

## ***CURRICULUM VITAE*** calendar year 2016

### **Walter R. Boynton**

#### **Chesapeake Biological Laboratory**

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#### **I. Education**

- 1969 B. S. Springfield College (Biology)  
1974 M. S. University of North Carolina at Chapel Hill (Marine Sciences)  
1975 Ph.D. University of Florida (Environmental Engineering)

#### **II. Professional Background**

- 1969 - 1970 Faculty Research Assistant, University of Maryland, Natural Resources Institute, Chesapeake Biological Laboratory, Solomons, MD.  
1975 - 1977 Research Associate, University of Maryland, Center for Environmental and Estuarine Studies, Chesapeake Biological Laboratory, Solomons, MD.  
1978 - 1983 Assistant Professor, University of Maryland, Center for Environmental and Estuarine Studies, Chesapeake Biological Laboratory, Solomons, MD.  
1987 (Apr - Oct) Sabbatical at ASKO Laboratory, University of Stockholm  
1983 - 1988 Associate Professor, University of Maryland, Center for Environmental and Estuarine Studies, Chesapeake Biological Laboratory, Solomons, MD.  
1988-present Professor, University of Maryland, Center for Environmental Science, Chesapeake Biological Laboratory, Solomons, MD.  
1992-present Graduate Faculty, University System of Maryland.  
1998-present Graduate Faculty, University of Maryland System Inter-Institutional Graduate Council.

#### **Awards and Special Recognition**

- 1982 Awarded certificate of appreciation by Tri-County Council of Southern Maryland (Presented by Maryland Governor Harry Hughes)  
1990 Nominated for the PEW Scholars in Conservation and the Environment Fellowship.  
1992 Nominated for Computerworld Smithsonian Awards: Environment, Energy and Agriculture.  
1997 Nominated for the PEW Scholars in Conservation and the Environment Fellowship.  
1999 The UMCES President's Award for Excellence in Application of Science.  
2003 Distinguished Service Award, Estuarine Research Federation.  
2009 Received Odum Award for lifetime achievement (with W. M. Kemp, HPL) from the Coastal and Estuarine Research Federation  
2009 President Elect - Coastal and Estuarine Research Federation (2009-2011)  
2012 President - Coastal and Estuarine Research Federation (2011-2013)

- 2013 Past President - Coastal and Estuarine Research Federation (2013-2015)
- 2015 Distinguished Service Award, Estuarine Research Federation.
- 2015 Admiral of the Chesapeake Bay Award for work towards understanding and restoring Chesapeake Bay. Presented by Gov Martin O'Malley, January 2015
- 2016 Received the Mathias Medal from MD and VA Sea Grant and the Chesapeake Research Consortium. Annapolis, MD December, 2016
- 2017 Received the Ruth Patrick award from the Association of the Sciences of Limnology and Oceanography, Honolulu, Hawaii February, 2017

### III. Research

#### A. Areas of professional expertise

*Estuarine Ecology*: nutrient cycling; benthic processes; water quality studies.

*Seagrass Ecology*: distribution and growth; trophic processes; restoration.

*Ecosystem Modeling and Analysis*: estuary-land interactions; materials budgets; synthesis studies.

*Environmental Education*: graduate, undergraduate, general public.

#### B. Peer-Reviewed Publications

##### 1. Papers in Refereed Journals (last 5 years)

Kemp, W. M. and W. R. Boynton. 2012. Synthesis in estuarine and coastal ecological research: What is it, why is it important, and how do we teach it? The H. T. Odum Synthesis Essay. *Estuaries and Coasts*. Vol. 35: 1-22. [UMCES Cont. No. 4689]

Boynton, W. R. and S. W. Nixon. 2012. Budget Analyses of Estuarine Ecosystems, Chapter 17, pp 443-464; In: John Day et al (eds). *Estuarine Ecology* Wiley-Blackwell, NJ 550p. [UMCES Cont. No. XXXX requested]

Kimmel, D. G., W. R. Boynton and M. R. Roman. 2012. Long-term decline in the calanoid copepod *Acartia tonsa* in central Chesapeake Bay, USA: an indirect effect of eutrophication? *Est. Cstl. Shelf Sci.* 101: 76-85. [UMCES Cont. No. 4663]

Brady, D. C., J. M. Testa, D. M. Di Toro, W. R. Boynton and W. M. Kemp. 2012. Sediment flux modeling: calibration and application for coastal systems. *Est. Cstl. Shelf Sci.* Vol. 117: 107-124.

