

COMMITTEE ON NATURAL RESOURCES
118th Congress Disclosure Form
As required by and provided for in House Rule XI, clause 2(g)(5)

Discussion Draft on H.R. ____ sponsored by Rep. Graves of Louisiana
Wednesday, October 25th, 2023

For Individuals:

Name: Barbara Louise Taylor

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* * * * *

For Witnesses Representing Organizations:

Name:

Name of Organization(s) You are Representing at the Hearing:

Business Address:

Business Email Address:

Business Phone Number:

* * * * *

For Nongovernment Witnesses ONLY:

1. Please attach/include current curriculum vitae or resume.

Appended

2. Please list any federal grants or contracts (including subgrants or subcontracts) related to the subject matter of the hearing that were received in the current year and previous two calendar years by you or the organization(s) you represent at this hearing, including the source and amount of each grant or contract.

None

3. Please list any contracts or payments originating with a foreign government related to the subject matter of the hearing that were received in the current year and previous two calendar years by you or the organization(s) you represent at this hearing, including the amount and country of origin of each contract or payment.

None

4. Please disclose whether you are a fiduciary (including, but not limited to, a director, officer, advisor, or resident agent) of any organization or entity that has an interest in the subject matter of the hearing.

Not a fiduciary

5. Please list any current or pending litigation against the Federal government to which you or your organization is a party. Please disclose as applicable case name, docket number, the court, and subject matter of the litigation.

None

BARBARA L. TAYLOR

EDUCATION

Ph.D. in Biology, 1991
University of California San Diego, La Jolla, CA

Bachelor of Science in Biology, 1978
The Evergreen State College, Olympia, WA

The University of Washington, Seattle, WA 1974-1976

EXPERIENCE

INDEPENDENT SCIENTIST. 2022 to present. Lead scientist on annual vaquita surveys in collaboration with the Sea Shepherd Conservation Society and the Government of Mexico, Coordinator of Red List assessments for whales, dolphins and porpoises for the International Union for the Conservation of Nature (IUCN), co-leader of Integrated Conservation Planning for Cetaceans (IUCN).

FISHERIES BIOLOGIST, Southwest Fisheries Science Center. 1994 to 2022. Senior Scientist 2019-2022. Leader of the Marine Mammal Genetics Program 2003-2019, which included supervising 8 scientists studying conservation genetics of marine mammals. Analyze genetic data for decisions regarding population structure using genetic data. Population dynamics and genetic modeling for conservation applications. Progress risk analyses for marine species. Lead researcher for vaquita studies 1997-2022.

NATIONAL RESEARCH COUNCIL FELLOWSHIP, Southwest Fisheries Science Center. 1991-1994. Research on the translation on non-linearities in vital rates to population growth rates. Sensitivity analysis on proposed management regime for management of marine mammals. Population viability analysis of sea turtles.

LECTURER, University of Otago, Dunedin, New Zealand. 1993. Teach workshop on population viability analysis. Analyze Hector's dolphin population growth rates.

LECTURER, University of Cape Town, South Africa. 1993. Teach demography, population viability analysis to graduate students in conservation biology.

LECTURER, University of California San Diego. 1992
Teach Conservation Biology: the quantitative analysis of population dynamics and genetics of small populations. Lectures and computer laboratory demonstration.

WILDLIFE BIOLOGIST, National Marine Mammal Laboratory. 1984-1986. Collect

photogrammetric data from bowhead whales to gather lengths for age structure analysis.

BIOLOGIST/PROJECT LEADER, School for Field Studies. 1984.

Study distribution and abundance of harbor seals. Teach experimental design, field techniques, and data analysis to college students.

BIOLOGIST, University of Hawaii. 1984.

Study the effects of vessel traffic on humpback whales.

BIOLOGIST, North Slope Borough. 1980-1984.

Supervisor of bowhead whale visual census crew.

BIOLOGIST, University of Hawaii at Glacier Bay. 1981-1982.

Study the effects of vessel traffic on humpback whales.

BIOLOGIST, Glacier Bay National Park. 1979-1981.

