

Robert K. Bonde
Biologist

U. S. Geological Survey – Biological Resources Division
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EDUCATION

2009 Ph.D. University of Florida, College of Vet Med, Gainesville, Florida - Molecular Biology (expected 2009)
1978 Ct.E.S. California State University, Long Beach, California - Environmental Studies
1977 B.A. California State University, Long Beach, California - History
1974 A.A. Los Angeles Harbor College, Wilmington, California

AREAS OF SPECIALIZATION / PROFESSIONAL INTERESTS

Current interests include anatomy and necropsy of marine mammals, captive aquatic mammal re-introductions and post-release monitoring, radio telemetry, life history and reproductive studies of manatees, genetics and biomedical assessment, and international distribution of manatees.

PROFESSIONAL EXPERIENCE

1978 – Present Biologist
U. S Geological Survey, Florida Integrated Science Center, Sirenia Project

My current duties include radio telemetry and field tracking studies, life history monitoring of the manatee population in Crystal River, Florida, consulting with the Manatee Mortality Working Group on issues related to necropsy assessment of the Florida population, participation in the Manatee Rescue, Rehabilitation and Release Program on captive release monitoring and health-related issues, supervising manatee genetic studies, and involvement with international research projects and study design. I serve, or have served, as scientific advisor on seven University of Florida PhD graduate degree committees: three on genetics, one on endocrinology, one on contaminants, one on osteology, and one on behavior.

1976 – 1978 Osteological Preparator
Los Angeles County Museum, Mammalogy Section

1973 – 1978 Museum Assistant
City of Los Angeles, Cabrillo Marine Museum

PROFESSIONAL ACTIVITIES AND MEMBERSHIPS (CURRENT)

USGS, IACUC Committee Chairman for Florida Integrated Science Centers, 2003-Present
IUCN, Re-introduction Specialist Group, Aquatic Mammal Section, 1996 - Present
Society for Marine Mammalogy: Charter member, 1983 – Present; Biennial Conference Committee, 1995;
Candidate Selection/Nomination Committee, 1995 – 2003

HONORS AND AWARDS

Quality Performance/Special Achievement/Star Awards: 1980, 1983, 1988, 1991, 1992, 1993, 1995, 2004, 2007.
Merit Increase Awards: 1980, 1982, 1983, 1985, 1988, 1989, 1990, 1992, 1993, 1994, 1995, 1997, 2000, 2004.

GRANTS FOR CURRENT RESEARCH

U.S. Geological Survey, 2003-Present, manatee population genetics, \$80,000-125,000/yr
National Marine Fisheries Service, 1995-Present, necropsy research and travel assistance, \$15,000
US Fish & Wildlife Service, 2005-2008, marine mammal biomedical assessment, \$75,000
Cincinnati Zoo, 2003, manatee research grant, \$5,000
Wildlife Trust, 2002-2008, international travel grants and research, \$4,000/yr
Cincinnati Zoo, 2001, manatee research grant, \$1,000
Columbus Zoo, 2000, Belize captive manatee release grant, \$10,000
World Wildlife Fund, 2000, travel grant, \$2,000
Columbus Zoo, 1999, in-kind travel grant, \$3,000
Columbus Zoo, 1998-1999, genetic research grants, \$12,000
Save the Manatee Club, 1997-Present, research in Jamaica, \$5,000
Wildlife Preservation Trust International, 1997-2001, Belize research grant, \$15,000

