

Timothy B. Werner
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EMPLOYMENT

NEW ENGLAND AQUARIUM, Boston, MA

FEBRUARY 2005 – APRIL 2020

Chair, Bycatch Program

Senior Scientist

Director, Consortium for Wildlife Bycatch Reduction

CONSERVATION INTERNATIONAL, Washington, D.C.

JULY 1989 – MAY 2004

Senior Director, Global Marine Program (2002-2004)

Director, Coastal Marine Conservation Program (1997-2001)

Director, Melanesia Program (1989-1996)

WORLD WILDLIFE FUND, Washington, D.C.

MAY 1987 – JUNE 1989

Research Associate, Science Program

EDUCATION

- Boston University - PhD, Biology (2018)
- Stanford University, Graduate School of Business - MS, Business Management (2001)
- University of Maryland - MS, Marine Zoology (1997)
- Boston University - BA (*cum laude*), History (1985)

APPOINTMENTS

- Research Faculty, School for the Environment, UMASS-Boston (2018 -)
- International Whaling Commission Bycatch Mitigation Initiative Expert Panel (2018 -)
- Fisheries Scientist, US Pelagic Longline Take Reduction Team (2012 -)
- ICES – Working Group on Bycatch of Protected Species (2008 -)
- Alternate, Atlantic Large Whale Take Reduction Team (2009 -)
- Expert Committee on Fisheries Technology, Upper Gulf of California, Mexico (2016 -)

PEER-REVIEW PUBLICATIONS

Werner, T.B. and S. Kennelly. (*in revision*). Guidelines to reduce bycatch of marine mammals in capture fisheries. FAO Technical Guidelines for Responsible Fisheries; Volume 1: Fishing Operations; Supplement 4. FAO, Rome.

Berninsone, L., P. Bordino, M. Gnecco, M. Foutel, A.I. Mackay, and **T.B. Werner**. (*in review, Frontiers in Marine Science*) Switching gillnets to hand-lines: An alternative to mitigate the bycatch of Franciscana dolphins (*Pontoporia blainvillei*) in Argentina.

Myers, H.J., Moore, M.J., Baumgartner, M.F., Brilliant, S.W., Katona, S.K., Knowlton, A.R., Morissette, L., Pettis, H.M., Shester, G. and **T.B. Werner**. 2019. Ropeless fishing to prevent large whale

entanglements: Ropeless Consortium report. *Marine Policy* 107:103587. DOI: 10.1016/j.marpol.2019.103587.

- Howle, L.E., S.D. Kraus, **T.B. Werner** and D.P. Nowacek. 2018. Simulation of the entanglement of a North Atlantic Right whale (*Eubalaena glacialis*) with fixed fishing gear. *Marine Mammal Science*. DOI: 10.1111/mms.12562
- Knowlton, A.R., Robbins, J., Landry, S., McKenna, H.A., Kraus, S.D., and **T.B. Werner**. 2016. Implications of fishing rope strength on the severity of large whale entanglements. *Conservation Biology*, 30(2):318-328.
- Werner, T.B.**, S. Northridge, K.M. Press, and N. Young. 2015. Mitigating bycatch and depredation of marine mammals in longline fisheries. *ICES Journal of Marine Science* 72 (5):1576-1586.
- Jordan, J., J. Mandelman, D. McComb, S. Fordham, J. Carlson, and **T.B. Werner**. 2013. Linking sensory biology and fisheries bycatch reduction in elasmobranch fishes: A review with new directions for research. *Conservation Physiology* 1: doi: 10.1093/conphys/cot002
- Bordino P., A.I. Mackay, **T.B. Werner**, S.P. Northridge, and A.J. Read. 2013. Franciscana bycatch is not reduced by acoustically reflective or physically stiffened gillnets. *Endangered Species Research* 21:1-12.
- Reeves R.R., K. McClellan, and **T.B. Werner**. 2013. Marine mammal bycatch in gillnet and other entangling net fisheries, 1990-2011. *Endangered Species Research* 20:71-97.
- Żydelis, R., B.P. Wallace, E.L. Gilman, and **T.B. Werner**. 2009. Conservation of marine megafauna requires avoiding and minimizing fisheries bycatch. *Conservation Biology* 23(3):608-616.
- Mandelman, J.W., P.W. Cooper, **T.B. Werner**, and K.M. Lagueur. 2008. Shark bycatch and depredation in the U.S. Atlantic pelagic longline fishery. *Rev Fish Biol Fisheries* 18(4):427-442.
- Werner, T.**, S. Kraus, A. Read, and E. Zollett. 2006. Fishing techniques to reduce the bycatch of threatened marine animals. *Marine Technology Society Journal* 40(3):50-68.
- Allen, G.R. and **T.B. Werner**. 2002. Coral reef fish assessment in the 'coral triangle' of southeastern Asia. *Environmental Biology of Fishes* 65:209-214.
- Werner, T.B.**, L.P. Pinto, G.F. Dutra and P.G. do Prado Pereira. 2000. Abrolhos 2000: Conserving the southern Atlantic's richest coastal biodiversity into the next century. *Coastal Management* 28:99-108.
- Roberts, C. M., McClean, C. J., Veron, J. E. N., Hawkins, J. P., Allen, G. R., McAllister, D. E., Mittermeier, C., Schueler, F.W., Spalding, M., Weels, F., Vynne, C., and **T. B. Werner**. 2000. Marine biodiversity hotspots and conservation priorities for tropical reefs. *Science* 295:1280-1284.
- Mittermeier, R.A, **T.B. Werner** and A.E. Lees. 1996. New Caledonia – a conservation imperative for an ancient land. *Oryx* 30(2):104-112.

