7/27/08

Michael C. Newman

Current Title: Professor
A. Marshall Acuff, Jr. Professor of Marine Science

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EDUCATION

1981 Ph.D. Rutgers University, Environmental Sciences
1980 M.S. Rutgers University, Environmental Sciences
1978 M.S. University of Connecticut, Zoology (marine emphasis)
1974 B.A. University of Connecticut, Biology

ACADEMIC POSITIONS

1998-08 **PROFESSOR OF MARINE SCIENCE.** The College of William and Mary, Virginia Institute of Marine Science/School of Marine Sciences.

1998-08 **SPECIAL GOVERNMENT EMPLOYEE**. Special employee serving on diverse SAB and other EPA committees, and a National Academy of Science committee.

1999-02 **DEAN OF GRADUATE STUDIES**. The College of William and Mary, School of Marine Science (SMS). As the Dean of Graduate Studies, directed the SMS Graduate Studies Program. Acting Dean of School of Marine Science during Dean=s absence; Acting Director of Virginia Institute of Marine Science (VIMS) during the absences of VIMS Director and Director of Research and Advisory Service.

1996-97 **SENIOR RESEARCH ECOLOGIST**. University of Georgia, Savannah River Ecology Laboratory.

1996-97 **HEAD**. Ecological Toxicology, Remediation, and Risk Assessment (ETRRA) Group composed of eight faculty members and thirty technical staff. University of Georgia, Savannah River Ecology Laboratory.

1990-96 **RESEARCH ASSOCIATE ECOLOGIST**. University of Georgia, Savannah River Ecology Laboratory.

1983-90 **RESEARCH ASSISTANT ECOLOGIST**. University of Georgia, Savannah River Ecology Laboratory.

1983 **POSTDOCTORAL FELLOW**. University of California--San Diego.

1982 **POSTDOCTORAL RESEARCH ASSOCIATE**. University of Georgia, Savannah River Ecology Laboratory.

1980-81 **GRADUATE RESEARCH ASSISTANT**. Rutgers University, Institute of

Coastal and Environmental Studies.

1977 **SENIOR RESEARCH TECHNICIAN III**. University of Delaware, College of Marine Studies.

1975-76 **SPECIAL RESEARCH TECHNICIAN, GRADUATE RESEARCH ASSISTANT**. University of Connecticut, Marine Research Laboratory.

ADJUNCT FACULTY STATUS

1995-02 University of Georgia; teach graduate course through Institute of Ecology (Interdisciplinary Toxicology Program) every other year.

1995-98 Clemson University, Department of Environmental Toxicology, Associate Professor.

MANAGEMENT AND ADMINISTRATIVE TRAINING, EXPERIENCE AND RECOGNITION

2002 **Special Recognition** by VIMS Advisory Council for exceptional service as Dean of Graduate Studies. The Advisory Council is composed of regional leaders who provide guidance to VIMS relative to strategic planning, fund raising, education, and regional service.

2002 **Chair**, Administrative Review Committee for VIMS/SMS Director of Planning and Budget.

2001-02 **Head** of ITNS and administrative team charged with acquiring funds for, formulating plans for, and installing state-of-the-art instructional technologies at the School of Marine Science.

2001 **Chair**, Administrative Review Committee for VIMS Director of ITNS

1999 **Chair**, Administrative Review Committee for VIMS Director of Research and Advisory Service.

1999-02 **School of Marine Science Member**. College of William and Mary Graduate Studies Council. This council supports and makes recommendations to the Provost on issues of graduate programs and fosters implementation of college-wide issues

1999-02 **Member,** VIMS Administrative Council

1999-02 **Dean of Graduate Studies**, The College of William and Mary, School of Marine Science (SMS).

1996-97 **Head**. University of Georgia=s Savannah River Ecology Laboratory. Ecological Toxicology, Remediation, and Risk Assessment (ETRRA) Group. Groups at the Savannah River Ecology laboratory are equivalent to university departments.

1983-87 **Head**. University of Georgia=s Savannah River Ecology Laboratory. Water Quality Laboratory (Supervised 11 technical and clerical staff).

1983-87 American Management Association course work in the following topics: *Management for First Line Supervisors, Effective Communication Skills and Techniques, and Basic Management Skills*.

EDITORIAL POSITIONS

2000-07 **Editor (Aquatic Toxicology),** *Environmental Toxicology and Chemistry*

Current **Editor (Critical Reviews),** *Environmental Toxicology and Chemistry*

2000-06	**Associate Editor** for *Ecotoxicology*
Current	**Editor** of book series, *Environmental and Ecological Risk Assessment*, CRC/Lewis Press (since 2000).
1999-03	**Member of Editorial Board** for *Risk Analysis: An International Journal*
1994-99	**Editor (Aquatic Toxicology),** *Environmental Toxicology and Chemistry*
1994-98	**Member of Editorial Board** for *Archives of Environmental Contamination and Toxicology*
1994-98	**Member of Editorial Board** for series, *Advances in Trace Substances Research*
1997	**Member of Standard Methods Committee** (AWWA-APHA-WEF) Joint Task Group for Section 8420 Rotifers; *Standard Methods for the Examination of Water and Wastewater*.
1995-96	**Member of Editorial Board** for series, *Current Topics in Ecotoxicology and Environmental Chemistry*
1992-94	**Editorial Board Member** for *Environmental Toxicology and Chemistry*

RECENT SIGNIFICANT AWARDS OR RECOGNITION

2008-12	**Named Professor**. A. Marshall Acuff, Jr. Professor of Marine Science. This named professorship is based on "achievements in scholarship, teaching, service and governance at VIMS/The College of William and Mary, and for the highest level of eminence outside the university." This named professorship is renewable at five year intervals.
2006	**Committee Member**. NAS NRC Scientific Review Panel which successfully recommended rejection of a proposed OMB risk assessment policy initiative that would have fundamentally changed the manner in which the federal government conducted risk assessments. The committee's recommendation was praised in the Wall Street Journal (January 11, 2007), Washington Post (January 12, 2007), and New York Times (January 12, 2007).
2005	**Fulbright Senior Specialist Program**. Awarded placement on roster for assignment to universities requesting engagement in teaching, research, or curriculum development, 5 year placement (2006-2010).
2004	**Recipient**, SETAC Founder's Award. According to the SETAC Award's Committee SOPs, "This award is the highest SETAC Award, given to a person with an outstanding career who has made a clearly identifiable contribution in the environmental sciences that is consistent with the goals of SETAC."
2002	**Special Recognition** by VIMS Advisory Council for exceptional service as Dean of Graduate Studies. The Advisory Council is composed of regional leaders who provide guidance to VIMS relative to strategic planning, fund raising, education, and regional service.

SCIENTIFIC ADVISORY AND STEERING GROUPS

2008-2010 **Areas of Excellence Committee Member**. Hong Kong Universities Areas of Excellence, Center of Marine Environmental Research and Innovative Technology (MERIT).

2004-08 **Member** of National Academy of Science NRC Review Committee for the OMB Risk Assessment Bulletin, 2006-2007.

Consultant to Versar, Inc. review of EPA document, *Draft Method 166A Interlaboratory Validation Study*, 2007.

Consultant to Versar, Inc. review of EPA document, *Draft Method III: Pesticides in Water, Soil, Sediment, Biosolids and Tissue by HRGC/HRMS*, 2007.

Consultant to Versar Inc. review of EPA document, *Estimation of Biota Sediment Accumulation Factor (BSAF) from Paired Observations of Chemical Concentrations in Biota and Sediment*, 2006.

Consultant to Versar, Inc. review of EPA formulation of toxic weighting factors in support of CWA 304(m), 2006.

Consultant to Versar, Inc. providing technical review of EPA Chromium Antimony Titanate assessment, 2006.

Member of EPA STAA 2006 Review Committee

Member of EPA EPEC Committee reviewing the federal government's implementation of ecological risk assessments, 2006.

Member of EPA Clean Air Lead Scientific Advisory Committee, 2006-2008.

Member of EPA SAB Ad Hoc Team to review EPA Region 6 sampling plan, Emergency response quality assurance sampling plan for Hurricane Katrina response support Interstate Highways 10 and 610 intersection, New Orleans, Orleans Parish, Louisiana.

Member, EPA SAB PCB Artificial reef risk assessment panel.

Member, EPA SAB Aquatic Life Criteria consultative panel.

Member, EPA SAB Region 6 GIS Screening Tool review panel.

Member. EPA SAB Scientific and Technological Achievement Awards Panel, 2005.

Member, EPA FIFRA Scientific Advisory Panel. Review of potential human and ecological risk from Widestrike cotton, a genetically modified cotton incorporating the BT gene.

Member. Virginia DEQ mercury contamination advisory panel.

Technical Support Consultant, TN&A/EPA-NCEA. Case study of incorporating empirical data and expert judgment in Bayesian Belief Networks (BBN) including Phase II, expert elicitation study.

Statistical Consultant. Fish & Wildlife Service (Gloucester Point, VA). Correlation between Peregrine falcon egg quality and chemical contaminants.

External Reviewer, DuPont. Quality review of scoping risk ecological risk assessment for VX nerve agent treatment hydrolysate.

Member, FIFRA Scientific Advisory Panel. Review and refine terrestrial and aquatic ecological risk assessment models.

2003 **Recipient**, SETAC Founder's Award. According to the SETAC Award's Committee SOPs, "This award is the highest SETAC Award, given to a person with an outstanding career who has made a clearly identifiable contribution in the environmental sciences that is consistent with the goals of SETAC."

