BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Terence P. Barry	Senior Scientist, Dept. Animal Sciences
eRA COMMONS USER NAME tpbarry	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Wisconsin-Madison	B.S.	1977	Zoology
University of Hawaii at Manoa	M.S.	1989	Zoology
University of Wisconsin-Madison	Ph.D.	1994	Endo-Reprod Physiology

A. Positions and Honors

Positions and Employment

1990-present Scientist & Director, UW Aquaculture Lab, Dept. Animal Sciences, UW-Madison
1986-88 Research Associate, USAID, Iloilo, Philippines (Aquaculture Development Project)
1982-1983 Research Intern, Environment and Policy Institute, East-West Center, Honolulu, Hawaii
1977-1981 U.S. Peace Corps, HS Biology and Math Teacher, Western Samoa

Other Experience and Professional Memberships

Advisory Board Member, Biology Department, Marquette University, 2011-2015
Co-Founder & Board of Directors, Aquamost, Inc., 2006-present
Co-Founder & Manager, Willow Creek Aquaculture, LLC (private fish hatchery), 1996-2006
Assistant Editor, North American Journal of Aquaculture, American Fisheries Society, 2001-2004
Affiliate Member, U.W. Endocrinology-Reproductive Physiology Training Program, 2002-present
Secretary/Treasurer, Physiology Section, American Fisheries Society, 1996-1999 & 2004-2006
Conference Chair, "Tenth International Congress on the Biology of Fish", Madison, WI 2012

Honors/Other

Graduate Degree Scholarship, East-West Center, Honolulu, Hawaii, 1983-1986
Fulbright Graduate Research Fellowship, The University of Tokyo, Japan, 1988-1989
Aubrey Gorbman Award, Division of Comparative Endocrinology, American Society of Zoologists (best paper award at annual meeting), 1989
Seven patents issued while working at Aquamost

