David A. Balcom 3406 Uniontown Road Westminster, MD 21158

240/595-2432 (cell) 410/234-8857 (office)

David Balcom has served as a resource development professional with a variety of nonprofit and higher education institutions for thirty years. This work has involved raising tens of millions of dollars for scholarships, public and academic programs, faculty positions and general support. He has managed development and communications staff, recruited and facilitated the leadership of volunteer boards ranging in size from 15 to 200 members, led communications efforts and provided strategic assistance in building organizational capacity. Balcom has worked closely with influential philanthropists, university chancellors, high-profile boards of directors, nonprofit leaders, university presidents, deans, department heads, faculty and students.

Professional Appointments

University System of Maryland	2000-present	
• University of Maryland Center for Environmental Science Vice President for Institutional Advancement	2011-present	
 University System of Maryland Associate Vice Chancellor for Advancement Vice President for Board Relations 	2005-2011	
Coppin State University (loaned executive) Vice President for Institutional Advancement	2010-2011	
• University of Maryland College Park Director of External Relations, Maryland School of Public Policy	2000-2005	
Lawyers' Committee for Civil Rights Under Law (Washington, DC)	1993-2000	
Community Service Society of New York	1989-1993	
Queens Museum (Flushing Queens)	1988-1989	
Brooklyn Historical Society	1986-1988	
Pratt Area Community Council (Brooklyn, NY)	1983-1986	

Education

- MA American History en route to Ph.D. City University of NY Graduate Center
- BA American History; minor in philosophy The George Washington University
- Graduate Level Certificate in Management and Leadership University of Maryland University College

Volunteer Service

• William Donald Schaffer Public Service Scholarship Selection Committee 2005-2008

- Youth basketball coach for many years
 H.S. Music Program Parent Association President and parent volunteer
 Frequent blood donor and supporter of the American Red Cross

William C. Dennison

Vice President for Science Application and Professor University of Maryland Center for Environmental Science (410) 221-2004; <u>dennison@umces.edu</u>; <u>www.ian.umces.edu</u>

Education		
PhD The Universi	ity of Chicago (Biology)	1984
MS University of	f Alaska (Biol. Oceanography)	1979
BA Western Mic	chigan Univ. (Biol., Environ. Sci.)	1976
Positions		
Vice President for S Univ. of Mary	cience Application and Professor yland Center for Environ. Science	2002-
Reader, Botany Dep	bartment	2000-2002
University of	f Queensland, Brisbane, Australia	
Senior Lecturer, Bo	tany Department	1995-2000
Lecturer, Botany De	epartment	1992-1995
Research Assistant	Professor	1987-1992
Horn Point L	ab., Univ. of MD Ctr. Environ. Sci.	
Coastal Marine Scho	olar	
Marine Sci. F	Research Ctr., Stony Brook Univ., NY	1984-1987

Professional experience

Bill Dennison's primary mission within UMCES is to coordinate the Integration and Application Network (IAN), a group of scientists committed to solving, not just studying, environmental problems. IAN Science Integrators and Science Communicators work closely with various agencies, foundations and non-government organizations to develop integrated science products using principles of science communication. In addition, IAN is developing environmental report cards for a diversity of locations globally, including iconic ecosystems like Chesapeake Bay, Great Barrier Reef, Mississippi River basin. IAN works locally (e.g., Chesapeake Bay, Maryland Coastal Bays), nationally (e.g., National Estuarine Eutrophication Assessment, National Park Service), and globally (e.g., Secretariat of the Pacific Regional Environmental Programme, Great Barrier Reef Foundation).

Bill serves in key roles in various committees, panels and boards locally and globally (e.g., Chair, Science and Technical Analysis and Reporting group, Chesapeake Bay Program; Chair, Science and Technical Advisory Committee, Maryland Coastal Bays Program, Member, Maryland BayStat, Overseer, Sea Education Association; Director, International Riverfoundation, Brisbane, Australia). Bill teaches Science Communication courses regularly to a diversity of students and professionals, Science for Environmental Management to graduate students. Bill has mentored many undergraduate and graduate students through the University of Maryland and the University of Queensland who have gone on to a diverse suite of professional pursuits.

Publications

Bill Dennison's publication record has several major thrusts. His contribution to the peer review scientific literature has been primarily in the realm of marine ecology. Beginning his career in seagrass ecophysiology and ecology, he expanded his publication contributions to other marine primary producers, macroalgae, salt marshes, mangroves, corals, phytoplankton, benthic microalgae, bacteria and viruses. He co-led a seagrass group at the National Center for Analysis and Synthesis and this group developed and analyzed a global seagrass trajectories database to develop a series of seminal seagrass publications. He has published ~100 papers, with an 'h' value impact factor of 40. A full list of publications can be found at www.ian.umces.edu/people/Bill_Dennison/#_Publications/.

Another thrust of publication has been a contribution to the science literacy literature, with a diversity of types of publications, including books, booklets, newsletters, brochures, fact sheets, and posters. Bill has been involved in the production of a dozen books which use full color graphics throughout, integrated with text. These have involved input from multiple co-authors. Hundreds of short publications have been produced which use the same publication principles and target broad audiences. Pdfs of these publications are maintained at <u>www.ian.umces.edu/press/</u>.

Science Communication Tools

Bill Dennison has led an effort to develop tools and examples for effective science communication. One of the tools is an free online symbol library which contains over 2500 vector graphic symbols designed to enhance science communication with diagrammatic representations of complex processes. This library has been downloaded by over 75000 users from 240 countries globally. These symbols constitute an attempt to create a global symbol language. An online diagram creator allows users to develop conceptual diagrams without additional software. Another tool is a free online image library with over 6000 images which have been viewed by over 2 million users. These tools can be found at www.ian.umces.edu.

Bill has led an effort to develop environmental report cards that are transformative assessment and communication products that compare environmental data to scientific or management thresholds and are delivered to a wide audience on a regular basis. This effort also includes harnessing the power of citizen scientists involved in collecting environmental data for developing local and regional level report cards.

Bill has an active blog presence with the themes of science communication, environmental assessment and environmental literacy. He has initiated a webcast seminar series, a series of online education modules, and maintained an active media presence to communicate various environmental science issues to the general public.

BIOGRAPHICAL SKETCH

<u>Name</u> :	HOU	DE, EDWARD D.			
Address:	Unive	University of Maryland Center for Environmental Science			
	Chesa	peake Biological Laboratory			
Р		Box 38			
	Solor	nons, MD 20688-0038			
Telephone:	410-3	26-7224			
E-mail:	ehoud	ehoude@cbl.umces.edu			
Professional Pre	paration:	University of Massachusetts.	Zoology	B.A.	1963
		Cornell University.	Fisheries Science.	M.S.	1965
		Cornell University.	Fisheries Science.	Ph.D.	. 1968

Appointments:

Vice President for Education, University of Maryland Center for Environmental Science.

Professor, University of Maryland Center for Environmental Science, Chesapeake Biological Laboratory, Solomons, MD, 1980-Present.

Program Director, Biological Oceanography, National Science Foundation, Washington, D.C., 1983-1985.

Professor, RSMAS, University of Miami, Miami, Florida, 1977-1980.