Member, Virginia Dept. of Environ. Quality. Mercury Contamination Advisory Committee

Chair, SETAC Workshop (Mercury Monitoring and Assessment)

Reviewer of draft OECD Guidance document on the statistical analysis of ecotoxicity data.

Reviewer of industry position paper on chromium contamination in Baltimore Harbor for the Maryland Dept. of the Environment.

Reviewer of Baltimore Harbor contaminant modeling report for Maryland Dept. of the Environment.

Member of EPA SAB Scientific and Technological Achievement Awards 2003 Nominations Committee.

Member of EPA Committee providing guidance in development of national suspended and bedded sediment criteria.

Member of EPA EPEC Committee reviewing the federal government's implementation of ecological risk assessments (self-initiated study).

FWS Advisor, Holston River Assessment Plan for Saltville NPL Site.

FWS Advisor, Statistical analysis of peregrine falcon nesting success data for Mid-Atlantic region.

Reviewer of EPA Region II document, Sediment quality of the NY/NJ Harbor – A 5-year revisit.

Document Reviewer for VERSAR Inc., Preliminary administrative determination – ferric ferrocyanide qualifying as one of the "cyanides" .

Member of EPA Chesapeake Bay Toxics Advisory Committee.

Board Member, EPA Science Advisory Board (EPEC & Awards Committee duties).

2002 **Review Panel Member and Document Lead Author** for EPA Metals Assessment Workshop.

Review Panel Member for the U.S. EPA Atlantic Ecological Division.

Reviewer of the National Academy of Science report, *Progress towards Adaptive Monitoring and Assessment for the Everglades Restoration Plan.*

Expert Consultant to National Academy of Science (Everglades Ecosystem Assessment).

2001-03 **Member of Scientific Advisory Board** to EPA Administrator Whitman.

Member, DuPont (Harrisonburg) Scientific Advisory Committee.

2001 **Member** of EPA Chesapeake Bay Office Science Advisory Panel

Reviewer of US DOE - Hanford risk assessment report for chromium

Consultant. TN & Associates. Statistical modeling of effects of Ahr-

mediated toxicants on avian species.

Member, Virginia Department of Environmental Quality Scientific Advisory Panel.

Member, EPA Food Quality Protection Act (FQPA) Scientific Review Board.

Member, EPA FIFRA Scientific Advisory Panel (SAP - Nontarget Plant, Ecological Effects Test Guidelines).

Reviewer, Proposed Ph.D. program in marine biology at the University of North Carolina - Wilmington.

Peer Reviewer, *Preliminary Report: Interlaboratory Variability Study of EPA Short-term Chronic and Acute Whole Effluent Toxicity Test Methods (WET Study Report).*

Member of EPA FIFRA Scientific Advisory Panel (SAP - Aquatic Effects Assessment).

2000-01 **Member** of SETAC Pellston Conference Steering Committee, Uncertainty Analysis in Ecological Risk Assessment.

2000 **EPA Evaluator**, *Sediment Quality of the New York/New Jersey Harbor System - Trend Assessment*.

1999-01 **Member**, US DOE (Hanford Site) Risk Assessment, Science and Technology Needs Working Group.

1995-00 **Member**, OECD Working Group charged with revising standard statistical methods for analyzing ecotoxicity data (Nominated as one of three U.S. participants and accepted invitation in 1995 and 1996). One of two invited US members of the six-member Steering Group to draft recommendations for improving OECD guidelines.

1999 **Reviewer** selected by the EPA Office of Research and Development to assess the technical soundness of the document, *Comparative Ecological Risk Assessment. Ecological Risks to the Tampa Bay Ecosystem from Spills of Fuel Oil #6 and Orimulsion.*[7]

1997-99 **Member**, EPA work group on evaluating ecological risk and developing FIFRA probabilistic tools and processes.

1995-96 **Member** of complex-wide DOE Working Group for establishing data quality objectives for ecological assessments.

1994-97 **Savannah River Ecology Laboratory Liaison** to DOE Savannah River Site for ecological risk assessment activities.

1994 **Participant and Speaker**. Selected as one of eight US participants/speakers in a joint Israeli Institute of the Environment/US EPA workshop on monitoring and modeling water quality. The workshop was held in Haifa, Israel.

OFFICES IN PROFESSIONAL SOCIETIES

Miscellaneous

2004 **Scientific Committee Member**, Lagoons and coastal wetlands in the global change context. Impacts and management issues (Venice, Italy)

2002 **Session Chair**, *Fish Physiology, Toxicology, and Water Quality (Tallinn, Estonia)*
Session Chair , Interact 2002 (Sydney, Australia)
Session Chair, Whole Effluent Toxicity Testing

Society of Environmental Toxicology and Chemistry
2003-04 **Short Course Instructor**, statistical analysis of ecotoxicity test data
2003 **Recipient**, SETAC Founder's Award
2002-03 **Chair** of steering committee that held the workshop, Mercury Monitoring and Assessment, in Pensacola, FL
Co-chair of session on mixture effects
Short Course Instructor, statistical analysis of toxicity data
2001 **Co-chair** of session at annual SETAC Meeting Organizing Panel, Pellston Conference on *Uncertainty in Environmental Risk Assessment*
1998 **Planning Committee Member**, SETAC-Europe (UK) Meeting, *Improving Risk Assessment with Time-to-Event Methods*
1993 **Awarded Certificate of Appreciation** (1993) for committee and local chapter service
Organizer, Global Conference session, *Pollution Effects on Genetic Variation and Diversity* (Lisbon, Portugal)
1992-94 **Chair** of Awards Committee
1991-92 **First President** of Carolinas Regional Chapter
1991-92 **Member** of SETAC Regional Chapters Committee
1991-92 **Member** of SETAC Long Range Planning Committee
1990 **Chair** of session, Heavy metal contamination in aquatic systems
1990-91 **Founder** of Carolinas Regional Chapter
1988-92 **Member** of Awards Committee
International Conference on Metals in Soils, Waters, Plants and Animals
1990 **Member** of Program Committee
1990 **Chair** of special workshop, *Ecotoxicology of Metals: Current Concepts and Applications*. Coeditor of resulting book (Lewis Publishers)
1988-96 **Coordination** of vendor participation *South Carolina Laboratory Management Society*
1988-89 **Session Chair**
1989 **Board of Directors**
1988-89 **Chair** of Abstract Selection Committee

COURSES TAUGHT
(Student evaluation scores provided for all cases in which they were available.)
2008 **Ecological Risk Assessment: Theory and Practice**. Duke Environmental Leadership Program. Duke University. (ENV 442, 1 credit). Total of twenty-six students.). Instructor Evaluation by Students (Based on 1 = unsatisfactory to 5 = excellent): 4.6.
Practical Concepts and Tools for Discerning Cause and Risk in the

Presence of High Uncertainty. Short course at the SETAC International Conference in Sydney, Australia. Total of twenty-four students.

Fundamentals of Ecotoxicology. ENSP440, MSCI560 and BIO440/504 cross listed undergraduate and graduate course. (3 credits)(Spring Semester) Total of fourteen students.

Independent Research. ENSP 490. Discussion and exchange course with counterpart in Wuhan, China. Three students. (1 credit)(Spring Semester)

Practical Environmental Sampling, Measurement, and Inferential Statistics. MSCI642. (3 credits)(Spring Semester). Instructor Evaluation by Students (Based on 1 = poor to 5 = excellent): 4.8.

2007 **Quantitative Ecological Toxicology**. EHSC8630 (4 credits). University of Georgia Interdisciplinary Toxicology Program. Fourteen graduate students. Visiting Lecturer/Adjunct Faculty, May Session, Sole Instructor, Instructor Evaluation by Students (Based on 1 = poor to 5 = excellent): 4.61.

Quantifying Lethal and Sublethal Effects: Theory and Practice. Short course. University of Hong Kong, Swire Institute of Marine Science and Department of Ecology and Biodiversity.

Practical Environmental Sampling, Measurement, and Inferential Statistics. MSCI642. (3 credits)(Spring Semester). Instructor Evaluation by Students (Based on 1 = poor to 5 = excellent): 4.91.

2006 **Fundamentals of Ecotoxicology**. ENST440 and BIO440/504 cross listed undergraduate and graduate course (3 credits)(Spring Semester). Thirteen students. Instructor Evaluation by Students (Based on 1 = poor to 5 = excellent): 4.80. College of William and Mary, Williamsburg campus.

2005 **Fundamentals of Ecotoxicology**. MS560 (3 credits)(Spring Semester). Seven graduate students. Sole Instructor. Instructor Evaluation by Students (Based on 1 = poor to 5 = excellent): 4.80. Courses with low numbers of students were not evaluated.

Quantitative Ecological Toxicology. EHSC863 (4 credits). University of Georgia Interdisciplinary Toxicology Program. Eleven graduate students. Visiting Lecturer/Adjunct Faculty, May Session, Sole Instructor, Instructor Evaluation by Students (Based on 1 = poor to 5 = excellent): 4.70.

Statistical Analysis of Toxicity Data. Three day short course, at the request of Bayer Agrochemicals. Taught at Stillwell, Kansas facility with distance learning attendance for Raleigh, NC facility employees. Sixteen students.

2004 **Environmental Risk Assessment.** MS641 (3 credits). (Spring Semester). College of William and Mary's Virginia Institute of Marine Science. Two graduate students. Sole Instructor.

Quantitative Ecological Toxicology. MS640 (4 credits). One graduate student. Sole Instructor.

Quantitative Ecological Toxicology. Short course organized at the College of William and Mary (7 students). Sole Instructor.

Quantitative Ecological Toxicology. Short course taught at Jagiellonian University (Krakow, Poland). This university is the second oldest in Central

Europe and is currently a European Community Centre of Excellence IBAES. (21 students) Sole Instructor. Rated by students as above average to excellent.