GRANT REPORTS (since 2015)

- Werner, T.B.** 2019. Ropeless fishing: Testing an innovative prototype for preventing whale entanglements. Final Grant Report to the U.S. Marine Mammal Commission. 13pp.
- Werner, T.B.** and R. Malloy, Jr. 2018. Field Testing an Electric Decoy for Reducing Elasmobranch Bycatch in Longline Fisheries. Final Report to NOAA under Award # NA15NMF4270282. 25 pp.
- Knowlton, A.R., R. Malloy, Jr., S.D. Kraus, and **T.B. Werner**. 2018. Development and Evaluation of Reduced Breaking Strength Rope to Reduce Large Whale Entanglement Severity. Final Report to the Executive Office of Energy and Environmental Affairs, Commonwealth of Massachusetts, under MMARS #: CT EVN 0607160000 000 000 3938. 66 pp.

- Werner, T.** and K. McLellan-Press. 2017. Global Assessment of Large Whale Entanglement and Bycatch Reduction in Fixed Fishing Gear. Final Grant Report to NOAA under Award #NA15NMF4630357. 86 pp.
- Werner, T.B.** 2017. Trial implementation of an acoustic bycatch deterrent for the Franciscana dolphin. Progress Report to the Korein Foundation (October 2, 2017) from the New England Aquarium and AquaMarina. 5 pp.
- Werner, T.B.** 2016. Evaluation of acoustic deterrents for reducing cetacean bycatch. Final Grant Report to NOAA under Award # NA13NMF4690175. 36 pp.
- Bordino, P. and **Werner, T.B.** 2016. Feasibility of using pingers in an artisanal fishery of northern Argentina. Pp. 6-19 in Werner, T.B.: "Evaluation of acoustic deterrents for reducing cetacean bycatch." Final report NOAA Award number NA13NMF4690175 to the New England Aquarium. 36pp.
- Bordino, P., Winter, D., Tombesi, M. L., Navarro, G., y **Werner, T.** 2016. Reducción de la interacción de Delfín Franciscana con pesquerías artesanales. Final Report of the 2015 Workshop held in Buenos Aires, Argentina. 22pp.
- Werner, T.** (ed). 2015. The Consortium for Wildlife Bycatch Reduction. Final Grant Report to NOAA under Award #NA10NMF4520343. 217pp., with appendices.
- Félix, F., J.F. Brewer, **T.B. Werner**, G. Merejildo Córdova, R. Cobo, A. Apolinario, G. Alvarado, A.V.A. Amorim, J. Unibazo, R. Hucke-Gaete, and R. Medina. 2015. Implementation of the marine mammal bycatch assessment project in Ecuador. Report to NOAA's Office of International Affairs under Award Number NA13NMF4690151 to the Consortium for Wildlife Bycatch Reduction, New England Aquarium, Boston USA. 104 pp.

