



USEPA's  
**Faster...Cheaper...Greener**  
Webcast Series

*21st Century Innovation and Design for the Triple Bottom Line*

**“Connecting Natural and Built Systems for  
Economic Growth & Resiliency”**



*Featuring A Series of Webcasts Exploring New Water Centric  
Strategies, Designs, Technologies and Applications Inspired By  
Nature, to Create Solutions For a Prosperous Planet*

Co-sponsored by:



**Bioinspired Innovations**—many pertaining to significant water-related issues such as quality, quantity, and scarcity—are increasing revenues, mitigating risk, reducing costs, improving health, and supporting the development of a regenerative and resilient society.

These exciting innovations are highlighted in Terrapin Bright Green's\* recently published reports - [\*Tapping into Nature: The Future of Energy, Innovation, and Business\*](#) and [\*14 Patterns of Biophilic Design: Improving Health and Well-Being in the Built Environment\*](#)

There will be 1.5 Professional Development Hours (PDHs) offered for each webcast – the certificate will be sent via email after the event. Please check with your state accreditation agency to determine if you qualify. Questions about PDHs should be sent to [webcasts@wef.org](mailto:webcasts@wef.org)

***Please join us for this special webcast series!***

**Session I – October 21, 2015, 1:00 – 2:30 pm**

### Ecological Built Environments

This session will feature an effective toolkit for bringing principles from the ecological sciences to the evaluation of built and managed space. The Framework for the Ecological Built Environment (“Phoebe Framework”) is unique among built environment analytical tools in that it celebrates open-loop, systems thinking that is transboundary, interconnected, dynamic, and process driven. With a focus on water resources, the presentation will illustrate principles of the framework using a number of case studies, including a feature presentation of highlights from the 82 acre Greenbelt, MD Mixed-Use Re-Development Next Generation Visioning Charrette, through the input of global experts on green infrastructure, regenerative ecosystems, integrated transportation planning, energy efficiency and renewable energy, and community engagement and education. This webcast is targeted at professionals interested in interdisciplinary collaborations between the environmental sciences and designers and developers of the built environment.

## **Moderator**

### **Dominique Lueckenhoff, Deputy Director, EPA Region 3, Water Protection Division**

Dominique Lueckenhoff has over 20 years of diverse programmatic and geographic experience with US EPA. She currently serves as Deputy Director of the EPA Region 3 Water Protection Division. In this capacity, she supports and shares with the Division Director in the administration and management of all division activities, and water protection and state grant programs for the Mid-Atlantic. She also serves as EPA's management point of contact on the Green Infrastructure (GI) and Urban Waters/Federal Partnership Initiatives in the Mid-Atlantic, in addition to participating in a number of related internal and external national and regional work groups. Her leadership has helped to garner national recognition for Region 3's GI activities - a number of which have been recognized as EPA Office of Water (OW) Best Management Practices. In 2013, she received the National USEPA James W. Craig Pollution Prevention Leadership Award for efforts related to alternative financing and innovative, Public Private Partnerships. In 2015, her work on Community-Based Public Private Partnerships was highlighted by the White House and EPA's National Center for Finance and Resiliency. Her leadership in advancing innovative, collaborative approaches and green practices to achieve sustainability is highlighted by her vision and creation of the Green Communities Program over 18 years ago, the nationally acclaimed Green Highways Partnership, and more recently, development and implementation of the Chesapeake Bay Green Streets, Green Jobs, Green Towns (G3) Initiative and Partnership. Due to her success with the G3 partnership, she received an EPA National Honor Award for Outstanding Leadership in Collaborative Problem-Solving.

## **Instructors**

### **Chris Starkey, Sr. Project Manager, Terrapin Bright Green**

Chris is a senior project manager and researcher at Terrapin. He is a multi-disciplinary combining the skills of an architect with diverse knowledge from the environmental sciences. He has taught at the Boston Architectural College, the Yale School of Architecture, and the Cooper Union where he focuses on sustainable and ecosystem-based design. Chris received his Bachelor of Architecture from Rice University and Master in Architecture and Environmental Management from Yale University. He coauthored Terrapin's paper "Knowledge from Data in the Built Environment" in the 2013 *Annals of the New York Academy of Science*.

### **Garth E. Beall, Manager, Renard Development Co LLC**

Mr. Beall is the Manager of Renard Development Company, LLC, the developer of Greenbelt Station, a planned 4 million square foot Mixed Use Transit-Oriented Development located in Greenbelt, Maryland. Mr. Beall is also a principal with the firm of McNamee, Hosea, Jernigan, Kim, Greenan & Lynch, P.A., a local, mid-sized law firm with offices in Greenbelt and Annapolis, Maryland, a Manager and Co-Founder of Urban Bar-B-Que Systems and Vice Chairman of Ledo Pizza System, Inc., a 100 plus unit franchise system which Mr. Beall's family founded and is headquartered in Annapolis, Maryland. Mr. Beall is a graduate of Boston College (B.A., 1994) and the University of Maryland School of Law (J.D. 1994), and a lifelong resident of the State of Maryland.

