

32nd
Annual
Conference

CONNECTING THE DROPS

WATERSHEDS

&

DATA

PEOPLE

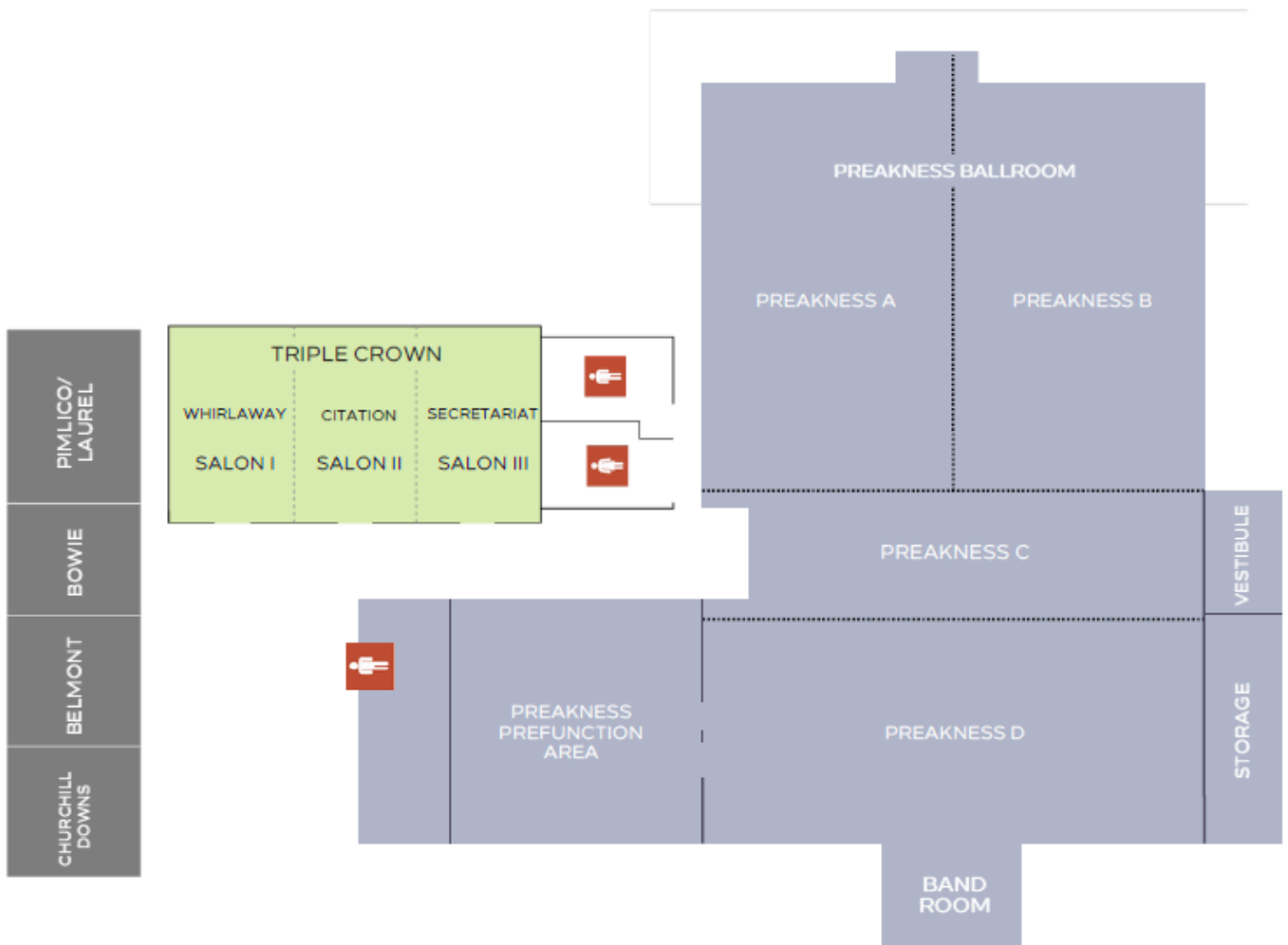


November 19, 2026 • DoubleTree by Hilton Conference Center • Pikesville, Maryland

