

KEVIN LEE STIERHOFF

CURRICULUM VITAE

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RESEARCH INTERESTS

Population ecology of fishes; Physiological ecology and early life history biology of fishes; Development of biochemical indices of physiological fitness in fishes; Habitat use and essential fish habitat; Impacts of hypoxia on physiology and habitat ecology of juvenile estuary-dependent fishes; Influence of oceanographic factors on the transport, physiology, and survival of marine fishes

EDUCATION

University of Delaware	Doctor of Philosophy – Marine Studies	2005
Salisbury State University	Bachelor of Science – Biology	1998
University of Maryland – Eastern Shore	Bachelor of Science – Environmental Science	1998

PROFESSIONAL EXPERIENCE

Research Fisheries Biologist NOAA Fisheries – Southwest Fisheries Science Center Research interests: <i>In situ surveys of deep-water marine fishes and invertebrates in the Northeast Pacific</i>	2008 – present
Instructor Leeward Community College – Math and Science Division Coursed taught: Principles of Zoology (lecture and laboratory sections)	2007 – 2008
Assistant Research Scientist University of Hawai'i at Mānoa – Department of Oceanography Research interests: <i>Effects of physical oceanographic processes on benthic boundary layer processes in nearshore permeable sediments</i>	2007 – 2008
Postdoctoral Research Scientist – Joint Appointment University of California Santa Cruz NOAA Fisheries – Southwest Fisheries Science Center Research interests: <i>Early life history biology and habitat ecology of northeast Pacific rockfishes (Sebastes spp.) along the central California coast</i>	2005 – 2007
Graduate Research Assistant University of Delaware College of Marine and Earth Studies (CMES) Ph.D. Dissertation: <i>Ecophysiological impacts of hypoxia on nursery habitat quality for juvenile estuarine-dependent fishes: A comparison of laboratory and field growth rates</i> (Timothy E. Targett – Advisor)	1999 – 2005
Teaching Assistant – Coastal Field Biology University of Delaware CMES	2004
Research Assistant Kyoto University Field Station for Fisheries Research	2000
Laboratory Technician University of Delaware CMES	1998

AWARDS AND FELLOWSHIPS

E. Sam Fitz Award for the graduate student displaying the greatest aptitude for professional development in marine studies – University of Delaware CMES	2006
Delaware Sea Grant Student Award in recognition of research excellence in the Delaware Sea Grant College Program	2006
Center for the Inland Bays Award for demonstrating excellence in research that advances the resource management and educational mission of the center	2006
Outstanding First Author Student Publication Award – University of Delaware CMES	2004
Student Travel Award – American Fisheries Society Physiology Section	2004
Outstanding Student Presentation Award – American Fisheries Society Mid-Atlantic Chapter	2001
Research Scholarship – Delaware Mobile Surf-Fishermen, Inc.	2000
Marian R. Okie Fellowship for academic and research excellence and demonstrated leadership abilities – University of Delaware CMES	2000

PROFESSIONAL MEMBERSHIPS

American Fisheries Society	1999 – present
Early Life History Section	1999 – present
Mid-Atlantic Chapter (Student Representative Elect – 2001)	1999 – 2004
Estuaries Section	2004 – present
Physiology Section	2004 – present

PEER-REVIEWED PUBLICATIONS**Published or *in press***

Greca, P.A. and **K.L. Stierhoff** (2002) A device for precisely controlling dissolved oxygen levels in laboratory experiments. *J. Exp. Mar. Biol. Ecol.* 280: 53-62

Stierhoff, K.L., T.E. Targett, and P.A. Greca (2003) Hypoxia tolerance of the mummichog: the role of access to the water surface. *J. Fish Biol.* 63: 580-592

Glazer, B.T., A.G. Marsh, **K.L. Stierhoff**, and G.W. Luther (2004) The dynamic response of optical oxygen sensors and voltammetric electrodes to temporal changes in dissolved oxygen concentrations. *Anal. Chim. Acta* 518:93-100

Stierhoff K.L., Targett T.E., and K. Miller (2006) Ecophysiological impacts of hypoxia on juvenile summer and winter flounder: experimental and modeling assessment of estuarine nursery quality. *Mar. Ecol. Prog. Ser.* 325: 255-266

In review or in prep.