Associate Professor, RSMAS, University of Miami, Miami, Florida, 1974-1977.

Assistant Professor, RSMAS, University of Miami, Miami, Florida, 1971-1974.

Research Scientist, Rosenstiel School of Marine and Atmospheric Science (RSMAS), University of Miami, Miami, Florida, 1970-1971.

Fishery Research Biologist, U.S. Bureau of Commercial Fisheries, Miami, Florida, 1968-1970.

Recent Publications:

CBFEAP. 2006. Fisheries ecosystem planning for Chesapeake Bay. (by Chesapeake Bay Fisheries Ecosystem Advisory Panel; E. D. Houde and M. McBride, panel co-chairs and editors). American Fisheries Society, Trends in Fisheries Science and Management 3, Bethesda, MD. (E. Houde is primary author of Ch. 1, "A Fisheries Ecosystem Plan for the Chesapeake Bay"; E. Houde is co-author of Ch. 3, Element 3, "Habitat, habitat requirements, and habitat management"; E. Houde is co-author of Ch. 3, Element 6, "Indicators of ecosystem health and biological reference points").

Houde, E. D. 2008. Emerging from Hjort's shadow. J. Northw. Atl. Fish . Sci. 41:53-70.

Houde, E. D. 2009. Recruitment variability. pp. 91-171. In: Jakobsen, T., M. J. Fogarty, B. A. Megrey and E. Moksness. Fish reproductive biology. Implications for assessment and management. Wiley-Blackwell.

Houde, E. D. 2011. Managing the Chesapeake's fisheries: a work in progress. Chesapeake Perspectives.

Maryland Sea Grant, College Park, MD. 121 pp.

Annis, E. R., E. D. Houde, L. W. Harding, Jr., M. Wilberg and M. Mallonee. 2011. Linking primary production to menhaden growth in Chesapeake Bay. Mar. Ecol. Prog. Ser., 437:253–267.

Martino, E. J. and E. D. Houde. 2012. Density-dependent regulation of year-class strength in age-0 juvenile striped bass (*Morone saxatilis*). Canadian Journal of Fisheries and Aquatic Sciences 69:430-446.

Pikitch, E. K. and 12 co-authors (including E. D. Houde). 2012. Little fish, big impact: managing a crucial link in ocean food webs. Lenfest Ocean Program. Washington, D.C. 108 pp.

Pikitch, E. K. and 19 co-authors (including E. D. Houde). 2012. The global contribution of forage fish to marine fisheries and ecosystems. Fish and Fisheries, 5 Sept 2012, DOI: 10.1111/faf.12004

Lozano, C., E. D. Houde, R. L. Wingate and D. H. Secor. 2012. Age, growth, and hatch dates of ingressing larvae and surviving juveniles of Atlantic menhaden, *Brevoortia tyrannus*, in Chesapeake Bay, USA. Journal of Fish Biology, DOI: 10.1111/j.1095-8649.2012.03426.x

Lozano, C. and E. D. Houde. 2013. Factors contributing to variability in larval ingress of Atlantic menhaden, *Brevoortia tyrannus*. Estuarine, Coastal and Shelf Science 118:1-10.

Houde, E. D., A. Kenny and S. Zhou. In press. Ecosystem-based management in highly impacted coasts and estuaries. Chapter 14. In: Fogarty, M. J. and J. McCarthy (eds.). Marine ecosystem-based management. Volume 16, The Sea, Harvard University Press.

Awards and Synergistic Activities:

Awards: Beverton Award for lifetime achievement in fisheries science, Fisheries Society of the British Isles, 1997;

Sette Award for lifetime achievement in marine fisheries science, Am. Fish. Soc., 1997;

Ahlstrom Award for lifetime achievement in biology of early life stages of fishes, Am. Fish. Soc., 2011. Fellow, Am. Assoc. Advancement Science (AAAS), 2001.

Member, Ocean Studies Board, National Research Council, 1998-2000.

Member, Scientific and Statistical Committee, Mid-Atlantic Regional Fisheries Management Council, 1982-

Co-Chair, Fisheries Ecosystem Planning Team, NOAA Ches. Bay Office and Ches. Bay Program, 2002-2006.

Committee Chair, Marine Protected Areas, National Research Council, 1998-2001.

Maryland Dept. Natural Resources Fisheries Task Force, 2007 – 2009.

Associate Editor, Estuaries and Coasts, 2008 - 2011.

Chesapeake Bay Ecosystem-Based Fisheries Mgt. Planning Team, 2008 – 2011.

U.S. Co-Delegate to ICES (Int. Council Explor. Sea), 2006 -

Steering Committee, CAMEO, NOAA and NSF, 2008 – 2011.

Lenfest Forage Fish Task Force, 2009 – 2012.

Science and Engineering Board, Louisiana Office of Coastal Protection and Restoration, 2010-2012.

Independent Science Board, Delta Stewardship Council, State of California, 2010-2013.

Russell T. Hill, Ph.D.

Professor and Director Institute of Marine and Environmental Technology University of Maryland Center for Environmental Science Columbus Center, Suite 236 701 E. Pratt St., Baltimore MD 21202 USA (410) 234-8802 (phone) (410) 234-8818 (fax) <u>hill@umces.edu</u>

A) Professional Preparation

Univ. of Natal, Durban, South Africa	(Cellular Biol/Ecological Biol)	B.Sc.	1978
Univ. of Natal, Durban, South Africa	Microbiology/Plant Physiol	B.Sc. (Hons)	1979
Univ. of Cape Town, South Africa	Microbiology	Ph.D.	1988
Univ. Maryland Biotechnol. Inst	Molecular Microbial Ecology	Postdoc	1989/91

B) Appointments

9/2012-present	Director, IMET
6/2011-present	Interim Director, IMET
2010-present	Professor, Institute of Marine and Environmental Technology (IMET),
	University of Maryland Center for Environmental Science (UMCES)
6/2010-6/2011	Interim Associate Director, IMET
2009-2010	Professor, Center of Marine Biotechnology (COMB),
	University of Maryland Biotechnology Institute (UMBI)
2007-2010	Associate Director, COMB, UMBI
2001-2009	Associate Professor, COMB, UMBI
2002-present	Adjunct Professor, Department of Pharmacy, Univ. Mississippi.
1998-2001	Senior Scientist, COMB, UMBI
1996-1998	Research Scientist (Microbiology), Marine Bioproducts Group,
	Australian Institute of Marine Science
1992-1996	Research Assistant Professor, COMB, UMBI

C) Publications (of >100 papers and chapters) h-Index 37 (Google Scholar). Total citations 3,725 (6th May, 2013).