Investigate the status of harbor porpoise: distribution, abundance, habitat use.

BIOLOGIST, University of Montana. 1979.

Investigate polar bear habitat usage in the Canadian Arctic.

BIOLOGIST, National Science Foundation. 1977.

Study the effects of pollutant levels on harbor seal recruitment.

PUBLICATIONS

Robinson, J.A., Kyriazis, C.C., Nigenda-Morales, S.F. Beichman, A.C., Rojas-Bracho, L., Robertson, K.M., Fontaine, M.C., Wayne, R.K., Lohmueller, K.E., Taylor, B.L., Morin P.A. 2022. The critically endangered vaquita is not doomed to extinction by inbreeding depression. *Science* 376: 635–639.

Lorenzo Rojas-Bracho^{1*}, Barbara Taylor², Cormac Booth³, Len Thomas⁴, Armando Jaramillo-Legorreta⁵, Edwynna Nieto García⁵, Gustavo Cárdenas Hinojosa⁵, Jay Barlow², Sarah L. Mesnick², Tim Gerrodette², Paula Olson², Annette Henry², Henoch Rizo⁶, Eva Hidalgo-Pla⁷, Andrea Bonilla-Garzón⁸ 2022. Benefits of monitoring very small populations: more vaquita porpoises survive than expected. *Endangered Species Research* 48: 225-234.

Morin, P.A., F.I. Archer, C.D. Avila, J.R. Balacco, Y.V. Bukhman, W. Chow, O. Fedrigo, G. Formenti, J.A. Fronczek, A. Functammasan, F.M.D. Gulland, B. Hasse, M.P. Heide-Jorgensen, M.L. Houck, K. Howe, A.C. Misuraca, J. Mountcastle, W. Musser, S. Paez, S. Pelan, A. Phillipy, A. Rhie, J. Robinson, L. Rojas-Bracho, T.K. Rowles, O.A. Ryder, C.R. Smith, S. Stevenson, B.L. Taylor, J. Teilmann, J. Torrance, R.S. Wells, A.J. Westgate, E.D. Jarvis. 2020. Reference genome and demographic history of the most endangered marine mammal, the vaquita. *Molecular Ecology Resources*. DOI: 10.1111/1755-0998.13284.

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Jaramillo-Legorreta, A.M., G. Cardenas-Hinojosa, E. Nieto-Garcia, L. Rojas-Bracho, L. Thomas, J.M. Ver Hoef, J. Moore, B. Taylor, J. Barlow, N. Tregenza. 2019. Decline towards extinction of Mexico's vaquita porpoise (*Phocoena sinus*). *R. Soc. Open sci.* 6: 190598.

Taylor, B.L., Wells, R.S., Olson, P.A., Brownell, R.L. Jr., Gulland, F.M.D., Read, A.J., Valverde-Esparza, F.J., Ortiz-Garcia, O.H., Ruiz-Sabio, D., Jaramillo-Legorreta, A.M., Nieto-Garcia, E., Cardenas-Hinojosa, G., and Rojas-Bracho, L. 2019. Likely annual calving in the vaquita, *Phocoena sinus*: A new hope? *Marine Mammal Science* DOI: 10.1111/mms.12595

L. Rojas-Bracho, F.M.D. Gulland, C. Smith, B. Taylor, R.S. Wells, P.O. Thomas, B. Bauer, M.P. Heide-Jørgensen, J. Teilmann, A. Jaramillo-Legorreta, G. Abel, A.J. Read, A. Westgate, K. Colegrove, F. Gomez, K. Martz, R. Rebolledo, S. Ridgway, T. Rowles, C.E. van Elk, J. Boehm, G. Cardenas-Hinojosa, R. Constandse, E. Nieto-Garcia, W. Phillips, D. Sabio, R. Sanchez, J. Sweeney, F. Townsend, S. Walker, J.C. Vivanco. 2019. A field effort to capture critically endangered vaquitas (*Phocoena sinus*) for protection from entanglement in illegal gillnets. *Endangered Species Research* 38:11-27.

