

Dr. Benjamin Walther

Texas A&M University-Corpus Christi
Science & Engineering, Life Sciences

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Education

PhD, Woods Hole Oceanographic Institution/MIT Joint Program, 2007.

BA, University of Texas at Austin, 2000.

BS, University of Texas at Austin, 2000.

Professional Employment

Assistant Professor, University of Texas at Austin. (August 2009 - August 2015).

Research and teaching in fish ecology and marine science at the UT Marine Science Institute

Postdoctoral Fellow, Australian National University. (June 2008 - June 2009).

Postdoctoral research at the ARC Centre of Excellence for Coral Reef Studies on fish and coral ecology of the Great Barrier Reef

Postdoctoral Fellow, University of Adelaide. (July 2007 - June 2008).

Postdoctoral research on fish ecology in southern Australian estuaries

Lecturer in Marine Sciences, United States Coast Guard Academy. (January 2007 - May 2007).

Taught undergraduate course in Oceanography to Coast Guard cadets (non-science majors).

Professional Memberships

Australian Society for Fish Biology

Association for the Sciences of Limnology & Oceanography

Coastal & Estuarine Research Federation

American Fisheries Society

Ecological Society of America

TEACHING

Teaching Experience

BIOL 3428, PRINCIPLES OF ECOLOGY

SCHOLARLY AND CREATIVE ACTIVITIES

Publications

Refereed

Journal Articles

- Smith, S. D., Mohan, J. A., Connelly, T. L., Walther, B., McClelland, J. W. Fatty acid biomarkers and tissue-specific turnover: validation from a controlled feeding study in a juvenile marine fish. *Journal of Fish Biology*.
- Mohan, J. A., Smith, S. D., Connelly, T. L., Attwood, E. T., McClelland, J. W., Herzka, S. Z., Walther, B. (2016). Tissue-specific isotope turnover and discrimination factors are affected by diet quality and lipid content in an omnivorous consumer. *Journal of Experimental Marine Biology & Ecology*, 479, 35-45.
- Walther, B., Munguia, P., Fuiman, L. A. (2015). Frontiers in marine movement ecology: mechanisms and consequences of migration and dispersal in marine habitats. *Biology Letters*, 11, 20150146.
- Seeley, M. E., Miller, N., Walther, B. (2015). High resolution profiles of elements in Atlantic tarpon (*Megalops atlanticus*) scales obtained via cross-sectioning and laser ablation ICP-MS: a literature survey and novel approach for scale analyses. *Environmental Biology of Fishes*, 98, 2223-2238.
- Limburg, K. E., Walther, B., Lu, Z., Jackman, G., Mohan, J. A., Walther, Y., Nissling, A., Weber, P., Schmitt, A. K. (2015). In search of the dead zone: use of otoliths for tracking fish exposure to hypoxia. *Journal of Marine Systems*, 141, 167-178.
- Walther, B., Nims, M. K. (2015). Spatiotemporal variation of trace elements and stable isotopes in subtropical estuaries: I. Freshwater endmembers and mixing curves. *Estuaries & Coasts*, 38(754-768).
- Mohan, J. A., Walther, B. (2015). Spatiotemporal variation of trace elements and stable isotopes in subtropical estuaries: II. Regional, local, and seasonal salinity-element relationships. *Estuaries & Coasts*, 38(754-768).
- Woodcock, S. H., Walther, B. (2014). Concentration-dependent mixing models predict values of diet-derived stable isotope ratios in fish otoliths. *Journal of Experimental Marine Biology & Ecology*, 454, 63-69. Marine Science Institute
- Nims, M. K., Walther, B. (2014). Contingents of Southern Flounder from subtropical estuaries revealed by otolith chemistry. *Transactions of the American Fisheries Society*, 143, 721-731.
- Mohan, J. A., Rahman, M. S., Thomas, P., Walther, B. (2014). Influence of constant and periodic experimental hypoxic stress on Atlantic croaker otolith chemistry. *Aquatic Biology*, 20, 1-11.
- Woodcock, S. H., Walther, B. (2014). Trace elements and stable isotopes in Atlantic tarpon scales reveal movements across estuarine gradients. *Fisheries Research*, 153, 9-17. Marine Science Institute
- Woodcock, S. H., Grieshaber, C. A., Walther, B. (2013). Dietary transfer of enriched stable isotopes to mark otoliths, fin rays and scales. *Canadian Journal of Fisheries & Aquatic Sciences*, 70, 1-4.
- Walther, B., Rowley, J. (2013). Drought and flood signals in subtropical estuaries recorded by stable isotope ratios in biogenic carbonates. *Estuarine, Coastal & Shelf Science*, 133, 235-243.
- Walther, B., Kingsford, M. J., McCulloch, M. T. (2013). Environmental records from Great Barrier Reef corals: inshore versus offshore drivers. *PLoS ONE*, 8, e77091.