MARYLAND WATER MONITORING COUNCIL
32nd Annual Conference - Thursday, November 19, 2026

Connecting the Drops: Watersheds, Data, and People

- 7:30 Registration/Poster Set-up/Continental Breakfast – Registration in Foyer
- Morning Plenary Session (8:30-10:00) in Preakness AB
- 8:30 MWMC Board Chair's Call to Order - Bryon Madigan, Carroll County BRM
- 8:45 Plenary Speaker - Lucinda Powers, Environmental Protection Agency
- 9:15 Plenary Speaker - Tim Wheeler, Bay Journal
- 9:45 Carl S. Weber Award - Clark Howells, Washington Suburban Sanitary Commission
- 10:00 Break/Poster Session - Authors Present



Concurrent Session - 10:30-12:00

Preakness A - Restoration I

Moderator: Mark Southerland and Nancy Roth (Tetra Tech)

WHERE DOES ALL THIS DAM SEDIMENT GO: HOLISTICALLY ASSESSING THE LONG-TERM FATE OF IMPOUNDMENT SEDIMENT RELEASES FROM DAM RELEASES - Zachary Clifton and Marina Metes, U.S. Geological Survey

LARGE SEDIMENT YIELD AFTER MITIGATION PROJECTS: THE STORY OF FOSTER BRANCH - Alex Soroka, U.S. Geological Survey

HERPETOFAUNAL USE OF CONSTRUCTED VERNAL POOLS AT STREAM RESTORATION SITES IN FAIRFAX COUNTY, VIRGINIA - Mark Southerland, Tetra Tech and Emily Benoit, Fairfax County

Preakness B - Stormwater I (Data Modeling)

Moderator: Radhika Wijetunge (Howard Co.)

QUANTIFYING THERMAL IMPACTS OF STORMWATER IN AN URBANIZED BROOK TROUT WATERSHED - Neal Eshleman, MD DNR FABS

TEMPERATURE REDUCTION IN STORMWATER DURING FLOW THROUGH BIORETENTION - Iffat Afreen, University of Maryland, College Park

THERMAL EVALUATION OF STORMWATER WET POND WITH GRAVEL LENS - Byron Madigan, Carroll County Government

Preakness D - Salt

Moderator: Ken Mack (Montgomery Co.)

COORDINATING WINTER SALT REDUCTION: JOINT STATE AND GRASSROOTS STRATEGIES IN MARYLAND - Camryn Arnstein, MDE and Abby Hileman, Izaak Walton League of America

EPISODIC SALINIZATION IMPACTS THE COMPOSITION AND DECOMPOSITION OF DISSOLVED ORGANIC MATTER IN URBAN STREAMS - Ashley B. Dann, University of Maryland

FRESHWATER SALINIZATION ALONG THE WATERSHED CONTINUUM: FROM TRACKING SOURCES OF DEGRADATION TO EVALUATING RESTORATION - Sujay Kaushal, University of Maryland

Concurrent Sessions - 10:30 - 12:00 ctd.

Triple Crown Whirlaway - Groundwater

Moderator: Mat Pajeroski (USGS)

IN-SITU TREATMENT OF PFAS IN GROUNDWATER AND OTHER TALL TALES -
Amelia DaCruz, Tetra Tech and Avanti Corporation

BUILDING A GROUNDWATER FLOW MODEL OF THE MARYLAND COASTAL PLAIN
- John Harris, USGS

MARYLAND GEOLOGICAL SURVEY: GROUNDWATER RESOURCES, RECENT
STUDIES AND TOOLS IN DEVELOPMENT - Heather Quinn, Maryland Geological Survey

Triple Crown Citation- Student Lightening Talks

Moderator: Lindsay DeMarzo (Howard Co.)