Lorenzo Rojas-Bracho, Richard C. Brusca, Saúl Álvarez-Borrego, Robert L. Brownell Jr., Víctor Camacho-Ibar, Gerardo Ceballos, Horacio De La Cueva, Jaqueline García-Hernández, Philip A. Hastings, Gustavo Cárdenas-Hinojosa, Armando M. Jaramillo-Legorreta, Rodrigo Medellín, Sarah L. Mesnick, Edwynna Nieto-García, Jorge Urbán, Enriqueta Velarde, Omar Vidal, Lloyd T. Findley, and Barbara L. Taylor. 2019. Unsubstantiated Claims Can Lead to Tragical Conservation Outcomes. *BioScience* 69:12-14.

Thomas, L., Jaramillo-Legorreta, A. G. Cardenas-Hinojosa, E. Nieto-Garcia, L. Rojas-Bracho, J. M. Ver Hoef, J. Moore, B. Taylor, J. Barlow, N. Tregenza. (2017). Last call: Passive acoustic monitoring shows continued rapid decline of critically endangered vaquita. *J. Acoust. Soc. Am.* 142 (5), November 2017

Taylor, B.L., W.F. Perrin, R.R. Reeves, *et al.* 2017. Why we should develop guidelines and quantitative standards to use genetic data for subspecies delimitation among data-poor organisms like cetaceans. *Marine Mammal Science* 33: 12-26.

Taylor, B.L., F.I. Archer, K.K. Martien, *et al.* 2017. Guidelines and quantitative standards to improve consistency in cetacean subspecies and species delimitation relying on molecular genetic data. *Marine Mammal Science* 33:132-155.

Archer, F.I., K.K. Martien and B.L. Taylor. 2017. Diagnosability of mtDNA with

Random Forests: Using sequence data to delimit subspecies. *Marine Mammal Science* 33: 100-131.

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Rosel, P.E., B.L. Taylor, B.L. Hancock-Hanser, *et al.* 2017b. A review of genetic markers and analytical approaches that have been used for delimiting marine mammal subspecies and species. *Marine Mammal Science*. 33: 56-75.

LeDuc, R., F.I. Archer, A.R. Lang, K.K. Martien, B.L. Hancock-hanser, J. Torres-Florez, R. Hucke-Gate, H.C. Rosenbaum, K. van Waerebeek, R.L. Brownell, Jr., B.L. Taylor. 2017. Genetic variation in blue whales in the eastern Pacific: implication for taxonomy and use of common wintering grounds. *Molecular Ecology*. **26**:740-751.

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Martien, Karen K., Susan J. Chivers, Robin W. Baird, Frederick I. Archer, Antoinette M. Gorgone, Brittany L. Hancock-Hanser, David Mattila, Daniel J. McSweeney, Erin M. Oleson, Carol Palmer, Victoria L. Pease, Kelly M. Robertson, Gregory S. Schorr, Mark B. Schultz, Daniel L. Webster, and Barbara L. Taylor. 2014. Nuclear and mitochondrial patterns of population structure in North Pacific false killer whales (*Pseudorca crassidens*). *Journal of Heredity* 105(5):611-626.

Torres-Florez, J.P., R. Hucke-Gaete, R. LeDuc, A. Lang, B. Taylor, L.E. Pimper, L. Bedrinana-Romano, H.C. Rosembaum, and C.C. Figueroa. 2014. Blue whale population structure along the eastern South Pacific Ocean: evidence of more than one population. *Molecular Ecology* 23(24):5998-6010.

Taylor, B.L. 2013. Vaquita: net gains and net losses. American Cetacean Society Spyhopper.

Archer, Frederick I., Phillip A. Morin, Brittany L. Hancock-Hanser, Kelly M. Robertson, Matthew S. Leslie, Martine Berube, Simone Panigada, and Barbara L. Taylor. 2013. Mitogenomic phylogenetics of fin whales (*Balaenoptera physalus* spp.): genetic evidence for revision of subspecies. *PLoS ONE* 8(5): e63396 (10 p.).