Stierhoff K.L., Targett T.E. (*in review*) Growth of juvenile fishes is limited by diel-cycling hypoxia in an estuarine nursery. *Can. J. Fish. Aq. Sci.*

Stierhoff K.L., Tyler R.M., Targett T.E. (*in prep.*) Impacts of hypoxia on juvenile weakfish (*Cynoscion regalis*): insensitivity of growth rate to low dissolved oxygen across a range of temperatures. *J. Exp. Mar. Biol. Ecol.*

INVITED LECTURES AND SEMINARS

Stierhoff, K.L. (2000) A graduate's view on graduate school. Salisbury University BioEnvirons Club. Salisbury, MD

Stierhoff, K.L. (2001) The physiological ecology of estuarine fishes: Implications for low dissolved oxygen. Salisbury University, Salisbury, MD

Stierhoff, K.L. and Brady, D.C.B. (2002) The stresses on fish and graduate students in and around the Delaware Bay. UD CMES Ocean Currents Lecture Series. Lewes, DE

Stierhoff, K.L. (2002) Laboratory feeding and growth rates of juvenile estuarine fishes exposed to chronic and diel-cycling hypoxia. Delaware Scientific and Technical Advisory (STAC) Meeting. Lewes, DE

Stierhoff, K.L. (2004) Coping with hypoxia in estuaries: Physiological responses of juvenile fishes to low oxygen. Salisbury University Department of Biological Sciences Seminar Series, Salisbury, MD

Stierhoff, K.L. (2005) Effects of hypoxia on growth of juvenile fishes: Implications for nursery quality and essential fish habitat. NOAA/NMFS Southwest Fisheries Science Center, Santa Cruz, CA

Targett, T.E., **Stierhoff, K.L.**, Tyler, R. M. (2005) Responses of juvenile weakfish and summer flounder to hypoxia in estuarine nursery habitat: a combined laboratory and field approach. Estuarine Research Federation Annual Meeting, Norfolk, VA

Targett, T.E., Brady, D.C.B., and **Stierhoff, K.L.** (2007) Diel-cycling hypoxia in shallow estuarine waters: impacts on fish growth and movements. Ecological Impacts of Hypoxia on Living Resources Meeting, Bay St. Louis, MS

Stierhoff, K.L., Targett, T.E., and Sogard, S.M. (2007) It's hard out here for a fish: trials and tribulations during fish early life histories. San Francisco State University – Romberg Tiburon Center, Tiburon, CA

CONTRIBUTED PAPER PRESENTATIONS

- Stierhoff, K.L.** and Targett, T.E. (2001) Effects of hypoxia on feeding, growth and survival of juvenile fishes: Experimental assessment of the impact of low oxygen levels on nursery habitat quality (poster). American Fisheries Society, Annual Larval Fish Conference, Sandy Hook, NJ
- Stierhoff, K.L.** (2001) Effects of hypoxia on the feeding, growth and hematocrit of juvenile flounder from Delaware's Inland Bays. American Fisheries Society, Mid-Atlantic Chapter, Stone Harbor, NJ
- Stierhoff, K.L.** and Targett, T.E. (2002) Hypoxia tolerance and acclimation capacity of two flatfishes, summer flounder (*Paralichthys dentatus*) and winter flounder (*Pseudopleuronectes americanus*). Fifth International Flatfish Symposium, Isle of Man, U.K.
- Stierhoff, K.L.**, Brady, D.C.B. and Targett, T.E. (2003) Identification and assessment of fish nursery habitats: Examples of hypoxia impacts from Delaware's Inland Bays. National Estuary Program's Habitat Workshop, Ocean City, MD
- Stierhoff, K.L.** and Targett, T.E. (2004) Impact of hypoxia on juvenile fish growth: Evidence from laboratory and field studies. International Congress on the Biology of Fish, Manaus, Brazil
- Stierhoff, K.L.** and Targett, T.E. (2004) Impact of hypoxia on juvenile fish growth: Evidence from laboratory and field studies. IXth Flatfish Biology Conference, Westport, CT
- Stierhoff, K.L.** and Targett, T.E. (2005) RNA:DNA as an index of recent growth in fish: Applications in temporally- and spatially-dynamic estuarine nurseries. American Fisheries Society Annual Meeting, Anchorage, AK
- Stierhoff, K.L.**, Crofts, J., and Sogard, S.M. (2006) Spatial patterns of habitat utilization by juvenile rockfishes in Monterey Bay. Western Groundfish Conference, Newport, OR
- Stierhoff, K.L.**, and Sogard, S.M. (2006) Spatial patterns of habitat utilization by juvenile rockfishes in Monterey Bay. CalCOFI Conference, Asilomar, CA

