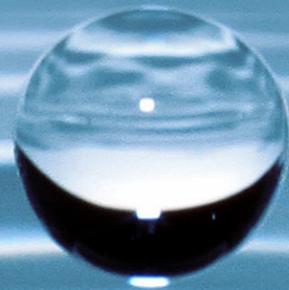


Science, Stewardship and Citizen Involvement -

Working Together for Clean Water



Maryland Water Monitoring Council 24th Annual Conference

Dec. 7, 2018 · Maritime Conference Center · Linthicum

2018 MWMC Annual Conference

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MARYLAND WATER MONITORING COUNCIL

24th Annual Conference - Friday, December 7, 2018

Science, Stewardship and Citizen Involvement – Working Together for Clean Water

7:30 Registration/Poster Set-up/Continental Breakfast – Registration in Room A-100

Morning Plenary Session (8:30-10:00) in the Auditorium (simulcast in Classroom 1)

8:30 **MWMC Board Chair's Call to Order** – Sandy Hertz; Maryland Department of Transportation; Chair, MWMC Board of Directors

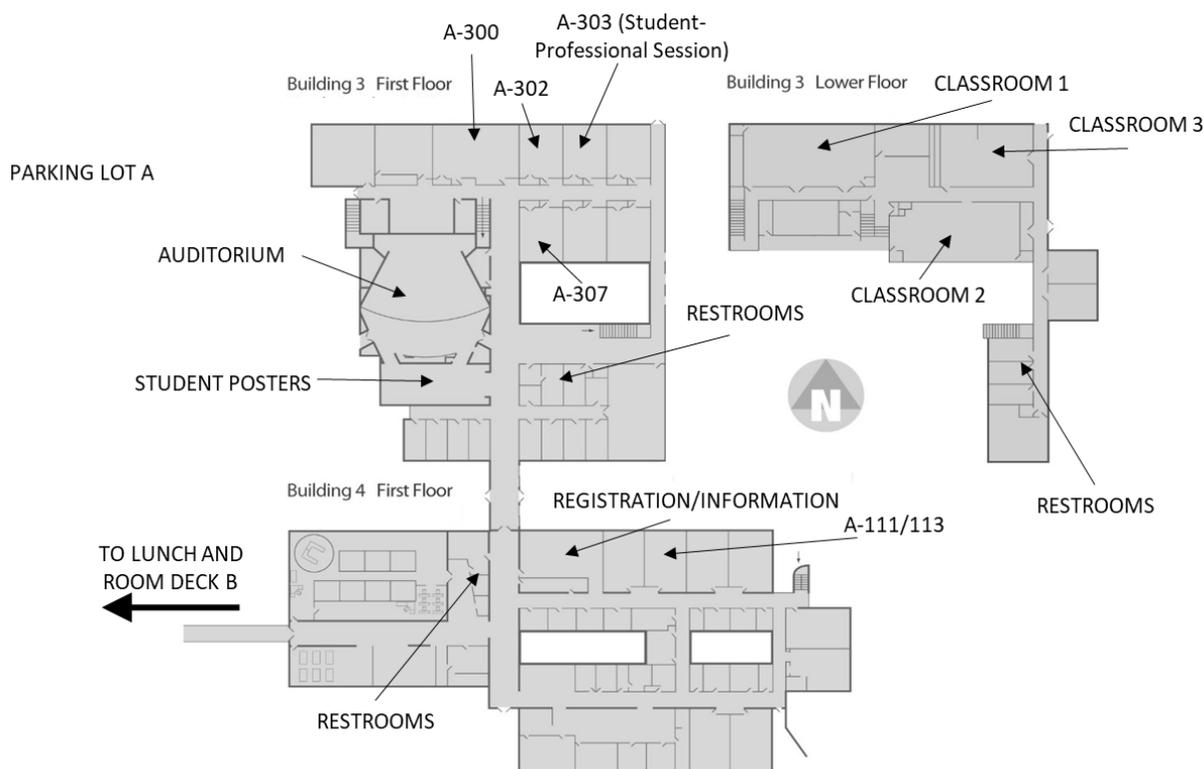
8:45 **Smart Green Corridors – Using Digital Innovations to Drive Integrated Solutions, Cooperative Stewardship and Increased Accountability for Healthy, Resilient Communities** - Dominique Lueckenhoff – Senior Advisor to the Regional Administrator, US EPA Region III

9:15 **[Saving the Bay and Making History – The Critical Need For Citizen Monitors](#)** – Will Baker – President, Chesapeake Bay Foundation

9:45 **Carl S. Weber Awards** – Clark Howells; City of Baltimore, and Cathy Weber

10:00 **Break/Poster Session** – Authors Present

2018 MWMC Annual Conference Floorplan



Only speakers are listed for oral presentations. The conference program contains the full list of authors, co-authors, contact information, and abstracts. The Program can be downloaded from the MWMC website at www.marylandwatermonitoring.org. Following the conference, this agenda will contain links to presentation files, if available.