Regan, Tracey J., Barbara L. Taylor, Grant G. Thompson, Jean Fitts Cochrane, Katherine Ralls, Michael C. Runge, and Richard Merrick. 2013. Testing decision rules for categorizing species' extinction risk to help develop quantitative listing criteria for the U.S. Endangered Species Act. *Conservation Biology* 27(4):821-831.

LeDuc RG, Taylor BL, Martien KK, Robertson KM, Pitman RL, Salinas JC, Burdin AM, Kennedy AS, Wade PR, Clapham PJ, Brownell RL Jr. 2013. Genetic analysis of right whales in the eastern North Pacific confirms severe extirpation risk. *Endangered Species Research* 10.3354/esr00440.

Baker, C. Scott, Debbie Steel, John Calambokidis, Erin Falcone, Ursula Gonzalez- Peral, Jay Barlow, Alexander M. Burdin, Phillip J. Clapham, John K.B. Ford, Christine M. Gabriele, David Mattila, Lorenzo Rojas-Bracho, Janice M. Straley, Barbara L. Taylor, Jorge Urban, Paul R. Wade, David Weller, Briana H. Witteveen, and Manami Yamaguchi. 2013. Strong maternal fidelity and natal philopatry shape genetic structure in North Pacific humpback whales. *Marine Ecology Progress Series* 494:291-306.

Oleson, Erin M., Robin W. Baird, Karen K. Martien, and Barbara L. Taylor. 2013. Island-associated stocks of odontocetes in the main Hawaiian Islands: a synthesis of available information to facilitate evaluation of stock structure. Paper PSRG-2013-16 presented to the Pacific Scientific Review Group (Annual meeting, San Diego, CA, 2013). 40 pp.

Dewer, H., Eguchi, T., Hyde, J., Kinzey, D., Kohin, S., Moore, J., Taylor, B.L., Vetter, R. 2013. Status review of the northern Pacific population of white sharks (*Carcharodon carcharias*) under the Endangered Species Act. NOAA Technical Memorandum NMFS-SWFSC-523.

Zhao, X., D. Wang, S.T. Turvey, B. Taylor, and T. Akamatsu. 2013. Distribution patterns of Yangtze finless porpoises in the Yangtze River: implications for reserve management.

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Cooke, J., R. Leaper, P. Wade, D. Lavigne and B. Taylor. 2012. Management rules for marine mammal populations: A response to Lonergan. *Marine Policy* 36: 389-392

Morin, Phillip A., Frederick I. Archer, Victoria L. Pease, Brittany L. Hancock-Hanser, Kelly M. Robertson, Ryan M. Huebinger, Karen K. Martien, John W. Bickham, J. Craig George, Lianne D. Postma, and Barbara L. Taylor. 2012. Empirical comparison of single nucleotide polymorphisms and microsatellites for population and demographic analyses of bowhead whales. *Endangered Species Research* 19(2):129-147.

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Mesnick, S.L., B.L. Taylor, F.I. Archer, K.K. Martien, S. Excorza Trevino, B.L. Hancock-Hanser, S.C. Moreno Medina, V.L. Pease, K.M. Robertson, J.M. Straley, R.W. Baird, J. Calambokidis, G.S. Schorr, P. Wade, V. Burkanov, C.R. Lunsford, L. Rendell, and P.A. Morin. 2011. Sperm whale population structure in the eastern and central North Pacific inferred by the use of single-nucleotide polymorphisms, microsatellites and mitochondrial DNA. *Molecular Ecology Resources* 11: 278-298.

Oleson, E.M., C.H. Boggs, K.A. Forney, M.B. Hanson, D.R. Kobayashi, B.L. Taylor, P.R. Wade, and G.M. Ylitalo. 2010. Status review of Hawaiian insular false killer whales (*Pseudorca crassidens*) under the Endangered Species Act. NOAA Technical Memorandum NMFS-PIFSC-22.