RIVER OTTER (*LONTRA CANADENSIS*) HABITAT ASSESSMENT AND
RESTORATION ON GWYNNS FALLS - Abigail Bachman, Stevenson University

EVALUATING THE EFFECTS OF INTRODUCED SPECIES ON NATIVE FISH
FORAGING BEHAVIOR - Payton Barry, University of Maryland, Baltimore County

AMPHIBIAN RESPONSES TO TEMPORARY CONSTRUCTION DISTURBANCE IN AN
URBAN WETLAND - Yundoo Lee, McLean High School

STOP, SWAP, AND ROLL - Atabong Njefe, Eleanor Roosevelt High School

ANALYZING THE ROLE OF INVASIVE *DRESENIA* IN FILTERING POLYETHYLENE
TEREPHTHALATE PARTICLES AND DISSOLVED IBUPROFEN - Zoey Smith, Johns
Hopkins University

EVALUATING SHIFTS IN ORGANIC MATTER COMPOSITION BEFORE AND AFTER
STREAM RESTORATION - Regina Yuengling, University of Maryland, College Park

Triple Crown Secretariat - Blue Carbon

Moderator: Marie Panday (MDE)

UPDATES TO THE COASTAL BLUE CARBON MANUAL - Hannah Morrisette,
Smithsonian Environmental Research Center

ASSESSING THE CARBON SEQUESTRATION CAPACITY OF THE POPLAR ISLAND
WETLANDS - Lorie Staver, University of Maryland Center for Environmental Science (UMCES)

REPORT CARDS FOR US COASTAL WETLANDS BASED OFF THE CCN, INCLUDING
NEW GHG AND ABOVEGROUND BIOMASS TO THE EXISTING SOIL DATA - Jaxine
Wolfe

Lunch A - 12:00 - 12:45

Lunch B - 12:45 - 1:30

Poster Session - 1:00 -1:30

Student Posters to present to judges at 1:00 in TBD

Concurrent Sessions - 1:30 - 3:00

Preakness A- Restoration II

Moderator: Nancy Roth (Tetra Tech)

CLOSING THE MONITORING-TO-DECISION GAP: TRANSLATING POOLED MONITORING SCIENCE INTO ACTIONABLE TOOLS - Sadie Drescher, Chesapeake Bay Trust

LANGFORD WATERSHED ALLIANCE: MONITORING RESTORATION SUCCESS AT A WATERSHED SCALE - Chelsea Peters, Washington College

EVALUATING STREAM RESTORATION EFFECTIVENESS: LOAD REDUCTIONS AND BIOLOGICAL RESPONSES AT UT SASSAFRAS - Allyson Bartell, Maryland DNR

Preakness B - Stormwater II (Models & Maintenance)

Moderator: TBD

URBAN EVOLUTION AND THE SHIFTING STORMWATER BURDEN: IMPERVIOUS COVER EVIDENCE FROM 1.3 MILLION CHESAPEAKE BAY WATERSHED PARCELS - Adrielli Bonfanti Pagnoncelli, Morgan State University

TRANSFORMING STORMWATER MANAGEMENT: THE ROLE OF DATA IN MAINTENANCE - Kyndal Gehlbach, M-NCPPC Montgomery Parks

SENSORED PERMEABLE PAVEMENT FOR ELEVATED PERFORMANCE AND REDUCED MAINTENANCE - Aaron Fisher, Ernest Maier

Preakness D - Water Quality

Moderator: TBD

AMBIENT LEVELS OF PFAS IN MARYLAND SURFACE WATERS - Ben Daniels, Maryland Department of the Environment

TEMPORAL CHANGES IN 6PPDQ CONCENTRATIONS ACROSS STORM HYDROGRAPHS - Tristan Mohs and Tyler Bowser, US Geological Survey

TBD

Concurrent Sessions - 1:30 - 3:00 ctd.