The Student-Professional Networking Session will be held in Room A-303 from 10:30 until noon with further discussion in Room Deck B.

Concurrent Sessions - 10:30 – 12:00

<p>AUDITORIUM - FROM RESTORATION TO RECOVERY - STREAM RESTORATION MONITORING I – Moderator, Nancy Roth (Tetra Tech)</p>
<ul style="list-style-type: none"> • MONITORING DATA HELPING TO PLAN & EVALUATE FUNCTIONAL UPLIFT - Chris Ruck (Fairfax County, VA) • RIPARIAN FOREST BUFFER FUNCTIONS AFTER 15 YEARS - Anne Hairston-Strang (MDNR) • SETTING TARGETS FOR URBAN STREAM RESTORATION BASED ON BIOLOGICAL POTENTIAL - Michael Paul (Tetra Tech) • WATER QUALITY MONITORING OF LAKE LOUISE - Bill Buettner (MDOT)
<p>ROOM A-300 - THE JOURNEY FROM SOURCE TO TAP - FORESTS AND WATER QUALITY – Moderator, Clark Howells (Baltimore City DPW)</p>
<ul style="list-style-type: none"> • THE NATIONAL FORESTS TO FAUCETS ANALYSIS 2.0 - Sally Claggett (USFS) • TAPPING INTO SOURCE WATER - Eddy Cope (Anne Arundel County DPW) • THE IMPACT OF WATER RECLAMATION FACILITIES ON RECEIVING STREAMS - Rob Kraus (Anne Arundel County DPW) • AN EVALUATION OF FOREST IMPACTS AS COMPARED TO BENEFITS ASSOCIATED WITH STREAM RESTORATION - Ginny Rogers (Versar)
<p>ROOM A-111/113 – WATERSHED STEWARDSHIP – Moderator, Kacey Wetzel (Chesapeake Bay Trust)</p>
<ul style="list-style-type: none"> • CITIZEN STEWARDSHIP INDICATOR: BEHAVIORS, TRENDS AND HOW TO USE THEM FOR GOOD - Kacey Wetzel (Chesapeake Bay Trust) and Suzanne Etgen (Watershed Stewards Academy). Note – this is a 60-minute presentation. • USE MY DATA! TOWARDS A MUTUAL UNDERSTANDING BETWEEN DATA COLLECTORS AND THE DATA NEEDS OF DATA USERS ACROSS THE CHESAPEAKE BAY PROGRAM PARTNERSHIP - Peter Tango (USGS/CBPO)
<p>ROOM A-307 - ENVIRONMENTAL REPORTING AND COMMUNICATION – Moderator, Mark Trice (MDNR)</p>
<ul style="list-style-type: none"> • ENVIRONMENTAL REPORTING IN CHALLENGING TIMES - Rona Kobell (Maryland Sea Grant) • CLEAN WATER COMMUNICATIONS - Chris Trumbauer (The Hatcher Group) • “FAKE NEWS”: CONFESSIONS OF AN ENDANGERED JOURNALIST – Tim Wheeler (The Bay Journal)
<p>CLASSROOM 1 - EMERGING TOXICS OF CONCERN – Moderator, Charlie Poukish (MDE)</p>
<ul style="list-style-type: none"> • OCCURRENCE OF PHARMACEUTICALS, HORMONES, AND ORGANIC WASTEWATER COMPOUNDS IN PENNSYLVANIA WATERS, 2006–09 - Joseph W. Duris (USGS PA Water Science Center) • AN ANALYSIS OF THE CHEMICAL COMPOSITION OF WASTE WATER AND WATER TREATMENT PLANT EFFLUENT - Timothy Fox (MDE) • EMERGING CONTAMINANTS IN PENNSYLVANIA - Amy Williams (Pennsylvania DEP)
<p>CLASSROOM 2 - URBAN ECOLOGY – Moderator, Angel Valdez (MDE)</p>
<ul style="list-style-type: none"> • MAKING URBAN TREES COUNT: A STORMWATER CREDIT FRAMEWORK FOR URBAN TREE PLANTING - Neely L. Law (Center for Watershed Protection) • STREAM TEAM: CITIZEN SCIENTISTS AND URBAN BMPS - Sarah Giordano (South River Federation) • THE PHASE I MS4 MONITORING DATA: PAST, PRESENT, AND FUTURE - Katherine Slater (MDE)
<p>CLASSROOM 3 - PIPE DREAMS – MANAGING URBAN SEWAGE – Moderator, Megan Brosh (Baltimore County)</p>
<ul style="list-style-type: none"> • SANITARY SYSTEM CHALLENGES AND INNOVATION - Carlos A. Espinosa, P.E (Baltimore City DPW) • SEWAGE REDUCTION EFFORTS IN THE ANACOSTIA RIVER - Jim Foster (Anacostia Watershed Society) • THE IMPACTS OF BALTIMORE CITY'S SANITARY SEWER CONSENT DECREE PROJECTS ON WATER QUALITY - Paul N. De Santis (Baltimore City)
<p>ROOM A-302 - MACHINE LEARNING, MAPS AND PHOTOGRAMMETRY – TECHNOLOGY AT ITS FINEST – Moderator, Alicia Ritzenthaler (LimnoTech)</p>
<ul style="list-style-type: none"> • INTEGRATING COLLECTOR FOR ARCGIS AND SURVEY 123 TO CREATE A CUSTOM, MOBILE DATA COLLECTION TOOL - Alicia Ritzenthaler (LimnoTech) • ESRI STORY MAPS: A NEW ALTERNATIVE IN COMMUNICATING WATER-QUALITY RESULTS - Shannon Jackson (USGS) • GLOBAL MONITORING OF FRESH WATER AT HIGH SPATIAL AND TEMPORAL RESOLUTIONS. ASSESSING STREAM AND LAKES HYDROLOGICAL/PHYSICAL FEATURES WITHIN A MACHINE LEARNING FRAMEWORK - Tushar Sethi (Go Global GIS) • USING STRUCTURE FROM MOTION PHOTOGRAMMETRY TO FACILITATE WATERSHED MANAGEMENT DECISIONS AND EVALUATE BEST MANAGEMENT PRACTICES - Joseph Bell (USGS)

