

Tyack, P.L., W.M.X. Zimmer, D. Moretti, B.L. Southall, D.E. Claridge, J.W. Durban, C.W. Clark, A. D'Amico, N. DiMarzio, S. Jarvis, E. McCarthy, R. Morrissey, J. Ward, and I.L. Boyd. 2011. Beaked whales respond to simulated and actual Navy sonar. *PLOS One* 6(3): e17009. <https://doi.org/10.1371/journal.pone.0017009>

Tyack, P. and Thomas, L. 2019. Using dose–response functions to improve calculations of the impact of anthropogenic noise. *Aquatic Conserv: Mar Freshw Ecosyst.* 229(S1):242–253. <https://doi.org/10.1002/aqc.3149>

U

Urick, R. J. 1972. Noise signature of aircraft in level flight over and hydrophone in the sea. *Journal of Acoustical Society of America* 52: 993.

Urick, R.J. 1983. *Principles of Underwater Sound*. 3rd Edition, McGraw-Hill, New York.

V

Vallejo, G.C., K. Grellier, E.J. Nelson, R.M. McGregor, S.J. Canning, F.M. Caryl, and N. McLean. 2017. Responses of two marine top predators to an offshore wind farm. *Ecology and Evolution* 7 (21): 8698-8708. <https://doi.org/10.1002/ece3.3389>

van Berkel, J., Burchard, H., Christensen, A., Mortensen, L., Petersen, O., Thomsen, F. 2020. The effects of offshore wind farms on hydrodynamics and implications for fishes. *Oceanography* | Vol.33, No.4. pp 108-117.

van der Hoop, J.M., A.S.M. Vanderlaan, T.V.N. Cole, A.G. Henry, L. Hall, B. Mase-Guthrie, T. Wimmer, and M.J. Moore. 2014. Vessel Strikes to Large Whales Before and After the 2008 Ship Strike Rule. *Conservation Letters* 8 (1): 24–32. <https://doi.org/10.1111/conl.12105>

van de Kaa, G., M. van Ek, L.M. Kamp, and J. Rezaei. (2020). Wind turbine technology battles: Gearbox versus direct drive - opening up the black box of technology characteristics.

- Technological Forecasting and Social Change 153.
<https://doi.org/10.1016/j.techfore.2020.119933>.
- van Hal, R., A.B. Griffioen, and O.A. van Keeken. 2017. Changes in fish communities on a small spatial scale, an effect of increased habitat complexity by an offshore wind farm. *Marine Environmental Research* 126: 26-36.
<https://doi.org/10.1016/j.marenvres.2017.01.009>
- van Parijs, S.M. 2015. Letter of introduction to Biologically Important Areas issue. *Aquatic Mammals* 41(1): 1. <http://dx.doi.org/10.1578/AM.41.1.2015.1>
- van Parijs, S.M., K. Baker, J. Carduner, J. Daly, G.E. Davis, C. Esch, S. Guan, A. Scholik Schlomer, N.B. Sisson, and E. Staaterman. 2021. NOAA and BOEM Minimum Recommendations for Use of Passive Acoustic Listening Systems in Offshore Wind Energy Development Monitoring and Mitigation Programs. *Frontiers in Marine Science* 8: 760840. <https://doi.org/10.3389/fmars.2021.760840>
- van Parjis, S., DeAngelis, A., Aldrich, T., Gordon, R., Holdman, A., MCCordic, J., Mouy, X., Rowell, T., Tennant, S., Westell, A., Davis, G. 2023. Establishing baselines for predicting change in ambient sound metrics, marine mammal, and vessel occurrence within a US offshore wind energy area. *ICES Journal of Marine Science*. 0, 1–14
<https://doi.org/10.1093/icesjms/fsad148>
- van Rij, N. G. 2007. Implicit and explicit capture of attention: what it takes to be noticed. Thesis. University of Canterbury.
- Vanderlaan, A.S.M., and C.T. Taggart. 2007. Vessel Collisions with Whales: The Probability of Lethal Injury Based on Vessel Speed. *Marine Mammal Science* 23 (1): 144–156.
<https://doi.org/10.1111/j.1748-7692.2006.00098.x>
- Videsen, S.K., Bejder, L., Johnson, M. and Madsen, P.T., 2017. High suckling rates and acoustic crypsis of humpback whale neonates maximise potential for mother–calf energy transfer. *Functional Ecology*, 31(8), pp.1561-1573. <https://doi.org/10.1111/1365-2435.12871>
- Villegas-Amtmann, S., L.K., Schwarz, J.L. Sumich, and D.P. Costa. 2015. A bioenergetics model to evaluate demographic consequences of disturbance in marine mammals applied to gray whales. *Ecosphere* 6 (10): <https://doi.org/10.1890/es15-00146>
- Visser, F., C. Cure, P. H. Kvadsheim, F. P. Lam, P. L. Tyack, and P. J. Miller. 2016. Disturbance-specific social responses in long-finned pilot whales, *Globicephala melas*. *Scientific Reports* 6: 28641. <https://doi.org/10.1038/srep28641>
- Voynova, Y. G., M. J. Oliver, and J. H. Sharp. 2013. Wind to zooplankton: Ecosystem-wide influence of seasonal wind-driven upwelling in and around the Delaware Bay. *Journal of*