SELECTED PUBLICATIONS

- Tripp, K.M., J.P. Verstegen, **R.K. Bonde**, C.J. Deutsch, M. Rodriguez, C. Manire, J. Gaspard, and K.E. Harr. In press. Peracute and chronic stress analysis in Florida manatees (*Trichechus manatus latirostris*). *General and Comparative Endocrinology*.
- Harvey, J.W., K.E. Harr, D. Murphy, M.T. Walsh, E.C. Nolan, **R.K. Bonde**, M.G. Pate, C.J. Deutsch, H.H. Edwards, and W.L. Clapp. In press. Hematology of healthy manatees (*Trichechus manatus*). *Veterinary Clinical Pathology*.
- Tripp, K.M., J.P. Verstegen, C.J. Deutsch, **R.K. Bonde**, M. Rodriguez, B. Morales, D.L. Schmitt, K.E. Harr. 2008. Validation of a serum immunoassay to measure progesterone and diagnose pregnancy in the West Indian manatee (*Trichechus manatus*). *Theriogenology* 70:1030-1040.
- Stavros, H-C.W., **R.K. Bonde** and P.A. Fair. 2008. Concentrations of trace elements in blood and skin of Florida manatees (*Trichechus manatus latirostris*). *Marine Pollution Bulletin* 56:1221-1225.
- Harr, K.E., K. Allison, **R.K. Bonde**, D. Murphy and J.W. Harvey. 2008. Comparison of blood aminotransferase methods for assessment of myopathy and hepatopathy in Florida manatees (*Trichechus manatus latirostris*). *Journal of Zoo and Wildlife Medicine* 39(4):180-187.
- Pause, K.C., C. Nourisson, A. Clark, M.E. Kellogg, **R.K. Bonde** and P.M. McGuire. 2007. Polymorphic microsatellite DNA markers for the Florida manatee (*Trichechus manatus latirostris*). *Molecular Ecology Notes* 7(6):1073-1076.
- Eros, C., H. Marsh, **R. Bonde**, C. Beck, T. O'Shea, C. Recchia and K. Dobbs. 2007. Procedures for the salvage and necropsy of the dugong (*Dugong dugon*). Second edition. Research Publication No. 85, Great Barrier Reef Marine Park Authority, Townsville, Australia. 98 pp.
- Harvey, J.W., K.E. Harr, D. Murphy, M.T. Walsh, E.J. Chittick, **R.K. Bonde**, M.G. Pate, C.J. Deutsch, H.H. Edwards and E.M. Haubold. 2007. Clinical biochemistry in healthy manatees (*Trichechus manatus latirostris*). *Journal of Zoo and Wildlife Medicine*, 38(2):269-279.
- Pardini, A.T., P.C.M. O'Brien, B. Fu, **R.K. Bonde**, F.F.B. Elder, M.A. Ferguson-Smith, F. Yang, and T.J. Robinson. 2007. Chromosome painting among Proboscidea, Hyracoidea and Sirenia: support for Paenungulata (Afrotheria, Mammalia) but not Tethytheria. *Proceedings of the Royal Society B: Biological Sciences* 274: 1333-1340.
- Moore, M.J., W.A. McLellan, P.-Y. Daoust, **R.K. Bonde** and A.R. Knowlton. 2007. Chapter 12. Right whale mortality: a message from the dead to the living. Pp. 358-379 *in* The Urban Whale: North Atlantic Right Whales at the Crossroads. S.D. Kraus and R. Rolland, eds., Harvard University Press, Cambridge, Massachusetts. 543 pages.