Most closely related:

- Vicente, J., A. Stewart, B. Song, **R. T. Hill** and J. L. Wright. 2013. Biodiversity of actinomycetes associated with Caribbean sponges and their potential for natural product discovery. Mar. Biotechnol. DOI 10.1007/s10126-013-9493-4.
- Zan, J., E. M. Cicirelli, N. M. Mohamed, H. Sibhatu, S. Kroll, O. Choi, C. L. Uhlson, C. L. Wysoczinski, R. C. Murphy, M. A. E. Churchill, **R. T. Hill** and C. Fuqua. 2012. A complex LuxR-LuxI type quorum sending network in a roseobacterial marine sponge symbiont activates flagellar motility and inhibits biofilm formation. Mol. Microbiol. 85:916-933.
- Wang, H., H. D. Laughinghouse IV, M. A. Anderson, F. Chen, E. Williams, A. R. Place, O. Zmora, Y. Zohar, T. Zheng and R. T. Hill. 2012. A novel bacterial isolate from Permian ground water capable of aggregating potential biofuel-producing microalga Nannochloropsis oceanica IMET1. Appl. Environ. Microbiol. 78:1445-53.
- Zan, J., C. Fuqua and **R. T. Hill.** 2011. Diversity and functional analysis of *luxS* genes in Vibrios from marine sponges *Mycale laxissima* and *Ircinia strobilina*. ISME Journal. doi:10.1038/ismej.2011.31.

Montalvo, N. F. and **R. T. Hill.** 2011. Sponge-associated bacteria are strictly maintained in two closely related but geographically distant sponge hosts. Appl. Environ. Microbiol. 77:7207-7216.

Additional publications:

- Bergman, O., M. Haber, B. Mayzel, M. A. Anderson, M. Shpigel, **R. T. Hill** and M. Ilan. 2011. Marine-based cultivation of *Diacarnus* sponges and the bacterial community composition of wild and maricultured sponges and their larvae. Mar. Biotechnol. 13:1169–1182.
- Zan, J., W. F. Fricke, C. Fuqua, J. Ravel and **R. T. Hill.** 2011. Genome sequence of *Ruegeria* sp. strain KLH11, an N-acylhomoserine lactone-producing bacterium isolated from the marine sponge *Mycale laxissima*. J. Bacteriol. 193:5011-5012.
- To Isaacs, L., J. Kan, L. Nguyen, P. Videau, M. A. Anderson, T. L. Wright and **R. T. Hill**. 2009. Comparison of the bacterial communities of wild and captive sponge *Clathria prolifera* from the Chesapeake Bay. Mar. Biotechnol. 11:758-770.
- Mohamed, N., K. Saito, Y. Tal and **R. T. Hill.** 2009. Diversity of aerobic and anaerobic ammonia oxidizing bacteria in marine sponges. ISME J. 4:38-48.
- Mohamed, N. M., A. S. Colman, Y. Tal, and **R. T. Hill**. 2008. Diversity and expression of nitrogen fixation genes in bacterial symbionts of marine sponges. Environ. Microbiol.10:2910-2921.

D) Synergistic Activities

Participating faculty, "Ingenuity" program for gifted Minority Grade 10-12 students from Baltimore City schools. Course Leader, Summer Microbiology and Research Training Course for minority undergrad students, summer 2004, 2006, 2009, 2011. Editorial Board Marine Biotechnol. (2000-); Appl. Environ. Microbiol. (2003-), Chair, International Program Committee, Marine Biotech Conference, Japan, 2003. International Program Committee and Executive Committee, Marine Biotech Conferences St. Johns, Canada 2005, Eilat, Israel 2007. Secretary/Treasurer, International Marine Biotechnology Association, 2007-present. Chief scientist on >20 research cruises in U.S., Bahamian, Hawaiian, and Australian waters. Research dives (*ca.* 2,600 m) in submersibles ALVIN, JAMSTEC "Shinkai 2000" and HBOI "Johnson-Sea-Link".

E) Collaborators, Advisors and Students

Collaborators:

- S. H. Abou-El-Ela (Suez Canal University, Egypt)
- D. M. Abo-Elmatty (Suez Canal University, Egypt)
- M. A. Anderson (Algenol Inc.)
- O. Bergman (University of Tel Aviv)
- F. Chen (Inst. Marine Environ. Technol., UMCES)
- M. Churchill (University of Colorado, Denver)
- A. S. Colman (University of Chicago)
- M. T. Davies-Coleman (Rhodes University, South Africa)
- J. R. Dib (Westfälische Wilhelms-Universität Münster, Germany)
- R. A. Dorrington (Rhodes University, South Africa)
- Z. Dubinsky (Bar-Ilan University, Israel)
- M. E. Farías (CONICET, Tucumán, Argentina)
- W. Fenical (Scripps Institution of Oceanography)
- W. F. Fricke (Institute for Genome Sciences)
- C. Fuqua (Indiana University)
- B. Haber (University of Tel Aviv)
- A. Hanora (Suez Canal University, Egypt)

- U. Hentschel (Univ. Würzburg, Germany)
- M. Ilan (University of Tel Aviv)
- J. M. Jones-Meehan (Dept. Homeland Security, Office of National Laboratories)
- M. Kelly (NIWA, New Zealand)
- D. Kelman (University of Hawaii)
- D. Kevin (University of Mississippi)
- M. T. Hamann (University of Mississippi)
- E. J. Hilyard (Naval Medical Research Center)
- Y. Kashman (University of Tel Aviv)
- Y. Lampert (University of Hawaii)
- H. D. Laughinghouse IV (University of Maryland)
- Y. Loya (Tel Aviv University)
- G. F. Matcher (Rhodes University, South Africa)
- B. Mayzel (University of Tel Aviv)
- S. M. McIntosh (Hood College)
- F. Meinhardt (Westfälische Wilhelms-Universität Münster, Germany)
- A. F. Meujo (University of Mississippi)
- M. Na (University of Mississippi)
- L. Nguyen (Goucher College, Baltimore)
- Y. Nitzan (Bar-Ilan University, Israel)
- A. R. Place (Inst. Marine Environ. Technol., UMCES)
- B. J. Spargo (Naval Research Laboratory)
- M. Radwan (Suez Canal University, Egypt)
- V. Rao (University of Mississippi)
- J. Ravel (Institute for Genome Sciences)
- J. B. Ries (UNC)
- E. Rosenburg (University of Tel Aviv)
- K. Saito (Inst. Marine Environ. Technol., UMBC)
- M. Shpigel (Natl. Center for Mariculture, IOLR, Israel)
- M. Taylor (Univ. Auckland, New Zealand)
- Y. Tal (NanoCyte Inc., Israel)
- L. To Isaacs (retired)
- P. Videau (Goucher College, Baltimore)
- M. Wagenknecht (Westfälische Wilhelms-Universität Münster, Germany)
- T. A. Walmsley (Rhodes University, South Africa)
- H. Wang (Xiamen University, China)
- A. L. Waters (University of Mississippi)
- E. Williams (Inst. Marine Environ. Technol., UMCES)
- T. L. Wright (Goucher College, Baltimore)
- T. Zheng (Xiamen University, China)
- Y. Zohar (Inst. Marine Environ. Technol., UMBC)
- O. Zmora (Inst. Marine Environ. Technol., UMBC)

<u>Previous Advisors</u>: Postdoctoral Advisor: Rita R. Colwell (Distinguished University Professor, University of Maryland College Park, Chairman, Canon US Life Sciences)

Ph.D. Advisor: David T. Woods (Chancellor, Rhodes Univ., South Africa, retired)

Graduate Students (Postdoctoral Scholars 3; Ph.D. students 10; M.S. students 4)

Postdoc; Julie Enticknap (Science teacher, Cumnor House, UK); Temesgen Mulaw; Leah Blasiak (current).