Two Lunch Groups – 12:00 – 1:00 (Orange Name Tag Sticker) - 12:30 – 1:30 (Blue Name Tag Sticker)

12:00 - 12:30 and 1:00 – 1:30 Poster Session – Authors Present



Concurrent Sessions - 1:30 – 3:00

AUDITORIUM - FROM RESTORATION TO RECOVERY - STREAM RESTORATION MONITORING II – Moderator, Mark Southerland (AKRF)

- [ECOLOGICAL RESTORATION: WHAT HAVE WE LEARNED?](#) - Dave Penrose (Penrose Environmental)
- [RESTORING WATER QUALITY AND AQUATIC BIOLOGY IN THE CASSELMAN RIVER](#) - Chris Luckett (MDE)
- [AN EVALUATION OF THE PHYSICOCHEMICAL PROPERTIES OF POOL AND RIFFLE FEATURES CREATED DURING APPLICATION OF REGENERATIVE STREAM RESTORATION APPROACHES IN PERENNIAL STREAM SYSTEMS](#) - Christopher J. Victoria (Anne Arundel Co.)
- [URBAN STREAM RESTORATION IMPROVES HABITAT BUT NOT WATER QUALITY](#) - Charles Gowan (Randolph-Macon College)

ROOM A-300 - CITIZEN SCIENTISTS GET THE JOB DONE! – Moderator, Jeff Reagan (Biohabitats)

- [PUTTING THE BAND TOGETHER: CITIZEN SCIENTISTS ARE THE ROCK STARS OF THE MONITORING WORLD](#) - Beth Wasden (Nanticoke Watershed Alliance)
- [VOLUNTEER MONITORING ON THE OCTORARO](#) - Rupert Rossetti (Octoraro Watershed Assn.)
- [THE SPA CREEK CONSERVANCY'S VOLUNTEER MONITORING INITIATIVE - FINDING STRENGTHS, MINIMIZING COMPLICATIONS, AND WORKING AROUND OBSTACLES](#) - Tammy Domanski (Anne Arundel Community College)
- [USING VOLUNTEER MONITORING DATA TO GUIDE MANAGEMENT DECISIONS FOR URBAN STREAMS](#) - Cathy Wiss (Audubon Naturalist Society)

ROOM A-111/113 – SO MUCH TRASH, SO LITTLE TIME – Moderator, Mark Trice (MDNR)

- [MARINE DEBRIS--PROBLEMS AND SOLUTIONS IN MARYLAND](#) - Donna Morrow (MDNR)
- [FROM STREETS TO STREAMS TO THE CHESAPEAKE: REDUCING AND TRACKING PLASTIC POLLUTION](#) - Mark Trice (MDNR) and Julie Lawson (Mayor's Office of the Clean City - District of Columbia)
- [EFFECTS OF PLASTIC POLLUTION ON WILDLIFE](#) - Laura Bankey (National Aquarium)
- [BALTIMORE'S MR. TRASH WHEEL AND THE FIGHT FOR A SWIMMABLE HARBOR](#) - Adam Lindquist (Waterfront Partnership of Balt.)