- Albuquerque, C. Q., Miekeley, N., Muelbert, J. H., Walther, B., Jaureguizar, A. J. (2012). Estuarine dependency in a marine fish evaluated with otolith chemistry. *Marine Biology*, 159, 2229-2239.
- Walther, B., Limburg, K. E. (2012). The use of otolith chemistry to characterize diadromous migrations. *Journal of Fish Biology*, 81, 796-825.
- Upton, S. A., Walther, B., Thorrold, S. R., Olney, J. E. (2012). Use of a natural isotopic signature in otoliths to evaluate scale-based age determination for American shad. *Marine & Coastal Fisheries*, 4, 346-357.
- Walther, B., Dempster, T., Letnic, M., McCulloch, M. T. (2011). Movements of diadromous fish in large unregulated tropical rivers inferred from geochemical tracers. *PLoS ONE*, 6, e18351.
- Bloomfield, A. L., Elsdon, T. S., Walther, B., Gillanders, B. M. (2011). Temperature and diet affect carbon and nitrogen isotopes of fish muscle: can amino acid nitrogen isotopes explain effects? *Journal of Experimental Marine Biology & Ecology*, 399, 48-59.
- Walther, B., Gillanders, B. M., Elsdon, T. S. (2010). Interactive effects of food quality, temperature and rearing time on condition of juvenile black bream *Acanthopagrus butcheri*. *Journal of Fish Biology*, 76, 2455-2468.
- Walther, B., Kingsford, M. J., O'Callaghan, M., McCulloch, M. T. (2010). Interactive effects of ontogeny, food ration and temperature on elemental incorporation in otoliths of a coral reef fish. *Environmental Biology of Fishes*, 89, 441-451.
- Walther, B., Thorrold, S. R. (2010). Limited diversity in natal origins of immature anadromous fish during ocean residency. *Canadian Journal of Fisheries & Aquatic Sciences*, 67, 1699-1707.
- Clarke, L. M., Walther, B., Munch, S. B., Thorrold, S. R., Conover, D. O. (2009). Chemical signatures in the otoliths of a coastal marine fish, *Menidia menidia*, from the northeastern United States: spatial and temporal differences. *Marine Ecology Progress Series*, 384, 261-271.
- Walther, B., Thorrold, S. R. (2009). Inter-annual variability in isotope and elemental ratios recorded in otoliths of an anadromous fish. *Journal of Geochemical Exploration*, 102, 181-186.
- Walther, B., Thorrold, S. R. (2008). Continental-scale variation in otolith geochemistry of juvenile American shad (*Alosa sapidissima*). *Canadian Journal of Fisheries & Aquatic Sciences*, 65, 2623-2635.
- Walther, B. D., Thorrold, S. R., Olney, J. E. (2008). Geochemical signatures in otoliths record natal origins of American shad. *Transactions of the American Fisheries Society*, 137, 57-69.
- Strasser, C. A., Mullineaux, L. S., Walther, B. D. (2008). Growth rate and age effects on *Mya arenaria* shell chemistry: implications for biogeochemical studies. *Journal of Experimental Marine Biology & Ecology*, 355, 153-163.
- Elsdon, T. S., Wells, B. K., Campana, S. E., Gillanders, B. M., Jones, C. M., Limburg, K. E., Secor, D. H., Thorrold, S. R., Walther, B. D. (2008). Otolith chemistry to describe movements and life-history parameters of fishes: hypotheses, assumptions, limitations, and inferences. *Oceanography and Marine Biology - An Annual Review*, 46, 297-330.