Taking the Pulse of Our Changing Planet. NSF-funded course for middle school teachers. (18 teachers). Member of team of Mid-Atlantic Educators funded to conduct this course. Qualitative student assessment of my assigned day of five day course: Interest – "Very", Relevance – "Very", Pace –"Just Right", New Learning – "Just Right"

2003 **Quantitative Ecological Toxicology**. Short course taught at the University of Joensuu (Finland) (12 students), Sole Instructor. Instructor Evaluation by Students (Based on 1 = poor to 5 = excellent): 4.73

Quantitative Ecological Toxicology. MS 640 (4 credits). Summer session College of William and Mary's Virginia Institute of Marine Science. One student. Sole Instructor.

Quantitative Ecological Toxicology. Short course organized at the College of William and Mary (4 students), Sole Instructor. Instructor Evaluation by Students (Based on 1 = poor to 5 = excellent): 4.75

Quantitative Ecological Toxicology. ECOL863-863L (4 credits). University of Georgia Interdisciplinary Toxicology Program. Twenty-four graduate students. Visiting Lecturer/Adjunct Faculty, May Session, Sole Instructor. Instructor Evaluation by Students (Based on 1 = poor to 5 = excellent): 4.45

Environmental Risk Assessment. MS 641 (3 credits). (Spring Semester). College of William and Mary's Virginia Institute of Marine Science. Two graduate students. Sole Instructor.

2002 **Quantitative Ecological Toxicology**. MS 640 (4 credits). First School of Marine Sciences course to be offered with distance learning technologies. College of William and Mary's Virginia Institute of Marine Science. Four students. Sole Instructor.

Quantitative Ecological Toxicology. Short course organized by the Australian Society of Ecotoxicology, University of Technology - Sydney (30 students), Sole Instructor. (No evaluations available)

Quantitative Ecological Toxicology. MS 640 (4 credits). (Summer Session). College of William and Mary's Virginia Institute of Marine Science. Six graduate students. Sole Instructor.

2001 **Quantitative Ecological Toxicology**. University of Antwerp, Belgium. Twenty-seven graduate students. Visiting Lecturer, Sole Instructor. (No evaluations available)

Quantitative Ecological Toxicology. ECOL863-863L (4 credits). University of Georgia Interdisciplinary Toxicology Program. Twenty graduate students. Visiting Lecturer/Adjunct Faculty, May Session, Sole Instructor. Course Instructor Evaluation by Students (Based on 1 = excellent to 5 = poor): 1.1.

Quantitative Ecological Toxicology. MS 640 (4 credits). (Spring Semester). College of William and Mary's Virginia Institute of Marine Science. Four graduate students. Sole Instructor.

2000 **Environmental Risk Assessment**. MS 641 (3 credits). (Fall Semester). College of William and Mary's Virginia Institute of Marine Science. Seven graduate students. Sole Instructor.

Practical Statistics for Environmental Measurement. Two day short course. College of William and Mary=s Virginia Institute of Marine Science. Co-instructor with D.Ownby as primary instructor. Ten students. Course Instructor Evaluation of Newman (Based from 1 (not effective) to 10 (extremely effective)): 9.2.

Practical Statistics for Environmental Measurement. One day short course. Department of Environmental Protection, Richmond, Virginia. Taught twice to a total of 35 State of Virginia professionals.

1999 **Environmental Risk Assessment**. MS 641 (3 credits). (Fall Semester). College of William and Mary's Virginia Institute of Marine Science. Three graduate students. Sole Instructor.

Practical Statistics for Environmental Measurement (Summer). Two day short course. College of William and Mary=s Virginia Institute of Marine Science. Co-instructor with D. Ownby as primary instructor. Fourteen students. Course Instructor Evaluation of Newman (Based from 1 (not effective) to 10 (extremely effective)): 9.1.

Quantitative Ecological Toxicology. (Summer). Five day short course. College of William and Mary=s Virginia Institute of Marine Science. Fourteen students. Sole instructor. Course Instructor Evaluation of Newman (Based from 1 (not effective) to 10 (extremely effective)): 9.1.

Quantitative Ecological Toxicology. ECOL863-863L (4 credits). University of Georgia Interdisciplinary Toxicology Program. Nine graduate students. Visiting Lecturer/Adjunct Faculty, May Session, Sole Instructor.

Advanced Ecological Risk Assessment. MS 697 (1 credit). (First Summer Session 1999). College of William and Mary's Virginia Institute of Marine Science. Seven graduate students. Sole Instructor.

The Practice of Structure Activity Relationships (SAR) in Toxicology. Half day short course, Society of Toxicology Annual Meeting. Co-Instructor with six others.

The Practice of Structure Activity Relationships (SAR) in Toxicology. Half day short course, National Society of Toxicology and Chemistry Meetings, Co-Instructor with seven others.

Quantitative Ecological Toxicology. MS 640 (4 credits). (Spring Semester). College of William and Mary's Virginia Institute of Marine Science. Seven graduate students. Sole Instructor.

Calculating and Understanding Risk from Chemicals Released to the Environment. Five day short course, Risk Assessment Corporation RAC). Co-instructor with twelve others, San Antonio, TX.

Environmental Risk Assessment. MS 641 (3 credits). (Fall Semester). College of William and Mary's Virginia Institute of Marine Science. Seven graduate students. Sole Instructor.

1998 **Independent Study: Quantitative Ecotoxicology**. MS 697 (2 credits). (Summer Session 1). College of William and Mary's Virginia Institute of Marine Science. Three graduate students. Sole Instructor.

Quantitative Ecological Toxicology. (Summer). College of William and Mary's Virginia Institute of Marine Science. Sole instructor. Course Instructor Evaluation (Based from 1 (not effective) to 10 (extremely effective)): 9.0.

Quantitative Ecological Toxicology. University of Georgia. Sole Instructor. Course Instructor Evaluation (Based from 1 (not effective) to 10 (extremely effective)): 9.0.

Quantitative Ecological Toxicology. University of Joensuu (Finland). Sole instructor. Course Instructor Evaluation (Based from 1 (not effective) to 10 (extremely effective)): 9.1.

1997 **Quantitative Ecological Toxicology**. Royal Holloway University of London. Sole Instructor. Course Instructor Evaluation (Based from 1 (not effective) to 10 (extremely effective)): 9.1.

1996 **Quantitative Ecological Toxicology**. ECOL/EHS 863/863L. (4 credits). (Winter Quarter).University of Georgia. Sole Instructor. Course Evaluation (Overall; Based from 1 (poor) to 5 (excellent)): 4.70.

1995-96 **Quantitative Methods in Ecotoxicology**, Five-day short course. University of Georgia. Sole Instructor. Course Instructor Evaluations (Based from 1 (not effective) to 10 (extremely effective)): 9.3 in 1995; 9.0 in 1996.

1994 **Statistical Methods and Software for Toxicological Data Analysis**. Half day short course, Society of Environmental Toxicology and Chemistry Annual Meeting. Co-Instructor.

1988-98 **Research Advisor**. Research projects of five graduate students (three M.S. and one Ph.D. completed, one Ph.D. finishing) and three postdoctoral fellows.

1983-97 **Advisor**. University of Georgia. Summer student research program. Independent research projects of thirteen undergraduate students.

1990 **Introduction to Ecology.** Biol. 350. University of Georgia--Athens. Department of Biology. Co-Instructor.

1984-88 **Man and The Environment.** Biol. 270. University of South Carolina--Aiken. Department of Biology. Co-Instructor.

1983 **Ecology and Man**. Biol. 20. University of California--San Diego, Department of Biology. Sole Instructor.

1978-80 **Pollution Microbiology Laboratory**. Teaching Assistant. Rutgers University, Department of Environmental Sciences. Sole Instructor.

1974-75 **Introductory Biology and Invertebrate Zoology**. Teaching Assistant. University of Connecticut, Department of Life Sciences.

STUDENTS MENTORED

Major Advisor

Name	Degree	Degree Granting University[2]
Stephen Diamond	MS	Miami University (Ohio)
Vincent Kramer	MS	University of Alabama

Michael Longhi	MS	Wake Forest University
Mary Gay Heagler	PhD	Rutgers University
Christopher Tatara	PhD	University of Georgia
Lee Ann Woodward	PhD	University of California - Davis
David Ownby	PhD	College of William and Mary
Kevin Groszkowski	MS	College of William and Mary
Zhao Yuan	PhD	College of William and Mary
John Carringer	PhD	College of William and Mary
Erica Holloman	PhD	College of William and Mary
Kyle Tom	MS	College of William and Mary
Xu Xiaoyu	PhD	College of William and Mary

[2]The Savannah River Ecology Laboratory has a well-funded graduate research program that allows students to come from any university to work on their degree research under the supervision of a SREL faculty member. Except for Longhi, all of these non-College of William and Mary students were mentored solely by M. Newman. Longhi was co-advised with another SREL faculty member.

Graduate Committee Member/External Examiner

Name	Degree,Role	University
Stephen Doggett	PhD,Committee Member	University of Georgia
Tod Morse	MS, Committee Member	University of Georgia
Heather Chapman	PhD, External Examiner	Griffith University (Queensland, Australia)
Kevin Kwok	PhD, External Examiner	University of Hong Kong
Sara Mirabilio	MS, Committee Member	College of William and Mary
Alex Jestel	MS, Committee Member	College of William and Mary
Christine Conrad	MS, Committee Member	College of William and Mary
Bruce Vogt	MS, Committee Member	College of William and Mary
Jun Young Kim	PhD, Committee Member	College of William and Mary
Shana Rapoport	MS, Committee Member	College of William and Mary
Taiping Wang	PhD, Committee Member	College of William and Mary
Tan Chew Khun	PhD, External Examiner	University of Western Australia
Man-Yu Yum	PhD, Committee Member	Iowa State University (Statistics)
Treda Smith	MS, Committee Member	College of William and Mary
Stefanie Gera	MS, Committee Member	College of William and Mary

Undergraduate Research Supervision

Since 1983, Dr. Newman directed summer research of thirteen undergraduate students. Those directed since 1990 are listed below. Five of the ten students listed produced a publication based on their summer research project. Eight went on to graduate school.