ROOM A-307 – THE YEAR OF THE ANACOSTIA – Moderator, Robinne Gray (Anacostia Watershed Society)

- [MUSSEL POWER, RESTORING FRESHWATER MUSSELS IN THE ANACOSTIA RIVER](#) - Jorge Bogantes Montero (Anacostia Watershed Soc.)
- [EUTROPHICATION STATUS AND EXPECTATIONS FOR RECOVERY OF THE ANACOSTIA RIVER](#) - Caroline M. Solomon (Gallaudet University)
- [HELPING THE ANACOSTIA WITH RAINDSCAPES](#) - Ann English (Montgomery Co. DEP)
- [RIVERSMART HOMES](#) - Andy Oetman (DC Dept. of Energy and Environment)

CLASSROOM 1 - FISH PASSAGE – Moderator, Julie Devers (USFWS)

- [ROAD STREAM CROSSING ASSESSMENTS: IDENTIFYING CULVERTS THAT ARE BARRIERS TO AQUATIC ORGANISM PASSAGE](#) - Julie Devers (USFWS)
- [FISH FRIENDLY ROAD-STREAM CROSSINGS: RESTORING ECOSYSTEMS FOR FISH AND MAKING INFRASTRUCTURE MORE RESILIENT TO FLOODING](#) - Julie Devers (USFWS)
- [BLOEDE DAM REMOVAL: INTERSECTION OF SCIENCE AND POLICY IN STREAM RESTORATION](#) - Serena S. McClain (American Rivers)
- [FISH PASSAGE NO LONGER IMPEDED IN THE LOWER PATAPSCO RIVER AFTER 112 YEARS](#) - William Harbold (MDNR)

CLASSROOM 2 - MONITORING CHESAPEAKE BAY UNDERWATER GRASSES AND THE ROLE OF CITIZEN SCIENTISTS – Moderator, Brooke Landry (MDNR)

- [BRIEF SESSION INTRODUCTION](#) - Brooke Landry (MDNR)
- [CREATING THE SAV "NAVY"](#) - Thomas Guay (Severn River Assn.) Note: this talk begins at 1:40.
- [CITIZEN SCIENCE ON THE SUSQUEHANNA FLATS](#) - Logan Poore (Havre de Grace Maritime Museum Env. Ctr.)
- [CHESAPEAKE BAY SAV WATCHERS: HIGHLIGHTS FROM THE NEW VOLUNTEER MONITORING PROGRAM](#) - Suzi Spitzer and Katie May Laumann (UMCES)
- [MAPPING THE REEMERGENCE OF BAY GRASSES](#) - R. John Dawes (Chesapeake Commons)

CLASSROOM 3 - STORMWATER – Moderator, Mike Pieper (KCI)

- [RESTORING STORM WATER SERVICES TO URBAN SOILS](#) - Stu Schwartz (UMBC/CUERE)
- [HOW EFFECTIVE ARE BIOSWALES FOR TREATING STORMWATER GENERATED BY MARYLAND HIGHWAYS?](#) - Keith N. Eshleman (UMCES/AL)
- [TEMPORAL DYNAMICS IN CHLORIDE CONCENTRATIONS VIA HIGH-FREQUENCY CONDUCTIVITY MEASUREMENTS](#) - Joel Moore (Towson University)
- [IS ROOFTOP RUNOFF SAFE FOR GROWING VEGETABLES? EVALUATING WATER QUALITY AND FOOD SAFETY OF ROOFTOP RUNOFF USING A SUBSURFACE IRRIGATION SYSTEM](#) - Rachel Rosenberg Goldstein (University of MD) and Claire Hudson (Hood College)

ROOM A-302 – ENGAGING STUDENTS FOR A HEALTHIER PLANET – Moderator, Diana Muller (Maritimas)

- [BALTIMORE COUNTY PUBLIC SCHOOLS SALT WATCH](#) - Joe Davis and Matt Budinger (Baltimore County Public Schools)
- [ENGAGING STUDENTS IN STORMWATER SCIENCE](#) - Danielle Wynne (Fairfax County, VA Stormwater Mgmt.)
- [WHAT LIVES IN THE HARBOR? BALTIMORE CITY STUDENTS INVESTIGATE BAY WATER QUALITY](#) - Sarah Haines and Chelsea McClure (Towson University)
- [STUDENT INVOLVEMENT: THE CHALLENGES AND THE BENEFITS](#) - Lolita Kiorpes (North Point High School /Charles County)