Lee, Y. J., W. R. Boynton, M. Li and Y. Li. 2013. Role of late winter-spring wind influencing summer hypoxia in Chesapeake Bay. *Estuaries and Coasts* Vol 36(4): 683-696. [UMCES Cont. No. 4726]

Testa, J. M., D. C. Brady, D. M. DiToro, W. R. Boynton, J. C. Cornwell, and W. M. Kemp. 2013. Sediment flux modeling: simulating nitrogen, phosphorus, and silica cycles. *Est. Cstl. Shelf Sci.* Vol. 131: 245-263. [UMCES Cont. No. XXXX requested]

Boynton, W. R., C. L. S. Hodgkins, C. A. O'Leary, E. M. Bailey, A. R. Bayard, and L. A. Wainger. 2013. Multi-decade responses of a tidal creek system to nutrient load reductions: Mattawoman Creek, Maryland USA. *Estuaries and Coasts* DOI 10.1007/s12237-013-9690-4. [UMCES Cont. No. XXXX requested]

Harris, L.A., C.L.S. Hodgkins, M.C. Day, D. Austin, J. Testa, W. Boynton, L. Van Der Tak and N. Chen. 2014. Optimizing recovery of eutrophic estuaries: impact of destratification and re-aeration on nutrient and dissolved oxygen dynamics. *Ecological Engineering* Vol 75: 470-483.

Cornwell, J. C., M. S Owens, W. R. Boynton and L. A. Harris. 2015. Sediment-water nitrogen exchange along the Potomac River estuarine salinity gradient. *J. Coastal Research* (*available on-line*).

Zhang, Qian, Damian C. Brady, Walter R. Boynton, and William P. Ball, 2015. Long-Term Trends of Nutrients and Sediment from the Nontidal Chesapeake Watershed: An Assessment of Progress by River and Season. *Journal of the American Water Resources Association (JAWRA)* 1-22. DOI: 10.1111/1752-1688.12327.

Wainger, L, Hao Yu, K. Gazenski, W. Boynton. 2016. The relative influence of local and regional environmental drivers of algal biomass(chlorophyll-*a*) varies by estuarine location. *Estuarine, Coastal and Shelf Science* Vol 178: 65-76.

O'Leary, C. A., E. Perry, A. Bayard, L. Wainger and W. R. Boynton. 2016. Linking innovative measurement technologies (ConMon and Dataflow© systems) for high-resolution temporal and spatial dissolved oxygen criteria assessment. *Environ Monit Assess* (2016) 188:543 DOI 10.1007/s10661-016-5543-5.

Testa, J. M., W. M. Kemp, L. A. Harris, R. J. Woodland, and W. R. Boynton. 2016. Challenges and Directions for the Advancement of Estuarine Ecosystem Science. *Ecosystems*. DOI: 10.1007/s10021-016-0004-0

## 2. Technical Reports (last 5 years)

Boynton, W.R., C.L.S. Hodgkins, J. Barnes, N. Kaumeyer, J. Frank, M.A.C. Ceballos. 2012. 2011 Water Quality Monitoring Program for Tidal Creeks in Calvert County, Maryland. Ref. No. [UMCES] CBL 12-006A [UMCES Technical Report Series No. TS-635-12].

Boynton, W.R., L.A. Wainger, E.M. Bailey, A.R. Bayard, C.L. S. Hodgkins, and M.A.C. Ceballos. 2012. Ecosystem Processes Component (EPC). Maryland Chesapeake Bay Water Quality Monitoring Program, Level 1 report No. 29. Jul. 1984 – Dec. 2011. Ref. No. [UMCES] CBL 12-020. [UMCES Technical Series No. TS-637-12-CBL].

Boynton, W. R. 2012. An overview of nutrient dynamics in riverine estuaries, pp. 3-9: In *Nutrient dynamics in riverine estuaries: understanding, modeling and managing inputs*. New South Wales, Australia Office of Environment and Heritage, University of Technology, Sydney, Australia. p.46.

Hodgkins, C. L. S., W. R. Boynton, N. Kaumeyer, M.A.C. Ceballos, and J. M. Barnes. 2013. 2012 Water Quality Monitoring Program for Tidal Creeks in Calvert County, Maryland. Ref. No. [UMCES] CBL 2013-022 [UMCES Technical Report Series No. TS-648-13].

Boynton, W.R., L.A. Wainger, E.M. C. O'Leary, C.L. S. Hodgkins, A.R. Bayard, and M.A.C. Ceballos. 2013. Ecosystem Processes Component (EPC). Maryland Chesapeake Bay Water Quality Monitoring Program, Level 1 Report No. 30. Jul. 1984 – Dec. 2012. Ref. No. [UMCES] CBL 13-055. [UMCES Technical Series No. TS-655-13-CBL].