Name	Undergraduate University	Summer
M. Michelle Keklak	University of South Carolina - Aiken	1989-91

Stephen Diamond	University of Massachusetts	1989
Charles Lee	Duke University	1990, 1991
Michael Aplin	Pomona University	1991
Amy Faivre	Mount Holyoke College	1991
Carrie Thomas	University of Wisconsin - Madison	1993
Anne Osborn	Clemson University	1993
Christine Phelps	Eastern Michigan University	1994
Minghua Nie	University of Alabama	1996
Ashley Nance*	Hampton University	2006

High School Senior Projects

Name	School	Year
Jennifer Scott**	Gloucester High School	2004/5
Sean Heatherman	Grafton High School	2004/5

*Student project awarded honorary mention at NOAA-Education Partnership Program Conference (Washington, DC).
**Student project placed first in the environmental science category for the Virginia Academy of Science and won the Henry Mackenzie Scholarship ($5000).

High School Field Trips
Parent/Instructor in May 2005 New Horizons Governors School field trip to nature preserves in Costa Rica.

Postdoctoral/Visiting Faculty Supervision

Name	Years in Training	Project
Mary Gay Heagler	1991-1992	Allometry of metal bioaccumulation
Irvin R. Schultz	1993-1995	Metal toxicokinetics in fish
Eric L. Peters	1993-1995	Radionuclide toxicokinetics in fish
Xiong Li	2006-2007	Marine Ecotoxicology

REFEREED PUBLICATIONS
Key: A technician (*), graduate student (**), undergraduate student (***), or postdoctoral fellow (****) for whom M.C. Newman was acting as a mentor.

2008 Di Giulio, R.T. and **M.C. Newman**, Chapter 29, Ecotoxioclogy, in *Casarett and Doull's Toxicology: The Basic Science of Poisons*, 7th Ed., C. Klaasen, Ed., McGraw-Hill.

2008 **Newman, M.C.** What exactly are you inferring?" A closer look at hypothesis testing. Environ. Toxicol. Chem. 27: 1013-1019.

2008 Dale, V., G.R. Biddinger, **M.C. Newman** and 22 additional authors. Enhancing the ecological risk assessment process. Integ. Environ. Assess. Manag. 4: 306-313.

2008 **Newman, M.C.,** Y. Zhao and J.T. Carriger, Chapter 19, Statistics, in *Fundamentals of Aquatic Toxicology*, 3rd Ed., Rand, G.M., Ed., Taylor & Francis

(in press).

2008 Unger, M.A., **M.C. Newman**, and G.G. Vadas. Predicting survival of grass shimp (*P. pugio*) exposed to aromatic compounds derived from spilt oil. Environ. Toxicol. Chem. 27: 1802-1808.

2008 **Newman, M.C.** Ecotoxicology. A Sub-discipline of Ecology entry for Encyclopedia of Ecology, Elsevier, Inc.

2008 **Newman, M.C**. and Y. Zhao, Ecotoxicology (LC, LD, LOC, LOEC, MAC) entry for Ecology Encyclopedia, Elsevier, Inc.

2007 Unger, M.A., **M.C. Newman**, and G.G. Vadas. Predicting survival of grass shrimp (*P. pugio*) during ethylnaphthalene, dimethylnaphthalene, and phenanthrene exposures differing in concentration and duration. Environ. Toxicol. Chem. 26: 528-534.

2007 **Newman, M.C.**, Zhao, Y., and J.F. Carriger. Coastal and estuarine ecological risk assessment: the need for a more formal approach to stressor identification. Hydrobiologia 577: 31-40.

2007 Wiener, J.G., Bodaly, R.A., Brown, S.S., Lucotte, M., **Newman, M.C**., Porcella, D.B., Reash, R.J., and Swain, E.B. Monitoring and evaluating trends in methylmercury accumulation in aquatic biota, Chapter 4 in Harris, R.C., et al. (editors), *Ecosystem Responses to Mercury Contamination: Indicators of Change*. Taylor & Francis, Boca Raton, FL, pp. 87-122.

2007 ** Zhao, Y. and **M.C. Newman**. The theory underlying dose-response models influences predictions for intermittent exposures. Environ. Toxicol. Chem. 26: 543-547.

2006 **Zhao, Y. and **M.C. Newman**. Effects of exposure duration and recovery time during pulsed exposures. Environ. Toxicol. Chem. 25: 1298-1304.

2006 **Newman, M.C**., and Y. Zhao, Aquatic Ecotoxicology entry for Ecology Encyclopedia, Elsevier, Inc.

2006 **Newman, M.C**., M. Crane, and G. Holloway. Does pesticide risk assessment in the European Union assess long-term effects? Rev. Environ. Toxicol 187:1-65.

2005 **Newman, M.C.** and Y. Zhao. Measuring metals and metalloids in water, sediment and biological tissues. In: Ostrander, G.K., *Techniques in Aquatic Toxicology, 2nd Edition*. Lewis Publishers/CRC Press, Boca Raton, FL, pp. 591-615.

2005 **Zhao, Y. and **M.C. Newman**. Ecotoxicology entry for environmental encyclopedia edited by L. Shugart, Elsevier, Inc.

2004 **Zhao, Y. and **M.C. Newman**. Shortcomings of the laboratory derived LC50 for predicting mortality in field populations: exposure duration and latent mortality. Environ. Toxicol. Chem. 23: 2147-2153.

2004 **Newman, M.C.** Can we predict the combined effects of hypoxia and metals on fish survival? In: Fish Physiology, Toxicology and Water Quality, EPA/600/R-04/049, June 2004, Tallinn, Estonia, May 12-15, 2003, G.L. Rupp and M.D. White (editors). U.S. Environmental Protection Agency, Ecosystems Research Division, Athens, Georgia, USA, pp. 99-108.

2003 Evans, D.A., **M.C. Newman**, M. Lavine, J.S. Jaworska, J. Toll, B. Brooks, and

T.C.M. Brook. (In Press). The Bayesian vantage for dealing with uncertainty. In: A. Hart (Ed.) Uncertainty in Environmental Risk Assessment, SETAC Press, Pensacola, FL.

2003 **Ownby, D.R. and **M.C. Newman** . Advances in Quantitative Ion Character-Activity Relationships (QICARs): Using Metal-Ligand Binding Characteristics to Predict Metal Toxicity. QSAR Comb Sci 22:241-246.

2003Mulvey, M. **M.C. Newman**, W. Vogelbein, M.A. Unger and D.R. Ownby. Genetic structure and mtDNA diversity of *Fundulus heteroclitus* populations from PAH-contaminated and neighboring sites. Environ. Toxicol. Chem. 22: 671-677.

2002Mulvey, M., **M.C. Newman**, W. Vogelbein and M.A. Unger. Genetic structure of *Fundulus heteroclitus* from PAH-contaminated and neighboring sites in the Elizabeth and York Rivers. Aquatic. Toxicol. 61:195-209.

2002**Tatara, C., M. Mulvey, and **M.C. Newman**. Genetic and demographic responses of mercury-exposed mosquitofish (*Gambusia holbrooki*) populations: temporal stability and reproductive components of fitness. Environ. Toxicol. Chem. 21: 2191-2197.

2002**Ownby, D., **M.C. Newman**, M. Mulvey, M. Unger and W. Vogelbein. Fish (*Fundulus heteroclitus*) populations with different exposure histories differ in tolerance of creosote-contaminated sediments. Environ. Toxicol. Chem. 21: 1897-1902.

2002**Newman, M.C.** and M. Crane. Introduction to time-to-event methods. Can risk assessment be improved with time-to-event models? In: Crane, M., M.C. Newman, P. Chapman, and J. Fenlon (Eds.) *Risk Assessment with Time-to-event Models.* CRC Press LLC.

2002**Newman, M.C.** and J.T. McCloskey. Applying time-to-event methods to assess pollutant effects to populations. In: Crane, M., M.C. Newman, P. Chapman, and J. Fenlon (Eds.) *Risk Assessment with Time-to-event Models*. CRC Press LLC.

2002Crane, M. P.F. Chapman and **M.C. Newman**. Conclusion - Risk assessment with time to event models. In: Crane, M., M.C. Newman, P. Chapman, and J. Fenlon (Eds.) *Improving Risk Assessment with Time-to-event Models.* CRC Press LLC.

2002Crane, M., P.F. Chapman, T. Sparks, J. Fenlon and **M.C. Newman**.(In press) Can risk assessment be improved with time-to-event models? In: Crane, M., M.C. Newman, P. Chapman, and J. Fenlon (Eds.) *Improving Risk Assessment with Time-to-event Models.* CRC Press LLC.

2002**Newman, M.C.** and D. Evans. Causal inference in risk assessments: Cognitive idols or Bayesian theory? In: *Coastal and Estuarine Risk Assessment*. CRC Press LLC, Boca Raton, FL, pp. 73-96.

2002**Newman, M.C.**, R.C. Hale and M. Roberts, Jr. Ecological risk assessment in coastal and estuarine environments. In: *Coastal and Estuarine Risk Assesment*. CRC Press LLC, Boca Raton, FL, pp. 1-13.