B. Selected peer-reviewed publications (in reverse chronological order).

1. DeQuattro, Z., Hemming, J.C. and Barry, T.P. 2015. Effects of androstenedione exposure on fathead minnow (*Pimephales promelas*) reproduction and embryonic development. Environmental Toxicology and Chemistry (in press).
2. Barton, B. and Barry, T.P. 2011. Reproduction and Environmental Biology. In, "Biology, management, and culture of walleye and sauger", Bruce A. Barton, Ed. American Fisheries Society. 570 pp.
3. DeQuattro, Z., Peissig, E., Antkiewicz, D., Lundgren, E.J., Hedman, C., Hemming, J.C. and Barry, T.P. 2011. Effects of progesterone on reproduction and embryonic development in the fathead minnow (*Pimephales promelas*). Environmental Toxicology and Chemistry 31: 1-6.
4. Murack, P.J., J. Parrish and T.P. Barry. 2011. Effects of progesterone on sperm motility in fathead minnow (*Pimephales promelas*). Aquatic Toxicology 104: 121-125.
5. Marwah, A., X. Nianzu, P. Marwah and T.P. Barry. 2010. Development and validation of a high performance liquid chromatography-mass spectrometry method for 17α-methyltestosterone in aquatic water systems. J. Applied and Natural Science 1(2): 182-189.
6. Guo, S., L. Qian, H. Shi, T. Barry, Q. Cao, and J. Liu. 2010. Effects of tributyltin (TBT) on *Xenopus tropicalis* embryos at environmentally relevant concentrations. Chemosphere, 79(5), 529–533.
7. Havens, S., T. Barry, C. Hedman, J. Hemming, M. Mieritz, M. Shafer and J. Schauer. 2010. Analysis of steroid hormones in surface water runoff from animal farms using sulfuric acid preservation and isotope dilution. Abstracts of Papers of the American Chemical Society, 239: 352-ENVR.
8. Barry, T.P., A. Marwah and S. Nunez. 2010. Inhibition of cortisol metabolism by 17α,20β-P: Mechanism mediating semelparity in salmon? General and Comparative Endocrinology 165:53-59.
9. Kroop R., D. Tompkins, T. Barry, W. Zeltner, G. Pepping, M. Anderson and T.P. Barry. 2009. A device that converts aqueous ammonia into nitrogen gas. Aquacultural Engineering 41:28-34.
10. Barry, T.P. and M. Yang 2008. Effects of anti-phospholipase A2 on the growth of rainbow trout. N. American J. Aquaculture 70:236-239.
11. Barry, T.P., Marwah, A., and Marwah, P. 2007. Stability of 17α-methyltestosterone in fish feed. Aquaculture 271:523-529.
12. Lima, L.C., Ribeiro, L.P., Malison, J.A., Barry, T.P., Held, J.A., 2006. Effects of temperature on performance characteristics and the cortisol stress response of *Surubim pseudoplatystoma sp*. J. World Aquacult. Soc. 37, 89-95.
13. Jurgella, G.F, Marwah, A., Malison, J.A., Peterson, R., and Barry, T.P. 2006. Effects of xenobiotics and steroids on renal and hepatic estrogen metabolism in lake trout. Gen. Comp. Endocrinol. 148: 273-281.
14. Yuliana, Y., Malison, J.A., Wentworth, B., and Barry, T.P. 2006. Genistein and other isoflavones found in soybeans inhibit estrogen metabolism in salmonid fish. Aquaculture 254: 658-665.
15. Held, J.A., J.A. Malison, and T.P. Barry. 2004. Production characteristics of hybrid walleye (Sander vitreus female x S. canadensis male) reared to food size in ponds. In Proceedings of Percis III: The Third International Percid Fish Symposium (Barry, T.P., and J.A. Malison, Eds.), pp. 33-35. University of Wisconsin Sea Grant Institute, Madison, WI.
16. Roberts, S., T.P. Barry, J.A. Malison and F. Goetz. 2004. Production of a recombinantly-derived growth hormone antibody and the characterization of growth hormone levels in yellow perch. Aquaculture. 232:591-602
17. Jentoft, S., J. Held, J.A. Malison, and T.P. Barry. 2002. Ontogeny of the cortisol stress response in yellow perch (*Perca flavescens*). Fish Physiol. and Biochem. 26:371-378.
18. Barry, T.P., M. J. Unwin, J.A. Malison, and T. P. Quinn. 2001. Free and total cortisol levels in semelparous and iteroparous chinook salmon (*Oncorhynchus tshawytscha*). J. Fish Biol. 59:1673-1676
19. Procarione, L.S., Barry, T.P., and Malison, J.A. 1999. Effects of high rearing densities and loading rates on the growth and stress responses of juvenile rainbow trout. North American Journal of Aquaculture 61:91-96
20. Barry, T.P., Riebe, J., Parrish, J.J., and Malison, J.A. 1997. Effects of 17α,20β-dihydroxy-4-pregnen-3-one on cortisol production by rainbow trout interrenal tissue *in vitro*. Gen. Comp. Endocrinol. 107:172-181.
21. Distefano, R.J., Barry, T.P., and Malison, J.A. 1997. Correlation of blood parameters with reproductive problems in walleyes in a Missouri impoundment. J. Aquatic Animal Health. 9:223-229.

22. Barry, T.P., Parrish, J.J., and J.A. Malison. 1996. Effects of early handling on the development of the corticosteroid stress response in rainbow trout. *In*: Proceedings of the International Congress on the Biology of Fishes. D. MacKinlay Ed., San Francisco, CA. pp. 131-137.

23. Barry, T.P., J. Riebe, Parrish, J.J., and J.A. Malison. 1996. 17α,20β-dihydroxy-4-pregnen-3-one stimulates cortisol production by rainbow trout interrenal tissue *in vitro*: Mechanism of action. *In*: Proceedings of the Fifth International Symposium on Reproductive Physiology of Fish. P. Thomas and F. Goetz, Eds., Austin, Texas, p. 325.