Ph.D.: Jacques Ravel (Associate Professor, Institute for Genome Sciences, University of Maryland School of Medicine), Nicole Webster (Australian Institute for Marine Science), Olivier Peraud (Roche Diagnostics), Naglaa Mohamed (Senior Research Scientist, Pfizer), Naomi Montalvo,

Jindong Zan (Postdoctoral Associate, University of Wisconsin-Madison), Jeanette Davis (current student), Fan Zhang (current student), Jan Vicente (current student), Ryan Powell (current student).

MS: Johanna Johnson (Great Barrier Reef Marine Park Authority, Australia), Heather Almborg (James Cook University, Australia), Michelle Ramsay (Marine Consultants, Australia), Jayme Lohr (Luminex Corp.).

Erica H. Kropp

Center Administration University of Maryland Center for Environmental Science P.O. Box 775, Cambridge, Maryland 21613

<u>Professional Experience:</u> Vice President for Administration (VPA) University of Maryland Center for Environmental Science (UMCES)

January 2010 – Present

Report to and support the President of UMCES. Responsible for providing guidance and oversight in areas of operating and capital budgets, financial and research administration, accountability, information technology, facilities and human resource management, research fleet operations as well as overall compliance with laws, regulations and policies of the federal government, State of Maryland, University System of Maryland, and UMCES. Work collaboratively with Lab Directors/Unit Heads and senior staff on development of policies and procedures, implementation of systems and processes that facilitate both efficiencies and effectiveness. Promote and support administrative collaborative efforts with other institutions within the University System of Maryland. Serve on the President's Executive and Administrative Councils. Represent UMCES to USM, state and federal agencies as appropriate.

Director, Office of Research Administration & Advancement, UMCES

August 2004 – January 2010

Responsible for Center Administration's supporting structure to facilitate the submission of sponsored project proposals and provide overall guidance on pre- and post-award administration and compliance matters for UMCES. Monitor changes in university, state and federal regulations and policies impacting the research environment and, if needed, recommend implementing policies and procedures for UMCES. Serve as the primary UMCES representative to the Federal Demonstration Partnership (FDP) and other USM or outside organizations.

Assistant Vice President for Research & Director, Office of Research Administration and Advancement, University of Maryland, College Park (UM)

July 1994- August 2004

Directed activities of the central support office (25 FTE) for sponsored project development, administration and compliance functions for UM. Signature authority for all proposals and sponsored project awards on behalf of UM. Monitor changes in university, state and federal regulations and policies impacting the research environment and, if needed, recommended implementing policies and procedures for UM. Served as the primary UM representative to Council of Governmental Relations (COGR) and the Federal Demonstration Partnership (FDP). Developed or worked with committees to develop numerous UM policies and procedures. Part of UM proposal preparation team to respond to an RFP for a University Affiliated Research Center (one of 12 in the country). Coordinated budget and management sections as well as overall submission and conducted all contract negotiations in the resulting initial award of over \$25m contract. Secured a Facility Clearance for USM and UM required for this off-campus unit.

Assistant Director, Office of Research Administration & Advancement (ORAA) University of Maryland 1988-1994

Senior Contract Administrator, Office of Research Administration and Advancement, 1978-1988

Consulting:

Morgan State University, 2011 – Export Control Seminar and process review American Museum of Natural History, 2010 – Export Control program review College of William & Mary/VIMS, 2009– Export Control Seminars Brown University, 2008 – Export Control Seminar and process review Dartmouth College, 2006 – Export Control Seminars and process review New York University, 2005 – Export Control Seminars and process review University of West Virginia, 2004 – Export Control Seminar and process review Virginia Tech, 1997– Review of pre and post award office structure and funding The American University, 1980 & 1982 – Pre- & post-award administration issues

Education:

Bachelor of Science in Technology Management, University of Maryland University College – 1991 Paralegal Certification with Government Specialization, UMUC, 1983 College Business Management Institute, University of Kentucky, 4 yr. weekly program, 1976-1980 Grant & Contract and Admin & Federal Regulation Courses, National Graduate University, 1974 & 1984

Professional Activities:

Federal Demonstration Partnership (FDP),

UMCES Administrative Representative, 2004 to 2011

Executive Committee, 2008 to 2011

Co-Chair Membership Committee, 2008 to 2011

Phase V Transition Team Member and Proposal Reviewer, 2008

UMCP Administrative Representative and committee member, 1996-2004

Council on Governmental Relations (COGR), UM Primary Representative

Board Member, 1999-2004

Research Compliance and Administration Committee 1997-1999

Contracts and Intellectual Property Committee 1999-2004

Co-Chair, Export Control Working Group – 2002 to 2005

Published COGR brochure, "Export Controls and Universities: Information and Case Studies", 2003 National Council of University Research Administrators (NCURA), 1979-present

Board of Directors 2007-2009

Travelling Senior Level Workshop Faculty 2007-2009

Leadership Development Institute Advisor 2008 & 2010

Export Control Seminar Faculty, 2004-2006

Served on several other committees over the years and regular panelist and/or moderator for at least one session at NCURA National Meetings since 1980's. Topics have covered full range of research administration, i.e. industry negotiations, agency updates & issues, export control, FAR, conflict of interest, OMB Circulars and more.

NASA Blue Ribbon Committee – University representative selected to serve on this NASA created Committee for review of NASA's proposal and award process, 1996

<u>UMCES Committees and Service:</u> Administrative Review Committee, Conflict of Interest Committee, Institutional Animal Care and Use Committee, USM System Researchers Administrative Group

<u>UMCP Committees and Service:</u> Research Council, Graduate Council Research Committee, Senate Committee on Research, Animal Care and Use Committee, Numerous other Working Groups and Search Committees over the years

Awards:

NCURA Region II Distinguished Service Award, 2008 UM President's Distinguished Service Award, 2000 USM Award for Outstanding Outreach to the Research Community, 1993

THOMAS J. MILLER

Chesapeake Biological Laboratory University of Maryland Center for Environmental Science Solomons, MD 20688-0038 Tel : (410) 326-7276 Email : miller@cbl.umces.edu WWW : hjort.cbl.umces.edu

Education:

- 1990 Ph.D. North Carolina State University, Zoology (Oceanography minor)
- 1984 M.S. North Carolina State University, Ecology
- 1981 B.Sc. (Hons). University of York, Human and Environmental Biology

Professional Background:

2011-present Director, Chesapeake Biological Laboratory, University of Maryland Center for Environmental Science

Professor, Chesapeake Biological Laboratory
Associate Professor, Chesapeake Biological Laboratory
Assistant Professor, Chesapeake Biological Laboratory
Post-doctoral Fellow, McGill University, Montreal

Research Interests

Fisheries ecology with emphasis on life history, feeding, growth, size-dependent processes and recruitment in fishes and crabs; Population dynamics and stock assessment; Quantitative Methods in Ecology with emphasis on modeling, experimental design and statistics

Publications (10 selected out of > 70)