Walther, B. D., Thorrold, S. R. (2006). Water, not food, contributes the majority of strontium and barium deposited in the otoliths of a marine fish. *Marine Ecology Progress Series*, 311, 125-130.

Guest Editor, Special Feature in "Biology Letters" peer-reviewed journal

Walther, B., Munguia, P., Fuiman, L. A. (2015). *Frontiers in marine movement ecology: mechanisms and consequences of migration and dispersal in marine habitats* (vol. 11). The Royal Society Publishing.
<http://rsbl.royalsocietypublishing.org/content/frontiers-marine-movement-ecology>

Presentations

Walther, B., "Tracking fish migration with geochemistry," MARB IDP Retreat, TAMU-CC/MARB, Corpus Christi, TX. (January 15, 2016).

Limburg, K. (Chair), Walther, B. (Co-Chair), Bartolino, V. (Co-Chair), "ORGANIZED SYMPOSIUM: Causes and consequences of hypoxia," ICES Annual Science Conference, International Council for the Exploration of the Seas (ICES), Copenhagen, Denmark. (September 2015).

Walther, B., Limburg, K. E. (Author), Lu, Z. (Author), Jackman, G. (Author), Mohan, J. (Author), Walther, Y. (Author), Nissling, A. (Author), Weber, P. (Author), Schmitt, A. (Author), Samson, M. (Author), "Tracking sublethal effects of hypoxia exposure on fishes with otolith chemistry: a trans-basin comparison," ICES Annual Science Conference, International Council for the Exploration of the Seas (ICES), Copenhagen, Denmark. (September 2015).

Walther, B., Woodcock, S. H. (Author), "Dietary transmission of isotope spikes to otoliths, fin rays, and scales: experimental validation and concentration-dependent mixing models," American Fisheries Society Annual Meeting, American Fisheries Society, Portland, OR. (August 2015).

Walther, B. (Chair), Limburg, K. (Co-Chair), Jones, C. (Co-Chair), Schaffler, J. (Co-Chair), Archer, A. (Co-Chair), "ORGANIZED SYMPOSIUM: Frontiers in otolith chemistry: insights, advances and future directions," American Fisheries Society Annual Meeting, American Fisheries Society, Portland, OR. (August 2015).

Walther, B. (Author), Mohan, J., Seeley, M., "Emerging research in fish ecology facilitated by laser ablation analysis of biogenic structures," North American Laser Ablation Workshop, University of Texas at Austin, Austin, TX. (May 2015).

Contracts, Grants and Sponsored Research

Contract

Walther, Benjamin (Principal), Black, Bryan (Co-Principal), "Age, growth and environmental exposure histories of threatened freshwater mussels assessed with sclerochronology and shell stable isotopes," Sponsored by Texas Parks & Wildlife Department, State, \$31,601.00. (September 1, 2014 - August 31, 2016).

Grant

Walther, Benjamin (Principal), "Collaborative Research: Consequences of sub-lethal hypoxia exposure for teleosts tracked with biogeochemical markers," Sponsored by National Science Foundation, Federal, \$257,960.00. (September 1, 2014 - August 31, 2017).

Walther, Benjamin (Co-Principal), Banner, Jay (Principal), Koleszar, Alison (Co-Principal), Stockli, Daniel (Co-Principal), Lassiter, John (Co-Principal), "MRI: Acquisition of a multicollector inductively coupled plasma mass spectrometer for earth science research at the University of Texas at Austin," Sponsored by National Science Foundation, Federal, \$609,429.00. (August 1, 2015 - July 31, 2017).

SERVICE

Department

Judge, Marine Science Graduate Student Organization Research Forum. (December 2015).
Volunteer, FAMA/MARB table at Graduate Fair. (November 2015).

Professional

Technical Advisor, International Commission for the Conservation of Atlantic Tunas (ICCAT).
(March 2011 - Present).
Officer, President/Elect/Past, Marine Fisheries Section of the American Fisheries Society.
(August 2014 - August 2018).

Public

Judge, TAMU System Pathways Student Research Symposium. (October 2015).