24. Barry, T.P., A.F. Lapp, L.S. Procarione, and J.A. Malison. 1995. Effects of selected hormones and male cohorts on steroid production, final oocyte maturation and ovulation in walleye (*Stizostedion vitreum*). Aquaculture 138:331-347.

25. Barry, T.P., M. Ochiai, and J.A. Malison. 1995. *In vitro* effects of ACTH on interrenal corticosteroidogenesis during early larval development in rainbow trout. General and Comparative Endocrinology 99:382-387.

26. Barry, T.P., J. Malison, J. Held, and J.J. Parrish. 1995. Ontogeny of the cortisol stress response in rainbow trout. General and Comparative Endocrinology 97:57-65.

27. Malison, J.A., L.S. Procarione, T.P. Barry, A.R. Kapuscinski, and T.B. Kayes. 1994. Endocrine and gonadal changes during the annual reproductive cycle of the freshwater teleost *Stizostedion vitreum* ('walleye'). Fish Physiology and Biochemistry 13:473-484.

28. Barry, T.P., A.F. Lapp, T.B. Kayes, and J.A. Malison. 1993. Validation of a microtitre plate ELISA for measuring cortisol in fish and comparison of stress responses of rainbow trout (*Oncorhynchus mykiss*) and lake trout (*Salvelinus namaycush*). Aquaculture 117:315-363.

29. Malison, J.A., T.B. Kayes, J.A. Held, T.P. Barry, and C.H. Amundson. 1993. Manipulation of ploidy in yellow perch (*Perca flavescens*) by heat shock, hydrostatic pressure shock, and spermatozoa inactivation. Aquaculture 110:229-242.

30. Barry, T.P., P. Thomas, and G.V. Callard. 1993. Stage-related production of 21-hydroxylated progestins by the dogfish (*Squalus acanthias*) testis. J. Experimental Zoology 265: 522-532.

31. Barry, T.P., M.T. Castanos, M.P.S.C. Macahilig, and A.W. Fast. 1993. Spawning induction in female spotted scat (*Scatophagus argus*). J. Aquaculture Tropics 8:121-129.

32. Barry, T.P. and A.W. Fast. 1992. Biology of the spotted scat (*Scatophagus argus*) in the Philippines. Asian Fisheries Science 5:163-179.

33. Barry, T.P., M.T. Castanos and A.W. Fast. 1991. Induced spermiation in the male spotted scat (*Scatophagus argus*) by long-term administration of 17 -methyltestosterone followed by LHRHa. Asian Fisheries Science 4:137-145.

34. Barry, T.P., K. Aida, T. Okumura, I. Hanyu. 1990. The shift from C-19 to C-21 steroid synthesis in spawning male common carp, *Cyprinus carpio*, is regulated by the inhibition of androgen production by progestogens produced by spermatozoa. Biology of Reproduction 43:105-112.

35. Barry, T.P., A.J.G. Santos, K. Furukawa, K. Aida, and I. Hanyu. 1990. Steroid profiles during spawning in male common carp. General and Comparative Endocrinology 80:223-231.

36. Asahina, K., T.P. Barry, K. Aida, F. Nobuhiro, and I. Hanyu. 1990. Biosynthesis of 17 ,20 -dihydroxyprogesterone by spermatozoa of the common carp, *Cyprinus carpio*. J. Experimental Zoology 255:244-249.

37. Barry, T.P., and G.V. Callard. 1990. Identification and stage-related synthesis of 11-deoxycorticosterone (DOC) by the dogfish (*Squalus acanthias*) testis. Bulletin of the Mount Desert Island Biological Laboratory 29:131-132.

38. Fast, A.W., H. D. Biona, T.P. Barry, R. Tabanda, and R. Bayogos. 1989. Brackish water pond culture of the spotted scat (*Scatophagus argus*) in the Philippines. J. Aquaculture Tropics 4:37-49.