- Link, J. S., S. Gaichas, T. J. Miller, T. E. Essington, A. Bundy, J. Boldt, K. F. Drinkwater and E. Moksness. 2012. Synthesizing lessons learned from comparing fisheries production in 13 northern hemisphere ecosystems: emergent fundamental features. Marine Ecology Progress Series 459:293-302
- Lucey, S. M., A. M. Cook, J. Boldt, J. S. Link, T. E. Essington and T. J. Miller. 2012. Comparative analyses of surplus production dynamics of functional feeding groups across 12 large marine ecosystems. Marine Ecology Progress Series 459:219-229
- Holsman, K., T. E. Essington, T. J. Miller, M. Koen-Alonso and W. J. Stockhausen. 2012. Comparative analysis of cod and herring production dynamics across 13 northern marine ecosystems. Marine Ecology Progress Series. 459:231-246-
- Nye, J. A., D. A. Loewensteiner, and T. J. Miller. 2011. Annual, seasonal and regional variability in diet of Atlantic croaker (Micropogonias undulatus) in Chesapeake Bay. Estuaries and Coasts. 34:691-700.
- Frisk, M. G., T. J. Miller, R. Latour and S. J. D. Martell. 2011. Assessing biomass gains from marsh restoration in Delaware Bay using Ecopath with Ecosim. Ecological Modelling. 222:190-200.
- Link, J. S., B. A. Megrey, T. J. Miller, T. E. Essington, J. Boldt, A. Bundy, E. Moksness, K. F. Drinkwater and R. I. Perry. 2010. Comparative analysis of marine ecosystems: International production modeling workshop. Biology Letters.6:723-
- Bauer, L. J and T. J. Miller. 2010 Spatial and interannual variability in winter mortality of the blue crab (Callinectes sapidus) in the Chesapeake Bay. Estuaries and Coasts
- Miller, T. J., J. A. Blair. T. F. Ihde. R. M. Jones, M. J. Wilberg and D. H. Secor. 2010. An innovative role for scientists in stakeholder centered approaches to fisheries management. Fisheries. 35(9):425-433.
- Frisk, M. G., T. J. Miller, S. J. D. Martell and K. K. Sosebee. 2008. New hypothesis helps explain elasmobranch "outburst" on Georges Bank in the 1980's. Ecological Applications 18:234-245.

Wilburg, M. J. and T. J. Miller. 2007. Problems with inferences of fish population dynamics based on maximum catch. Science. 316:1285.

Synergistic activities

International: ICES Working group on Recruitment Processes (2002-2004, chair 2004-2010), ICES Working group on Physical-Biological Interactions (2004 - present), US- Canada Trans-Boundary Resource Assessment Group (2010). US- Canada – Norway Trilateral Program on Production Modeling (2010 – present) - National NRC Panel on Water Use in the San Francisco Bay/Delta (2009-2012), NRC Panel on the Bay Delta Conservation Plan (2010 – 2012), NOAA NEFSC Stock Assessment Review Committee 2001,2008, 2009, 2011, 2012; NOAA Mid-Atlantic Fishery Management Council's Scientific and Technical Committee member (2001-present, Vice-Chair 2009-present); Atlantic States Marine Fisheries Commission Management and Science Committee (2006-present), ASMFC Menhaden and Croaker Review Panel 2003, ASFMC Tautog Review Panel (2005, Chair, 2013), ASMFC Lobster Review Panel (2009, Chair) -**Regional**: Maryland Sea Grant, Scientific Advisory Committee, 2005-present; NOAA-Virginia Sea Grant Review Panel (2003-2006); Chesapeake Bay Fishery Ecosystem Plan Panel (2000 –2011), Maryland Sea Grant Ecosystem Based Fisheries Program (Chair, Stock Dynamics Evaluation Team 2009-2011), Chesapeake Bay Stock Assessment Committee (1999- present); Scientific advisor to Potomac River Fisheries Commission (2006 – present).

Professional Recognition

Personal: President's Award for Excellence, UMCES 2001; Graduate Education Award, UMCES 1998, 2008; Best Student Paper Award, Am. Fish Soc 1987; Harkema Award for Graduate Education, NCSU 1986; Plenary Speaker, Larval Fish Conference 2006; ICES Workshop on Physical Biological Interactions 2006; EcoNORTH – International conference on the Northern Ocean Ecosystems 2007. National Ecosystem Modeling Workshop, 2009

With Students: Sally Richardson Award, 24th Larval Fish Conference 2000; Best student paper awards, Tidewater Section, Am. Fish Soc 2010, 2004, 2002, 2001, 2000, 1999.

LIST of Collaborators (Last 5 years outside of UMCES)

A. Bundy (DFO- Canada); J. S. Blair (FSU); E. M. Caldarone (NOAA); M. C. Christman (U. FL); J. S. Collie (URI); K. Drinkwater (IMR, Norway); T. E. Essington (U. WA); L. Fegley (MD DNR); M. J. Fogartry (NOAA); A. Folkvord (U. Bergen); M. G. Frisk (Stony Brook); R. S. Fulford (EPA); S. Gaichas (NOAA); J. Hare (NOAA); A. H. Hines (Smithsonian Inst.); J. M. Hoenig (VIMS); K. Holsman (NOAA), R. M. Jones (FSU); C. M. Jones (ODU); M. S. Kendal (NOAA); M. Koen-Alonso (DFO-Canada), R. Latour (VIMS); J. S. Link (NOAA); R. N. Lipcius (VIMS); S. J. D. Martell (UBC), B. Megrey (NOAA); E. Moskness (IMR, Norway); R. M. D. Nash (U. Bergen); J. A. Nye (EPA), P. Pepin, (DFO-Canada); W. Richkus (Versar); A. F. Sharov (MD DNR), W. J. Stockhausen (NOAA), T. A. Target (U.Del), C. Tureli (Univ. Cukurova, Turkey); H. Townsend (NCBO/NOAA)

<u>Graduate Students and Post-doctoral Fellows:</u> **MS:** L. J. Bauer, K. K. Brewster-Geisz, B. J. Brylawski, V. Caceres, M. A. Chenery, J. M. Coakley, A. R. Colton, K, L, Curti, J. E. Edwards, E. A. Evarts, M. G. Frisk, C. J. Heyer, O. P. Jensen. **current**: *N. Mehaffie, D. Zaveta*– **PhD**: L. O. Alade, M. G. Frisk, M. S. Kendall, J. A. Nye, A. Peer. **current**: *H. A. Lane* – **Post-doc** D. B. Bunnell, M. G. Frisk, T. Ihde. **current**: -E. Karakoylu

Advisors: MS - S. Mozley (NCSU), Ph.D. L. B. Crowder (NCSU), Post-doc. W. C. Leggett (McGill)

BIOGRAPHICAL SKETCH - Principal Investigator

MOSER, FREDRIKA C.