3:00 – 3:30 Break/Poster Session – Authors Present – Announcement of Student Poster Award Winners (Auditorium)

Concurrent Sessions - 3:30 – 4:30

AUDITORIUM - FROM RESTORATION TO RECOVERY - STREAM RESTORATION MONITORING III – Moderator, Jim Gracie (Brightwater)
<ul style="list-style-type: none">• IMPLICATIONS OF REMOVED AND EXISTING DAMS ON BENTHIC MACROINVERTEBRATE ASSEMBLAGES IN THE PATAPSCO RIVER, MARYLAND - Jonathan Watson (MDNR)• EFFECTS OF FLOODPLAIN RECONNECTION ON DISSOLVED NITROGEN AND CARBON CONCENTRATIONS IN RESTORED MARYLAND STREAMS - Virginia Jeppi (Towson University)• ARE WE THERE YET? FROM RESTORATION TO RECOVERY - STREAM RESTORATION MONITORING III CONCLUDING REMARKS - Neely L. Law (Center for Watershed Protection)
ROOM A-300 - CITIZEN SCIENTISTS GET THE JOB DONE! (AGAIN) – Moderator, Jai Cole (M-NCPPC)
<ul style="list-style-type: none">• MAGOTHY RIVER ASSOCIATION: A BAND OF CITIZEN SCIENTISTS - Sally Hornor and Paul Spadaro (Magothy River Assn.)• 40 YEARS OF CITIZEN SCIENCE MONITORING AT OSBORN COVE: ANALYSIS OF A LOCAL TIDAL TRIBUTARY - Mackenzie Bodman (UMBC/Chesapeake Bay Program Office)• THE MARKETPLACE AS A SOURCE OF CITIZEN SCIENTIST - Kelton Clark (Open Shell Environmental LLC)
ROOM A-111/113 – LIFE ON THE BOTTOM – BENTHIC MACROINVERTEBRATES – Moderator, Kyle Hodgson (MDNR)
<ul style="list-style-type: none">• ASSESSING THE PRECISION OF MARYLAND'S BENTHIC INDEX OF BIOTIC INTEGRITY - Tomas Ivasauskas (MDNR)• BENTHIC MACROINVERTEBRATE RESPONSES TO A REGENERATIVE STORMWATER CONVEYANCE RESTORATION IN A COASTAL PLAIN STREAM - Kyle Hodgson (MDNR)• BIOENERGETICS: A SUPPLEMENTARY APPROACH TO STANDARD METHODS OF STREAM BIOASSESSMENT - Madison Smith (Towson University)
ROOM A-307 – NUTRIENTS AND OIL DON'T MIX – Moderator, Drew Budelis (Versar)
<ul style="list-style-type: none">• SIMULATED OIL SPILL SHOWS POTENTIAL IMPACT FOR MICROBIAL COMMUNITY IN JONES FALLS - Mychala Snead (Stevenson University)• BMP IMPLEMENTATION: INTEGRATING COST-EFFECTIVENESS AND CO-BENEFITS WITH NUTRIENT EFFICIENCY - Olivia H. Devereux (Devereux Environmental Consulting)
CLASSROOM 1 – BETTER HYDROLOGY = HEALTHIER WATERS – Moderator, Joe Arrowsmith (Straughan)
<ul style="list-style-type: none">• RESTORATION OF COASTAL PLAIN HEADWATER HYDROLOGY THROUGH USE OF ARTESIAN GROUNDWATER SOURCES ON A GRID DITCHED SITE IN BELTSVILLE, MD - Kirk Mantay (GreenTrust Alliance)• A MODEL FOR STREAM RESTORATION: ALIGNING TWO-DIMENSIONAL HYDRAULICS WITH FUNCTIONAL OUTCOMES - Joe Arrowsmith (Straughan Environmental)
CLASSROOM 2 – LOCAL GOVERNMENTS IMPROVE OUR WATERS – Moderator, Brian Smith (MDNR)
<ul style="list-style-type: none">• CEDAR HAVEN LIVING SHORELINE: AN EXAMPLE OF THE BENEFITS OF STABILIZING TIDAL RIVER SHORELINES - Ingrid Bauer (Straughan Environmental)• KEEPING OUR PARKS & STREAMS CLEAN - Henry Coppola (M-NCPPC)
CLASSROOM 3 – BIG PICTURE PROJECTS FOR THE BAY AND ITS WATERSHED – Moderator, Shannon Lucas (KCI)
<ul style="list-style-type: none">• A NEW APPROACH TO IDENTIFYING DRIVERS OF REGIONAL WATER-QUALITY CHANGE, WITH A PILOT APPLICATION IN THE CHESAPEAKE BAY WATERSHED - Jeffrey Chanat (USGS)• CREDITING LAND CONSERVATION FOR AVOIDING WATER QUALITY DEGRADATION - Peter R. Claggett (USGS)• CLEAN WATER HUB – INNOVATIVE WATER QUALITY DATA SHARING AND VISUALIZATION - Samantha Briggs (Izaak Walton League of America)
ROOM A-302 – AN APP A DAY KEEPS THE DOCTOR AWAY – Moderator, Byron Madigan (Carroll County)
<ul style="list-style-type: none">• SOUTH RIVER FEDERATION WATER QUALITY MONITORING APP - Emily Wiggans (Chesapeake Conservancy)• TURN OBSERVATIONS INTO ACTION WITH WATER REPORTER - Erin Hofmann (Chesapeake Commons)

