

COLLEGE OF WILLIAM AND MARY
Curriculum Vitae

PERSONAL INFORMATION

Name: Mary Lisa Kellogg
Office Address: 338 Andrews Hall
Virginia Institute of Marine Science
Gloucester Point, VA 23062
Office Phone: 804-684-7706
Email: lkellogg@vims.edu
Date: May 22, 2021
Position: Senior Research Scientist
Department of Biological Sciences
Virginia Institute of Marine Science

EDUCATION

2004 Ph.D., University of South Alabama, Marine Science
1992 B.S., Duke University, Zoology

ACADEMIC POSITIONS

2022 – present Research Assistant Professor, Virginia Institute of Marine Science
2016 – 2022 Senior Research Scientist, Virginia Institute of Marine Science
2011 – 2015 Assistant Research Scientist, Virginia Institute of Marine Science
2011 – 2013 Assistant Director for Education, Virginia Institute of Marine Science, Eastern Shore Laboratory
2009 – 2010 Assistant Research Scientist, Horn Point Laboratory, University of Maryland Center for Environmental Sciences (UMCES)
2005 – 2009 Research Associate, Department of Biology, University of Maryland, College Park (UMD)
2003 – 2004 Research Technologist III, Department of Marine Sciences, University of South Alabama
1993 (fall) Laboratory Technician, South Eastern Cooperative Wildlife Disease Study, University of Georgia
1992 – 1993 Laboratory Technician, Institute of Marine Sciences, University of North Carolina
1990 (summer) Laboratory Technician, South Eastern Cooperative Wildlife Disease Study, University of Georgia

HONORS, PRIZES AND AWARDS

2020 VIMS Dean and Director's Innovation Fund Award
2019 VIMS Dean and Director's Innovation Fund Award
1999 Mississippi-Alabama Sea Grant Consortium Marine Science Scholar Award

CONTRIBUTIONS TO THE EDUCATIONAL PROGRAM

Courses taught

2007	BSCI 206	<i>Chesapeake Bay: A Living Resource</i> , University of Maryland, College Park, 3 credits, Winter Term, 15 students, redesigned exiting course, sole instructor
2008	HONR 219	<i>Restoring Chesapeake Bay: Is it Possible?</i> University of Maryland, College Park, 3 credits, Spring Term, ~20 students, conceived of and designed entire course, sole instructor
2008	BSCI 206	<i>Chesapeake Bay: A Living Resource</i> , University of Maryland, College Park, 3 credits, Fall Term, ~20 students, sole instructor

Graduate student committee service (VIMS)

<u>Name</u>	<u>Degree</u>	<u>Year</u>	<u>Major advisor(s)</u>
Jainita Patel	MS	Current	R. Seitz
Ann Arfken	PhD	2017	B. Song
Bruce Pfirrmann	MS	2017	R. Seitz
Anna Murphy	PhD	2015	I. Anderson

Undergraduate and high school students mentored

<u>Name</u>	<u>Type</u>	<u>Year</u>	<u>Program</u>
Yishen Li	Undergraduate	2014	VIMS REU Program
Jason Emmel	Undergraduate	2010	MD Sea Grant REU Program

FELLOWSHIPS AND GRANTS

(Note: Funding from State Initiative not included in summary table below)

Award Type	Lead PI^a		VIMS Lead PI^b		Other^c		Total	
	#	Amount	#	Amount	#	Amount	#	Amount
Competitive	14	\$1,810,475	5	\$610,062	1	\$55,386	20	\$2,475,923
Non-competitive	5	\$319,417	0	\$0	0	\$0	5	\$319,417
Total	19	\$2,129,892	5	\$610,062	1	\$55,386	25	\$2,795,340

^aSum of total amount of awards on which I served as lead PI.

^bSum of total amount of subawards to VIMS on which I served as lead VIMS PI.

^cSum of total amount of funding received from awards on which I was neither lead PI nor VIMS lead

Grants from outside agencies (Lead PI listed first, with co-PIs listed in same order as original proposal)

PIs: **Kellogg ML**, Hilton EJ (VIMS)
 Title: RecFish: Enhanced Functionality in Response to Stakeholder Input
 Agency: National Fish and Wildlife Foundation
 Amount: \$315,382
 Award Term: 12/01/ 2021 – 11/30/ 2022

PIs: Kellogg ML (VIMS), Corbin J (Restoration Systems), Hudson KL (VIMS), Andrews EA (W&M Law, VCPC)
Title: Oyster-associated nutrient crediting and trading: Ecological, regulatory, legal, financial, and infrastructure barriers and opportunities in Virginia
Agency: The Nature Conservancy
Amount: \$97,446
Award Term: 11/01/2021 - 10/31/2023

PIs: Kellogg ML, Hilton EJ (VIMS)
Title: RecFish: Engaging recreational anglers as community scientist using a mobile app
Agency: National Fish and Wildlife Foundation
Amount: \$323,163
Award Term: 12/01/2020 - 05/30/2022

PIs: Kellogg ML (VIMS)
Title: SERC Oyster Reef Monitoring
Agency: Smithsonian Environmental Research Center
Amount: \$4,696
Award Term: 09/30/20 – 06/01/21

PIs: Button A (VMRC), Kellogg ML (VIMS), Reay W (VIMS)
Title: Essential fish habitat restoration in the Piankatank River, Virginia for the benefit of federally managed fish species, forage species, oysters and ecosystem services
Agency: National Oceanic and Atmospheric Administration, National Marine Fisheries Service
Amount: \$1,669,751 (Subaward to Kellogg: \$189,092)
Award Term: 10/01/20 – 09/30/23

PIs: Kellogg ML (VIMS)
Title: eFish App: Using the eBird Model to Turn Recreational Anglers into Community Scientists
Agency: National Fish and Wildlife Foundation
Amount: \$43,374
Award Term: 12/01/2019 - 06/30/2020

PIs: Kellogg ML (VIMS)
Title: Lake Rudee Benthic Macrofauna Preliminary Assessment
Agency: Waterway Surveys & Engineering, Virginia Beach, VA
Amount: \$1,540
Award Term: 07/15/19 – 12/31/19

PIs: Kellogg ML, Dreyer J (VIMS)
Title: Assessment of benthic macrofauna community within intertidal mudflats in Hurds Cove, Lynnhaven River, VA
Agency: Waterway Surveys & Engineering, Virginia Beach, VA
Amount: \$43,181
Award Term: 10/08/18 – 06/01/19

PIs: Kellogg ML, Massey G (VIMS)
Title: Environmental and ecological benefits and impacts of oyster aquaculture
Agency: The Nature Conservancy
Amount: \$160,000
Award Term: 01/10/16 – 06/30/18

PIs: **Kellogg ML** (VIMS), Cornwell JC (UMCES), Brush M J (VIMS)
Title: Enhanced assessment and modeling of nitrogen removal associated with restored oyster reefs in Harris Creek, MD
Agency: The Nature Conservancy and National Fish and Wildlife Foundation in collaboration with the Oyster Recovery Partnership
Amount: \$170,000
Award Term: 06/01/15 – 05/31/17

PIs: **Kellogg ML** (VIMS)
Title: Seasonal patterns in nitrogen cycling and macrofaunal community structure at Keeling Drain Reef, Lynnhaven River, VA
Agency: Lynnhaven River NOW in collaboration with the National Fish and Wildlife Foundation
Amount: \$112,000
Award Term: 01/01/15 – 06/30/16

PIs: **Kellogg ML**, Luckenbach MW, Ross PG (VIMS)
Title: Integrated assessment of oyster reef ecosystem services: Fish and crustacean utilization, secondary production and trophic linkages
Agency: National Oceanic and Atmospheric Administration, Chesapeake Bay Office
Amount: \$295,496
Award Term: 03/01/2015 – 02/28/18

PIs: Paynter KT, **Kellogg ML** (VIMS), Ross PG (VIMS)
Title: Integrated assessment of oyster reef ecosystem services: Macrofaunal, productivity, utilization, secondary production and nutrient sequestration
Agency: National Oceanic and Atmospheric Administration, Chesapeake Bay Office
Amount: \$287,736 (Subaward to Kellogg: \$243,713)
Award Term: 03/01/2015 – 02/28/2018
Notes: Due to inability of UMD to execute work, VIMS took over this award and Kellogg served as lead PI in all but name due to technical difficulties in officially transferring the award to Kellogg at VIMS.