Archer, F.I., K.K. Martien, B.L. Taylor, R.G. LeDuc, B.J. Ripley, G.H. Givens, J.C. George. 2010. A simulation-based approach to evaluating population structure in non-equilibrium populations. *Journal of Cetacean Research and Management* 11:101-113.

Tallmon, D., D. Gregovich, R. Waples, C.S. Baker, J. Jackson, B.L. Taylor, F.I. Archer, K.K. Martien, M. Schwartz. 2010. When are genetic methods useful for estimating contemporary abundance and detecting population trends? *Molecular Ecology Resources*. 10:684-692.

Morin, Phillip A., Karen K. Martien, Frederick I. Archer, Frank Cipriano, Debbie Steel, Jennifer Jackson, and Barbara L. Taylor. 2010. Applied conservation genetics and the need for quality control and reporting of genetic data used in fisheries and wildlife management. *Journal of Heredity* 101(1):1-10.

Taylor, B.L., K. Martien, and P. Morin. 2010. Identifying units to conserve using genetic data. Pages 306-344 in *Marine Mammal Ecology and Conservation—A Handbook of Techniques*. I.L. Boyd, W.D. Bowen and S.J. Iverson editors. Oxford University Press.

Chivers, S. J., R. W. Baird, K. M. Martien, B. Taylor, L., E. Archer, A. M. Gorgone, B. L. Hancock, N. Hedrick, M., D. K. Mattila, D. J. McSweeney, E. M. Oleson, C. L. Palmer, V. Pease, K. M. Robertson, J. Robbins, J. C. Salinas, G. S. Schorr, M. Schultz, J. L. Theileking and D. L. Webster. 2010. Evidence of genetic differentiation for Hawai'i insular false killer whales (*Pseudorca crassidens*). U.S. Department of Commerce,

NOAA Technical Memorandum NMFS, NOAA-TM-NMFS-SWFSC-458. 44 pages.

Jaramillo, A. and B.L. Taylor. 2010. Vaquitas on the brink—can we save Mexico’s imperiled porpoise? *Whalewatcher* 39: 11-13.

Rojas-Bracho, L., A. Jaramillo-Legoretta, G. Cardenas, E. Nieto, P. Ladron de Guevara, B.L. Taylor, J. Barlow, T. Gerrodette, A. Henry, N. Tregenza, R. Swift, T. Akamatsu. 2010. Assessing trends in abundance for vaquita using acoustic monitoring: within refuge plan and outside refuge research needs. Workshop Report—October 19-23, 2009. U.S. Department of Commerce, NOAA Technical Memorandum NMFS, NOAA-TM-NMFS-SWFSC-459. 39 pages.

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Regan, T., B. Taylor, G. Thompson, J. Cochrane, R. Merrick, M. Nammack, S. Rumsey, K. Ralls, and M. Runge. 2009. Developing a structure for quantitative listing criteria for the U.S. Endangered Species Act using performance testing, Phase 1 Report. U.S. Department of Commerce, NOAA Technical Memorandum NMFS, NOAA-TM-NMFS-SWFSC-437. 166 pages.

Morin, P.A., R.G. LeDuc, F.I. Archer, K.K. Martien, R. Huebinger, J.W. Bickham, B.L. Taylor. 2009. Significant deviations from Hardy-Weinberg equilibrium caused by low levels of microsatellite genotyping errors. *Molecular Ecology Resources* 9: 498-504.

Morin, Phillip A., Karen K. Martien, and Barbara L. Taylor. 2009. Assessing statistical power of SNPs for population structure and conservation studies. *Molecular Ecology Resources* 9(1):66-73.

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status of the Yangtze finless porpoise in the Yangtze River, China. *Biological Conservation* 141: 3006-3018.

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Waples, Robin S., Peter B. Adams, James Bohnsack, and Barbara L. Taylor. 2007. Normativity redux. *Conservation Biology* 21(6):1649-1650.

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RESEARCH INTERESTS

Genetics and population dynamics of small populations, conservation biology, demography, risk analysis, adaptive management, decision theory, structured expert decision making, affects of current and historical habitat fragmentation on the persistence of single species and communities, population abundance and trends in abundance estimation. Special interest/expertise in vaquita porpoise.