Triple Crown Whirlaway - Lakes I
Moderator: Cathy Wazniak (DNR)

SOMETHING'S FISHY ABOUT HOLLAND PINES POND: FOLLOWING THE CLUES -
Nancy Roth, Tetra Tech

TRANSLATING BENTHIC CYANOBACTERIA RESEARCH INTO MANAGEMENT
TOOLS: VISUALIZING TOXIC HARMFUL ALGAL MATS (*MICROSEIRA WOLLEI*) IN
MARYLAND ESTUARIES AND LAKES - Cathy Wazniak, Maryland Department of Natural
Resources

VERTICAL BIOGEOCHEMISTRY STRUCTURE IN CLOPPER LAKE, MARYLAND:
SURFACE WATER SAMPLES DON'T TELL THE STORY - Jeffrey Cornwell, University of
Maryland Center for Environmental Science - Horn Point Laboratory

Triple Crown Citation - Community Science I
Moderator: TBD

OVERCOMING OPERATIONAL HURDLES IN COMMUNITY-LED WATER QUALITY
TESTING - Becky Golden, ShoreRivers

ALL FEATURES GREAT AND SMALL: DOCUMENTING VERNAL POOLS AND
OTHER WETLANDS IN CENTRAL MARYLAND - Rachel Gauza, Montgomery Parks,
M-NCPPC

TBD

Triple Crown Secretariat - Bay Restoration Modeling
Moderator: Mike McMahon (MDE)

MANAGING EXPECTATIONS AND OPPORTUNITIES FOR A SHALLOW-WATER
FOCUS IN CHESAPEAKE BAY RESTORATION - Jeremy Testa, UMCES Chesapeake
Biological Laboratory

UNINTENDED CONSEQUENCES OF ESTUARINE MANAGEMENT - Molly Mitchell,
Virginia Institute of Marine Science

MOVING FORWARD WITH CESR: USING MONITORING DATA AND MODELING TO
ASSESS LIVING RESOURCE RESPONSES TO RESTORATION - Kenneth A. Rose,
UMCES - Horn Point Laboratory

3:00 Announcement of Student Poster Award Winners in Preakness A

3:00 - 3:30 Break/Poster Session - Authors Present

Concurrent Sessions - 3:30 - 4:30

Preakness A - Restoration III

Moderator: Nancy Roth (Tetra Tech)

TBD

ASSESSING RESPONSES TO URBAN STREAM RESTORATION: LONGITUDINAL PATTERNS IN CARBON AND NITROGEN ALONG WATERSHED FLOW PATHS - Muqarib Tahir Anwar, University of Maryland

Preakness B - Stormwater III (Contaminants)

Moderator: TBD

TRACING TIRE TRANSIT: QUANTIFYING TIRE-DERIVED COMPOUNDS RELEASED ON AND AROUND MARYLAND BRIDGES INTO RECEIVING STREAMS - Cameron Stacey, University of Maryland Center for Environmental Science

MOLECULAR DETECTIVES: TRACKING FECAL POLLUTION SOURCES IN THE ANACOSTIA WATERSHED - Megan Stallard, Smithsonian Environmental Research Center

Preakness D - Water Quality II

Moderator: Megan Brosh (Baltimore Co.)

TBD

TBD

Triple Crown Whirlaway - Lakes II

Moderator: TBD

A REVIEW OF THE LIMNOLOGY OF RESERVOIRS AND IMPOUNDMENTS - Fred S. Lubnow, Princeton Hydro, LLC

MINOR INTERNAL SOURCES OF NUTRIENTS COMPARED TO EXTERNAL LOADING IN SHALLOW AGRICULTURALLY IMPACTED EASTERN SHORE RESERVOIRS - Andrea Pain, UMCES Horn Point Lab

Concurrent Sessions - 3:30 - 4:30 ctd.