39. Barry, T.P., K. Aida, and I. Hanyu. 1989. Effects of 17 ,20 -dihydroxy-4-pregnen-3-one on the *in vitro* production of 11-ketotestosterone by testicular fragments of the common carp, *Cyprinus carpio*. J. Experimental Zoology 251:117-120.

40. Barry, T.P. and E.G. Grau. 1986. Estradiol-17 releasing hormone and thyrotropin release from the pituitary gland of a teleost fish *in vitro*. General and Comparative Endocrinology 62:306-314.

C. Research Support

Ongoing Research Support

WARF (Draper Technology Innovation Fund)
Test the effectiveness of a device designed to enhance the feeding response of larval fish fed formulated diets.
Role: PI

WI DNR
Evaluate the toxicological effects of 2,4-D on native larval fish species, including fathead minnows, muskies and walleye.
Role: co-PI

Completed Research Support

US EPA 2007-2011
Fate and effects of hormones in waste from concentrated animal feeding operations (CAFOs)
Goals: Measure levels of steroid hormones in the environment associated with CAFO operations in Wisconsin. Conduct in vivo and in vitro toxicology experiments to determine the effects of specific chemicals on fish reproduction.
Role: co-PI

aOVA Technologies 2006-2007
Effects of aPLA2 (aOVA Gold) on the growth of fish
Goals: Test a novel growth-promoting feed additve in fish that acts by limiting gut inflammation.
Role: PI

Wisconsin Sea Grant Program 2003-2007
Endocrine and environmental regulation of growth in yellow perch
Goals: Develop RIAs to measure growth hormone and IGFs in yellow perch, measure these hormones in fish subjected to various hormonal and temperature/photoperiod manipulations to increase our understanding of growth regulation in this important aquaculture species.
Role: PI

North Central Regional Aquaculture Center 2004-2006
Drug approval research on 17α-methyltestosterone.
Goals: Develop HPLC/MS methods to measure MT in fish feed and water/sediment samples, conduct studies to determine the fate of MT in stored feed and the aquatic environment, gain CVM approval for studies.
Role: PI

Wisconsin Sea Grant Program 2004-2006
Effects of Polyhalogenated Aromatic Hydrocarbons on Estrogen Metabolism in Lake Trout.
Goals: Investigate a novel mechanism of action of potential endocrine disruptors in the Great Lakes
Role: PI

NSF, SBIR Program, Phase 1 2004-2005
Developing out-of-season spawning technologies to double yellow perch fingerling production.
Role: Consultant

Wisconsin Sea Grant Program 2000-2003
Production of stress-resistant, domesticated yellow perch for commercial aquaculture.
Goal: Use the corticosteroid stress response to genetically select fast-growing, stress- resistant fish.
Role: Scientist

Wisconsin Sea Grant Program 2000-2003

Stress and salmonid fish: Role of cortisol metabolizing enzymes.
Goal: Uncover the endocrine mechanisms mediating the death of spawning salmon.
Role: co-PI

US Department of Commerce, SBIR Program, Phase 1 1999-2000
Innovative fingerling production processes for yellow perch aquaculture.
Goals: Evaluate various methods to increase yellow perch fingerling production in ponds.
Role: Consultant

Wisconsin Sea Grant Program 1998-2000
Mitigation of the consequences of stress in yellow perch aquaculture
Goals: Evaluate methods to reduce the harmful effects of stress in cultured fish
Role: co-PI

University of Wisconsin Sea Grant Program 1998-2000
The production of fast-growing, sterile walleye hybrids through genetic and endocrine technologies
Goals: Produce triploid, all-female walleye.
Role: Scientist

University of Wisconsin Sea Grant Program 1998-2000
Gonadal steroid regulation of cortisol and immune function in Pacific salmonids.
Goals: Investigate interactions among stress and immune function in reproductively mature salmon
Role: co-PI

USDA North Central Regional Aquaculture Center 1997-1999
Advancement of yellow perch aquaculture.
Role: co-PI

USDA North Central Regional Aquaculture Center 1997-1999
Culture technology of salmonids
Role: co-PI