MEMBERSHIPS & AWARDS

Member of and lead assessor for the Cetacean Specialist Group (IUCN) to interpret listing criteria for determining risk status for all cetacean species, Co-Chair of Integrated Conservation Planning for Cetaceans, former Chair of the Conservation Committee for the Society of Marine Mammalogy, former member of the Mexican Presidential Commission on vaquita, former member of the board of scientific advisors to the Marine Mammal Commission, former U.S. delegate to the Scientific Committee of the International Whaling Commission, Gold Medal Award for distinguished achievement in federal service for developing the method to limit human-caused mortality for all marine mammal populations, Bronze medal for Biological Review Team considering listing of a population of killer whales under the Endangered Species Act, member of the International Vaquita Recovery Team, member of Biological Review Teams for Southern Resident killer whales, Hawaiian false killer whales, black abalone, ribbon seals, bearded seals, ringed seals, white sharks, harbor seals of Iliamna Lake, Gulf of Mexico Bryde's whale and bluefin tuna. Former member of the Spectacled Eider Recovery Team, former Associate editor of Marine Mammal Science. Recipient of the 2016 LaRoe Award for translating the principles of conservation biology into active management (Society for Conservation Biology) and the Errington lecture for career conservation achievement, Senior Scientist NOAA employee of the year 2022, life-time achievement award American Cetacean Society 2022, National Marine Fisheries Service Employee of the Year 2022.

INVITED MEETINGS & LECTURES

- *Invited speaker—The Human Dimension in Cetacean Conservation, Nuremberg, Germany 2022
- *Co-Chair of Integrated Planning for Cetacean Conservation workshop, Florida 2022
- *Co-Chair of Yangtze Finless Porpoise Conservation workshop, Wuhan, Germany 2019
- *Co-Chair of Franciscana Conservation workshop, Argentina 2019
- *Co-Chair of Ex-Situ Options for Cetacean Conservation, Nuremberg, Germany 2018
- *Panel to evaluate risk analysis for Hector's dolphins, hosted by New Zealand Department of Conservation, 2018
- *Errington memorial lecture, University of Iowa, 2017
- *Signing of the Memorandum of Understanding on vaquita conservation with President of Mexico, Leonardo di Caprio and Carlos Slim, 2017
- *Cumulative effects decision making workshop, hosted by Sea Mammal Research Unit of Scotland, 2016
- *Keynote speaker at the European Cetacean Conference, Malta 2015
- *Keynote speaker at the Society for Marine Mammalogy Conference, New Zealand 2014
- *Keynote speaker at the Southern California marine mammal symposium
- *Metapopulation dynamics, Lammi, Finland.
- *Population management for survival and recovery, Front Royal, Virginia
- *Lecture series in New Zealand: Department of Conservation, Victoria University, University of Canterbury, Otago University
- *Workshop on power analysis, Natal Parks Board, Pietermaritzburg, South Africa
- *Departmental seminar, African Institute for Ornithology, University of Cape Town, South Africa
- *Invited researcher, University of Otago, New Zealand
- *Invited speaker, symposium on Bayesian statistics in ecology, Ecological Society of America conference
- *3-day workshop leader and invited speaker, Conference on Statistics in Ecology and Environmental

Monitoring, University of Otago, New Zealand

*Lecture and workshop, Freshwater Institute, Fisheries and Oceans, Winnipeg, Canada

*Invited essay for a booklet prepared by the Species Survival Network containing opinions of prominent scientists on the proposed listing criteria for the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

*Invited scientific expert at the review of Japanese scientific whaling, Tokyo, Japan

*Invited speaker on Population Viability Analysis for marine species, Stockholm, Sweden

*Invited speaker on estimating power to detect dispersal using molecular data, Sydney, Australia

List of references:

Lisa Ballance (director of Marine Studies, Oregon State University)

Randy Reeves (IUCN Cetacean Specialist Group director)

Frances Gulland (Commissioner for the Marine Mammal Commission)