Hodgkins, C.L.S., W.R. Boynton, M.A.C. Ceballos, C.A. O’Leary and J.L. Humphrey. 2014. 2013 Water Quality Monitoring Program for Tidal Creeks in Calvert County, Maryland. Ref. No. [UMCES] CBL 2014-012 [UMCES Technical Report Series No. TS-660-14].

Boynton, W.R., J.M. Testa, C.L.S. Hodgkins, J.L. Humphrey and M.A.C. Ceballos. 2014. Ecosystem Processes Component (EPC). Maryland Chesapeake Bay Water Quality Monitoring Program, Level 1 report No. 31. Jul. 1984 – Dec. 2013. Ref. No. [UMCES] CBL 2014-051. [UMCES Technical Series No. TS-645-14].

W.R. Boynton, J.M. Testa, E.M. Bailey, M.A.C. Ceballos, C.L.S. Hodgkins, J.L. Humphrey, and L.L. Magdeburger. 2014. Back River Sediment Flux Measurements in Support of Water Quality Modeling 2014. Ref No. [UMCES] CBL 2014-065. [UMCES Technical Report Series No. TS-667.14].

Hodgkins, C.L.S., M.C. Day, J.L. Humphrey, L.A. Harris, J.M. Testa, and W.R. Boynton. 2015. 2014 Water Quality Monitoring Program for Tidal Creeks in Calvert County, Maryland. Ref. No. [UMCES] CBL 2015-015[UMCES Technical Report Series No. TS-668-15]

J.M. Testa, L.A. Harris, W.R. Boynton, C.L.S. Hodgkins, J.L. Humphrey and M.C. Day. 2015. Ecosystem Processes Component (EPC). Maryland Chesapeake Bay Water Quality Monitoring Program, Level 1 report No. 32. Jul. 1984 – Dec. 2014. Ref. No. [UMCES] CBL 2015-043. [UMCES Technical Series No. TS-674-15].

Kemp, W. M. and W. R. Boynton. 2015. Coupling of Carbon, Nitrogen, Silica and Phosphorus Cycles in Coastal Ecosystems: Climate Effects and Trophic Implications. Annual Report to National Science Foundation OPUS Program. Reporting period Mar 2014 – April 2015.

Hodgkins, C.L.S., M.C. Day, J.L. Humphrey, S. Shahrestani, L.A. Harris, J.M. Testa, and W.R. Boynton. 2016. 2015 Water Quality Monitoring Program for Tidal Creeks in Calvert County, Maryland. Ref. No. [UMCES] CBL 2016-008[UMCES Technical Report Series No. TS-685-16]

Testa, J.M., L.A. Harris, W.R. Boynton, C.L.S. Hodgkins, J.L. Humphrey, M.C. Day, and D. Liang. 2016. Ecosystem Processes Component (EPC). Maryland Chesapeake Bay Water Quality Monitoring Program, Level 1 report No. 33. Jul. 1984 – Dec. 2015. Ref. No. [UMCES] CBL 2016-079. [UMCES Technical Series No. TS-701-16].

C. Contracts and Grants (past 5 years)

1. Awarded

Water Quality Monitoring Program for the subestuary comprised of Mill Creek, St. John’s Creek, Back Creek, the Narrows and Solomons Harbor located in Dowell, Drum Point, Lusby, Olivet and Solomons, Calvert County, Maryland. Calvert County Commissioners; Jul 2011 – Jun 2012. \$26,136

Determining shallow water susceptibility to nutrient and sediment loads. MD-DNR. L. Wainger PI; W. Boynton co-PI (time donated) \$41,165 Aug 2011 – May 2012.

FY12 Maryland Chesapeake Bay Water Quality Monitoring Program Ecosystems Processes Component. MD DNR. (with L. Wainger) Jul 2011 – Jun 2012. \$120,000.

CHRP07: Modeling hypoxia and ecological responses to climate and nutrients. NOAA, Ecological Forecasting Program. 2006-2012 W.M. Kemp, Lead P.I., (Co-P.I. 5-yr program; Boynton total \$49,984 during final years; 2011-2013).

Water Quality Monitoring Program for the sub-estuary comprised of Mill Creek, St. John's Creek, Back Creek, the Narrows and Solomons Harbor located in Dowell, Drum Point, Lusby, Olivet and Solomons, Calvert County, Maryland. Calvert County Commissioners; Jul 2012 – Jun 2013. \$26,136.