4:30 Adjourn

5:00 – 7:00 Social – Checkerspot Brewing Company



Poster Presentations (In Order of Primary Author's Last Name)

CREATING A SUSTAINABLE VOLUNTEER MONITORING PROGRAM AND INTERPRETING HEALTH RESULTS: AN ANACOSTIA RIVER CASE STUDY - Olivia Anderson, Trey Sherard, Robbie O'Donnell and Ben Turner (Anacostia Riverkeeper)

RE-DISCOVERY OF A POPULATION OF YELLOW LANCE IN THE HAWLINGS RIVER - Matt Ashton (MDNR), Megan Davis (Chesapeake Conservation Corp/MDNR), Jackie Sivalia and James McCann (MDNR)

(Student Poster) VOLUNTEERS WELCOME! MONITORING IRVINE NATURE CENTER'S RESTORED WETLAND - Karleigh Baldwin, Marissa Hoffman, Natalie Johnson, Taylor Long, Gillian Nutter, Julianne Parker and Colby Stein (Stevenson University), Courtney Sagal, Rob Mardiney and Brooks Paternotte (Irvine Nature Center) and Kim Pause Tucker (Stevenson University)

(Student Poster) SUSPENDED AND DISSOLVED NUTRIENT LOAD IN FLOODPLAIN STREAM RESTORATION STREAMS AT BASEFLOW IN BALTIMORE AND HARFORD COUNTY - Luke Barragan (Towson University Geosciences), Patrick McMahon, Virginia Jeppi, Vanessa Beauchamp and Joel Moore (Towson University)

(Student Poster) INCREASING ENVIRONMENTAL REALISM: *DAPHNIA MAGNA* TOXICITY TESTS WITH LOCALLY RELEVANT STRESSORS AND RESOURCE ENVIRONMENTS - Madelin Barry, Amanda Isabella, Andrew East and Christopher Salice (Towson University)

THE ELEVENTH ANNUAL MARYLAND STREAMS ROUNDTABLE - Andy Becker (KCI Technologies, Inc.)

(Student Poster) LONG TERM MONITORING OF A HOWARD COMMUNITY COLLEGE CAMPUS STREAM - Caitlin Beckjord, Jennifer Kling and Dr. William Straube (Howard Community College)

URBAN STREAM RESTORATION: MATERIAL PROCESSING AND CONVEYANCE CHANNELS - Maddie Berg (James Madison University)

CANCELLED - JUG BAY CITIZEN SCIENCE: WATER QUALITY ANALYSIS OF THREE STREAMS - Jeffrey Campbell, Robert Smith, Peter Uimonen, Kim Elliott, David Davis and Patricia Delgado (Jug Bay Wetlands Sanctuary)

CANCELLED - ILLICIT DISCHARGE DETECTION AND MONITORING METHODOLOGY - Julie Chang and Paul Sturm (Ridge to Reefs)

ADDRESSING COMPACTED SOILS FOR STORMWATER MANAGEMENT - Kathleen Cullen (US Fish and Wildlife Service/Towson University)

FRESHWATER MUSSEL RESTORATION IN THE PATAPSCO RIVER: EMPLOYING MUSSELS AS BIOFILTERS - Megan Davis (Chesapeake Conservation Corp/MDNR)

BMP IMPLEMENTATION: INTEGRATING COST-EFFECTIVENESS AND CO-BENEFITS WITH NUTRIENT EFFICIENCY - Olivia H. Devereux (Devereux Environmental Consulting, Inc.)