2002Roberts, Jr., M., **Newman, M.C.**, and R.C. Hale. Overview of ecological risk

assessment in coastal and estuarine environments. In: *Coastal and Estuarine Risk Assesment*. CRC Press LLC, Boca Raton, FL, pp. 327-336.

2001 **Newman, M.C.**, D.R. Ownby, L.C.A. Mézin, D.C. Powell, T.R.L. Christensen, S.B. Lerberg, B.-A. Anderson and T.V. Padma. Species sensitivity distributions in ecological risk assessment: Analysis of distributional assumptions, alternate bootstrap techniques, and estimation of adequate number of species. In: *The Use of Species Sensitivity Distributions in Ecotoxicology*. CRC Press LLC, Boca Raton, FL, pp. 119-132.

2001 **Newman, M.C.** and D.A. Evans. Ecotoxicology. Invited review for *Encyclopedia of Environmetrics*, John Wiley and Sons, Ltd., Chichester, UK.

2001 Tatara, C.P.**, **M.C. Newman** and M. Mulvey. Effect of mercury and Gpi-2 genotype on standard metabolic rate of Eastern mosquitofish. Environ. Toxicol. Chem. 20: 782-786.

2001 **Newman, M.C.** and M.H. Roberts, Jr. Improving inferential strength of exposure and effect forecasting: Working outside the box. In: Rainbow, P., S.P. Hopkin and M. Crane (Eds.). *Forecasting the Environmental Fate and Effects of Chemicals*. John Wiley and Sons.

2000 McKinney, J.D., A. Richard, C. Waller, **M.C. Newman** and F. Gerberick. The practice of structure activity relationships (SAR) in toxicology. Toxicological Sciences 56:8-17.

2000 **Newman, M.C.** and J.T. McCloskey. The individual tolerance concept is not the sole explanation for the probit dose-effect model. Environ. Toxicol. Chem. 19:520-526.

2000 Crane, M. and **M.C. Newman**. What level of effect is a no observed effect? Environ. Toxicol. Chem. 19:516-519.

2000 **Newman, M.C.**, D.R. Ownby, L.C.A. Mezin, D.C. Powell, T.R.L. Christensen, S.B. Lerberg, and B.-A. Anderson. Applying species sensitivity distributions in ecological risk assessment: Assumptions of distribution type and sufficient numbers of species. Environ. Toxicol. Chem. 19:508-515.

2000 **Newman, M.C.** and D. Evans. Ecotoxicology. Two-page entry in the *Encyclopedia of Envirometrics*, John Wiley & Sons.

1999 Barron, M.G., I.R. Schultz, and **M.C. Newman.** Pharmacokinetics of intravascularly administered ^{65}Zinc in channel catfish (*Ictalurus punctatus*). Ecotoxicol. Environ Saf. 45:304-309.

1999**** Peters, E.L., I.R. Schultz and **M.C. Newman.** Rb and Cs kinetics and tissue distributions in channel catfish (*Ictalurus punctatus*). Ecotoxicology 8:287-300.

1999** Tatara, C., M. Mulvey and **M.C Newman.** Genetic and demographic responses of mosquitofish (*Gambusia holbrooki*) populations exposed to mercury for multiple generations. Environ. Toxicol. Chem. 18:2840-2845.

1999**** Peters, E.L. and **M.C. Newman.** Elimination of cesium by chronically-contaminated largemouth bass (*Micropterus salmoides*). Health Physics 76: 260-268.

1999****Schultz, I.R., M.G. Barron, **M.C. Newman,** and A. Vick. Blood flow distribution and tissue allometry in channel catfish (*Ictalurus punctatus*). J. Fish Biol. 54: 1275-1286.

1998**Newman, M.C.**, J.T. McCloskey and C.P. Tatara. Using metal-ligand binding characteristics to predict metal toxicity: Quantitative Ion Character - Activity Relationships (QICARs). Environ. Health Perspectives 106(Suppl. 6): 1263-1270.

1998**Newman, M.C.** and R. Jagoe. Allozymes reflect the population-level effect of mercury: simulations of the mosquitofish (*Gambusia holbrooki*) GPI-2 response. Ecotoxicology 7: 141-150.

1998**Newman, M.C.** and C.L. Strojan. Risk Assessment: Logic and Measurement - An Introduction, In: Newman, M.C. and C.L. Strojan., *Risk Assessment. Logic and Measurement*. Ann Arbor Press, Chelsea, MI.

1998Strojan, C.L. and **M.C. Newman**. Risk Assessment: Logic and Measurement - Summary, In: Newman, M.C. and C.L. Strojan., *Risk Assessment. Logic and Measurement*. Ann Arbor Press, Chelsea, MI.

1998**Tatara, C.P., **M.C. Newman**, J.T. McCloskey and P.L. Williams. Use of ion characteristics to predict relative toxicity of mono-, di-, and trivalent metal ions: *Caenorhabditis elegans* LC50. Aquatic Toxicol. 42: 255-269.

1998*McCloskey, J.M., I.R. Schultz and **M.C. Newman.** Estimating the oral bioavailability of methylmercury to channel catfish, *Ictalurus punctatus*. Environ. Toxicol. Chem.17: 1524-1529.

1997**Newman, M.C.** Prologue. In: Beeby, A.N. and A.-M. Brennan. *First Ecology*. Chapman & Hall Publishers, London, pp. 1-7.

1997****Schultz, I.R. and **M.C. Newman**. Methyl mercury toxicokinetics in channel catfish (*Ictalurus punctatus*) and largemouth bass (*Micropterus salmoides*) after intravascular administration. Environ. Toxicol. Chem. 16: 1990-1996.

1997*Jagoe, R. and **M.C. Newman.** Bootstrap estimation of community NOEC values. Ecotoxicology 6: 293-306.

1997**Tatara, C., **M.C. Newman**, P. Williams and J.T. McCloskey. Predicting relative toxicity with divalent ion characteristics: *Caenorhabditis elegans*. Aquatic Toxicol. 39: 279-290.

1996**Newman, M.C.** Ecotoxicology as a science. In: Newman, M.C. and C.H. Jagoe (Eds.), *Ecotoxicology: A Hierarchical Treatment*. CRC/Lewis Publishers, Inc., Boca Raton, FL, pp. 1-9.

1996**Newman, M.C.** and P.H. Dixon. Ecologically meaningful estimates of lethal effect on individuals. In: Newman, M.C. and C.H. Jagoe (Eds.), *Ecotoxicology: A Hierarchical Treatment*. CRC/Lewis Publishers, Inc., Boca Raton, FL, pp. 225-253.

1996**Newman, M.C.** and R.M. Jagoe. Bioaccumulation models with time lags: dynamics and stability criteria. Ecol. Model. 84: 281-286.

1996Mulvey, M., **M.C. Newman** and A.N. Beeby. Genetic and conchological comparison of snails (*Helix aspersa*) differing in shell deposition of lead. J. Moll. Studies 62: 213-223.

1996**Newman, M.C.** and J.T. McCloskey. Predicting relative toxicity and interactions of divalent metal ions: Microtox[7] bioluminescence assay. Environ. Toxicol. Chem. 15: 275-281.

1996**Newman, M.C.** Measuring metals and metalloids in water, sediment and biological tissues. In: Ostrander, G.K., *Techniques in Aquatic Toxicology*. Lewis Publishers/CRC Press, Boca Raton, FL, pp. 493-516.

1996Jagoe, C.H., A.E. Faivre and **M.C. Newman.** Morphological and morphometric changes in the gills of mosquitofish (*Gambusia holbrooki*) after exposure to mercury (II). Aquatic Toxicol. 34: 163-183

1996**Woodward, L.A., M. Mulvey and **M.C. Newman.** Mercury contamination and population-level responses in chironomids: Can allozyme polymorphism indicate exposure? Environ. Toxicol. Chem. 15: 1309-1316.

1996****Schultz, I.R., E.L. Peters and **M.C. Newman.** Toxicokinetics and disposition of inorganic mercury and cadmium in channel catfish (*Ictalurus punctatus*) after intravascular administration. Toxicol. Appl. Pharmacol. 140: 39-50.

1996**Newman, M.C.** and J.T. McCloskey. Time-to-event analysis of ecotoxicity data. Ecotoxicology 5: 187-196.

1996*McCloskey, J.T., **M.C. Newman** and S.B.Clark. Predicting the relative toxicity of metal ions using ion characteristics: Microtox[7] bioluminescence assay. Environ. Toxicol. Chem. 15: 1730-1737.

1996Crane, M. and **M.C. Newman.** Scientific method in environmental toxicology. Environ. Rev. 4: 112-122.

1995**Newman, M.C.** Chapter 5. Environmental research on mercury by the Savannah River Ecology Laboratory. In: Assessment of mercury in the Savannah River Site environment. Westinghouse Savannah River Company, Aiken, SC.

1995*McCloskey, J.T. and **M.C. Newman.** Asiatic clam (*Corbicula fluminea*) and viviparid snail (*Campeloma decisum*) sediment preference as a sublethal response to low level metal contamination. Arch. Environ. Contam. Toxicol. 28:195-202.

1995*****McCloskey, J.T., **M.C. Newman** and P.M. Dixon. Effect of metal contaminated sediment on the distribution of the Asiatic clam, *Corbicula fluminea*, populations. Arch Environ. Contam. Toxicol. 28:203-208.

1995Mulvey, M., **M.C. Newman**, A. Chazal, M.M. Keklak, H.G. Heagler and S. Hales, Jr. Genetic and demographic changes in mosquitofish (*Gambusia holbrooki*) populations exposed to mercury. Environ. Toxicol. Chem. 14:1411-1418.