Maryland Sea Grant College Program 4321 Hartwick Road Suite 300 University System of Maryland College Park, Maryland 20740 (301) 405-6373, (301) 314-5780 (fax) moser@mdsg.umd.edu

(a) Professional Preparation

University of California at Santa Cruz, Earth Sciences, B.S., 1979 University of California at Santa Cruz, Environmental Studies, B.A., 1979 Rutgers University, Geological Sciences, M.S., 1985 Rutgers University, Environmental Sciences, Ph.D., 1997 Bermuda Biological Station for Research, benthic ecology, Postdoctoral Fellow, 1997 - 1999

(b) Appointments

Director Maryland Sea Grant College Program, November 2012-present Interim Director Maryland Sea Grant College Program, December 2011-2012 Assistant Director for Research, Maryland Sea Grant College Program, 2001-2011 Marine Science Policy Analyst, U.S. Department of State, 1999-2001 Graduate Research Assistant, Institute for Marine and Coastal Sciences, Rutgers University (with J. F. Grassle), 1990-1997 Director, Environmental Assessment Office, Division of Science and Research, New Jersey Department of Environmental Protection, 1985-1990 Graduate Research Assistant; Geological Sciences, Rutgers University (with G. Ashley), 1982-1985

Physical Science Technician, U.S. Geological Survey, Menlo Park, California, 1980-1982

(c) Publications

Moser, F. and M. Leffler, 2010, Preventing aquatic species invasions in the mid-Atlantic: Outcome-based actions in vector management, Workshop report, Maryland Sea Grant Publication, UM-SG-TS-2010-03

Smits, J. and **F. Moser**, editors, 2009, Rapid response planning for aquatic invasive species, A Maryland example, January 2009, Maryland Sea Grant Publication #UM-SG-TS-2009-01

Moser, F.C, 2002, Invasive species in the Chesapeake Bay watershed: A workshop to develop regional invasive species management strategies, Final Report, *Maryland Sea Grant Publication* UM-SG-TS-2002-03, 121p.

Moser, F.C., 2002, Fellowship focus, AAAS, vol 2, no. 5.

Moser, F.C. and R.F. Bopp, 2001, Particle-associated contaminants in the Barnegat Bay-Little Egg Harbor Estuary. *J. Coastal Research*, 32, 29-242.

(d) Synergistic Activities

- Advisory Board member, Institute for Broadening Participation, Pathways to Ocean Sciences (member 2010 present).
- Panelist, invited, "Best Practices in Social Media," NSF Division of Human Resource Development – Joint Annual Meeting "Broadening Participation Research" Conference, Washington D.C. June, 2012.

National Science Foundation, BIO - REU Workshop, April 2012. Poster

Co-Convener: Building Diversity in Estuarine Undergraduate Research Experiences in Puerto Rico. February 2012, Universidad Metropolitana, San Juan, Puerto Rico, Workshop to develop recommendations on building 'bridging' REU programs at minority serving institutions.

Participant, invited, NSF "BIO – REU Workshop" April 2012. Presenter

Participant, invited, NSF "GEO - REU Workshop" October 2011. Presenter

Participant, invited, NSF "2007 BIO - REU Workshop" March 2007, Poster

Participant, invited, NSF "Pan – REU Workshop" September 2005, Poster

National Science Foundation, Ocean Sciences Division, REU Program (Panel member, November 2008, Ad Hoc reviewer 2011)

National Science Foundation, Office of Polar Programs, Polar Postdoctoral Program (Panel member, July 2006)

- Mentor ASLO Multicultural Program (ASLOMP): ASLO 2004, 2007, 2011; Ocean Sciences 2006, 2008, 2010, 2012. Mentor 3 – 5 underrepresented students at meetings. Organize REUnion for MDSG REUs and ASLOMP mentees (5 years).
- Program manager, Maryland Sea Grant Research Fellows, 5 6 graduate students (two year appointments). Activities include student meetings, REU summer symposium organization and communicating science workshop. 2001- present.

Program manager, MDSG Knauss and Coastal Policy Fellows program. Recruit and assist applicants to prepare for several NOAA supported Fellowship programs.

Designed and team taught REU research ethics workshop 2006, 2007.

(e) Collaborators & Other Affiliations

Jenna Clark, MDSG; J. Connors, MDSG; B. Cuker, Hampton Univ.; J. Kramer, MDSG; Jim Falk, DE Sea Grant; Whitman Miller, Smithsonian Environmental Research Center; Glenn Moglen, Virginia Tech; Ruby Montoya, Universidat Metropolitana; Michael Paolisso, University of Maryland, College Park; Susan Park, VA Sea Grant; Pete Rowe, NJ Sea Grant; Michael Voiland, NC Sea Grant; Sarah Whitney, PA Sea Grant.

(ii) Undergraduate Students

Jennifer Merrill, Bermuda Biological Station for Research, Honor's Thesis for Brown University, 1999.

David A. Nemazie

Associate Vice President for External Affairs University of Maryland Center for Environmental Science P.O. Box 775 Cambridge, MD 21613 410-221-2006 Nemazie@umces.edu

EDUCATION

1991 Master of Science

University of Maryland, College Park (Marine, Estuarine, Environmental Sciences) **1988 Bachelor of Science** (Environmental Sciences) **and Bachelor of Arts** (Biology) Purchase College, State University of New York

FELLOWSHIPS

- **1999 2000** Water Resources Leadership Initiative (Institute for Governmental Service, University of Maryland, College Park)
- 1989 1991 Maryland Sea Grant Fellowship

1987 Tibor T. Polgar Fellowship (Hudson River Foundation)

CURRENT PROFESSIONAL POSITION

2007 - Present Associate Vice President for External Affairs

1997 – 2007 Assistant to the President

University of Maryland Center for Environmental Science (UMCES) Primary responsibilities currently include:

- Serve as executive team member where University-wide strategic planning and decision making occurs.
- Serve as the government affairs liaison for UMCES.
- Represent UMCES at BayStat, Bay Workgroup and the Governor's Bay Cabinet (Alternate) meetings in which multi-agency development and coordination of State policies and initiatives are achieved.
- Responsible for the development of materials for an external audience which includes environmental decision makers, State legislators, stakeholders, and the general public while supervising the Director of Public Relations and Marketing.
- Support the Vice President for Science Applications and the Integration and Application Network through proposal develop and some grant and personnel management.
- Work closely with the Vice President for Development in building a fundraising program, including the cultivation and stewardship of donors, foundations, and Center's Board of Visitors.
- Serve as an advisor to several local, regional, and international programs by providing means and methods of engaging multiple stakeholders in scientific communication and policy initiatives.

FORMER PROFESSIONAL POSITIONS

1994 - 1997 Senior Faculty Research Assistant, UMCES Center Administration

1992 - 1994 Faculty Research Assistant, UMCES - Horn Point Laboratory

PEER REVIEWED JOURNAL ARTICLES

Purcell, J.E. and D.A. Nemazie. 1992. Quantitative feeding ecology of the hydromedusan *Nemopsis bachei*. *Marine Biology*. 113:305-311.

- Nemazie, D.A., J.E. Purcell, and P.M. Glibert. 1993. Ammonium excretion by gelatinous zooplankton and their contribution to the ammonium requirements of microplankton in Chesapeake Bay. *Marine Biology*. 116:451-458.
- Purcell, J.E., D.A. Nemazie, S.E. Dorsey, E.D. Houde, and J.C. Gamble. 1994. Predation mortality of bay anchovy *Anchoa mitchilli* eggs and larvae due to scyphomedusae and ctenophores in Chesapeake Bay. *Marine Ecology Progress Series*. 114:47-58.
- Malone, T.C. and D.A. Nemazie. 1996. Toward a national agenda for research in the coastal zone: Where are we? *Biological Bulletin*. 190:245-251.