FY13 Maryland Chesapeake Bay Water Quality Monitoring Program Ecosystems Processes Component. MD DNR. (with L. Wainger) Jul 2012 – Jun 2013. \$120,000.

Forecasting watershed loading and lagoon response along the Delmarva Peninsula due to changing land-use and climate (L. Harris lead PI). Regional Sea Grant Program Feb 2012 – Feb 2013. \$106,814 (no-cost extension requested through 2014).

One-Day Water Quality Data Collection in the lower Patuxent River. Southern Maryland Electric Cooperative. Nov 2012 – Oct 2013. \$16,832.

FY14 Maryland Chesapeake Bay Water Quality Monitoring Program Ecosystems Processes Component. MD DNR. (with L. Wainger) Jul 2013 – Jun 2014. \$125,000.

Water Quality Monitoring Program for the subestuary comprised of Mill Creek, St. John's Creek, Back Creek, the Narrows and Solomons Harbor located in Dowell, Drum Point, Lusby, Olivet and Solomons, Calvert County, Maryland. Calvert County Commissioners; Jul 2013 – Jun 2014. \$27,427.

FY15 Maryland Chesapeake Bay Water Quality Monitoring Program Ecosystems Processes Component. MD DNR. (with J. Testa and L. Harris) Jul 2014 – Jun 2015. \$125,000.

Water Quality Monitoring Program for the sub-estuary comprised of Mill Creek, St. John's Creek, Back Creek, the Narrows and Solomons Harbor located in Dowell, Drum Point, Lusby, Olivet and Solomons, Calvert County, Maryland. Calvert County Commissioners; Jul 2014 – Jun 2015. \$27,427. (with L. Harris).

Back River Sediment Flux Measurements in support of water quality modeling. Whitman, Requardt and Associated, LLC; 1 August, 2014 – 31 July, 2015. \$44,791 (with J. Testa).

Coupling of Carbon, Nitrogen and Phosphorus cycles in coastal ecosystems: climate effects and trophic implications. National Science Foundation (OPUS); 15 February, 2014 – 14 February, 2016. \$97,107 (with W. M. Kemp who receives equal funding).

FY16 Maryland Chesapeake Bay Water Quality Monitoring Program Ecosystems Processes Component. MD DNR. (with J. Testa and L. Harris) Jul 2015 – Jun 2016. \$125,000.

Water Quality Monitoring Program for the sub-estuary comprised of Mill Creek, St. John's Creek, Back Creek, the Narrows and Solomons Harbor located in Dowell, Drum Point, Lusby,

Olivet and Solomons, Calvert County, Maryland. Calvert County Commissioners; Jul 2015 – Jun 2016. \$27,427. (with L. Harris).

Water Quality Monitoring Program for the sub-estuary comprised of Mill Creek, St. John's Creek, Back Creek, the Narrows and Solomons Harbor located in Dowell, Drum Point, Lusby, Olivet and Solomons, Calvert County, Maryland. Calvert County Commissioners; Jul 2016 – Jun 2017. \$27,427. (with L. Harris).

2. Submitted

Currently negotiating with:

- 1) MD-DNR for FY 17 Biomonitoring funds (with J. Testa and L. Harris);
- 2) Calvert County Board of County Commissioners for continued monitoring of Calvert County tidal creek systems (with L. Harris).

D. Invited Seminars and Presentations (last 5 years)

Boynton, W. R. Envisioning the ecosystem present and future. Chesapeake Bay STAC Retreat. Herrington Harbor, 27 March, 2012.

Boynton, W. R. (with S. W. Nixon and J. Cloern). On the value of long-term monitoring of estuarine and coastal marine ecosystems. COMPASS presentation on Capital Hill, Washington, DC May, 2012.

Boynton, W. R. Nutrient dynamics in riverine estuaries: Understanding, modeling and managing inputs. . New South Wales, Australia Office of Environment and Heritage, University of Technology, Sydney, Australia. May 2012.

Boynton, W. R. Success stories involving restoration in Chesapeake Bay. Tri-County Council of Southern Maryland. Hughesville, MD June, 2012.

Boynton, W. R. Chesapeake Bay emerging success stories. Maryland BayStat Briefing for MD Governor Martin O'Malley. Annapolis, MD July, 2012

Boynton, W. R. Nitrogen budgets for identification of nutrient removal "hotspots" at the Land-sea interface. Plenary Speaker CERF Conference in Mar del Plata, Argentina. Nov 2012.

Boynton, W. R. From Patuxent to Chesapeake Bay: reflections on a lifetime of measuring and understanding troubled ecosystems. Invited Public Lecture. Salisbury University, Salisbury, MD. November, 2012.