- Siegal-Willott, J., A. Estrada, **R. Bonde**, A. Wong, D.J. Estrada and K. Harr. 2006. Electrocardiography in two subspecies of manatee (*Trichechus manatus latirostris* and *T. m. manatus*). *Journal of Zoo and Wildlife Medicine* 37(4):447-453.
- Harr, K., J. Harvey, **R. Bonde**, D. Murphy, M. Lowe, M. Menchaca, E. Haubold, and R. Francis-Floyd. 2006. Comparison of methods used to diagnose generalized inflammatory disease in manatees (*Trichechus manatus latirostris*). *Journal of Zoo and Wildlife Medicine* 37(2):151-159.
- Pause, K.C., **R.K. Bonde**, P.M. McGuire, R.T. Zori and B.A. Gray. 2006. G-banded karyotype and ideogram for the North Atlantic right whale (*Eubalanea glacialis*). *Journal Heredity* 97(3):303-306.
- Reep, R.L. and **R.K. Bonde**. 2006. The Florida Manatee: Biology and Conservation. University Press of Florida, Gainesville, Florida. xvi + 189 pp.
- Vianna, J.A., **R.K. Bonde**, S. Caballero, J.P. Giraldo, R.P. Lima, A. Clark, M. Marmontel, B. Morales-Vela, M.J. de Souza, L. Parr, M.A. Rodriguez-Lopez, A.A. Mignucci-Giannoni, J.A. Powell and F.R. Santos. 2006. Phylogeography, phylogeny and hybridization in trichechid sirenians: implications for manatee conservation. *Molecular Ecology* 15:433-447.
- Woodruff, R.A., **R.K. Bonde**, J.A. Bonilla and C.H. Romero. 2005. Molecular identification of a papilloma virus from cutaneous lesions of captive and free-ranging Florida manatees. *Journal Wildlife Diseases* 41(2):437-441.
- Bonde, R.K.**, A.A. Aguirre and J. Powell. 2004. Manatees as sentinels of marine ecosystem health: are they the 2000-pound canaries? *EcoHealth* 1:255-262.
- Williams, E.H., A.A. Mignucci-Giannoni, L. Bunkley-Williams, **R.K. Bonde**, C. Self-Sullivan, A. Preen and V.G. Cockcroft. 2003. Echeneid-sirenian associations, with information on sharksucker diet. *Journal Fishery Biology* 63:1-8.
- Deutsch, C.J., J.P. Reid, **R.K. Bonde**, D.E. Easton, H.I. Kochman and T.J. O'Shea. 2003. Seasonal movements, migratory behavior, and site fidelity of West Indian manatees along the Atlantic Coast of the United States. The Wildlife Society, Wildlife Monographs No 151. 77 pp.
- Bonde, R.K.** and P.M. McGuire. 2002. Development of genetic tools to better understand manatee population biology. Abstract only. Manatee Population Ecology and Management Workshop, 1-4 April 2002, University of Florida, Gainesville, Florida.
- Bonde, R.K.**, and L.W. Lefebvre. 2001. Manatees in the Gulf of Mexico. Pp. 35-40 in M. McKay, J. Nides, W. Lang, and