1994Benson, W., J. Alberts, H. Allen, C. Hunt and **M. Newman.** Bioavailability of metals in aquatic environments. In: Hamelink, J.L., P.F. Landrum, H.L. Bergman and W.H. Benson (Eds.), *A Mechanistic Understanding of Bioavailability: Physical--Chemical Interactions*. Lewis Publishers, Inc., Chelsea, MI, pp. 63-71.

1994**Newman, M. C.** and C. Jagoe. Inorganic ligands and the bioavailability of metals in aquatic environments. In: Hamelink, J.L., P.F. Landrum, H.L. Bergman and W.H. Benson (Eds.), *A Mechanistic Understanding of Bioavailability: Physical--Chemical Interactions*. Lewis Publishers, Inc., Chelsea, MI, pp. 39-61.

1994**Kramer, V. J. and **M. C. Newman.** Inhibition of glucose phosphate isomerase allozymes of the mosquitofish, *Gambusia holbrooki*, by mercury. Environ. Toxicol. Chem. 13:9-14.

1994**Newman, M.C.**, M.M. Keklak and S.M. Doggett. Quantifying animal size effects on toxicity: A general approach. Aquatic Toxicol. 28:1-13.

1994***Keklak, M.M., **M.C. Newman**, and M. Mulvey. Enhanced uranium tolerance of an exposed population of the eastern mosquitofish (*Gambusia holbrooki* Girard 1859). Arch. Environ. Contam. Toxicol. 27:20-24.

1994 **Newman, M.C.**, M. Mulvey, A. Beeby, R.W. Hurst, and L. Richmond. Snail (*Helix aspersa*) exposure history and possible adaptation to lead as reflected in shell composition. Arch. Environ. Contam. Toxicol. 27:346-351.

1993**Heagler, M. G., **M. C. Newman**, M. Mulvey and P. M. Dixon. Allozyme genotype in mosquitofish, *Gambusia holbrooki,* during mercury exposure: Temporal stability, concentration effects and field verification. Environ. Toxicol. Chem. 12:385-395.

1993**Newman, M. C.** Regression analysis of log-transformed data: statistical bias and its correction. Environ. Toxicol. Chem. 12:1129-1133.

1992**Kramer, V.J., **M.C. Newman**, M. Mulvey, and G. R. Ultsch. Glycolysis and Krebs cycle metabolites in mosquitofish, *Gambusia holbrooki:* Girard 1859, exposed to mercuric chloride: Allozyme genotype effects. Environ. Toxicol. Chem. 11:357-364.

1992***Lee, C.J., **M.C. Newman** and M. Mulvey. Time to death of mosquitofish *(Gambusia holbrooki)* during acute inorganic mercury exposure: Population structure effects. Arch. Environ. Contam. Toxicol. 22:284-287.

1992**Kramer, V. J., **M. C. Newman** and G. R. Ultsch. Changes in concentrations of glycolysis and Krebs cycle metabolites in mosquitofish, *Gambusia holbrooki*, induced by mercuric chloride and starvation. Environ. Biol. Fishes 34:315-320.

1992**Newman, M.C.** and M. Aplin. Enhancing toxicity data interpretation and prediction of ecological risk with survival time modeling: An illustration using sodium chloride toxicity to mosquitofish (*Gambusia holbrooki*). Aquatic Toxicol. 23:85-96.

1992**Newman, M. C.** Zinc elimination kinetics in mosquitofish: a clarification. Aquatic Toxicol. 24:153-156.

1991**Newman, M. C.** and M. G. Heagler. Allometry of metal bioaccumulation and toxicity. In: Newman, M.C. and A.W. McIntosh (Eds.), *Metal Ecotoxicology: Concepts and Applications*. Lewis Publishers, Inc., Chelsea, MI., pp. 91-130.

1991Dixon, P. M. and **M. C. Newman.** Analyzing toxicity data using statistical models of time-to-death: An introduction. In: Newman, M.C. and A.W. McIntosh (Eds.), *Metal Ecotoxicology: Concepts and Applications*. Lewis Publishers, Inc., Chelsea, MI., pp. 207-242.

1991 **Newman, M. C.** A statistical bias in the derivation of hardness-dependent metals criteria. Environ. Toxicol. Chem. 10:1295-1297.

1991 **Diamond, S.A., **M.C. Newman,** M. Mulvey and S. Guttman. Allozyme genotype and time-to-death of mosquitofish, *Gambusia holbrooki,* during acute inorganic mercury exposure: A comparison of populations. Aquatic. Toxicol. 21:119-134.

1991 Brisbin, I.L., Jr. and **M.C. Newman.** Sigmoidal models for the uptake, concentration and effects of metals in consumer organisms. Water, Air and Soil Pollut. 57-58:691-696.

1990 **Newman, M. C.** and P. M. Dixon. UNCENSOR: A program to estimate means and standard deviations for data sets with below detection limit observations. Amer. Environ. Lab. 4/90:27-30.

1990 **Newman, M. C.** and J. Schalles. The water chemistry of Carolina bays: A regional survey. Arch. Hydrobiol. 118:147-168.

1990 Brisbin, I.L., Jr., **M.C. Newman**, S.G. McDowell and E.L. Peters. Prediction of contaminant accumulation by free-living organisms: Applications of a sigmoidal model. Environ. Toxicol. Chemistry 9:141-149.

1990 **Newman, M.C.** and I.L. Brisbin, Jr. Variation of ^{137}Cs levels between sexes, body sizes and collection localities of mosquitofish, *Gambusia holbrooki* (Girard 1859) inhabiting a reactor cooling reservoir. J. Environ. Radioactivity 12:131-141.

1989 **Newman, M.C.** and D.K. Doubet. Size dependence of mercury (II) accumulation kinetics in the mosquitofish, *Gambusia affinis* (Baird and Girard). Arch. Environ. Contam. Toxicol. 18:819-825.

1989* **Mitz, S.V.** and M.C. Newman. Allometric relationship between oxygen consumption and body weight of mosquitofish, *Gambusia affinis*. Environ. Biol. Fishes 24:267-273.

1989** Diamond, S.A., **M.C. Newman**, M.E. Mulvey, D. Martinson and P.M. Dixon. Allozyme genotype and time to death of mosquitofish, *Gambusia affinis* (Baird and Girard), during acute exposure to inorganic mercury. Environ. Toxicol. Chem. 8:613-622.

1989 **Newman, M.C.**, S.A. Diamond. M.E. Mulvey and P.M. Dixon. Allozyme genotype and time to death of mosquitofish, *Gambusia affinis* (Baird and Girard), during acute toxicant exposure: A comparison of arsenate and inorganic mercury. Aquatic Toxicol. 15:141-159.

1989 **Newman, M.C.** and A.W. McIntosh. Appropriateness of aufwuchs as a monitor of bioaccumulation. Environ. Pollut. 60:83-100.

1989 **Newman, M.C.**, P.M. Dixon, B.B. Looney, and J.E. Pinder, III. Estimating mean and variance of environmental samples with below detection limit observations. Water Resources Bull. 25:905-916.

1988 **Newman, M.C.** and S.V. Mitz. Size dependence of zinc elimination and uptake from water by mosquitofish, *Gambusia affinis* (Baird and Girard). Aquatic Toxicol. 12:17-32.

1988 **Newman, M.C.** Heavy metal speciation in Coastal Plains watersheds of the southeastern United States: Temporal and spatial variation. Proceedings of the International Conference on Contaminants in the Environment (Lisbon, Portugal).

1988 Mulvey, M., **M.C. Newman** and D.S. Woodruff. Genetic differentiation among West Indian populations of the schistosome-transmitting snail, *Biomphalaria glabrata*. Malacologia 29:309-317.

1986 **Newman, M.C.** The Comprehensive Cooling Water Report. Volume 2. Water Quality. SREL UC28-2, 600 pp.

1985 **Newman, M.C.,** J.J. Alberts and V.A. Greenhut. Geochemical factors complicating the use of aufwuchs to monitor bioaccumulation of arsenic, cadmium, chromium, copper and zinc. Water Res. 19:1157-1165.

1985 Alberts, J.J., **M.C. Newman** and D.W. Evans. Seasonal variations of trace elements in dissolved and suspended loads for coal ash ponds and pond effluent. Water, Air and Soil Pollut. 26:111-128.

1983 **Newman, M.C.,** A.W. McIntosh and V.A. Greenhut. Geochemical factors complicating the use of aufwuchs as a biomonitor for lead levels in two New Jersey reservoirs. Water Res. 17:625-630.

1983 **Newman, M.C.** and A.W. McIntosh. Lead elimination and size effects on accumulation by two freshwater gastropods. Arch. Environ. Contam. Toxicol. 12:25-29.

1983 **Newman, M.C.** and A.W. McIntosh. Slow accumulation of lead from contaminated food sources by the freshwater gastropods, *Physa integra* and *Campeloma decisum*. Arch. Environ. Contam. Toxicol. 12:685-692.

1982 **Newman, M.C.** Aspects of the behavior of lead in a reservoir: The effect of habitat contamination on lead concentrations in benthic invertebrates. Proceedings of the Surface Water Contamination Conference, Ramapo College, NJ.

1982 **Newman, M.C.** and S.Y. Feng. Susceptibility and resistance of the rock crab, *Cancer irroratus* to natural and experimental infection. J. Invert. Pathol. 40:75-88.

1982 **Newman, M.C.** and A.W. McIntosh. The influence of lead in components of a freshwater ecosystem on molluscan tissue lead concentrations. Aquatic Toxicol. 2:1-19.