### **Jonce Walker, Sr. Project Manager, Terrapin Bright Green**

Jonce, a LEED AP and a Certified Sustainable Building Advisor, is an urban planner and senior project manager at Terrapin specializing in large scale sustainability interventions. His background includes sustainability policy, green building, and transit oriented development. Since joining Terrapin, he has served as project manager for resilient food hubs, large scale

biophilic design reviews, energy master plans and climate positive community projects. Jonce is a three time winner of the *National Association of Counties Achievement Award* for his sustainability leadership during his role as Maricopa County Sustainability Manager.

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## **Session II – November 5, 2015, 1:00 – 2:30 pm**

### **Biophilic Design for Human Health**

This session will feature the basic science of biophilia: how humans biologically respond to patterns and characteristics of nature. The presentation will describe the financial benefits communities can gain by implementing biophilic features and how these features can support public health and community cohesion. Case studies for urban parks and infrastructure and a brief introduction to 14 patterns of biophilic design will be shared to provide a language for communicating these opportunities among your community’s decision makers (designers, landscape architects, environmental engineers, and urban planners). This webcast is targeted at professionals interested in science-based design, green codes, and integrative approaches for green infrastructure that address public health issues through urban design and planning.

#### **Moderator**

**Dominique Lueckenhoff, Deputy Director, USEPA Region 3 Water Protection Division**

#### **Instructors**

##### **Bill Browning, Founding Partner, Terrapin Bright Green**

Bill is an environmental designer, recovering developer, and partner at Terrapin with a focus on green real estate, sustainable master planning, and next generation water and energy systems. Bill was a founding member of the U.S. Green Building Council’s Board of Directors and was most recently the recipient of the 2015 ASID Design for Humanity Award. Bill coauthored *The Economics of Biophilia* and *14 Patterns of Biophilic Design, Green Development: Integrating Ecology and Real Estate, A Primer on Sustainable Building, Greening the Building and the Bottom Line*, and was a contributing author to *Biophilic Design*.

##### **Catie Ryan, Sr. Project Manager, Terrapin Bright Green**

Catie is a designer and senior project manager at Terrapin specializing in biophilic design—using research in neuroscience, environmental psychology and endocrinology to identify nature-based design strategies for improving the human health in the urban environment. Her background includes communications design, sustainable urban development, biophilic design, algal bioenergy, and green infrastructure. Catie coauthored Terrapin’s reports *14 Patterns of Biophilic Design* and *The Economics of Biophilia*, recipient of the 2014 EDRA Achievement Award for excellence in environmental design research.

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## **Session III – November 18, 2015, 1:00 – 2:30 pm**

### **Tapping into Nature: Bioinspired Innovation**

This session will feature technology innovations inspired by nature. These designs are derived from organisms and ecosystems across the globe and can be used to alleviate water issues facing communities across America. The presentation will describe existing bio-inspired technologies that deal with water quantity and quality while providing insight into how these technologies are designed. This webcast is targeted at professionals interested in innovative technologies that help communities deal with water scarcity, water abundance, and water quality.

#### **Moderator**

**Dominique Lueckenhoff, Deputy Director, USEPA Region 3 Water Protection Division**

#### **Instructors**

##### **Erika Hanson, Industrial Partnerships, Terrapin Bright Green**

Erika leads product design and development projects for manufacturers, retailers, and consultancies. Aligning the interests of stakeholders throughout the supply chain, she engages in strategic planning, research, and design to create sustainable products and programs. In 2008, Erika began working with Terrapin to create and grow a statewide biomimicry program in New York. She and the team now collaborate with dozens of researchers and companies throughout the U.S. to design, develop, and commercialize green technologies.

##### **Allison Bennett, Research Analyst, Terrapin Bright Green**

Allison is a research analyst for Terrapin's bioinspired innovation consulting services. With a background in biology and architecture, she has a particular interest in bioinspired design and innovation in the built environment. Allison is a coauthor of Terrapin's latest report *Tapping into Nature: The Future of Energy, Innovation, and Business*.

##### **Cas Smith, Project Manager, Terrapin Bright Green**

Cas is an engineer and materials scientist specializing in biologically-inspired engineering and biofabrication—using biological means to manufacture materials. Since joining Terrapin, he has served as the project manager of their bioinspired innovation consulting work. His background includes biological engineering, materials science, nanotechnology manufacturing, and renewable energy systems. Cas coauthored Terrapin's latest report *Tapping into Nature: The Future of Energy, Innovation, and Business* which describes pioneering companies leveraging strategies seen in nature.

#### **Questions?**

Please contact Denise Rigney at [Rigney.Denise@epa.gov](mailto:Rigney.Denise@epa.gov). Or visit us at <http://www.g3partnership.org/node/127>