PIs: Cornwell JC (UMCES), **Kellogg ML** (VIMS)
Title: Integrated assessment of oyster reef ecosystem services: Quantifying denitrification rates and nutrient fluxes
Agency: National Oceanic and Atmospheric Administration, Chesapeake Bay Office
Amount: \$324,965 (Subaward to Kellogg: \$78,773)
Award Term: 03/01/2015 – 02/28/2018

PIs: **Kellogg ML**, Luckenbach MW, Ross PG (VIMS)
Title: Integrated assessment of oyster reef ecosystem services: Fish and crustacean utilization, secondary production and trophic linkages
Agency: National Oceanic and Atmospheric Administration, Chesapeake Bay Office
Amount: \$92,855
Award Term: 10/01/2013 – 09/30/2015

PIs: Paynter KT (UMD), **Kellogg ML** (VIMS), Ross PG (VIMS)
 Title: Integrated assessment of oyster reef ecosystem services: Macrofaunal, productivity, utilization, secondary production and nutrient sequestration
 Agency: National Oceanic and Atmospheric Administration, Chesapeake Bay Office
 Amount: \$98,669 (Subaward to Kellogg: \$77,049)
 Award Term: 03/01/2014 – 02/28/2016
 Notes: Due to inability of UMD to execute work, VIMS took over this award and Kellogg served as lead PI in all but name due to technical difficulties in officially transferring the award to Kellogg at VIMS.

PIs: Cornwell JC (UMCES), **Kellogg ML** (VIMS)
 Title: Integrated assessment of oyster reef ecosystem services: Quantifying denitrification rates and nutrient fluxes
 Agency: National Oceanic and Atmospheric Administration, Chesapeake Bay Office
 Amount: \$115,959 (Subaward to Kellogg: \$21,435)
 Award Term: 03/01/2014 – 02/28/2016

PIs: **Kellogg ML** (VIMS), Brush MJ (VIMS), North EA (UMCES)
 Title: A model for estimating the TMDL-related benefits of oyster reef restoration in Harris Creek, MD
 Agency: National Fish and Wildlife Foundation in collaboration with the Oyster Recovery Partnership
 Amount: \$76,000
 Award Term: 04/15/13-12/31/2013

PIs: **Kellogg ML** (VIMS), Luckenbach MW (VIMS), Cornwell JC (UMCES), Ross PG (VIMS), Lusk B (TNC)
 Title: Linking Structural and Functional Characteristics of Restored Oyster Reefs: A Restoration Project in the Virginia Coast Reserve
 Agency: National Oceanic and Atmospheric Administration, National Marine Fisheries Service
 Amount: \$34,793
 Award Term: 01/01/13-12/31/13

PIs: **Kellogg ML** (VIMS), Luckenbach MW (VIMS), Cornwell JC (UMCES), Leggett T, Ross PG (VIMS)
 Title: Scaling ecosystem services to reef development: effects of oyster density on nitrogen removal and biodiversity
 Agency: National Oceanic and Atmospheric Administration, Chesapeake Bay Office
 Amount: \$170,230
 Award Term: 07/01/11-6/30/14

PIs: Sisson M, **Kellogg ML**, Luckenbach MW, Lipcius R (VIMS)
 Title: Assessment of oyster reefs in Lynnhaven River as a Chesapeake Bay TMDL best management practice
 Agency: United States Army Corps of Engineers and City of Virginia Beach
 Amount: \$100,000 (Funding to Kellogg: \$55,386)
 Award Term: 07/01/11-12/31/11

PIs: **Kellogg ML** (UMCES/VIMS), Newell REI (UMCES)
 Title: Quantifying the ‘hidden’ water quality benefits provided by invertebrate communities on restored oyster reefs
 Agency: Maryland Sea Grant
 Amount: \$60,143
 Award Term: 02/01/11 – 01/31/13

PIs: **Kellogg ML**, Palinkas CM (UMCES)
 Title: Influence of oyster reef restoration on sediment deposition
 Agency: Oyster Recovery Partnership
 Amount: \$4,992
 Award Term: 07/01/10-10/30/10

PIs: Cornwell JC, **Kellogg ML** (UMCES)
 Title: How does shellfish aquaculture change nutrient balances in Maryland’s coastal bays?
 Agency: Maryland Coastal Bays Program
 Amount: \$25,000
 Award Term: 06/04/10-12/04/10

PIs: Luckenbach MW (VIMS), Van Veld P (VIMS), **Kellogg ML** (UMCES)
 Title: Assessing the impacts endocrine disrupting compounds associated with poultry litter on the reproductive success of Eastern oysters
 Agency: The Keith Campbell Foundation for the Environment
 Amount: \$50,000
 Award Term: 06/01/09-06/30/11

PIs: Cornwell JC (UMCES), **Kellogg ML** (UMCES), Paynter KT (UMD)
 Title: Nitrogen removal capacity of a restored oyster reef: The relative roles of oysters and the associated reef community
 Agency: Mirant Corporation in collaboration with the Oyster Recovery Partnership
 Amount: \$180,000
 Award Term: 02/01/09 – 10/30/10

PIs: Paynter KT, **Kellogg ML** (UMD)
 Title: Cooperative Agreement with the Oyster Recovery Partnership
 Agency: Oyster Recovery Partnership
 Amount: \$170,000
 Award Term: 02/01/09-01/31/10

PIs: **Kellogg ML** (UMD)
 Title: Chesapeake Oyster Database Development
 Agency: Maryland Department of Natural Resources
 Amount: \$25,000
 Award Term: 02/01/08-01/31/09

PIs: **Kellogg ML** (UMD)
 Title: ORP Monitoring Design and Database Management
 Agency: Oyster Recovery Partnership
 Amount: \$28,444
 Award Term: 02/01/08-01/31/09

PIs: Paynter KT, **Kellogg ML** (UMD)
Title: Cooperative Agreement with the Oyster Recovery Partnership
Agency: Oyster Recovery Partnership
Amount: \$190,000
Award Term: 02/01/08-01/31/09

PIs: Paynter KT, **Kellogg ML** (UMD)
Title: Cooperative Agreement with the Oyster Recovery Partnership
Agency: Oyster Recovery Partnership
Amount: \$400,000
Award Term: 02/01/07-01/31/08

PIs: Luckenbach MW (VIMS), Paynter KT (UMD), Kingsley-Smith PR (VIMS), **Kellogg ML** (UMD), Allen SK (VIMS), Meritt DW (UMCES)
Title: Comparative performance of triploid *Crassostrea ariakensis* and *C. virginica* in bottom habitats in Virginia and Maryland
Agency: National Oceanic and Atmospheric Administration, Chesapeake Bay Office
Amount: \$249,186
Award Term: 07/01/06-12/31/07

VIMS and William & Mary Internal Funding from State or Private Initiatives

PIs: **Kellogg ML**, Hilton EJ (VIMS)
Title: RecFish: Engaging Recreational Anglers Using Artificial Intelligence
Agency: VIMS Dean and Director's Innovation Fund
Amount: \$43,000
Award Term: 07/01/20 – 06/30/2021

PIs: Orth RJ, **Kellogg ML** (VIMS)
Title: Monitor Bay Grasses and Support Their Co-existence with Oyster Aquaculture
Agency: Commonwealth of Virginia
Amount: \$386,000 annually
Award Term: 07/01/19 – ongoing initiative funding to VIMS

PIs: **Kellogg ML** (VIMS)
Title: Recreational Anglers + eBird + FishVerify = eFish
Agency: VIMS Dean and Director's Innovation Fund
Amount: \$6,000
Award Term: 11/01/19 – 05/01/20

RESEARCH

Publication Type	#
Peer-reviewed	14
Manuscripts in review or revision	1
Unrefereed	4

Publication Stats ^a	Total	Since 2017
Citations	831	552
Lead author citations ^b	434	
h-index	12	9
i10-index	13	9

^aBased on Google Scholar accessed 04/01/22

<https://scholar.google.com/citations?user=uJZQCokAAAAJ&hl=en>

^bTotal citations of publications on which I am the lead author. Data not available for “Since 2016”.