Boynton, W. R. Annual summary of Solomons Harbor monitoring results. Calvert County Board of County Commissioners. April, 2013.

Boynton, W. R. Master Naturalist Class. Estuarine Ecology. Prince Frederick, MD April, 2013

Boynton, W. R. Chesapeake Bay Restoration. Graduate Class. Towson State University. May, 2013  
Boynton, W. R. CBL Docent Lecture Ecology of Chesapeake Bay. Solomons, MD May, 2013

- Boynton, W. R. South River Federation Annual Meeting. Restoration success stories in Chesapeake Bay. Edgewater, MD June, 2013
- Boynton, W. R. NSF-REU Program at CBL. Introduction to estuarine ecology. Solomons, MD June 2013
- Boynton, W. R. Chesapeake Bay Foundation Summer Teachers Program. Introduction to Chesapeake Bay Ecology. Solomons, MD July, 2013
- Boynton, W. R., C. L. S. Hodgkins, C. O'Leary, E. M. Bailey, A. R. Bayard and L. A. Wainger. Multi-decade responses of a tidal creek system to nutrient load reductions: Mattawoman Creek, MD USA. International Congress for Conservation Biology, Baltimore, MD July, 2013. (presentation by L. Wainger)
- Boynton, W. R. Chesapeake Bay Foundation program for the Metropolitan Science Writers Association. Chesapeake Bay success stories. Shadyside, MD September, 2013
- Boynton, W. R. Washington Suburban Sanitary Commission. Invited Staff Seminar. Water quality trends in the Patuxent River estuary. Laurel, MD September, 2013
- Lee, D. Y., Y. J. Lee and W. R. Boynton. Inter-annual variability of winter-spring phytoplankton in Chesapeake Bay from 1985-2010. Coastal and Estuarine Research Federation 22<sup>th</sup> Biennial Conference, November, 2013, San Diego, CA. USA.
- Ball, W. P., Q. Zhang, D. C. Brady, and W. R. Boynton. Long-term loads of nutrients and sediments from the non-tidal regions of the Chesapeake Bay watershed: An assessment of seasonal trends and progress. AGU, San Francisco, CA Fall 2014.
- Hopkinson, C., J. Day, W. R. Boynton, M. Kemp, R. Lane and E. Roy. 2014. An approach to quantifying impacts of major disturbances on oysters at the ecosystem level. International Conference on Shellfish Restoration. Charleston, SC December, 2014.
- Boynton, W. R. 2014. Case studies within the Chesapeake Bay Ecosystem. US-EPA Chesapeake Bay Program STAR Trends Conference, Annapolis, MD March 2014.
- Boynton, W. R. 2014. Water Quality Status of Chesapeake Bay. Chesapeake Bay Foundation Staff Training seminars. Tangiers Island, VA February, 2014.
- Boynton, W. R. 2014. On Synthesis in Estuarine Ecology. Keynote Presentation at the Spring 2014 AERS meeting. Ocean City, MD March 2014.
- Boynton, W. R. 2014. Nutrient History of Chesapeake Bay. Salisbury State University. April, 2014.
- Boynton, W. R. 2014. State of Estuarine Science: Opening Presentation. Open Source Community Modeling Conference. Annapolis, MD. May, 2014.
- Boynton, W. R. and J. Testa. 2014. State of Science on Nutrient Pollution. ACT/NOAA Nutrient Sensor Challenge. White House Conference Center, Washington, DC. September, 2014.

Boynton, W. R. 2015. Impact of Phosphorus on water quality. The State of the Science of Phosphorus Conference. Sponcered by Chesapeake Bay Foundation and Maryland Grain Producers. Chesapeake Community College. January, 2015

Boynton, W. R. and L. Harris. 2015. History of Patuxent River Ecology. 2015 Patuxent River Conference. Jefferson Patterson Park, Calvert County, MD June, 2015

Boynton, W. R. 2015. Bay water Quality: What's going to happen? Chesapeake Bay Foundation Trustee Meeting, Annapolis, MD. June, 2015.

Boynton, W. R. 2015. Impact of Nutrients on Chesapeake Bay and Signs of Resilience. The Nature Conservancy, Delmarva Conservation Partnership, Chesapeake Community College. July, 2015.

Boynton, W. R. 2015. Introduction to Chesapeake Bay Ecology. Chesapeake Bay Foundation Summer Teachers Program. Solomons, MD July, 2015.