RESEARCH GRANTS (since 2009)

- NOAA - *Capacity-building for Reducing Marine Mammal Lethality in Commercial Fishing and Aquaculture Operations*, \$62,000 (2020 – institution TBD); Principal Investigator (PI)
- The Volgenau Foundation - *Evaluation of operational and market needs for promoting ropeless fishing in the Gulf of Maine*, \$150,000 (2019); PI
- UN FAO - *Guidelines to reduce bycatch of marine mammals in capture fisheries*, \$25,000 (2019); PI.
- U.S. Marine Mammal Commission - *New and immediate research priorities to inform gear modification proposals for the 2019 North Atlantic Right Whale (NARW) Take Reduction Team (TRT) meeting*, \$36,111 (2019); PI
- The Volgenau Foundation - *Defining Success Criteria for Ropeless Fishing in the Gulf of Maine*, \$150,000 (2018); PI
- NOAA - *Testing a ropeless fishing prototype for eliminating large whale entanglements in pot fishing gear*, \$226,616 (2018); PI
- NOAA - *Development of FAO Guidelines and Capacity-Building for Reducing Marine Mammal Lethality in Commercial Fishing and Aquaculture Operations*, \$253,140 (2017); PI
- Commonwealth of MA, Office of Energy & Environmental Affairs - *Development / Evaluation of Reduced Breaking Strength Ropes to Reduce Large Whale Entanglement Severity 2016-17*, \$108,000 (2016); Co-PI
- U.S. Marine Mammal Commission - *Ropeless fishing: Testing an innovative prototype for preventing whale entanglements*, \$19,278 (2016); PI
- NOAA - *Global Assessment of Large Whale Entanglement and Bycatch Reduction in Fixed Fishing Gear*, \$100,000 (2015); PI

- NOAA - *Field testing an electric decoy for reducing elasmobranch bycatch in longline fisheries*, \$113,419 (2015); PI
- Korein Foundation - *Sustaining Fisheries and Marine Biodiversity in Samborombón Bay*, \$40,000 (2015); PI
- NOAA - *Evaluation of Acoustic Deterrents for Reducing Cetacean Bycatch Fisheries*, \$107,350 (2013); PI
- NOAA - *Assessment of Priority Targets for Marine Mammal Bycatch Reduction in Asia and South America*, \$105,952 (2013); PI
- Korein Foundation - *Evaluating fishing pots as an alternative fishing gear to gillnets in Bahia Samborombón, Argentina; and Feasibility of Using Pingers in an Artisanal Fishery of Northern Argentina*, \$40,000 (2013); PI
- Korein Foundation - *A Science-Industry Collaborative Research Project to Reduce Bycatch of the Franciscana Dolphin*, \$40,000 (2012); PI
- NOAA - *An International Workshop to Assess Techniques for Reducing Bycatch of Marine Mammals in Longline Fisheries*, \$73,425 (2012); PI
- Korein Foundation - *Reducing Bycatch of Endangered Marine Mammals*, \$40,000 (2011); PI
- NOAA - *Consortium for Wildlife Bycatch Reduction*, \$1,240,183 (2010-2013); PI
- NOAA - *International Coastal Gillnet Bycatch (Marine Mammal) Mitigation Workshops Fisheries*, \$45,000 (2010); Co-PI
- Lenfest Ocean Program - *Evaluate alternative gillnets in Brazil and Argentina*, \$325,000 (2009); PI

AWARDS/SCHOLARSHIPS

- 2013 Katerva Award in Ecosystem Conservation
- David and Lucile Packard Foundation Scholarship (2000-2001) - Stanford University's Graduate School of Business

INVITED SEMINARS/TALKS (since 2007)

“Technical Measures - Current and emerging.” *Expert Meeting to Develop Technical Guidelines to Reduce Bycatch of Marine Mammals in Fisheries*, FAO, Rome, Italy (September 17, 2019)

“Examples of novel strategies for reducing bycatch of threatened marine mammals.” *ICES-FAO Working Group on Fishing Technology and Fish Behavior*, 2019 Annual Meeting, Shanghai, China (April 8, 2019)

“Sustainability in Crisis – the Importance of Science, Industry and Government in Protecting Right Whales and Fishing Livelihoods.” *Seafood Expo North America*, Boston, MA (March 18, 2019)