Refereed publications

- Howarth LM, Lewis-McCrea LM, **Kellogg ML**, Apostolaki ET, Reid GK (2022) Aquaculture and eelgrass *Zostera marina* interactions in temperate ecosystems. *Aquaculture Environment Interactions* 14:15-34. <https://doi.org/10.3354/aei00426>.
- Ray NE, Hancock B, Brush MJ, Colden A, Cornwell J, Labrie MS, Maguire TJ, Maxwell T, Rogers D, Stevick RJ, Unruh A, Kellogg ML, Smyth AR, and Fulweiler RW (2021) A review of how we assess denitrification in oyster habitats and proposed guidelines for future studies. *Limnology and Oceanography Methods* 19: 714-731. <https://doi.org/10.1002/lom3.10456>.
- Turner J, **Kellogg ML**, Massey GM, Friedrichs C (2019) Minimal effects of oyster aquaculture on local water quality: Examples from southern Chesapeake Bay. *PLoS ONE* 14(11): e0224768.
- Jackson M, Owens MS, Cornwell JC, **Kellogg ML** (2018) Comparison of methods for determining biogeochemical fluxes from a restored oyster reef. *PLoS ONE* 13(12): e0209799.
- Ricci SW, Bohnenstiehl DR, Eggleston DB, **Kellogg ML**, Lyon RP (2017) Oyster toadfish (*Opsanus tau*) boatwhistle call detection and patterns within a large-scale oyster restoration site. *PLOS ONE* 12(8):e0182757.
- Rick TC, Reeder-Myers LA, Hofman CA, Breitburg D, Lockwood R, Henkes G, **Kellogg ML**, Lowery D, Luckenbach MW, Mann R, Ogburn MB, Southworth M, Wah J, Wesson J, Hines AH (2016) Millennial-scale sustainability of the Chesapeake Bay Native American oyster fishery. *Proceedings of the National Academy of Sciences* 113: 6568-6573.
- Kellogg ML**, Smyth AR, Luckenbach MW, Carmichael RH, Brown BL, Cornwell C, Piehler MF, Owens MS, Dalrymple DJ, Higgins CB (2014) Use of oysters to mitigate eutrophication in coastal waters. *Estuarine Coastal and Shelf Science* 151: 156-168. *Invited Feature Article*
- Gedan, KB, **ML Kellogg**, Breitburg DL (2014) Accounting for multiple foundation species in oyster reef restoration benefits. *Restoration Ecology* 22: 517–524
- Kellogg ML**, Cornwell JC, Owens MS, Paynter KT (2013) Denitrification and nutrient assimilation on a restored oyster reef. *Marine Ecology Progress Series* 480: 1-19. *Feature Article*

Harwell HD, Kingsley-Smith PR, **Kellogg ML**, Allen SM, Allen SK Jr., Meritt DW, Paynter KT Jr, Luckenbach MW (2010) A comparison of *Crassostrea virginica* and *C. ariakensis* in Chesapeake Bay: Does oyster species affect habitat function? *Journal of Shellfish Research* 29(2): 253-269.

North EW, King DM, Xu J, Hood RR, Newell RIE, Paynter KT, **Kellogg ML**, Liddel MK, Boesch DF (2010) Linking optimization and ecological models in a decision support tool for oyster restoration and management. *Ecological Applications* 20(3): 851-866.

Kingsley-Smith PR, Harwell HD, **Kellogg ML**, Allen SM, Allen SK Jr, Meritt DW, Paynter KT Jr, Luckenbach MW (2009) Survival and growth of triploid *Crassostrea virginica* (Gmelin, 1791) and *C. ariakensis* (Fujita, 1913) in bottom environments of Chesapeake Bay: Implication for an introduction. *Journal of Shellfish Research* 28(2): 169-184.

Stallknecht DE, Howerth EW, **Kellogg ML**, Quist C, Pisell T (1997) In vitro replication of epizootic hemorrhagic and bluetongue viruses in white-tailed deer peripheral blood mononuclear cells and virus-cell association during in vivo infections. *Journal of Wildlife Diseases* 33(3): 574-583.

Stallknecht, DE, **Kellogg ML**, Blue JL, Pearson JE (1991) Antibodies to bluetongue and epizootic hemorrhagic disease virus in a barrier island white-tailed deer population. *Journal of Wildlife Diseases* 27(4): 668-674.

Manuscripts currently in review or revision

Kellogg ML, Cornwell JC, Owens MS (in revision) Measurement of biogeochemical fluxes in oyster reef environments. *Marine Ecology Progress Series*.

Invited presentations (Total = 10; See “Advisory Service” for invited presentations to local and regional agencies, boards and workgroups.)

Kellogg ML, EC Shields, JC Dreyer, MW Luckenbach, RJ Orth, DJ Wilcox (2022) Is a precautionary approach to permitting too conservative?: Quantifying the impacts of oyster aquaculture on SAV. Virginia Aquaculture Conference, Newport News, VA.

Kellogg ML (2021) The continuum of ecosystem services from restored reefs to floating aquaculture. Chesapeake Oyster Symposium (virtual presentation).

Kellogg ML (2021) RecFish: Engaging recreational anglers as community scientists, Organization of Fish and Wildlife Information Managers Conference (virtual presentation).

Kellogg ML (2020) Aquaculture-environment interactions: A Chesapeake Bay perspective. Aquaculture Workshop, Southeast Aquatic Resources Partnership, New Orleans, LA.

Kellogg ML (2016) Benefits of oyster restoration in Harris Creek, MD. Horn Point Laboratory Seminar Series, Cambridge, MD.

Kellogg ML (2015) Measuring the benefits of oyster reef restoration: Quantifying denitrification rates and other ecosystem services. NC State Center for Marine Sciences and Technology, Morehead City, NC.

Kellogg ML (2013) Oysters, reef restoration and water quality: A Chesapeake Bay perspective, 12th Annual Ronald C. Baird Sea Grant Science Symposium, Warwick, RI.

Kellogg ML, Cornwell JC, Owens MS, Luckenbach MW (2013) Quantifying oyster reef ecosystem services: Denitrification and nutrient assimilation, SER 2013 World Conference on Ecological Restoration, Madison, WI.

Kellogg ML (2012) Bivalve impacts on water quality: Positives, negatives and unknowns. Delaware Center for the Inland Bays Scientific and Technical Advisory Committee, Lewes, DE.

Kellogg ML, Cornwell JC, Owens MS, Paynter KT (2011) Nitrogen removal and sequestration capacity of a restored oyster reef: Possible implications for aquaculture. Gulf Fisheries Center, Moncton, Canada.

Contributed presentations (Total: 64)

Kellogg ML, H Shah (2021) RecFish: Engaging Recreational Anglers as Community Scientists. FAO Global Forum on Artificial Intelligence for a Digital Blue Planet (virtual presentation).

Kellogg ML, Shields EC, Dreyer JC, Luckenbach MW, Orth RJ, Wilcox DJ (2021) Is a precautionary approach to permitting too conservative?: Quantifying the impacts of oyster aquaculture on submerged aquatic vegetation. 113th Annual Meeting of the National Shellfisheries Association (virtual presentation).

Cornwell J, Owens M, Jackson M, **Kellogg ML** (2019) Bivalves and nutrient ecosystem services: The central role of biodeposits. Aquatic Sciences Meeting, San Juan, Puerto Rico, USA.