INVESTIGATING BROOK TROUT POPULATIONS ABOVE AND BELOW WATERFALLS - Hannah Eisemann and Dr. Christine May (James Madison University)

QUANTIFYING WATERSHED EXPORT OF ATMOSPHERIC NITRATE ACROSS LAND-USES IN MARYLAND USING TRIPLE OXYGEN ISOTOPES - Keith Eshleman, Joel Bostic and David Nelson (University of Maryland Center for Environmental Science)

EFFECTS OF URBANIZATION AND GREEN INFRASTRUCTURE ON STREAM HABITAT AND BENTHIC COMMUNITY COMPOSITION IN PIEDMONT HEADWATER STREAMS - Rosemary Fanelli (U.S. Geological Survey MD-DE-DC Water Science Center) and Kristina Hopkins (U.S. Geological Survey South Atlantic Water Science Center)

CALCULATING NUTRIENT AND SEDIMENT CONCENTRATIONS BEFORE AND AFTER BMP INSTALLATION IN THE CORSICA RIVER WATERSHED - Brittany Furlong (Chesapeake Conservation Corp/MDNR)

EFFECTS OF NUTRIENT ENRICHMENT ON PHYTOPLANKTON COMMUNITY DYNAMICS IN A CONTROLLED MESOCOSM EXPERIMENT - Samantha Gleich, Patricia Glibert (University of Maryland Center for Environmental Science) and Caroline Solomon (Gallaudet University)

(Student Poster) EVALUATING THE EFFECTS OF SYSTEM MATURATION ON POLLUTANT LOADS FROM STREAM-WETLAND COMPLEXES - Julianna Greenberg, Michael Williams (University of Maryland) and Solange Filoso (University of Maryland Center for Environmental Science)

(Student Poster) HEALTH OF THE ANACOSTIA FROM BEGINNING TO END - Julianna Gross, Claire Moran, Anika Mittu, Sinead Claffey, Fatima Korama, Sofia Grossman and Samantha Suissa (Sherwood High School, SERC)

(Student Poster) EFFECTS OF WETLAND RESTORATION ON STREAM HEALTH: AN ASSESSMENT OF THE WETLAND RESTORATION PROJECT AT IRVINE NATURE CENTER - Crystal Lynn Heintzelman and Wolf T. Pecher, (University of Baltimore)

ILLICIT DISCHARGE DETECTION CASE STUDIES IN PHASE I MS4 JURISDICTIONS - Thomas Jones, Charles Tonkin and Martin Berlett (Versar)

EFFECTS OF PRECIPITATION ON DISSOLVED OXYGEN IN A REGENERATIVE STREAM CONVEYANCE SYSTEM - Shayna Keller, Sarah Giordano and Jesse Iliff (South River Federation)

(Student Poster) ASSESSING THE EFFECTS OF A STREAM RESTORATION ON HYPORHEIC EXCHANGE - Christina (Charli) Klein, Carey E. Pelc and Thomas E. Jordan (Smithsonian Environmental Research Center)

A COLLABORATIVE APPROACH TO ADDRESSING ROADWAY CONGESTION WHILE BALANCING ENVIRONMENTAL IMPACTS AND FISH PASSAGE THROUGH AGENCY COORDINATION AND STREAM RESTORATION IN MONTGOMERY COUNTY, MD - Sarah Koser (EA Engineering, Science, and Technology, Inc., PBC), Jared Paper-Evers (Maryland Department of Transportation/SHA, Matt Harper (Maryland-National Capital Park and Planning Commission) and Mary Matzke (Century Engineering, Inc.)

(Student Poster) WHAT'S IN YOUR HERBICIDE? UNREGULATED "SAFENERS" MODIFY EFFECTS OF S-METOLACHLOR ON NON-TARGET ALGAL SPECIES - Sarah Lanasa, Christopher Salice and Andrew East (Towson University)

(Student Poster) CHARACTERIZING STORM EVENT CONCENTRATION-DISCHARGE RELATIONSHIPS IN URBAN WATERSHEDS USING HIGH-FREQUENCY DATA - Melinda Marsh (Towson University), Kyle Bucher (AECOM) and Joel Moore (Towson University)

A COMPARISON OF TWO INDEX OF BIOTIC INTEGRITY (IBI) CALCULATIONS FOR BENTHIC MACROINVERTEBRATES AND FISH AT A MITIGATION SITE - Martha McCauley and Sarah Koser (EA Engineering, Science, and Technology, Inc., PBC), Brian Cox (Maryland SHA), Matt Harper (Maryland-National Capital Park and Planning Commission)

(Student Poster) DETECTION OF ESTROGEN IN A BALTIMORE WATERSHED - Aaliyah McCullough and Jasmyn George (Coppin State University)