Triple Crown Citation - Community Science II

Moderator: Rupert Rossetti (Octoraro Watershed Association)

COMBINING INCUBATIONS, SENSORS, AND MICROBIAL SOURCE TRACKING TO UNDERSTAND E COLI SOURCES ACROSS THE ANACOSTIA WATERSHED - Rebecca Hale, Smithsonian Environmental Research Center

Community Science Committee - Committee Introduction and Meeting

Triple Crown Secretariat - Tech

Moderator: TBD

FROM FIELD DATA TO ACTIONABLE INSIGHTS: A NONPROFIT'S JOURNEY TO STREAMLINED WATER QUALITY DATA MANAGEMENT WITH WQDAS (A SUCCESS STORY) - Najma Khokhar, TechZone MD LLC

OPEN-SOURCE SHALLOW WATER MONITORING IN R - Molly Westbrook, Maryland Department of Natural Resources

4:30 Adjourn

Poster List

(In order of primary author's last name)

<STUDENT POSTER> RIVER OTTER (*LONTRA CANADENSIS*) HABITAT ASSESSMENT AND RESTORATION ON GWYNNS FALLS - Abigail Bachman, Stevenson University

BACTERIAL AND WATER QUALITY MONITORING IN THE GUNPOWDER RIVER - Braeden Bayne, Gunpowder RIVERKEEPER®

DETERMINING GROUNDWATER RESIDENCE TIME IN A WATERSHED USING DISSOLVED GASES AND AGE TRACERS, WAR BRANCH, CHESAPEAKE BAY WATERSHED, VA - Gerolamo (Jerry) Casile, U.S. Geological Survey

SPATIAL AND TIME SERIES ANALYSIS OF INVASIVE CRAYFISH IN MARYLAND - Lydia Clark, MD DNR and Chesapeake Conservation and Climate Corps

ASSESSING BALTIMORE'S CREATED MARSHES' RESILIENCE TO SEA LEVEL RISE: THE MIDDLE BRANCH RESILIENCY INITIATIVE (MBRI) - Emma Cotter, Smithsonian Environmental Research Center

EVALUATING MICROBIAL WATER QUALITY AND RAPID DETECTION METHODS FOR URBAN RECREATIONAL WATER SAFETY - Kathryn P Dixon, University of Maryland and Smithsonian Environmental Research Center

COMPARING EDNA AND TRADITIONAL SAMPLING METHODS FOR ASSESSING ECOLOGICAL UPLIFT IN RESTORED STREAMS: A COMBINED LITERATURE REVIEW AND FIELD STUDY - Neil Fuller, EA Engineering, Science, and Technology Inc., PBC

<STUDENT POSTER> INVESTIGATING THE OUTCOMES OF WETLAND RESTORATION ON MACROINVERTEBRATE COMMUNITIES AFTER 22 YEARS - Amy Goodman, University of Maryland, College Park

CHARACTERIZING MULTI-STRESSOR EXPOSURES TO JUVENILE STRIPED BASS IN THE CHESAPEAKE BAY: TEMPERATURE, NUTRIENTS, AND TOXINS - Brianna Hutchins, Towson University

<STUDENT POSTER> INVESTIGATING CHANGES IN BRIGHTNESS AND BACKGROUND MATCHING IN *COTTUS CAERULEOMENTUM* - James Keller, University of Maryland, Baltimore County

LOW-COST STACKABLE SENSING SYSTEM FOR NON-PERENNIAL STREAM DYNAMIC MONITORING - Lydia LaGorga, Smithsonian Environmental Research Center

MULTI-TIERED TRACKING OF AN EXTENSIVE MARGALEFIDINIUM POLYKRIKOIDES BLOOM IN TANGIER SOUND, MARYLAND (AUGUST 2026) - Elizabeth Larson, Maryland Department of Natural Resources

<STUDENT POSTER> AMPHIBIAN RESPONSES TO TEMPORARY CONSTRUCTION DISTURBANCE IN AN URBAN WETLAND - Yundoo Lee, McLean High School