Boynton, W. R. 2015. Nutrients: The good, the bad and the TMDL. Chesapeake Bay Commission. Alexandria, VA. September, 2015.

Boynton, W. R. 2015. Chesapeake Bay Ecology and Habitat Issues. Leadership Maryland, Hebron, MD. September, 2015.

Boynton, W. R. 2015. An Introduction: History of Chesapeake Bay and Watershed. Alliance for the Chesapeake Bay Watershed Forum. Shepardstown, WV. September, 2015.

Boynton, W. R. 2015. Impact of Phosphorus and Nitrogen on Estuarine Water Quality. Crop Management School for MD, VA, WV and DE. Ocean City, MD. November, 2015.

Kemp, W. M., J. Testa and W. R. Boynton. 2015. Decadal-scale trends in nitrogen and related variables in a stratified estuary. Coastal and Estuarine Research Federation 23<sup>th</sup> Biennial Conference, November, 2015. Portland, OR. USA.

Boynton, W. R., J. Testa, C. Hodgkins, M. Ceballos, E. Bailey and J. Humpfrey. 2015. Sediments tell the story of ecosystem restoration in the Back River estuary, MD. Coastal and Estuarine Research Federation 23<sup>th</sup> Biennial Conference, November, 2015. Portland, OR. USA.

Hodgkins, C., L. Harris, W. R. Boynton, J. Testa and M. Day. 2015. A small estuarine system "on the edge": watershed development vs water quality conditions. Poster. Coastal and Estuarine Research Federation 23<sup>th</sup> Biennial Conference, November, 2015. Portland, OR. USA.

Harris, L., W. R. Boynton, J. Cornwell, M. Pennino, C. Hodgkins, C. Palinkas, M. Day, M. Owens and J. Testa. 2015. Changing nutrient budgets for an urban estuary. Coastal and Estuarine Research Federation 23<sup>th</sup> Biennial Conference, November, 2015. Portland, OR. USA.

Lee, Y., D. Lee and W. R. Boynton. 2015. Winter-spring chlorophyll-a concentration and phytoplankton community composition in Chesapeake Bay. Poster. Coastal and Estuarine Research Federation 23<sup>th</sup> Biennial Conference, November, 2015. Portland, OR. USA.

Boynton, W. R. 2016. Patuxent estuary nutrient ecology. Salisbury University. 21 March. Salisbury, MD

Boynton, W. R. 2016. Nutrient obesity in estuaries. Asbury Lecture Series. 21 April, 2016. Solomons, MD



Boynton, W. R. 2016. Nutrients in estuaries and estuarine restoration. The Nature Conservancy (MD and DC). 11 May, 2016. Kent Island, MD

Boynton, W. R. 2016. Chesapeake Bay history. Leadership Maryland. 9 June, 2016. Solomons, MD

Boynton, W. R. 2016. Chesapeake Bay ecology. REU student talk. 16 June, 2016. Solomons, MD

Boynton, W. R. 2016. The State of the Bay. Solomons Business Association. 3 August, 2016. Solomons, MD

Boynton, W. R. 2016. Chesapeake Bay ecology and the state of the Bay. Rotary Club of Columbia, MD. 16 November, 2016. Columbia, MD

Boynton, W. R. 2016. Restoration ecology. American Chestnut Land Trust. 19 November, 2016. Prince Frederick, MD

Wang, Zhengui, W. R. Boynton, H. Wang, and N. Cai. The seasonal algal bloom in Back River and the role of pH and temperature in regulating internal phosphorus and ammonium loading. Poster. Chesapeake Bay Modeling Symposium. Williamsburg, VA. June 2016

Liang, D., J. Testa, L. Harris and W. Boynton. Leveraging a water quality model and monitoring data set to test sampling schemes that support evaluation of water quality criteria in the Chesapeake Bay. Chesapeake Modeling Symposium. Williamsburg, VA June, 2016

Boynton, W. R. Water quality and nutrient dynamics of the Choptank River estuary. The Choptank Symposium. Chesapeake College, Wye, MD August, 2016

#### E. Symposia Organized/Chaired for Professional Meetings

Boynton, W. R. 2010 - 2012. Chair of the CBP Tidal Monitoring and Assessment Workgroup (TMAW). Annapolis, MD

Boynton, W. R. (with CBP and TMAW staff). Developed and presented a series of workshops concerning Chesapeake Bay water quality criteria assessment. March, April and December, 2013. Annapolis and Baltimore, MD

Kemp, W. M., W. R. Boynton, J. Testa and D. Brady. Synthesis Research in Estuarine and Coastal Science: Focus on process and application. SCI-039. Coastal and Estuarine Research Federation 22<sup>th</sup> Biennial Conference, November, 2013, San Diego, CA. USA.