Geophysical Research. Oceans, 118, 6437-6450.
<http://dx.doi.org/10.1002/2013JC008793>.

W

- 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.
- Waring, G.T., E. Josephson, K. Maze-Foley, and P.E. Rosel. 2014. U.S. Atlantic and Gulf of Mexico marine mammal stock assessments- 2013. NOAA Technical Memorandum NMFS-NE-228, 475 pp.
- Wartzok, D. and D.R. Ketten. 1999. Marine mammal sensory systems. Pages 117-175 in J.E. Reynolds and S.A. Rommel, eds. Biology of Marine Mammals. Smithsonian Institution Press, Washington.
- 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. <https://doi.org/10.4031/002533203787537041>
- Watkins, W. A. 1986. Whale reactions to human activities in Cape Cod waters. Marine Mammal Science 2 (4): 251–262. <https://doi.org/10.1111/j.1748-7692.1986.tb00134.x>
- Watkins, W.A., P.L. Tyack, K.E. Moore, and J.E. Bird. 1987. The 20-Hz signals of finback whales (*Balaenoptera physalus*). Journal of the Acoustical Society of America 82 (6): 1901-1912. <https://doi.org/10.1121/1.395685>
- Watwood, S. L., J. D. Iafate, E. A. Reyier, and W. E. Redfoot. 2016. Behavioral Response of Reef Fish and Green Sea Turtles to Mid-Frequency Sonar. In A. N. Popper & A. Hawkins (Eds.), The Effects of Noise on Aquatic Life II (pp. 1213–1221). New York, NY: Springer New York.
- Weirathmueller, M.J., E.T. Küsel, K.E. Zammit, S.G. Dufault, K.E. Limpert, and D.G. Zeddies. 2022. Atlantic Shores South Acoustic and Exposure Modeling. Document 02272, Version 2.0. Technical report by JASCO Applied Sciences for Epsilon Associates, Inc.
- 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.
<https://doi.org/10.1242/jeb.161232>
- Wensveen, P.J., S. Isojunno, R.R. Hansen, A.M. von Benda-Beckmann, L. Kleivane, S. van IJsselmuide, F.P.A. Lam, P.H. Kvadsheim, S.L. DeRuiter, C. Curé, and T. Narazaki. 2019. Northern bottlenose whales in a pristine environment respond strongly to close and