RESEARCH FUNDING (received)

Title: *Quantifying the effect of upwelling and relaxation on otolith chemistry and fish growth*

PI: Kevin L. Stierhoff

coPI: Brian K. Wells, Susan M. Sogard, Mark Carr, Churchill Grimes

Source of funds: NSF SGER

Project location: Santa Cruz, CA

Total award amount: \$50,000

Start/end dates: March 2006 to March 2007

Title: *Molecular methods for improving the taxonomic resolution of rockfish predation and habitat association research efforts in Central California*

PI: Kevin L. Stierhoff

coPIs: John C. Field, Devon Pearse

Source of funds: Sanctuary Integrated Monitoring Network (SIMoN)

Project location: Santa Cruz, CA

Total award amount: \$15,000

Start/end dates: January 2007 to January 2008

CURRENT AND RECENT COLLABORATORS

Francis Sansone (UH Manoa); Geno Pawlak (UH Manoa), Susan M. Sogard (NOAA Fisheries), Brian K. Wells (NOAA Fisheries), Mark Carr (UCSC), John Field (NOAA Fisheries), Devon Pearse (NOAA Fisheries), James H. Power (US EPA)

Timothy E. Targett (UD), Paul A. Greycay (Salisbury U.), James A. Rice (NCSU), Adam G. Marsh (UD) (Ph.D. advisory committee)

VOLUNTEER OUTREACH AND EDUCATION

Marine Biology Educator, H. B. duPont Middle School, Hokessin, DE	1999 – 2002
Marine Biology Educator, Partnership for the DE Estuary, Wilmington, DE	1999 – 2002
Marine Biology Educator, Mariner Middle School, Milford, DE	1999 – 2004
Marine Biology Educator, Governor's School for Excellence, Lewes, DE	2000 – 2004
Coast Day Participant, University of Delaware CMES, Lewes, DE	2000 – 2005
Judge, Sussex County Science Fair	2003

PROFESSIONAL SERVICE

Peer-reviewer for Estuarine, Coastal and Shelf Science; Estuaries; Transactions of the American Fisheries Society; and the North Carolina Sea Grant Program

RELEVANT FIELD EXPERIENCE

<i>R/V David Starr Jordan</i> research cruise participant, Central California Coast	2005
<i>R/V David Starr Jordan</i> research cruise participant, California Coastal Upwelling Region	2005 – 2007
Frequent small boat operations for sampling of fishes and invertebrates, benthic habitat characterization, deployment of monitoring instrumentation, and SCUBA in estuarine and continental shelf ecosystems	1998 – present

CERTIFICATIONS AND SKILLS

USCG Boating Skills and Seamanship Certification	1999 – present
NAUI Open Water Diver, Rescue Diver	2001 – present
PADI Advanced Open Water Diver	2004 – present
NOAA Scientific Diver	2005 – present
DAN Oxygen First Aid Provider	2005 – present
Red Cross First Aid (with AED) and First Aid	2005 – present
Introductory ArcGIS	2005

RELEVANT GRADUATE COURSES

Physical Oceanography; Biological Oceanography; Ichthyology: Systematics, Physiology, and Ecology; Topics in Fish Biology (8 semesters); Physiology of Marine Organisms; Statistics in the Marine Sciences; Writing Papers in the Marine Sciences; Marine Biochemistry, Epigenetics Seminar, Programming Perl

RELEVANT UNDERGRADUATE COURSES

Biology I,II; General Chemistry I,II; Organic Chemistry; Physics I,II; Applications in GIS; Probability and Statistics; Introduction to Applied Calculus; Cell Biology; Molecular Genetics; Comparative Anatomy; Vertebrate Physiology; Biology of Fishes; Environmental Science; Ecology; Marine Botany; Marine Zoology; Oceanography; Wetlands Ecology; Estuarine Biology; Water Pollution; Earth Science