CHARACTERIZATION OF STREAM CHEMISTRY OF STORMS FROM HIGH-FREQUENCY SENSOR DATA AT BALTIMORE ECOSYSTEM STUDY FIELD SITES - Mary McWilliams, UMBC/CUERE

REMOTE MAPPING AND ASSESSMENT OF SURFACE STORMWATER STORAGE IN THE CHESAPEAKE BAY WATERSHED - Marina Metes, U.S. Geological Survey (USGS)

COLLABORATING WITH CITIZEN SCIENTISTS TO REINSTATE SAMPLING OF IMPAIRED WATERSHEDS - Shannon Moorhead, Maryland Department of Natural Resources

<STUDENT POSTER> STOP, SWAP, AND ROLL - Atabong Njefe, Eleanor Roosevelt High School,

<STUDENT POSTER> CHARACTERIZING ANTIBIOTIC RESISTANCE IN ENVIRONMENTAL *E. COLI* IN THE ANACOSTIA WATERSHED - Janya Patel, University of Maryland, College Park

<STUDENT POSTER> DYNAMICS OF STREAM NUTRIENT PATTERNS AND SPATIAL VARIATION IN THE ANACOSTIA WATERSHED - Sophie Penix, Smithsonian Environmental Research Center (Virginia Tech student who did a summer internship at SERC)

RESPONSE OF WHITE PERCH TO DEVELOPMENT IN A LONG-TERM MONITORING STUDY OF THE TRED AVON RIVER - Marisa Ponte, Maryland Department of Natural Resources

AFFORDABLE AND ACCURATE WATER MONITORS CAN DEPLOY FROM COMMERCIAL CRAB BOATS - Dietrich Ruehlmann, GaiaXus Inc

MONITORING NUTRIENT DYNAMICS AND MICROBIAL WATER QUALITY IN THE POTOMAC RIVER AFTER THE 2026 SEWAGE SPILL - Bianca Sanchez, Smithsonian Environmental Research Center

ASSESSING THE IMPACT OF EDUCATION AND KNOWLEDGE ON SEPTIC AND WELL MAINTENANCE AND FUNCTIONALITY - Cameron Smith, University of Maryland

<STUDENT POSTER> ANALYZING THE ROLE OF INVASIVE *DRESENIA* IN FILTERING POLYETHYLENE TEREPHTHALATE PARTICLES AND DISSOLVED IBUPROFEN - Zoey Smith, Johns Hopkins

TRACING TIRE TRANSIT: QUANTIFYING TIRE-DERIVED COMPOUNDS RELEASED ON AND AROUND MARYLAND BRIDGES INTO RECEIVING STREAMS - Cameron Stacey, University of Maryland Center for Environmental Science (UMCES)

DEVELOPMENT AND APPLICATION OF AN ECOTAXA IMAGE CLASSIFICATION WORKFLOW FOR MARYLAND PHYTOPLANKTON AND HARMFUL ALGAL BLOOM MONITORING USING FLOWCAM 8400 - Marlon Waits, Maryland Department of Natural Resources

MAPPING COASTAL WETLAND DATA AVAILABILITY AND CARBON STOCKS IN MARYLAND - Summer Walker, Smithsonian Environmental Research Center

EVALUATING TAMPLING LIMITATIONS AND POSSIBILITIES - Isabel Wamsteker, Smithsonian Environmental Research Center

FIRST MARYLAND DETECTION AND GENETIC CHARACTERIZATION OF THE EPIPHYTIC CYANOBACTERIA, *AETOKTHONOS HYDRILLICOLA*, ON *HYDRILLA* IN ST. MARY'S LAKE, ST. MARY'S COUNTY - Catherine Wazniak, Maryland Department of Natural Resources,

<STUDENT POSTER> EVALUATING SHIFTS IN ORGANIC MATTER COMPOSITION BEFORE AND AFTER STREAM RESTORATION - Regina Yuengling, University of Maryland, College Park