- distant navy sonar signals. *Proceedings of the Royal Society B* 286 (1899): 20182592.
<https://doi.org/10.1098/rspb.2018.2592>
- Westgate, A. J., A.J. Read, T.M. Cox, T.D. Schofield, B.R. Whitaker, and K.E. Anderson. 1998. Monitoring a rehabilitated harbor porpoise using satellite telemetry. *Marine Mammal Science* 14 (3): 599–604. <https://doi.org/10.1111/j.1748-7692.1998.tb00746.x>
- Whitt, A.D., J.A. Powell, A.G. Richardson, J.R. Bosyk. 2015. Abundance and distribution of marine mammals in nearshore waters off New Jersey, USA. *Journal of Cetacean Research and Management*, 15:45-49. <https://doi.org/10.47536/jcrm.v15i1.514>
- Whitt, A.D., K. Dudzinski, and J.R. Laliberté. 2013. North Atlantic right whale distribution and seasonal occurrence in nearshore waters off New Jersey, USA, and implications for management. *Endangered Species Research* 20 (1): 59-69.
<https://doi.org/10.3354/esr00486>
- Wiley, D.N., R.A. Asmutis, T.D. Pitchford and D.P. Gannon. 1995. Stranding and mortality of humpback whales, *Megaptera novaeangliae*, in the mid-Atlantic and southeast United States, 1985-1992. *Fish. Bull.* 93:196– 205
- Wilhelmsson, D., T. Malm, and M.C. Öhman. 2006. The influence of offshore windpower on demersal fish. *ICES Journal of Marine Science* 63 (5): 775-784.
<https://doi.org/10.1016/j.icesjms.2006.02.001>
- Wilhelmsson, D., T. Malm, R. Thompson, J. Tchou, G. Sarantakos, N. McCormick, S. Luitjens, M. Gullström, J.K. Patterson Edwards, O. Amir, and A. Dubi (eds.) 2010. *Greening Blue Energy: Identifying and managing the biodiversity risks and opportunities of offshore renewable energy*. Gland, Switzerland: IUCN. 102pp. Available online at:
<http://www.indiaenvironmentportal.org.in/files/Greening%20blue%20energy.pdf>.
Accessed on 19 May 2023.
- Williams, R., C. W. Clark, D. Ponirakis, and E. Ashe. 2013. Acoustic quality of critical habitats for three threatened whale populations. *Animal Conservation* 17 (2): 174–185.
<https://doi.org/10.1111/acv.12076>
- Wilson, L.J., J. Harwood, C.G. Booth, R. Joy, and C.M. Harris. 2020. A decision framework to identify populations that are most vulnerable to the population level effects of disturbance. *Conservation Science and Practice* 2 (2): .e149.
<https://doi.org/10.1111/csp2.149>
- Wood, J., Southall, B.L. and Tollit, D.J. (2012) PG&E offshore 3-D Seismic Survey Project EIR – Marine Mammal Technical Final Report. SMRU Ltd.

X

Y

Yazvenko, S.B., T.L. McDonald, S.A. Blokhin, S.R. Johnson, H.R. Melton, M.W. Newcomer, R. Nielson, and P. Wainwright. 2007. Feeding of western gray whales during a seismic survey near Sakhalin Island, Russia. *Environmental Monitoring and Assessment* 134 (1-3): 93-106. <https://doi.org/10.1007/s10661-007-9810-3>

Z

Zaitseva, K. A., V.P. Morozov, and A.I. Akopian. 1980. Comparative characteristics of spatial hearing in the dolphin *Tursiops truncatus* and man. *Neuroscience and behavioral physiology* 10(2): 180-182. <https://doi.org/10.1007/BF01148460>

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. https://doi.org/10.1007/978-1-4612-0533-3_9

Zhang, X., H. Guo, J. Chen, J. Song, K. Xu, J. Lin, and S. Zhang. 2021. Potential effects of underwater noise from wind turbines on the marbled rockfish (*Sebasticus marmoratus*). *J Appl Ichthyol*. <https://doi.org/10.1111/jai.14198>

Zimmer, W.M.X., and P.L. Tyack. 2007. Repetitive shallow dives pose decompression risk in deep-diving beaked whales. *Marine Mammal Science* 23 (4): 888-925. <https://doi.org/10.1111/j.1748-7692.2007.00152.x>

Zoidis, A.M., Lomac-MacNair, K.S., Ireland, D.S., Rickard, M.E., McKown, K.A. and Schlesinger, M.D., 2021. Distribution and density of six large whale species in the New York Bight from monthly aerial surveys 2017 to 2020. *Continental Shelf Research*, 230, p.104572. <https://doi.org/10.1016/j.csr.2021.104572>