BOOKS WRITTEN

2008[1] **Newman, M.C.** and W.H. Clements. *Ecotoxicology, A Comprehensive Treatment*, Taylor & Francis/CRC, Boca Raton, FL, p. 852.

2007 **Newman, M.C.** and M.A. Unger with contributions and translation by Yuan Zhao and Taiping Wang. *Fundamentals of Ecotoxicology*. Second Edition, Taylor & Francis/CRC, Boca Raton, FL, Chinese translation released by Chemical Industrial Press, Beijing, China.

[1] A. Russell Flegal reviewed this book for the *Limnology and Oceanography Bulletin* (17(2), June 2008) , concluding "In summary, it is – in my opinion – the definitive book to date on the complex and emerging science of ecotoxicology." "The book is simply the best I have encountered …"

2003[2] **Newman, M.C.** and M.A. Unger. Second edition of *Fundamentals of Ecotoxicology*. CRC/Lewis, Boca Raton, FL, p. 458. (More than 3000 copies sold by the end of 2007)

2002 Clements, W. and **M.C. Newman**. *Community Ecotoxicology*. John Wiley & Sons, Chichester, UK, p. 336.

2001[3] **Newman, M.C.** *Population Ecotoxicology*. John Wiley & Sons, Chichester, UK, p. 228.

1998 **Newman, M.C.** *Fundamentals of Ecotoxicology*. Ann Arbor Press, Chelsea, MI, p. 402.

1995 [4] **Newman, M.C.** *Quantitative Methods in Aquatic Ecotoxicology*. CRC/Lewis Publishers, Boca Raton, FL, p.426.

BOOKS CURRENTLY BEING WRITTEN/TRANSLATED

2009 **Newman, M.C.** Third edition of *Fundamentals of Ecotoxicology*. Taylor & Francis/CRC, Boca Raton, FL.

2009 Walker, J., M. Enache and **M.C. Newman**. *Predicting Biological Activities of Metal Ions*. Taylor & Francis/CRC, Boca Raton, FL.

2008 **Newman, M.C.**, M. Roberts and R. Hale. *Coastal and Estuarine Risk Assesment*. CRC Press LLC, Boca Raton, FL, p. 347. Currently in negotiation with Chinese Research Academy of Environmental Sciences (Dr. Zongyan Yang) for Chinese translation rights.

BOOKS EDITED

2002 Crane, M., **M.C. Newman**, P. Chapman and J. Fenlon. *Risk Assessment with Time-to-Event Models*. CRC Press LLC, Boca Raton, FL, p. 175.

2002 **Newman, M.C.**, M. Roberts and R. Hale. *Coastal and Estuarine Risk Assesment*. CRC Press LLC, Boca Raton, FL, p. 347.

1998 **Newman, M.C.** and C. Strojan. *Risk Assessment: Logic and Measurement*. CRC Press LLC, Boca Raton, FL, p. 352.

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[2] Reviews of the two editions of this book have been very positive. In a SETAC Globe book review, Dr. G. Rand states that the first edition was "an organized and highly readable text … fills an important void … the only published book to-date that is oriented for use as a basic introductory text … Overall this book will be of value to beginning students and to research investigators as a reference tool." Van Straalen (ES&T, Sept. 2003, page 326A), refers to the second edition as "the most comprehensive textbook available to date …"

[3] In a SETAC Globe book review, G. Suter commented about this book, "…like his earlier volumes, Newman's latest is distinct in tone and content. A good scientific colleague is someone who stretches your perspective by asking and answering questions that you would not ask yourself. Through his many books and papers, Mike Newman has been a very good colleague to me and many other ecotoxicologists and risk assessors." In a review for the journal, *Water and Environment Journal* (2002, Vol. 16(2)), J. Hawkins comments that the book is "packed with theoretical ideas."

[4] Reviewing this book for Trans. Am. Fish. Soc., Clements stated that "…Newman's book is a refreshing and highly readable treatment of quantitative aspects of ecotoxicology … Overall, this book will be of tremendous value …" Dr. G. Suter begins his review column for the SETAC Globe, "Gary Rand reviews [here] Mike Newman's excellent text on quantitative ecotoxicology. I would like to add the observation that Mike has produced a *rara avis*, a single-authored book … He is to be commended for mastering this field and presenting it in a more coherent manner than is achieved by edited compilations."

1996 **Newman, M.C.** and C. Jagoe. *Ecotoxicology: A Hierarchical Treatment*. CRC Press LLC, Boca Raton, FL, p.411.

1991 **Newman, M.C.** and A.W. McIntosh. *Metal Ecotoxicology: Concepts and Applications*. Lewis Publishers, Chelsea, MI, p. 399.

FELLOWSHIPS AND GRANTS

In addition to the funding described below, EPA, College of William and Mary Reeves Center, UGA Research Foundation, National Society of Environmental Toxicology and Chemistry, International Society of Environmental Toxicology and Chemistry, Society of Environmental Toxicology and Chemistry - Europe (UK), University of Georgia=s Interdisciplinary toxicology program, the University of London - Royal Holloway, Australian Society of Ecotoxicology, and John Wiley & Sons have awarded funds for foreign travel to Dr. Newman. Numerous private consulting contracts to M.C. Newman are not listed.

Year	Proposal Title	Funded by	Amount
2008	Mercury biomagnification in the South River	DuPont	$138,000
2008	Mercury trophic transfer in the Holston River	FWS	$ 16,000
2007	Mercury: Hazard without Borders (S-GIG)	W&M College	$ 50,000
2007	Mercury biomagnification models for the South River	DuPont	$118,000
2007	Mercury bioaccumulation in periphyton of the Holston River	FWS/Olin	$35,000
2007	Statistical/Risk assessment consulting to FWS	FWS	$14,000
2005-06.1	Mercury biomagnification models for the South River: Aquatic and Floodplain	DuPont	$34,900
	Probabilistic ecorisk assessment for fish, Mammals, and birds at the Great Dismal Swamp National Wildlife Refuge	FWS	$21,200
	Statistical design and review of mercury Bioaacumulation data for the North Holston River	FWS	$10,000
2005	Periphyton of the South River watershed, Virginia: Mercury accumulation, bioavailabiliy And transformation	DuPont	$29,314
2005-07	Survival time models quantitatively predict lethal effects of pulsed and different duration exposures to water-accommodated fractions of **spilt oil**	NOAA/CRRC	$220,000
2002-04	Acceptability of Pesticide Effects on Non-target Species	UK DEFRA	£143,750 Newman: £30,000)
2002-2005	Statistical review of fish and wildlife assessment documents concerning mercury impacts	US FWS	$7,500/year
2002-07	Establishment of a Mid-Atlantic COSEE	NSF	$2,500,000 (Newman: $625,000)
2001-02	Virginia Space Grant Consortium VAccess	NASA	$60,000
2001-03	Science Advisory Panel Consultant	DuPont	$ 70/hr
2000	Bell Atlantic Distance Learning Grant (with Christopher Newport University consortium)	Bell Atlantic	$145,500
2000-03	Research Experience for Undergraduates	NSF	$177,210

1999-00	US DOE Contract, Science and Technology Needs for DOE Hanford Site Ecological Risk Assessment Activities	US DOE	$20,000
1998	UK Direct Toxicity Assessment (DTA) Demonstration Programme: Phase II - Implementation of the Esk Project Plan	UKWIR	£50/hr
1998-01	Are Genetic Diversity and Genetic Differentiation Bioindicators of Contaminant Impact on Natural Populations?	EPA STAR	$727,255
1998-01	Fate and effects of crop protectants from tomato cultivation on living resources in tidal creeks.	VDACS	$196,092
1998-99	A stochastic assessment of metal exposure to bald eagles consuming fish and waterfowl from a reactor cooling reservoir.	UGA/SREL	$24,000
1998-02	Risk based approaches to the derivation and expression of environmental quality standards.	NERC (UK)	£125,237
1998	Contract to develop two documents, *Estimation of the percent level associated with the NOEC from conventional ecotoxicity tests*, and *A layman's guide to regression*.	OECD	$4,000
1998	Scientific peer review of the EPA Region 2/CENAN framework for evaluating dredged material for proposed placement at the HARS.	EPA Region 2	$2,400
1998	Short course, Quantitative Ecotoxicology, taught at the Virginia Institute of Marine Science and Savannah River Ecology Laboratory.	VIMS/UGA	$9,000
1996-98	SREL Ecotoxicology and Ecological Risk Assessment Program (EERAP).	USDOE-SRO	$515,000/yr
1995	QSAR-like models of mono-, di- and trivalent metal toxicity based on ion qualities: *Caenorhabditis elegans* assay	UGA Fac. Res. Grant	$7,600
1991-94	Mercury accumulation in mosquitofish	USDOE-SRO	$75,000/yr
1990	Population structure and adaptation by *Helix aspersa* to lead contamination	NATO	*BF*124,000
1988	Heavy metal accumulation in crocodile eggs	Un. of Florida	$2,000
1988-94	Toxicokinetics of inorganic pollutants	SDOE-SRO	$250,000/yr
1987	Toxicokinetics of mercury in mosquitofish	USDOE-SRO	$100,000
1987-88	Benthic nutrient flux in a reactor cooling lake	USDOE-SRO	$50,000/yr
1986-89	Nutrient, light and temperature effects on autotrophic nutrient removal and algal growth in a cooling reservoir	USDOE-SRO	$150,000/yr $ 75,000 (89)
1984-85	Comprehensive study of effects of thermal effluent discharge from DOE nuclear production reactors on receiving water quality	USDOE-SRO	$375,000/yr
1984	GPP proposal for ultraclean laboratory complex and laboratory addition	USDOE-GPP	$1,030,000

INVITED SCHOLARLY PAPERS AND TALKS

2008 South China Institute of Environmental Sciences, Guangzhou
Central China Normal University, Wuhan
Jinan University, Guangzhou
Virginia DEQ Biosolids Committee, Charlottesville, VA.