Cornwell JC, Owens MS, Jackson M, Reichert-Nguyen J, **Kellogg ML** (2019) Oyster denitrification as a best management practice for nitrogen removal. 25th Biennial Conference of the Coastal and Estuarine Research Federation, Mobile, AL.

Poach M, Reichert-Nguyen R, Rose J, **Kellogg ML**, Luckenbach MW, Meseck S (2019) Comparison of nutrient content between diploid and triploid *Crassostrea virginica* oysters from two farm sites. 25th Biennial Conference of the Coastal and Estuarine Research Federation, Mobile, AL.

Turner J, **Kellogg ML**, Massey G, Friedrichs C (2019) Minimal effects of oyster Aquaculture on local water quality: Examples from southern Chesapeake Bay. 25th Biennial Conference of the Coastal and Estuarine Research Federation, Mobile, AL.

Kellogg ML, Cornwell JC, Ross PG, Paynter KT, Luckenbach MW, Owens MS, Dreyer JC, Pant M, Turner C, Birch A, Smith E, Fate S (2018) Quantifying the benefits of tributary-scale oyster reef restoration. Chesapeake Community Research and Modeling Symposium, Annapolis, MD.

Jackson M, Owens MS, Sanford L, **Kellogg ML**, Cornwell JC (2018) Comparison of Two Flux Measurement Approaches for the Determination of Nutrient fluxes Over a Restored Oyster Reef, Chesapeake Bay. 2018 Ocean Sciences Meeting, Portland, OR.

Turner J, Massey G, **Kellogg ML**, Friedrichs C (2018) Water Clarity and Suspended Particle Dynamics at Oyster Aquaculture Sites in Southwestern Chesapeake Bay, Virginia. 2018 Ocean Sciences Meeting, Portland, OR.

Kellogg ML, Cornwell JC, Owens MS, Ross PG, Paynter KT, Luckenbach MW, Dreyer JC, Pant M, Turner C, Birch A, Smith E (2017) Ecosystem services provided by tributary-scale oyster reef restoration in Chesapeake Bay. 24th Biennial Conference of the Coastal and Estuarine Research Federation, Providence, RI.

Cornwell JC, Owens MS, Jackson M, **Kellogg ML** (2017) Estimating “enhancement” of denitrification via the addition of oysters: A holistic view of the problem. 24th Biennial Conference of the Coastal and Estuarine Research Federation, Providence, RI.

Jackson M, Owens MS, **Kellogg ML**, Cornwell JC (2017) Three ways of extrapolating oyster reef associated denitrification rates and nutrient fluxes. 24th Biennial Conference of the Coastal and Estuarine Research Federation, Providence, RI.

Reichert-Nguyen R, Cornwell JC, Rose J, **Kellogg ML**, Luckenbach MW, Bricker S, Paynter K, Moore C, Parker M, Sanford L, Wolinski B, Lacatell A, Fegley L, Judson K, French E, Slacum W (2017) Quantifying water quality benefits of oyster practices for regulatory use in Chesapeake Bay. 24th Biennial Conference of the Coastal and Estuarine Research Federation, Providence, RI

- Kellogg ML**, Luckenbach MW, Cornwell JC, Owens MS (2015) Nitrogen removal associated with oyster reefs. 6th International Oyster Symposium, Cape Cod, MA.
- Kellogg ML**, Cornwell JC, Owens MS, Ross PG, Dreyer JC, Paynter KT, Luckenbach MW (2015) Integrated assessment of ecosystem services provided by tributary-scale oyster reef restoration in Chesapeake Bay. 23rd Biennial Conference of the Coastal and Estuarine Research Federation, Portland, OR.
- Cornwell JC, Owens MS, **Kellogg ML** (2015) Feedback processes in Chesapeake Bay: Did oysters matter in the past, do they matter now? 23rd Biennial Conference of the Coastal and Estuarine Research Federation, Portland, OR.
- Keeler A, Piehler M, zu Ermgassen P, Brumbaugh R, Cornwell J, Grabowski J, **Kellogg ML**, Luckenbach MW, Smyth A, Spalding M (2015) Quantifying and evaluating denitrification associated with restored oyster reefs: Economic and ecosystem challenges. 23rd Biennial Conference of the Coastal and Estuarine Research Federation, Portland, OR
- McClain A, Cornwell JC, Owens MS, **Kellogg ML** (2015) Carbonate chemistry in experiment incubations of restored Chesapeake Bay oyster communities. 23rd Biennial Conference of the Coastal and Estuarine Research Federation, Portland, OR
- Kellogg ML**, Cornwell JC, Owens MS (2015) Nitrogen removal associated with oyster reefs and oyster aquaculture, 107th Annual Meeting of the National Shellfisheries Association, Monterey, CA
- Brush M, **Kellogg ML**, Skeeahan E (2015) A user-friendly, online model for estimating the ecosystem impact of oyster restoration. 107th Annual Meeting of the National Shellfisheries Association, Monterey, CA
- Cornwell JC, Owens MS, Nickerson Z, **Kellogg ML** (2015) Restored oyster reef denitrification: Experimental considerations and biogeochemical mechanisms. 107th Annual Meeting of the National Shellfisheries Association, Monterey, CA
- Kellogg ML**, Paynter KT, Cornwell JC, Ross PG, Owens MS, Handschy AV, Dreyer JC, Luckenbach MW (2014) Integrated assessment of oyster reef ecosystem services: Harris Creek, MD. 16th International Conference on Shellfish Restoration, Charleston, SC
- Kellogg ML**, Ross PG, Lusk B, Luckenbach MW, Birch AJ, Dreyer JC, Smith E (2014) Relationships between oyster biomass density and macrofaunal community structure. 16th International Conference on Shellfish Restoration, Charleston, SC
- Kellogg ML**, Smyth AR, Luckenbach MW, Carmichael RH, Brown BL, Cornwell C, Piehler MF, Owens MS, Dalrymple DJ, Higgins CB (2014) Mitigating eutrophication using oyster reef restoration and oyster aquaculture. 16th International Conference on Shellfish Restoration, Charleston, SC
- Kellogg ML**, Brush MJ, Lee Y (2014) Challenges in modeling the water quality benefits of oyster reef restoration: Harris Creek, MD. 106th Annual Meeting of the National Shellfisheries Association, Jacksonville, FL. *Session Chair*
- Brush MJ, **ML Kellogg** (2014) A user-friendly, online model for estimating the TMDL-related benefits of oyster reef restoration in Harris Creek, MD. Chesapeake Modeling Symposium 2014, Chesapeake Community Modeling Program, Annapolis, MD.
- Gedan KB, **Kellogg ML**, Breitburg DL (2014) Accounting for multiple foundation species in oyster reef restoration benefits. 43rd Annual Benthic Ecology Meeting, Jacksonville, FL.