#### F. Active Memberships in Professional Societies

Atlantic Estuarine Research Society (AERS)  
Coastal and Estuarine Research Federation (CERF)  
American Society of Limnology & Oceanography (ASLO)

#### IV. Teaching and Training

##### A. University System of Maryland Courses Taught

Course No.	Title	Institution	Semester	Enrollment	Credit Hrs.	Co-Instructors
MEES 608V	Seminar in Ecology	CBL	Spring'99	10	1	Miller, Mihursky, Tenore, Ulanowicz
MEES 608V	Seminar in Ecology	CBL	2001			Miller, Mihursky, Tenore, Ulanowicz
MEES 698I	Land Margin Interactions	CBL	2001	10	4	Fisher, Currie, Boynton
MEES 608S	Seminar in Ecology	CBL	2002	5	1	Boynton and Staff
MEES 698I	Land Margin Interactions	CBL	2002	10	4	Fisher, Currie, Boynton
MEES 608S	Seminar in Ecology	CBL	2003	9	1	Boynton and Staff
MEES 698I	Land Margin Interactions	CBL	2003	10	4	Fisher, Castro, Boynton
MEES 698I	Land Margin Interactions	CBL	2004	7	4	Fisher, Castro, Boynton
MEES 612	Land Margin Interactions	CBL	2005	13	4	Fisher, Castro, Boynton
MEES 610	Land margin Interactions	CBL	2006	11	4	Fisher, Castro, Boynton
MEES 610	Land margin Interactions	CBL	2007	15	4	Fisher, Castro, Boynton
MEES 610	Land margin Interactions	CBL	2008	11	4	Fisher, Castro, Boynton
MEES 610	Land margin Interactions	CBL	2009	14	4	Fisher, Castro, Boynton
Guest Lecturer in Mitchelmore Class.....CBL.....2009.....						Mitchelmore
MEES 610	Land margin Interactions	CBL	2010	10	4	Fisher, Castro, Boynton
Guest Lecturer in Mitchelmore Class.....CBL.....2010.....						Mitchelmore
MEES 610	Land margin Interactions	CBL	2011	14	4	Fisher, Castro, Boynton
MEES 610	Land-Margin Interactions	CBL	2012	7	4	Fisher, Castro, Boynton
MEES 610	Land-Margin Interactions	CBL	2013	12	4	Fisher, Castro, Boynton
Guest Lecturer in Mitchelmore Class.....CBL.....2013.....						Mitchelmore
MEES 608k	Synthesis Seminar	CBL/HPL	2014	10	1	Kemp and Boynton
Guest Lecturer in Mitchelmore Class.....CBL.....2014.....						Mitchelmore
Guest lecturer in AL Course		AL	2015	10	1	Englehardt
Guest Lecturer in Mitchelmore Class.....CBL.....2016.....						Mitchelmore
Guest Lecturer in Woodland Class.....CBL.....2016.....						Woodland

B. Graduate Students Supervised as Major Advisor

1. Degrees Completed

- Boynton, John                      Ph. D. MEES, U. of MD.                      1985  
*The influence of current velocity on nutrient and oxygen exchanges between estuarine sediments and the water column.*
- Koenig, Patricia                      M.S. MEES, U. of MD.                      1988  
*Effects of a surface deposit feeding bivalve, *Macoma balthica*, on the magnitude of nutrient fluxes, oxygen consumption and nitrification rates in intact sediment cores.*
- Cowan, Jean-Louise W.                      M.S. U. of South Alabama                      1995  
*Sediment-water nutrient and oxygen fluxes in Mobile Bay: A study of seasonal and interannual forcings and functions.*
- Sweeney, Brendan                      M.S. MEES, U. of MD. 1995  
*Community metabolism in the Patuxent River estuary: 1963 to 1969 and present.*
- Hagy III, James D.                      M.S. MEES, U. of MD. 1996  
*Residence times and net ecosystem processes in Patuxent River estuary.*
- Jasinski, David                      M.S. MEES, U. of MD.                      1996  
*Phosphorus dynamics in the mesohaline region of Chesapeake Bay.*
- Hagy III, James D.                      Ph.D. MEES, U. of MD                      2002  
*Eutrophication, hypoxia and trophic transfer efficiency in Chesapeake Bay.*
- Mikita, Kimberly                      M.S. MEES, U. of MD.                      2002  
*An investigation of factors influencing the dynamics of the spring phytoplankton bloom in the Patuxent River Estuary, Maryland.*
- Cristi Korbeck Reid                      M.S. MEES, U of MD                      2003  
*The effect of submerged aquatic vegetation as habitat on the survivorship of Mya arenaria in the Chesapeake Bay.*
- Sarah Greene                      M.S. MEES, U. of MD                      2005  
*Tidal freshwater and eligohaline tidal marshes of nutrient sinks in the Patuxent River estuary, Maryland.*
- Sarah Kolesar                      Ph.D., MEES, U. of MD                      2006  
*The effects of low dissolved oxygen on predation interactions between *Mnemiopsis leidyi* ctenophores and larval fish in the Chesapeake Bay ecosystem (Co-chair with Dr. D. Breitburg as Chairperson).*