2007 Virginia DEQ Mercury Conference, Newport News, VA (Two Talks)
Guangzhou Institute of Geochemistry, Chinese Academy of Sciences
Fifth International Conference on Marine Pollution and Ecotoxicology, City University of Hong Kong (keynote)

2005 Toxicology and Risk Assessment Conference, Fairborn, OH
ESA National Meeting, Montreal, Canada

2004 Texas Tech University (The Inst. Environ. & Human Health)
UNESCO Lagoons and Coastal Wetlands in the Global Context. (keynote) Venice, Italy

2003 *Physiology, Toxicology, and Water Quality - Tallinn, Estonia*
SETAC National Meeting (Meeting Opening Session)
SETAC Mercury Indicators Workshop (Two Presentations)

2002 SETAC International Ecotoxicogenomics Workshop
QSAR 2002 Workshop (keynote) – Ottawa, Canada
Interact 2002 (keynote) – Sydney, Australia

2001 SETAC Annual Meeting
College of Charleston
Duke University
Florida Atlantic University

2000 Delaware-Hudson Chapter of SETAC

1999 DuPont Haskell Laboratory
US DOE Hanford Complex - Battelle PNNL Laboratory (Two Presentations)
University of Maryland - Baltimore (Dept. of Biol. Sci.)
Society of Toxicology Annual Meeting
Risk Assessment Corporation Short Course
International Symposium on Pollutant Responses in Marine Organisms (PRIMO) Meetings (Two Presentations)

1998 SETAC-Europe (UK) Spring Meeting, Improving risk assessment with time-to-event methods (Two Presentations)
SETAC-Europe (UK) 9th Annual Meeting, Forecasting the Environmental Fate and Effects of Toxic Chemicals

1997 University of London - Royal Holloway
Current Issues on Chemical Mixtures, Colorado State University
EPA ECOFRAM Group, Washington, DC

1996 Muhlenberg College
University of New Haven
Chesapeake Biological Laboratory

	National Society of Environmental Toxicology and Chemistry Annual Meeting
	Savannah River Environmental Sciences Workshop
1995	Georgia Institute of Technology
	Christopher Newport University
	University of London - Royal Holloway
	University of Reading (UK)
	Second International SETAC Congress (Vancouver, B.C.)
1994	U.S./Israeli Workshop on Water Quality Modeling and Monitoring (Haifa, Israel)
1992	U.S. EPA - Duluth
	Clemson University - TIWET
	SETAC 10th Pellston Conference
	National Society of Environmental Toxicology and Chemistry Annual Meeting
1991	Joint seminar, Creighton University and University of Nebraska, Omaha
	University of Nebraska, Lincoln
	Memphis State University
	Southwestern Louisiana University
	East Tennessee State University
	National Society of Environmental Toxicology and Chemistry Annual Meeting (Two Presentations)
1990	Lenoir-Ryhne College
1989	Tennessee Technical University
	Tulane University
	University of California--Davis
	Western Washington University
1988	Rutgers University (Seminar and Lecture)
	Voorhees College (Two Presentations)
	South Carolina Laboratory Management Society Annual Meeting (Three Presentations)
	DuPont Savannah River Laboratory (Two Presentations)
1987	Virginia Polytechnic Institute and State University
	National Society of Environmental Toxicology and Chemistry Annual Meeting

CONTRIBUTED SCHOLARLY PAPERS AND TALKS

2007	SETAC National Meeting (Milwaukee, WI)(Two presentations)
2006	SETAC Europe, The Hague, The Netherlands (Two presentations)
	SETAC National Meeting (Quebec)(Two presentations)
2005	SETAC Europe, Ille, France
2004	SETAC National Meeting
	ASLO (co-author) Savannah, GA
	American College of Clinical Pharmacology
2003	SETAC National Meeting
	Ocean Research Integrated Observatory Networks Meeting (San Juan, PR)
2002	SETAC National Meeting (Two presentations)
2001	SETAC National Meeting (Two presentations)

International Society of Environmental Toxicology and Chemistry Meeting in Madrid, Spain.

2000 National Society of Environmental Toxicology and Chemistry Annual Meeting (Five Presentations)
EPA STAR Annual Meeting
Society of Environmental Toxicology and Chemistry International Congress (Two Presentations)

1999 National Society of Environmental Toxicology and Chemistry Annual Meeting (Three Presentations)

1998 ASTM 8th Symposium on Environmental Toxicology and Risk Assessment
SETAC-Europe 8th Annual Meeting (Two Presentations)
National Society of Environmental Toxicology and Chemistry Annual Meeting (Two Presentations)

1997 National Society of Environmental Toxicology and Chemistry (Four Presentations)
SETAC-Europe 7th Annual Meeting, Amsterdam, The Netherlands

1996 National Society of Environmental Toxicology and Chemistry (Two Presentations)
American Malacology Union
ASTM Meetings

1995 Second International SETAC Congress (Four Presentations)

1994 Savannah River Environmental Sciences Workshop (Two Presentations)
Evolution Society Annual Meetings
Carolinas SETAC Annual Meeting
National Society of Environmental Toxicology and Chemistry (Three Presentations)

1993 First International SETAC Congress (Lisbon, Portugal, Two Presentations)
National Society of Environmental Toxicology and Chemistry (Four Presentations)

1992 Carolinas SETAC Annual Meeting
National Society of Environmental Toxicology and Chemistry (Four Presentations)

1991 National Society of Environmental Toxicology and Chemistry (Two Presentations)

1990 National Society of Environmental Toxicology and Chemistry (Five Presentations)
NSF Population Biology Meetings (PBONE and SEEG)
International Metals Conference (Four Presentations)

1989 Institute of Ecology--University of Georgia
American Society of Limnology and Oceanography (Two Presentations)
South Carolina Laboratory Management Society (Two Presentations)
National Society of Environmental Toxicology and Chemistry (Two Presentations)

1988 Evolution Society Annual Meetings
American Society of Limnology and Oceanography (Two Presentations)

	International Conference on Contaminants in the Environment
	Savannah River Ecology Laboratory
1987	American Chemical Society Metal Speciation Workshop--Jekyll Island Annual Meeting
	American Society of Limnology and Oceanography (Two Presentations)
	National Society of Environmental Toxicology and Chemistry Annual Meeting
1986	International Malacological Congress (Edinburgh, U.K.)
	American Chemical Society
	Regional Society of Environmental Toxicology and Chemistry
	National Society of Environmental Toxicology and Chemistry
	South Carolina Laboratory Management Society Annual Conference
	American Water Works Association Water Quality Technology Conference
	Southeastern Workshop on Ecological Effects of Power Generation
1985	Department of Energy, Savannah River Plant
	American Society of Limnology and Oceanography
	National Society of Environmental Toxicology and Chemistry
1984	Department of Energy, Savannah River Plant
1983	American Society of Limnology and Oceanography
	University of Georgia, Savannah River Ecology Laboratory
1982	New Jersey Academy of Sciences Annual Meetings
	American Society of Limnology and Oceanography
1981	University of Georgia, Savannah River Ecology Laboratory
	New Jersey Academy of Sciences Annual Meetings
	Shellfish Association Annual Meeting
	American Malacological Union
	American Association for the Advancement of Science Winter Meetings
1980	Water Conference Proceedings, Ramapo College
1977	University of Delaware, College of Marine Studies

PUBLISHED PHOTOGRAPHY

2002/7	Newman, M.C. and Unger, M.A., *Fundamentals of Ecotoxicology*. CRC/Lewis LLC. Figures 8.2, 12.1, and 12.2, including Chinese addition.
2000	Newman, M.C. *Population Ecotoxicology*. John Wiley and Sons, London, Cover photograph.
1998	Newman, M.C. *Fundamentals of Ecotoxicology*. CRC/Lewis LLC. Figures 8.2, 12.1, and 12.2
1997	Meffe, G.K. and C.R. Carroll. *Principles of Conservation Biology*. Sinauer Associates, Inc., Sunderland, MA. Figure 1.6d.
1997	Beeby, A. and A.-M. Brennan. *First Ecology*. Chapman & Hall, London. Plates 1 and 12.

SOFTWARE

2003	**vUNCENSOR 5.1**. Window-based and expanded version of the UNCENSOR program described below. Since May 2003, there have been 290 hits on the VIMS download page for this program.

1996 **RENOEC**. Developed by M.C. Newman and R. Jagoe. This program implements a resampling method for estimating community-level NOEC or NEC values.

1996 **SAMPSIZE**. Developed by R. Jagoe and M.C. Newman. This program calculates the minimum number of samples or replicates necessary to obtain a desired level of statistical confidence.

1990-95 **UNCENSOR V 2.0/3.0/4.0,** 1990/92/95. Developed under the joint direction of M.C. Newman and P.M. Dixon. The program implements a variety of statistical methods of handling analytical data sets with "below detection limit" observations. There are over 400 registered users of this public-domain software. Although users are primarily US citizens, there are also users in Australia, Canada, Czech Republic, Belgium, Brazil, Finland, Germany, South Korea, and Sweden.

1995 **STRESS. V 1.0.** Developed by M.C. Newman, D. Morgan, and R. Jagoe. This program simulates demographic and genetic changes in populations exposed acutely and/or chronically to toxicants. It is an individual-based model capable of simulating selection including viability, sexual, fecundity, and gametic selection, and meiotic drive.