- Gedan KB, **Kellogg ML**, Breitburg DL (2014) Water quality effects of multiple foundation species on restored oyster reefs: models and empirical results. International Marine Conservation Congress, Glasgow, Scotland.
- Kellogg ML**, Cornwell JC, Owens MS, Luckenbach MW (2013) Denitrification and nutrient assimilation associated with oyster reefs, 22nd Biennial Conference of the Coastal and Estuarine Research Federation, San Diego, CA.
- Luckenbach MW, **Kellogg ML** (2013) Shellfish and water quality: Searching for policy options in Chesapeake Bay clean-up, 22nd Biennial Conference of the Coastal and Estuarine Research Federation, San Diego, CA.
- Cornwell JC, Owens MS, **Kellogg ML**, Gao Y, Stoecker D (2013) Anthropogenic influences on nutrient and gas exchange at the sediment-water interface. ASLO Aquatic Sciences Meeting, New Orleans, LA.
- Kellogg ML**, Cornwell JC, Owens MS (2013) Quantifying nitrogen removal and nutrient sequestration capacity of subtidal and intertidal oyster reefs. Workshop on Quantifying Nitrogen Removal by Oysters, Wachapreague, VA.
- Kellogg ML**, Cornwell JC, Owens MS, Luckenbach MW (2012) Quantifying nitrogen removal and nutrient sequestration capacity of subtidal and intertidal oyster reefs. 41st Benthic Ecology Meeting, Norfolk, VA.
- Kellogg ML**, Cornwell JC, Owens MS, Luckenbach MW (2012) Quantifying nitrogen removal and nutrient sequestration capacity of subtidal and intertidal oyster reefs. 41st Benthic Ecology Meeting, Norfolk, VA.
- Cornwell JC, **Kellogg ML**, Owens MS, Paynter KT (2011) Mitigation of estuarine eutrophication by aquatic habitat restoration? 21st Biennial Conference of the Coastal and Estuarine Research Federation, Daytona Beach, FL.
- Kellogg ML** (2011) Bivalve restoration and aquaculture: The role of associated organisms in enhancing ecosystem services. 14th International Conference on Shellfish Restoration, Stirling, Scotland.
- Kellogg ML**, Cornwell JC, Owens MS, Paynter KT (2011) Nitrogen removal and sequestration capacity of a restored oyster reef. National Shellfisheries Association 103rd Annual Meeting, Baltimore, MD.
- Cornwell JC, **Kellogg ML**, Owens MS, Paynter KT (2011) Shellfish restoration and aquaculture: Nutrient sequestration, remineralization and denitrification. National Shellfisheries Association 103rd Annual Meeting, Baltimore, MD.
- Kellogg ML**, Cornwell JC, Owens MS, Paynter KT (2010) Nitrogen removal and sequestration capacity of a restored oyster reef. 5th National Conference on Coastal and Estuarine Habitat Restoration, Galveston, TX.
- Kellogg ML**, Cornwell JC, Owens MS, Paynter KT (2010) Nitrogen removal and sequestration capacity of a restored oyster reef. International Conference on Shellfish Restoration, Charleston, SC.
- Harwell HD, Kingsley-Smith P, **Kellogg ML**, Paynter KT, Luckenbach MW (2010) Oyster species and habitat utilization in Chesapeake Bay: spatial and temporal considerations. 39th Annual Benthic Ecology Meeting, Wilmington, NC.

- Kellogg ML**, Slacum HW, Paynter KT, Able S, Allen SM, Barker LS, Boicourt W, Bruce D, Conkwright B, Cornwell J, Gentner B, Karrh L, Lazar J, Lipton D, Meritt D, O'Connell T, Townsend H, Trice M (2009) A comprehensive, integrated approach to assessing the benefits of oyster reef restoration. National Shellfisheries Association 101st Annual Meeting, Savannah, GA.
- Kellogg ML**, Slacum HW, Paynter KT, Able S, Allen SM, Barker LS, Boicourt W, Bruce D, Conkwright B, Cornwell J, Gentner B, Judy C, Karrh L, Lazar J, Lipton D, Meritt D, O'Connell T, Townsend H, and Trice M (2008) The ESE-CBA Plan: A comprehensive approach to assessing the benefits of oyster reef restoration. 11th International Conference on Shellfish Restoration, Charleston, SC.
- Harwell HD, Kingsley-Smith PR, **Kellogg ML**, Paynter KT Jr, Luckenbach MW (2008) Reef-associated fauna in Chesapeake Bay: Does oyster species affect habitat function? 11th International Conference on Shellfish Restoration, Charleston, SC.
- Luckenbach MW, North E, **Kellogg ML**, Mann RM, Allen SM, Paynter KT (2008) Fertilization success in altered bivalve populations: Implications for restoration. 11th International Conference on Shellfish Restoration, Charleston, SC.
- Kellogg ML**, Paynter KT, Luckenbach MW (2007) Maximizing reproductive success on restored oyster reefs: Using age- and size-specific sex ratios to evaluate management strategies. 10th International Conference on Shellfish Restoration, Vlissingen, The Netherlands.
- Kingsley-Smith PR, Luckenbach MW, Paynter KT Jr, Allen SK Jr, Meritt DW, Harwell HD, **Kellogg ML** (2007) Evaluating the potential of a nonnative oyster species (*Crassostrea ariakensis*) to restore ecological function to the Chesapeake Bay, USA. 10th International Conference on Shellfish Restoration, Vlissingen, The Netherlands.
- Kellogg ML**, Chen ME, Kennedy VS, Paynter KT (2007) Factors influencing sex ratios in restored oyster populations in the Chesapeake Bay. 19th Biennial Conference of the Estuarine Research Federation, Providence, RI.
- Paynter KT, **Kellogg ML** (2007) Large-scale oyster population manipulation in the Chester River, a low salinity subestuary of Chesapeake Bay. 19th Biennial Conference of the Estuarine Research Federation, Providence, RI.
- Harwell HD, Kingsley-Smith PR, **Kellogg ML**, Allen SK Jr, Meritt DW, Paynter KT, Luckenbach MW (2007) Effects of oyster species, habitat complexity and habitat location on reef-associated fauna in Chesapeake Bay. 19th Biennial Conference of the Estuarine Research Federation, Providence, RI.
- North EW, King DM, Xu J, Hood RR, Newell RIE, Paynter KT, **Kellogg ML**, Liddel MK, Boesch DF (2007) An ecosystem approach for oyster restoration and management. International Council for the Exploration of the Sea Annual Science Conference, Helsinki, Finland.
- Kellogg ML**, Chen ME, Kennedy VS, Paynter KT (2007) Testing predictions of sex allocation theory for a sequential hermaphrodite: Age, size and sex ratios in restored oyster populations. Ecological Society of America/Society for Ecological Restoration Annual Meeting, San Jose, CA.
- Kellogg ML**, Chen ME, Kennedy VS, Paynter KT (2007) Sex ratios of oysters on restored and unrestored reefs in Chesapeake Bay: Implications for restoration and management. Aquaculture 2007, San Antonio, TX.

- Kellogg ML**, Chen ME, Kennedy VS, Miller CP, Rowland SE, Paynter RT, Paynter KC, Ward NJ, Goldsmith D, Sherman MW, Goodwin JD, McIntyre CP, Allen S, Paynter KT (2006) Role of oyster age versus oyster size in determining sex ratios on restored reefs in Chesapeake Bay. 9th International Conference on Shellfish Restoration, Charleston, SC.
- Rodney W, **Kellogg ML**, Paynter KT (2006) Interaction of top down and bottom up forces and habitat complexity in experimental oyster reef microcosms: Implications for secondary production and trophic transfer. 9th International Conference on Shellfish Restoration, Charleston, SC.
- Kingsley-Smith PR, Harwell HD, **Kellogg ML**, Allen SK Jr., Meritt DW, Paynter KT, Luckenbach MW (2006) Inter-site and inter-specific differences in rates of survival and growth of *C. virginica* and *C. ariakensis*: A collaborative on-bottom study in Virginia and Maryland. 9th International Conference on Shellfish Restoration, Charleston, SC.
- Harwell HD, Kingsley-Smith PR, **Kellogg ML**, Allen SK Jr, Meritt DW, Paynter KT, Luckenbach MW (2006) Oyster reef morphology and habitat utilization: A comparison of *C. ariakensis* and *C. virginica* in on-bottom environments in Chesapeake Bay. 9th International Conference on Shellfish Restoration, Charleston, SC.
- Lederhouse TM, Rowe CL, **Kellogg ML**, Paynter KT (2006) Assessing oyster reef habitat value through naked goby (*Gobiosoma bosc*) lipid production. 9th International Conference on Shellfish Restoration, Charleston, SC.
- Allen S, Lane H, Goodwin J, Chen M, **Kellogg ML**, Paynter KT (2006) Preliminary comparison of geographic information system (GIS) analysis of patent tong surveys and bar cleaning oyster population estimates in the upper Chesapeake Bay. 2006. 9th International Conference on Shellfish Restoration, Charleston, SC.
- Kellogg ML**, Peachey RBJ (2004) Developing design criteria for coral and oyster reef restoration: Why you should sweat the small stuff. 2nd National Conference on Coastal and Estuarine Habitat Restoration, Seattle, WA.
- Kellogg ML**, Peachey RBJ (2003) Coral reef restoration: Using post-hurricane recruitment patterns to determine appropriate design criteria. 32nd Annual Marine Benthic Ecology Meeting, Groton, CT.
- Kellogg ML**, Peachey RBJ (2002) Do more oyster larvae settle in rough neighborhoods?: The influence of small-scale topography on oyster recruitment. 31st Annual Marine Benthic Ecology Meeting, Orlando, FL.
- Kellogg ML**, Peachey RBJ (2001) Can the recruitment of oyster larvae (*Crassostrea virginica*) to restored reefs be increased by mimicking the topography and chemical signature of natural oyster reefs? 2nd Symposium on Marine Conservation Biology, San Francisco, CA.
- Kellogg ML** (2001) Natural oyster reefs vs. shell plantings: the role of substratum topography in the recruitment of *Crassostrea virginica*. 30th Annual Marine Benthic Ecology Meeting, Durham, NH.