“Hauling Up Solutions: Bycatch Toolbox Summary.” *Cetacean Bycatch Workshop*, CEFAS, ZSL, and DEFRA, London, England (March 12, 2019)

“Up-dates on Research and Policy Priorities for Mitigating Marine Mammal Bycatch in Commercial Fisheries and Aquaculture.” *SMAST*, UMASS-Dartmouth (February 27, 2019)

“Devising and testing entanglement prevention techniques in aquaculture systems.” *North East Aquaculture Conference and Expo*, Boston, MA (January 11, 2019)

“Means and Methods for Reducing Marine Mammal Mortality in Fishing and Aquaculture Operations: State of Knowledge.” *FAO*, Rome, Italy (March 20, 2018)

“The Deadliest Catch: How to Avoid the Extinction, and Facilitate the Recovery of Species Threatened as Bycatch?” *Animal Grantmakers Conference*, Newton, MA (October 16, 2018)

“Right Whales, Right Gear: Finding New Ways to Fish that Avoid Whale Entanglements.” Panel Moderator, *New England Aquarium*, Boston, MA (October 15, 2018)

“Global Review of Techniques to Reduce the Mortality of Marine Mammals in Fishing Gear.” *Permanent Commission of the South Pacific Regional Workshop on Alternatives for the Reduction of the Incidental Mortality of Marine Mammals in Fishing Gear*, Guayaquil, Ecuador (August 30, 2018)

“Mitigation of Large Whale Entanglements in the NW Atlantic.” *U.S. Marine Mammal Commission meeting*, Seattle, WA (May 31, 2018)

“Techniques for Reducing Large Whale Entanglements.” *PSMFC Workshop: Working to Minimize Crab Gear and Whale Entanglement Issues*, Portland, Oregon (March 29, 2017)

“Evaluations of Electromagnetic Deterrents to Elasmobranch Bycatch.” *Shark By-Watch UK 2*, CEFAS/ZSL, London, England (September 1, 2015)

“Observations on PETs (protected, endangered, and threatened species) and Entanglement Risk/Severity in Mussel Farms.” *GARFO*, Gloucester, MA (September 28, 2015)

“Acoustic Deterrents and Marine Mammal-Gillnet Bycatch.” *Harbor Porpoise Take Reduction Team Meeting*, Providence, Rhode Island (November 28, 2012)

“Innovative Approaches to Reducing Endangered Species Bycatch.” *SMASST*, UMASS-Dartmouth (October 3, 2012)

“Prickly Pickles: The Fascinating World of Sea Cucumbers.” *Lowell Lecture*, *New England Aquarium*, Boston, MA (October 27, 2009)

“The Threat of Fisheries Bycatch to Marine Biodiversity, and What Can Be Done About It.” *Boston University Marine Program Seminar*, Boston, MA (April 18, 2007)

PEER REVIEWER

Ambio; Biological Conservation; Conservation Biology; Endangered Species Research; Marine Biodiversity; Marine Ecology Progress Series; Marine Mammal Science

PRESS COVERAGE (partial)

- Cape Cod Times. “Virtual whale entanglements seen as learning tool.” November 21, 2018.
- Gloucester Daily Times. “Losing lobster lines: Local lobstermen may test ropeless traps.” November 4, 2018.
- WCAI. “Helping fishermen catch what they want, and nothing else.” May 2, 2016.
- The Patriot Ledger. “Local lobstermen design gear to both protect whales, ‘get our lobstering back.’” May 11, 2015.
- The Patriot Ledger. “South Shore lobstermen to pitch whale-friendly gear to Feds.” April 20, 2017.
- CBC News. “Right whale entanglements continue despite search for solutions.” October 1, 2016.
- The Guardian. “An unusual partnership works to make fishing more sustainable.” June 17, 2014.
- The New York Times. “Fishing gear is altered to ease collateral costs to marine life.” August 22, 2011.
- Popular Science. “Saving the seas: Smarter hooks and nets.” May 2, 2011.

CERTIFICATIONS

- NAUI Scuba Diver (1983), with more than 500 hours of scientific and recreational diving in South and Central America, the Caribbean, Southeast Asia, the South Pacific, the eastern Pacific, the Indian Ocean, and the U.S.
- NAUI Dry Suit Diver (2011)

LANGUAGES

Fluent in Portuguese and Spanish; conversational in Melanesian Pidgin.