- D. Vigil, eds. Gulf of Mexico Marine Protected Species Workshop, New Orleans, LA, June 1999. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region. OCS Study MMS 2001-039. 171 pp.
- Eros, C., H. Marsh, **R. Bonde**, C. Beck, T. O'Shea, C. Recchia and K. Dobbs. 2000. Procedures for the salvage and necropsy of the dugong (*Dugong dugon*). Research Publication No. 64, Great Barrier Reef Marine Park Authority, Townsville, Australia. 74 pp.
- Carr, T. and **R.K. Bonde**. 2000. Tucuxi (*Sotalia fluviatilis*) occurs in Nicaragua, 800 km north of its previously known range. *Marine Mammal Science* 16(2):447-452.
- Mignucci-Giannoni A.A., R.A. Montoya-Ospina, N.M. Jimenez-Marrero, M.A. Rodriguez-Lopez, E.H. Williams and **R.K. Bonde**. 2000. Manatee mortality in Puerto Rico. *Environmental Management* 25(2):189-198.
- Garcia-Rodriguez, A.I., B.W. Bowen, D.P. Domning, A.A. Mignucci-Giannoni, M. Marmontel, R.A. Montoya-Ospina, B. Morales-Vela, M. Rudin, **R.K. Bonde** and P.M. McGuire. 1998. Phylogeography of the West Indian manatee (*Trichechus manatus*): How many populations and how many taxa? *Molecular Ecology* 7:1137-1149.
- Deutsch, C.J., **R.K. Bonde** and J.P. Reid. 1998. Radio-tracking manatees from land and space: tag design, implementation, and lessons learned from long-term study. *Marine Technical Society Journal* 32:18-29.
- Wright, S. D., B. B. Ackerman, **R. K. Bonde**, C. A. Beck and D. J. Banowetz. 1995. Analysis of watercraft related mortality of manatees in Florida, 1979-1991. Pages 259-268 in O'Shea, T.J., B.B. Ackerman and H.F. Percival, eds., *Population Biology of the Florida Manatee (Trichechus manatus latirostris)*. National Biological Service, Information Technology Report 1. 289 pp.
- Reid, J.P., **R.K. Bonde** and T.J. O'Shea. 1995. Reproduction and mortality of radio-tagged and recognizable manatees on the Atlantic coast of Florida. Pages 171-191 in O'Shea, T.J., B.B. Ackerman and H.F. Percival, eds., *Population Biology of the Florida Manatee (Trichechus manatus latirostris)*. National Biological Service, Information Technology Report 1. 289 pp.
- Rathbun, G.B., J.P. Reid, **R.K. Bonde** and J.A. Powell. 1995. Reproduction in free-ranging West Indian manatees (*Trichechus manatus*). Pages 135-156 in O'Shea, T. J., B. B. Ackerman and H. F. Percival, eds., *Population Biology of the Florida Manatee (Trichechus manatus latirostris)*. National Biological Service, Information Technology Report 1. 289 pp.
- Ackerman, B.B., S.D. Wright, **R.K. Bonde**, D.K. Odell and D.J. Banowetz. 1995. Trends and patterns in manatee mortality in Florida, 1974-1991. Pages 223-258 in O'Shea, T.J., B.B. Ackerman, and H.F. Percival, eds., *Population Biology of the Florida Manatee (Trichechus manatus latirostris)*. National Biological Service, Information Technology Report 1. 289 pp.
- Bonde, R.K.** 1993. Manatees in peril: A personal perspective. *Whalewatcher* 27(1):16-18.
- O'Shea, T.J., G.B. Rathbun, **R.K. Bonde**, C.D. Buergelt and D.K. Odell. 1991. An epizootic of Florida manatees associated with a dinoflagellate bloom. *Marine Mammal Science* 7(2):165-179.
- Bonde, R.K.** and C.A. Beck. 1990. How the Florida manatees fare today. *Whalewatcher* 24(1):8-9.
- Mou, L., D.H. Chen, **R.K. Bonde** and T.J. O'Shea. 1990. Distribution and status of manatees (*Trichechus manatus*) in Panama. *Marine Mammal Science* 6(3):234-241.
- Bonde, R.K.** and T.J. O'Shea. 1989. Sowerby's beaked whale (*Mesoplodon bidens*) in the Gulf of Mexico. *Journal of Mammalogy* 70(2):447-449.
- Watson, A.G. and **R.K. Bonde**. 1986. Congenital malformations of the flipper in three West Indian manatees (*Trichechus manatus*), and a proposed mechanism for development of ectrodactyly and cleft hand in mammals. *Clinical Orthopaedics* 202:294-301.
- O'Shea, T.J., C.A. Beck, **R.K. Bonde**, H.I. Kochman and D.K. Odell. 1985. An analysis of manatee mortality patterns in Florida, 1976-81. *Journal of Wildlife Management* 49(1):1-11.
- Buergelt, C.D., **R.K. Bonde**, C.A. Beck and T.J. O'Shea. 1984. Pathologic findings on manatees from Florida. *Journal of the American Medical Association* 185(11):1331-1334.
- Buergelt, C.D. and **R.K. Bonde**. 1983. Toxoplasmic meningoencephalitis in a West Indian manatee. *Journal of the American Medical Association* 183(1):1294-1296.
- Bonde, R.K.**, T.J. O'Shea and C.A. Beck. 1983. A manual of procedures for the salvage and necropsy of carcasses of the West Indian manatee (*Trichechus manatus*). National Technical Information Service, PB83-255273, Springfield, Virginia. 175 pp.
- Bonde, R.K.** 1982. Do manatees have a chance? *Whalewatcher* 16(1):3-5.
- Beck, C.A., **R.K. Bonde** and G.B. Rathbun. 1982. Analyses of propeller wounds on manatees in Florida. *Journal of Wildlife Management* 46(2):531-535.

Bonde also has over 80 oral/poster presentations (complete list available on request).