Non-refereed publications

- Cornwell C, Rose J, **Kellogg ML**, Luckenbach M, Bricker S, Paynter K, Moore C, Parker M, Sanford L, Wolinski B, Lacatell A, Fegley L, Hudson K (2016) Panel Recommendations on the Oyster BMP Nutrient and Suspended Sediment Reduction Effectiveness Determination Decision Framework and Nitrogen and Phosphorus Assimilation in Oyster Tissue Reduction Effectiveness for Oyster Aquaculture Practices. https://www.oysterrecovery.org/wp-content/uploads/2017/01/Oyster-BMP-1st-Report_Final_Approved_2016-12-19.pdf

Kellogg ML, Luckenbach MW, Brown BL, Carmichael RH, Cornwell C, Piehler MF, Owens MS, Dalrymple DJ, Higgins CB, Smyth AR (2013) Quantifying nitrogen removal by oysters. Report on Workshop on Quantifying Nitrogen Removal by Oysters, January 10-11, 2013, Wachapreague, VA.

Luckenbach MW, deFur P, **Kellogg ML**, Van Veld P (2010) Potential effects of endocrine disrupting compounds on bivalve populations in Chesapeake Bay: A review of current knowledge and assessment of research needs. CRC Publ. No. 10-170, Chesapeake Research Consortium, Edgewater, MD. 32 pp.

North EW, King DM, Xu J, Hood RR, Newell RIE, Paynter KT, **Kellogg ML**, Liddel MK, Boesch DF (2007) An ecosystem approach for oyster restoration and management. ICES CM R:13.

Research reports from grant or contract work

Kellogg ML (2020) From eFish to RecFish: Progress towards developing an app that engages recreational anglers as community scientists. Final Report to VIMS Dean and Director's Innovation Fund. Virginia Institute of Marine Science, College of William & Mary.

Kellogg ML, Dreyer JC, Turner C, Pant M, Ross PG, Birch A, Smith E, Paynter KT (2019) Oyster reef ecosystem services: Macrofauna utilization of restored oyster reefs. Final Report to NOAA Chesapeake Bay Office. Virginia Institute of Marine Science, College of William & Mary.

Kellogg ML, Ross PG, Pant M, Dreyer JC, Birch A, Fate S, Smith E (2019) Oyster reef ecosystem services: Finfish utilization and trophic linkages. Final Report to NOAA Chesapeake Bay Office. Virginia Institute of Marine Science, College of William & Mary.

Kellogg ML, Dreyer JC (2019) Assessment of benthic macrofauna community within intertidal mudflats: Hurds Cove, Lynnhaven River, Virginia. Final Report to Waterway Surveys and Engineering, Ltd. Virginia Institute of Marine Science, College of William & Mary.

Kellogg ML (2019) Preliminary assessment of benthic macrofauna community within intertidal mudflats. Final Report to Waterway Surveys and Engineering, Ltd. And Emery Chickey. Virginia Institute of Marine Science, College of William & Mary.

Turner J, Massey GM, **Kellogg ML**, Friedrichs C (2019) A Data Repository for "Minimal Effects of Oyster Aquaculture on Water Quality: Examples from Southern Chesapeake Bay", Virginia Institute of Marine Science, College of William & Mary. <https://doi.org/10.25773/wwva-tz18>

Cornwell JC, Owens MS, Jackson M, **Kellogg ML** (2019) Integrated Assessment of Oyster Reef Ecosystem Services; Quantifying Denitrification Rates and Nutrient Fluxes. Final Report to NOAA Chesapeake Bay Office. UMCES Technical Report TS-732-19.

Kellogg ML, Turner J, Dreyer JC, Friedrichs C (2018) Environmental and ecological benefits and impacts of oyster aquaculture: Addendum. Final Report the The Nature Conservancy. Virginia Institute of Marine Science, William & Mary. <https://doi.org/10.25773/r01b-tg44>

Kellogg ML, Brush MJ, Cornwell JC (2018) An updated model for estimating the TMDL-related benefits of oyster reef restoration Harris Creek, Maryland, USA. Virginia Institute of Marine Science, College of William & Mary. <https://doi.org/10.25773/7a75-ds48>

Kellogg ML, Turner J, Dreyer J, Massey GM (2018) Environmental and ecological benefits and impacts of oyster aquaculture: Chesapeake Bay, Virginia, USA. Final Report the The Nature Conservancy. Virginia Institute of Marine Science, College of William & Mary. <https://doi.org/10.25773/hdb1-xf91>

Kellogg ML, Cornwell JC, Owens MS, Dreyer JC, Turner C, Pant M (2016) Enhanced assessment of nitrogen removal associated with restored oyster reefs: Harris Creek Oyster Sanctuary, Maryland. Final Report to The Oyster Recovery Partnership.

Kellogg ML, Paynter KT, Ross PG, Dreyer JC, Turner C, Pant M, Birch A, Smith E (2016) Integrated assessment of oyster reef ecosystem services: Macrofauna utilization of restored oyster reefs. Virginia Institute of Marine Science, College of William & Mary.
<https://doi.org/10.25773/5caa-ka82>

Kellogg ML, Ross PG, Luckenbach M, Dreyer JC, Pant M, Birch A, Fate S, Smith E, Paynter K (2016) Integrated assessment of oyster reef ecosystem services: Fish and crustacean utilization and trophic linkages. Virginia Institute of Marine Science, College of William & Mary.
<http://doi.org/10.21220/V5V88X>

Cornwell JC, Owens MS, **Kellogg ML** (2016) Integrated Assessment of Oyster Reef Ecosystem Services. Final Report to National Oceanic and Atmospheric Administration's Chesapeake Bay Office. UMCES.

Kellogg ML, Brush MJ, North EW, Lee Y (2014) A model for estimating the TMDL-related benefits of oyster reef restoration. Final report to: Oyster Recovery Partnership and National Fish and Wildlife Foundation, 34 pp.

Kellogg ML, Cornwell JC, Owens MS, Luckenbach MW, Ross PG, Lusk B (2014) Linking structural and functional characteristics of restored oyster reefs. Final report to: The Nature Conservancy and National Oceanic and Atmospheric Administration's Community Restoration Program, 17 pp.

Kellogg ML, Cornwell JC, Owens MS, Luckenbach MW, Ross PG, Leggett AT, Dreyer JC, Lusk B, Birch A, Smith E. (2014) Scaling ecosystem services to reef development. Final report to: National Oceanic and Atmospheric Administration's Chesapeake Bay Office, 34 pp.

Sisson M, **Kellogg ML**, Luckenbach M, Lipcius R, Colden A, Cornwell J, Owens M (2011) Assessment of oyster reefs in Lynnhaven River as a Chesapeake Bay TMDL Best Management Practice. Final Report to the U. S. Army Corps of Engineers, Norfolk District and the City of Virginia Beach, Special Report No. 429 in Applied Marine Science and Ocean Engineering, Virginia Institute of Marine Science, Gloucester Point, Virginia. 65pp.