Purcell J.E., J.R. White, D.A. Nemazie, and D.A. Wright. 1999. Temperature, salinity and food effects on asexual reproduction and abundance of the scyphozoan *Chrysaora quinquecirrha*. *Marine Ecology Progress Series*. 180: 187-196.

Madin L.P., Kremer P., Wiebe P.H., Purcell J.E., Horgan E.H., Nemazie D.A. 2006. Periodic swarms of the salp *Salpa aspera* in the Slope Water off the NE United States: Biovolume, vertical migration, grazing, and vertical flux. *Deep-Sea Research Part I* – *Oceanographic Research Papers*. 53:804-819.

PROFESSIONAL ADVISORY BOARDS AND COMMITTEES

(present membership only)

University of Maryland Center for Environmental Science

Executive Council, member since 2000

Administrative Council, member since 1994

Dive Safety Board, member since 1997

Faculty Senate, Administrative Liaison since 2003

University System of Maryland

State Relations Committee, member since 2007

State of Maryland

BayStat, UMCES representative since 2007 Chesapeake Bay Workgroup, UMCES representative since 2000 Chesapeake Bay Cabinet, UMCES alternate since 2000 Choptank Tributary Strategy Team, member and State Liaison since 1995

PERSONAL ADVISORY BOARDS AND COMMITTEES

(present membership only)

Non-Governmental Organizations

Nanticoke Watershed Alliance, Board Member since 2004 Lower Shore Land Trust, Board Member since 2004, President since 2013

City of Salisbury

Salisbury Board of Zoning Appeals, Member since 2007

<u>CURRICULUM VITA</u> Dr. Raymond P. Morgan II Professor of Aquatic Science, Interim Director Appalachian Laboratory

Personal Data: Business Address:

Business Telephone:

cience

Education:

e-mail:

BS Frostburg State Col	llege, 1966
Major:	Biology
Minors:	Chemistry, Secondary Education
PhD University of Mar	yland, 1971 (Department of Zoology)
Major:	Ecology
Minor:	Physiology

Honors:

Honors in Biology, Frostburg State College Sigma Zeta Fellow, American Institute of Fishery Research Biologists UMCES President's Award for Excellence in Application of Science (2003) Good Neighbor Award, Nemacolin Chapter of Trout Unlimited (2006)

Current Societies and Professional Organizations:

American Fisheries Society American Association for the Advancement of Science American Institute of Fishery Research Biologists American Society of Ichthyologists and Herpetologists Atlantic Estuarine Research Society Estuarine Research Federation North American Benthological Society

Past Societies and Professional Organizations:

American Society of Limnology and Oceanography Conservation Biology Society Society of Environmental Toxicology and Chemistry

Research Interests:

Pollution and Aquatic Restoration Ecology

I was an ecotoxicologist long before the term was considered within the scientific community as a discipline. In the field of pollution ecology, the major focus of my work centers on organismal response to stresses, particularly anthropogenic stressors, at a number of different strata including molecular/cellular, population, community, and ecosystem levels. To this end, I have often used the overall environmental impact of electric production on aquatic organisms, communities, and ecosystems as a research area to test hypothesis concerning organism response to stresses. Over the years, my research efforts in this field have evolved from the eras of calefaction effects on aquatic systems, to analyses of impingement and entrainment impacts on aquatic biota, to mysteries of biocide chemistry and its associated toxic effects on populations and communities, to the current vogue of acidic precipitation with its ecological and economic ramifications, and now urbanization effects.

Besides many contemporary studies in Maryland on the effects of acidic precipitation, other research centers on environmental impacts of small-scale hydroelectric production, ash disposal from coal-fired steam electric stations, and restoration of AMD-affected aquatic systems -- now a major emphasis within the Chesapeake Bay watershed. Of particular interest has always been the effect of stressors on early life stages of fishes as well as the physiological, biochemical, histological, and behavioral responses of fishes to pollution, essentially attempting to assay ecological integrity in aquatic ecosystems. Recently, my work is evolving into analyses of impacts on watersheds at the landscape level, especially urbanizing watersheds, and the restoration ecology of lotic systems.

Conservation Biology and Fishery Genetics

Overall, I am interested in the varied effects of the Pleistocene, with its four major glaciations, on the population structure of fishes in the mid-Atlantic region since the Pliocene. My primary focus is directed towards moronids and salmonids, although I have worked with many freshwater, estuarine, and marine fishes. I completed a major study on the population genetics of the bay anchovy, the most abundant fish within Chesapeake Bay, as well as continuing work on the genetic structure of brook trout populations and other Appalachian fishes. In addition to my inquisitiveness in identifying fish populations, I am interested in solving problems associated with the field of conservation biology such as the effect of bottlenecks and founder effects on the genetic structure of populations as well as species and subspecies identification, generic relationships, and hybridization effects.

Selected Publications:

- Southern Division of the American Fisheries Society Trout Committee [J. Habera and S. Moore (lead authors); J. Boaz, L. Keefer, M. Kruse, M. Kulp, D. Besler, J. Borawa, D. Rankin, F. Fiss, J. Kosa, S. Bryan, M, Hudy, M, Seehorn, R. Morgan, L. Mohn, and S. Reeser). 2005. Managing southern Appalachian brook trout: A position statement. Fisheries 30:10-20.
- Morgan II, RP and SF Cushman. 2005. Urbanization effects on stream fish assemblages in Maryland, USA. J. North American Benthological Society 24:643-655.
- Walsh, CJ, AH Roy, JW Feminella, PD Cottingham, PM Groffman and **RP Morgan II**. 2005. The urban stream syndrome: current knowledge and search for a cure. J. North American Benthological Society 24:706-723.
- Southerland, MT, GM Rogers, MJ Kline, **RP Morgan**, DM Boward, PF Kazyak, RJ Klauda and SA Stranko. 2007. Improving biological indicators to better assess the condition of streams. Ecological Indicators 7:751-767.
- Morgan II, RP, KM Kline and SF Cushman. 2007. Relationships among nutrients, chloride and biological indices in urban Maryland streams. Urban Ecosystems 10:153-166.
- Kline, KM, KN Eshleman, **RP Morgan II** and NM Castro. 2007. Analysis of trends in episodic acidification of streams in western Maryland. Environmental Science and Technology 41(16): 5601-5607.
- Morgan II RP and SF Cushman. 2007. Urbanization effects on stream fishes in Maryland's Piedmont. Pp. 134-136. In: DN Laband (ed.), Emerging issues along urban-rural interfaces II: Linking land-use science and society, April, 2007, Atlanta GA.
- Eshleman, KN, KM Kline, **RP Morgan II**, NM Castro, and TM Negley. 2008. Contemporary trends in the acid-base status of two acid-sensitive streams in western Maryland. Environmental Science and Technology 42(1): 56-61.
- Stranko, SA, RH Hilderbrand, RP Morgan II, MW Staley, AJ Becker, A Roseberry-Lincoln, ES Perry and PT Jacobsen. 2008. Brook trout declines with land cover and temperature changes in Maryland. North American Journal of Fisheries Management 28:1223-1232.
- Kaushal, SS, PM Groffman, LE Band, CE Shields, **RP Morgan**, MA Palmer, KT Belt, CM Swan, SEG. Finley and GT Fisher. 2008. Interaction between urbanization and climate variability amplifies watershed nitrate export in Maryland. Environmental Science and Technology 42(16):5872-5878.
- Lookingbill, TR, SS Kaushal, AJ Elmore, R Gardner, KN Eshleman, RH Hilderbrand, **RP Morgan**, WR Boynton, MA Palmer and WC Dennison. 2009. Altered ecological flows blur boundaries in urbanizing watersheds. Ecology and Society 14:10-19 pp.
- Klocker, CA, SS Kaushal, PM Groffman, PM Mayer and **RP Morgan**. 2009. Nitrogen uptake and denitrification in restored and unrestored streams in urban Maryland, USA. Aquatic Sciences 71:411 -424
- Morgan II, RP and KM Kline. 2011. Nutrient concentrations in Maryland non-tidal streams. Environmental Monitoring and Assessment 178:221-235.
- King, TL, BA Lubinski, MK Burnham-Curtis, W Stott and **RP Morgan**. 2012. Tools for the management and conservation of genetic diversity in brook trout (*Salvelinus fontinalis*): tri- and tetranucleotide microsatellite markers for the assessment of genetic diversity, phylogeography, and historical demographics. Conservation Genetics Resources. 4(3):539-543.
- **Morgan II, RP**, KM Kline, MJ Kline, SF Cushman, MT Sell, RE Weitzell and JB Churchill. 2012. Stream conductivity: relationships to land use, chloride, and fishes in Maryland streams. North American Journal of Fisheries Management 32:941-952.
- Morgan II, RP, KM Kline and JB Churchill. 2013. Estimating reference nutrient criteria for Maryland ecoregions. Environmental Monitoring and Assessment 185:2123-2137.