2. Students Currently Supervised

None

3. Current Graduate Student Committee Memberships

Jessica Foley	MS	MEES	CBL
Richard Friesner	Ph.D.	GMU	GMU
Britt Dean	MS	VIMS	VIMS

4. Research Internships Supervised

None

**V. Outreach and Service**

A. Editorships: None

B. Public Service (last 5 years)

The Nature Conservancy, DC and Maryland Chapter, Board Member, 2011-present

Patuxent Riverkeeper, Technical Advisor; Nov 2007 to 2016

Nutrients in Chesapeake Bay. Educational video production arranged by UMCES. Solomons, MD May 2013

Public school teacher workshop. Tom Wisner Legacy Program. Calvert County Marine Museum, Solomons, MD January, 2013

Patuxent River Wade-In. Jefferson Patterson Park. Calvert County. June, 1988-2015

Capitol Hill Oceans Week (CHOW). Assisted CERF in planning and presenting a Capitol Hill briefing on Human Health in the Coastal Zone coupled with Capitol Hill House and Senate Office visits. May, 2013.

CBL Docent Lecture. 2014. Nutrients...why all the concern? CBL April, 2014.

CBL Outreach Program 6<sup>th</sup> – 9<sup>th</sup> graders. Nutrients and Chesapeake Bay. Solomons, MD July, 2014.

Calvert County Master Naturalist Program. Aquatic Ecosystem Component. Prince Frederick, MD April, 2012-2016

NSF-REU Program. Chesapeake Bay Ecology. Solomons, MD June 2014.

Chesapeake Bay Foundation Summer Teacher Program. Overview of Chesapeake Bay Health. Solomons, MD July, 2014

Alliance for the Chesapeake Bay, Senior Advisor. 2014-2016. Annapolis, MD

C. Federal/State/Local Government

Patuxent River Commission, Member, Aug. 2003 - 2012.

Maryland Chesapeake Bay Trust, Science Advisory Board 2008-2016.

Member, Maryland Coastal Bays, STAC, 2004-Present.

Consultant for U. S. Dept of Justice concerning Deepwater Horizon oil spill in the Gulf of Mexico. September, 2013 – January, 2015

Consultant for American Rivers concerning possible removal of the Patapsco River Blodie Dam. January – June, 2014

Chesapeake Bay Trust Governor's Science Advisory Panel, Annapolis, MD October, 2014-2016

Maryland Sea Grant and Calvert Marine Museum Senator Bernie Fowler Oral History Project, Prince Frederick, MD October, 2014

Regional Sea Grant Coastal Bays User Workshop, Ocean City, MD March, 2014 (directed by L. Harris).

Annual review of Calvert County tidal water quality. Calvert County Board of County Commissioners. Prince Frederick, MD April, 1986-2016.

Maryland Department of Natural Resources Mattawoman Creek Planning Workshop. Hosted the event at CBL June, 2014.

Provided testimony for Chesapeake Bay Commission to Maryland Senate and House of Delegates concerning phosphorus issues in Chesapeake Bay (P-Management tool). February, 2015

Hosted EPA Trainers workshop at CBL. March, 2015.

Chesapeake Bay Program TMAW Technical Workgroup Chairman, Annapolis, MD. 2010 – 2014.

D. International

E. University System of Maryland

None

F. UMCES and Laboratory

Tenure and post-tenure review committee for faculty at UMCES and other institutions, 1989-

present.

CBL Faculty Search Committees, 2005 – Present

Organized “The Knot Class” for CBL students and staff - Feb 2012 and April 2013

Assisted with CBL “Run for Research” event. September, 2015.

G. Other Professional Service

Treasurer for Estuarine Research Federation (ERF) 1997 - 2003.

President-elect, President and Past-President Coastal and Estuarine Research Federation 2009-2015

CERF 2017 Co-Chair of CERF awards committee