Kellogg ML, Cornwell JC, Owens MS, Paynter KT (2011) Nitrogen removal and sequestration capacity of a restored oyster reef. Final Report to the Oyster Recovery Partnership. University of Maryland Center for Environmental Science Technical Report Series TS-623-11, Cambridge, MD. 75pp.

Cornwell JC, **Kellogg ML**, Owens MS (2011) How does shellfish aquaculture change nutrient balances in Maryland's coastal bays? Final Report to Maryland Coastal Bays Program. 28pp.

Published software

Virginia Institute of Marine Science (2021) RecFish (Version 1.8) [Mobile app]. App Store.
<https://apps.apple.com/us/app/recfish/id1566823472>

Virginia Institute of Marine Science (2021) RecFish (Version 2.0) [Mobile app]. Google Play.
<https://play.google.com/store/apps/details?id=edu.vims.recfish>

Brush MJ, Kellogg ML (2018) Harris Creek Oyster Restoration Model v2. Virginia Institute of Marine Science, Gloucester Point, VA. Online computer model available at:
<http://www.vims.edu/research/departments/bio/programs/semp/models/index.php>

Brush MJ, Kellogg ML (2014) Harris Creek Oyster Restoration Model v1. Virginia Institute of Marine Science, Gloucester Point, VA. Online computer model available at: www.vims.edu/research/departments/bio/programs/sempp/models/index.php.

PROFESSIONAL SERVICE

SMS/VIMS Governance

2019 – 2021 Member, VIMS Dive Control Board
2021 Member, VIMS Fisheries & Aquaculture Strategic Planning Committee

Editorial board services, review panels, program reviews, national or international research programs, and professional societies

2014-2016 Member, Steering Committee, International Conference on Shellfish Restoration
2009 Proposal Reviewer, North Carolina Sea Grant

ADVISORY SERVICE ACTIVITY

Service to state and local agencies

2021 – present Virginia Department of Health (VDH) and Virginia Department of Environmental Quality (DEQ): As part of developing the RecFish app, I am working with VDH and DEQ staff to provide fish consumption advisories directly to recreational anglers through the app.
2021 – present Virginia Department of Wildlife Resources (DWR): As part of developing the RecFish app, I am working with DWR staff to provide accurate fishing regulations directly to recreational anglers through the app. In addition, we are exploring whether the machine learning models developed for the RecFish app can be used to distinguish between Spotted Bass, an established species in Virginia, and Alabama Bass, an invasive species of growing concern. Current technology for identifying Alabama Bass caught by recreational anglers requires genetic testing for species confirmation.
2021 – present Virginia Department of Marine Resources (VMRC): As part of developing the RecFish app, I am working with DWR staff to provide accurate fishing regulations directly to recreational anglers through the app.
2019 – present Shellfish Aquaculture-SAV interactions, applied research and advice to the Virginia Marine Resources Commission
2014 Provided advice and reviewed calculations by City of Virginia Beach for nitrogen assimilation by oysters
2012 Served on the Accomack-Northampton Planning District Commission's focus group on education and economic development on the Eastern Shore of Virginia

Service to industry

2018 Participant, VIMS Shellfish Aquaculture Industry Advisory Committee Meeting, Gloucester Point, VA

- 2012 Provided information via email, phone and/or printed summary to representatives from Industrial Economics
- 2011 Provided information via email, phone and/or printed summary to representatives from the East Coast Shellfish Growers Association and the Prince Edward Island Aquaculture Alliance.

Service to regional, national or international management commissions/programs and non-governmental organizations

Participation in local and regional panels, workgroups, advisory committees and workshops

- 2016 – 2022 *Member*, Oyster Best Management Practices Expert Panel, Chesapeake Bay Program
- 2020 *Participant*, Incorporating Freshwater Mussels into the Chesapeake Restoration Effort, Chesapeake Bay Program’s Scientific and Technical Advisory Committee, Annapolis, MD
- 2018 *Panelist*, Expert Oyster Ecosystem Services Panel convened by Mississippi State University, Auburn University and Dauphin Island Sea Lab, Dauphin Island, AL
- 2018 *Participant*, Factors Influencing Fish Habitat Function in the Chesapeake Bay Watershed: Application to Restoration and Management Decisions Workshop, Chesapeake Bay Program’s Scientific and Technical Advisory Committee, Richmond, VA
- 2017 *Member*, Advisory Group, Harris Creek Pilot Project, Mid-Atlantic Regional Association Coastal Ocean Observing System and National Oceanic and Atmospheric Administration’s Chesapeake Bay Office.
- 2013 *Co-chair*, Quantifying Nitrogen Removal by Oysters Workshop sponsored by NOAA Chesapeake Bay Office, Wachapreague, VA
- 2011 – 2014 *Member*, The Nature Conservancy’s Oyster Goals Science Advisory Team

Invited presentations to local and regional agencies, boards and workgroups

- Kellogg ML, Hilton EJ (2021)** RecFish: Engaging Recreational Anglers as Community Scientists. Presentation to VIMS Foundation Board, Gloucester Point, VA
- Kellogg ML, Ross PG, Luckenbach MW, Paynter KT (2020)** Integrated assessment of oyster reef ecosystem services in Harris Creek, MD. Sustainable Fisheries GIT Biannual Meeting, Gloucester Point, VA
- Kellogg ML (2019)** Aquaculture-Environment Interactions in Chesapeake Bay. Presentation to staff of Hong Kong, Marine Program, The Nature Conservancy, Gloucester Point, VA
- Kellogg ML, Brush M, Cornwell JC (2018)** Modeling the water quality benefits of tributary-scale oyster reef restoration. Sustainable Fisheries GIT Biannual Meeting, Newport News, VA
- Kellogg ML, Can oyster reef restoration improve water quality?** VIMS Foundation Board Meeting, Gloucester Point, VA
- Kellogg ML, Cornwell JC (2017)** Benefits of oyster reef restoration in Harris Creek, MD. Harris Creek Pilot Project Webinar

- Kellogg ML** (2016) Nitrogen and phosphorus burial associated with oysters. Oyster Best Management Practices Data Workshop, Colonial Beach, VA
- Kellogg ML**, Cornwell JC, Paynter KT, Ross PG, Luckenbach MW (2013) Integrated assessment of oyster reef ecosystem services, Sustainable Fisheries Goal Implementation Team Executive Committee Meeting, Solomons, MD.
- Kellogg ML**, Cornwell JC, Owens MS (2013) Quantifying nitrogen removal and nutrient sequestration capacity of subtidal and intertidal oyster reefs, Workshop on Quantifying Nitrogen Removal by Oysters, Wachapreague, VA.
- Cornwell JC, Owens MS, **Kellogg ML** (2013) Chesapeake oyster biogeochemistry: From experimental simulation to direct measurements. Workshop on Quantifying Nitrogen Removal by Oysters, Wachapreague, VA.
- Kellogg ML**, Cornwell JC, Owens MS, Luckenbach MW (2012) Scaling ecosystem services to reef development: Effects of oyster density on nitrogen removal and biodiversity. Chesapeake Bay Program Sustainable Fisheries Goal Implementation Team Meeting, Annapolis, MD.
- Kellogg ML**, Luckenbach MW, Paynter KT (2009) Potential for population-level impacts of endocrine disrupting compounds: Implications for oyster reef restoration in Chesapeake Bay. Ecosystem Based Management (EBM): the Chesapeake Basin & Other Systems, Baltimore, MD.