Teaching Interests:

Aquatic Ecology/Stream Ecology Environmental Toxicology Aquatic Toxicology Animal Ecology Fish Physiology Fisheries Science Fisheries Genetics Conservation Biology

BIOGRAPHICAL SKETCH – Michael R. Roman

University of Maryland Center for Environmental Science Horn Point Laboratory P.O. Box 775 Cambridge, MD 21613-0775

Tel: (410) 221-8425 FAX (410) 221-8490 roman@hpl.umces.edu

Professional Preparation:

Lake Forest College, Biology B.A. 1971 The City College, Biology M. A. 1973 University of New Hampshire, Zoology Ph.D. 1976

Positions Held:

Director, University of Maryland Center for Environmental Studies, Horn Point Laboratory,October 2001 – present.

Professor, University of Maryland, Center for Environmental and Estuarine Studies, Horn Point Laboratory, July 1990.

Associate Professor, University of Maryland, Center for Environmental and Estuarine Studies, Horn Point Laboratory, July 1986 - July 1990.

Assistant Professor, University of Maryland, Center for Environmental and Estuarine Studies, Horn Point Laboratory, September 1983 - June 1986.

Assistant Professor, University of Maryland, Center for Environmental and Estuarine Studies, Chesapeake Biological Laboratory, June 1981 - September 1983.

Assistant Professor, University of Miami, School of Marine and Atmospheric Science, June 1978 - June 1981.

Postdoctoral Fellow, University of Miami, School of Marine and Atmospheric Science, October 1976 - June 1978.

Five Recent Publications Relevant to Present Proposal:

Roman, M.R., J.J. Pierson, D.G. Kimmel, W.C. Boicourt, X. Zhang. 2012. Impacts of hypoxia on zooplankton spatial distributions in the northern Gulf of Mexico. Estuaries and Coasts: DOI 10.1007/s12237-012-9531.

Elliott, D.T., J. J. Pierson, M. R. Roman. 2012. Relationship between environmental conditions and zooplankton community structure during summer hypoxia in the northern Gulf of Mexico. Jour. Plankton Res. 34: 602-613.

Kimmel, D.G., W.C. Boicourt, J.J. Pierson, M.R. Roman and X. Zhang. 2009. A comparison of the mesozooplankton response to hypoxia in Chesapeake Bay and the northern Gulf of Mexico using biomass size spectrum. J. Exp Mar. Biol. Ecol. 381: S65-S73.

Kimmel, D.G., W.R. Boynton, M.R. Roman. 2012. Long-term decline in the calanoid copepod *Acartia tonsa* in central Chesapeake Bay, USA: An indirect effect of eutrophication? Estuarine, Coastal and Shelf Science 101: 76-85.

Pierson, J.J., M.R. Roman, D.G. Kimmel, W.C. Boicourt and X. Zhang. 2009. Quantifying changes in the vertical distribution of mesozooplankton in response to hypoxic bottom waters. J. Exp Mar. Biol. Ecol. 381: S74-S79.

Five Other Recent Publications:

Roman, M., X. Zhang, C. McGilliard and W. Boicourt. 2005. Seasonal and annual variability in the spatial patterns of plankton biomass in Chesapeake Bay. Limnology and Oceanography 50: 394-406.

Roman, M.R., J.E. Adolf, J. Bichy, W.C. Boicourt, L.W. Harding, E.D. Houde, S. Jung, D.G. Kimmel, W.D. Miller and X. Zhang. 2005. Chesapeake Bay plankton and fish abundance enhanced by Hurricane Isabel. Eos 86: 261-265.

Kimmel, D.G. and M.R. Roman. 2004. Long-term trends in mesozooplankton abundance and community composition in the Chesapeake Bay, USA: Influence of freshwater input. Marine Ecology Progress Series 267: 71-83.

Kimmel, D.G., W.D. Miller and M.R. Roman. 2006. Regional scale climate forcing of mesozooplankton dynamics in Chesapeake Bay. Estuaries 29: 375-387.

Kimmel, D.G., W. Boicourt, J. Pierson, M. Roman, X. Zhang. 2010. The vertical distribution and diel variability of mesozooplankton biomass, abundance and size in response to hypoxia in the northern Gulf of Mexico, USA. Jour. Plankton Res. 10: 1093.

Five Recent Synergistic Activities:

National Academy of Sciences Committee to Review Large Oceanographic Programs Chair -Steering Committee National Science Foundation program in Coastal Ocean Processes (CoOP)

Co-Chair National Science Foundation Committee of Visitors

Vice-Chair Steering Committee for IGBP Program: Integrated Marine Biogeochemistry and Ecosystem Research (IMBER)

President of The Oceanography Society 2011-2012.

Collaborators and Other Affiliations:

Advisors: K. Tenore (Ph.D.), M. Reeve (Post-Doc)
Students: A. Barba, D. Dossman, M. Gottfried, M. Incze, S. Liborel-Houde, S. Lloyd, C.
Miller, J.O'Neil, M. Reaugh, M. A. Russell, J. White, L. Wooton, J. Urban-Rich
Post-Docs: H. Dam, D. Kimmel, J. Pierson, P. Rublee, X. Zhang
Colleagues: S. Brandt (OSU), J. Cowan (LSU), M. B. Decker (Yale), E. Houde (UMCES), D.
Kimmel (ECU), S. Ludsin (OU), D. Mason (NOAA), C. Stowe (NOAA).