EXPORT OF NUTRIENTS FOLLOWING LEGACY SEDIMENT REMOVAL AND FLOODPLAIN RECONNECTION RESTORATION PROJECTS - Patrick McMahon (Towson University)

LONG TERM HYDROLOGIC MONITORING OF A SENSITIVE WETLAND HABITAT - Kelley Moxley and Kelly Lennon (WSP) and William Buettner (Maryland Department of Transportation/SHA)

(Student Poster) FOUR YEARS OF STUDENT-TEACHER-AND-RESEACHER (STAR) PROJECT DATA MEASURING SOURCES OF NITROGEN POLLUTION ON SCHOOLYARDS IN WESTERN MARYLAND - Northern Garrett High School, Rebecca Kenyon-Sisler (Northern Garrett High School) and David M. Nelson, Cassie Doty, Andrew J. Elmore, Joel Bostic, and Cathlyn D. Styliniski (UMCES Appalachian Laboratory)

(Student Poster) INFLUENCE OF DIFFERENT N, P AND SI ADDITIONS ON UREA UTILIZATION PATHWAYS IN AN ANACOSTIA RIVER PHYTOPLANKTON COMMUNITY - Mauricio Orozco and Casey Peck (Gallaudet University), Samantha Gleich, Michelle Lin and Patricia Glibert (UMCES/HPL) and Caroline Solomon (Gallaudet University)

ANACOSTIA RIVER (MD/DC) LEGACY CHLORDANE BY ACTIVE BIOMONITORING (*CORBICULA*) - Harriet Phelps (University of the District of Columbia)

SURVEY OF FRESHWATER ANNELIDS IN THE POTOMAC RIVER BASIN - Corey Rennolds and Alexandra Bely (University of Maryland - College Park)

CHESAPEAKE BAY DERELICT CRAB TRAP REMOVAL IN BALTIMORE COUNTY, MARYLAND FOR TIDAL MITIGATION - Kristen Rigney (EA Engineering, Science, and Technology, Inc. PBC), H. Ward Slacum Jr. (Oyster Recovery Partnership), Todd Nichols (Maryland Department of Transportation), Sarah Koser (EA Engineering, Science, and Technology, Inc. PBC)

COASTAL ATLANTIC OCEAN WATER QUALITY ASSEMENT ALONG THE ASSATEAGUE ISLAND NATIONAL SEASHORE - Morgan Ross and Judith O'Neil (UMCES Horn Point Lab) and Catherine Wazniak (MDNR)

TOPOVAR90M: GLOBAL HIGH-RESOLUTION TOPOGRAPHIC VARIABLES FOR ENVIRONMENTAL MODELING - Tushar Sethi (Go Global GIS LLC), Guseppe Amatulli (School of Forestry & Environmental Studies, Center for Research Computing Yale University), Sami Domisch (Leibniz-Institute of Freshwater Ecology and Inland Fisheries, Berlin, Germany), Tushar Sethi (Spatial-Ecology, Meaderville House, Wheal Buller, Redruth, Cornwall, UK) and Peter Strobl (European Commission, Joint Research Centre, Directorate for Sustainable Resources, Ispra, Italy)

STREAM ASSESSMENT AND SEDIMENT MONITORING FOR TMDL CREDITING - Brennan Smith (Versar), Steven Morsberger and Russell Ewing (McCormick Taylor)

CITIZEN SCIENCE TO SUPPORT INCLUSIVE CHESAPEAKE BAY RESEARCH - Suzi Spitzer, Caroline Donovan, Alexandra Fries, and Bill Dennison (University of Maryland Center for Environmental Science)

(Student Poster) WATER QUALITY ASSESSMENT OF DIVIDING CREEK OUTFALL RETROFIT AND STREAM RESTORATION - Alexander Thompson, April Bothe and Allison Troy (Anne Arundel Community College)

TEMPORAL VARIATIONS IN CHLORIDE CONCENTRATIONS IN GROUNDWATER IN THE PIEDMONT PHYSIOGRAPHIC PROVINCE OF MARYLAND - Tiffany VanDerwerker (Maryland Geological Survey)

(Student Poster) USING THE STREAM FUNCTION PYRAMID TO MEASURE RESTORATION SUCCESS IN DIVIDING CREEK, ARNOLD, MARYLAND - Lucia Villamizar, Katherine Duafala and Dylan Schrader (Anne Arundel Community College)

(Student Poster) COMPARISON OF *VIBRIO VULNIFICUS* WITH PH, SALINITY, AND TEMPERATURE - Mary Wenzel (Anne Arundel Community College)

A LOOK AT A SEED BANK WITHIN A RIPARIAN WETLAND - Lisa Wheeler and Vanessa Beauchamp (Towson University)