Other services to local and regional agencies, boards and workgroups

- 2020 Review of Oyster Reef Habitat Survey Design. (2020) Tennenbaum Marine Observatories Network, MarineGEO, Smithsonian Institution
- 2020 External Scientific Reviewer, *2018 Oyster Reef Monitoring Report: Analysis of Data from Large-Scale Sanctuary Oyster Restoration Projects in Maryland* for NOAA Chesapeake Bay Program
- 2018 External Scientific Reviewer, *2017 Oyster Reef Monitoring Report: Analysis of Data from Large-Scale Sanctuary Oyster Restoration Projects in Maryland* for NOAA Chesapeake Bay Program
- 2012 Extensive advice to US EPA Atlantic Ecology Division information on techniques and equipment for measuring denitrification rates on oyster reefs
- 2013 Presentation to select members of NOAA Chesapeake Bay Program about measuring ecosystems services of restored oyster reefs. Followed by several emails providing advice on sampling design, sampling techniques, etc.
- 2013 Reviewed and extensively revised NCBO's "simplified overview" of Kellogg et al. (2013) Quantifying nitrogen removal by oysters. Report on Workshop on Quantifying Nitrogen Removal by Oysters, January 10-11, 2013, Wachapreague, VA.
- 2011 Information provided via phone, email and/or printed summary to representatives of several agencies including the NOAA Chesapeake Bay Program Office, the NOAA Restoration Center, the City of Virginia Beach, the US Army Corps of Engineers and the Israeli National Center for Mariculture.
- 2011 Presentation to the Board of Directors of the Oyster Recovery Partnership
- 2011 Presentation to representatives of the National Fish and Wildlife Foundation
- 2011 Information provided via phone, email and printed summary to representatives of several organizations including The Nature Conservancy and the Oyster Recovery Partnership.

PUBLIC OUTREACH

Graduate Students, Undergraduate Students and Interns

- 2012 Provided data, information on local resources and availability of VIMS-ESL resources to students from a variety of programs including: The College of William & Mary, Johns Hopkins University, Smithsonian Environmental Research Center, Christopher Newport University and the NOAA Coastal Management Fellowship Program

High School Teachers and Students

- 2013 Interviewed by International Baccalaureate students about my career and research
- 2013 Served as “the scientist” for Career Day for Arcadia, Tangier, Chincoteague and Nandua High Schools
- 2013 Lecture to *Topics in Marine Biology* course at Northampton High School scheduled for April.
- 2012 Provided extensive course material for *Topics in Marine Biology* taught at Northampton High School.
- 2012 Provided extensive course material and advice to instructor for *Introduction to Oceanography, Marine Ecology* and *Marine Biology* taught at Broadwater Academy.

General Public

Invited presentations to general public

- Kellogg ML** (2021) RecFish: Engaging Recreational Anglers as Community Scientists. Norfolk Anglers Club; attended by ~20 people.
- Kellogg ML** (2021) RecFish: Engaging Recreational Anglers as Community Scientists. Indian River Yacht Club; attended by ~15 people.
- Kellogg ML, Hilton EJ** (2021) RecFish: Engaging Recreational Anglers as Community Scientists. Virginia Institute of Marine Science After Hours Lecture Series, Gloucester Point, VA; attended by 56 people, and viewed an additional 62 times on YouTube.
- Kellogg ML** (2019) VIMS: Science for the Bay, impact for the world (and your plate), WindsorMeade Pinnacle Living Community, Williamsburg, VA
- Kellogg ML** (2019) VIMS: Science for the Bay, impact for the world (and your plate), Peninsula Health District Meeting, Hampton, VA
- Kellogg ML, Turner J, Massey G, Dreyer J** (2018) Environmental and ecological benefits and impacts of oyster aquaculture, Tidewater Oyster Growers Association Meeting, Gloucester Point, VA
- Kellogg ML** (2018) VIMS: Science for the Bay, impact for the world (and your plate), Yorktown Rotary Club Meeting, Yorktown, VA
- Kellogg ML**, Can oyster reef restoration improve water quality? Rappahannock Westminster-Canterbury Retirement Community, Irvington, VA

Media coverage about my work (RecFish media reach based on media monitoring report on 03/31/2021)

- 2021 *Snap your catch for new VIMS fishing app* by John Page Williams, Chesapeake Bay Magazine; estimated reach: 57,000 people.

- 2021 *Share Your Fish Photos with Virginia Institute of Marine Science* by Frank Sargeant, Lead Story in The Fishing Wire (a newsletter for fishing and marine related industries); estimated reach: 5,000 people.
- 2021 *Researchers at VIMS Looking for Fish Photos to Help Development of Fish Recognition App*, Virginia Department of Wildlife Resources' Notes from the Field blog; estimated reach: 300,000 people.
- 2021 *Local scientists want to build an app that can identify different species of fish. But first, they need your help* by Julius Ayo, WAVY-TV, morning news story and web story; estimated reach 1,190,000 people.
- 2021 *Scientists want to hear your fish tales...or at least see your fish photos* (edited press release), Phys.org (web-based science, research and technology news service); estimated to reach 1,830,000 people.
- 2021 *VIMS Scientists want to hear your fish tales* by David Malmquist, Williamsburg Yorktown Daily News; estimated reach: 158,000.
- 2021 *VIMS Scientists want to hear your fish tales...or at least see your fish photos* by David Malmquist, Life Science Weekly – Powered by Dow Jones; estimated reach: 46,780 people.
- 2021 *Send a Pic of Your Big Catch to Help Science* by H2O Radio, Across America, Patch.com; estimated reach: 21,400 people.
- 2019 *Oyster farms found to help Chesapeake Bay health, but how much?* by Timothy B. Wheeler for DelmarvaNow.com, Salisbury, MD; Similar article also by Timothy Wheeler published in the Bay Journal
- 2019 *Oyster aquaculture has small but positive impact on Bay water quality* by Dave Malmquist published by WYDaily, Williamsburg, VA
- 2018 *New online tool shows how oyster reefs can rescue a waterway* by Tamar Dietrich, Daily Press, Newport News, VA
- 2018 *'Pollution diets': Federal panel plans oyster reef restoration to improve Chesapeake Bay health* by David Malmquist published by WYDaily
- 2018 *Costly Maryland oyster project pays off in pollution reductions, study finds* by Timothy Wheeler, Bay Journal
- 2016 *Watermen seek, win, halt in Tred Avon oyster restoration project* by Timothy Wheeler and Rona Kobell, Bay Journal
- 2014 *Mussels can double filtration rates of Chesapeake Bay's oyster reefs* by Tamara Dietrich, Daily Press, Newport News, VA
- 2014 *VIMS scientist studies restorative abilities of mussels in Chesapeake Bay* by Christine Sampson, The Virginia Gazette, Williamsburg, VA
- 2014 *Study puts some mussels into Chesapeake Bay restoration* by Dave Malmquist published by Science News and Phys.org
- 2013 *Researchers think industrious oysters could clean up Chesapeake* by Darryl Fears for the Washington Post. Article also published by at least four other news outlets.
- 2013 *Sunken Treasure* cartoon by Tom Toles, Washington Post

- 2013 *To clean up the Chesapeake Bay, researchers say, we need to unleash oyster power* by Darryl Fears for CHNI News Service. Article published by at least 47 news outlets.
- 2013 Additional media attention related to Kellogg et al. 2013 Marine Ecology Progress Series article includes a story evening news story on WJZ in Baltimore and at least 12 other print or online articles published in at least 17 different news outlets including ones on all three coasts of the US and as far away as New Zealand.
- 2013 *Can Restoring Oyster Reefs Combat Nitrogen Pollution?* by Johnathan Adams, Cool Green Science, The Nature Conservancy
- 2013 *Ability of oysters to denitrify Bay surprises scientists* by Karl Blankenship, Bay Journal

Other public outreach

- 2021 Facebook post about RecFish reached 24,533 people and resulted in 2,284 engagements, 487 link clicks, and 279 reactions, comments and shares.
- 2021 *VIMS scientists want to hear your fish tales*, VIMS web story and press release, was viewed directly 413 times (unique page views) and via EurekAlert! (a press-release distribution service operated by AAAS and aimed at journalists) an additional 1,647 times.
- 2019 *Aquaculture by Design* by The Nature Conservancy Virginia. Interviewed for web story, Facebook Live event and featured in video.
- 2013 *Co-organizer*, VIMS-ESL Open House, Wachapreague, VA, attended by >300 people
- 2013 *Co-host*, VIMS-ESL donor tour
- 2012 Developed display materials and assisted in organizing dedication of VIMS-ESL new seawater facility attended by ~300 people