RECAP OF STAC SEPTEMBER QUARTERLY MEETING

SEPTEMBER 10-11, 2019

THE DOUBLETREE BY HILTON HOTEL, ANNAPOLIS, MD

5 New STAC Members:

- Deidre Gibson (Hampton University)
- Leah Palm-Forster (Univ. of Delaware)
- Leonard Shabman (Resources for the Future)
- Jay Stauffer (Penn State)
- Jeremy Testa (UMCES-CBL)

New CRC Director: Acts as STAC Executive Secretary

- The CRC Board has named Denice Wardrop (PSU) as the new CRC Executive Director. She will officially start in January 2020, working with (current ED) Bill Ball until then to make a smooth transition.

STAC Chair Rotation: Please update your contacts

- Chair: Andrew Miller: miller@umbc.edu
- Vice Chair: Kathy Boomer: kboomer@foundationfar.org
- Past Chair: Brian Benham: benham@vt.edu

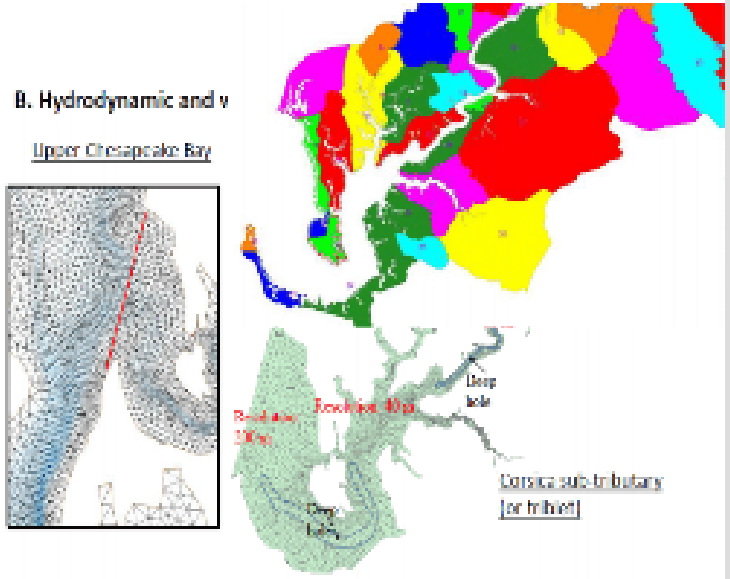
STAC WORKSHOPS: UPDATES AND UPCOMING

Update: *Revisiting Coastal Land-Water Interactions: The Triblet Connection* (May 2018 Workshop; Report Released Sept 2019)

Final Verdict on Triblets:

Powerful Framework for Watershed Management –

- They're adored.
  - Important recreational, cultural, and aesthetic value
  - Critical habitat for species of concern
- They're sensitive to human activities.
  - Watershed condition
  - Shoreline management
  - Human infrastructure (bridges and navigation channels)
  - Sediment resuspension
- They're important bioreactors!



- **Powerful Framework for Research Collaborations -**
  - Each triblet is unique, presenting a challenge (and opportunity) to 100's or 1000's of triblet units.
  - They're understudied.
    - Mapped conditions show wide variability.
    - Complex biogeochemical gradients drive T-zone connectivity and triblet conditions.
    - Currently, limited capacity to predict system response to management alternatives.

Update: *Microplastics in the Chesapeake Bay and its Watershed: State of the Knowledge, Data Gaps, and Relationship to Management Goals* (April 2019 Workshop; Report under review by STAC and release is expected by early October)

Conclusions

- Studies have shown microplastics are fairly ubiquitous throughout the bay and its tributaries. They have been found in both tidal (Yonkos, 2014; Rochman, 2019) and non-tidal waters (Fisher, 2019).
- There is general agreement that plastics represent a widespread, but largely unquantified, threat to the Chesapeake Bay ecosystem.
- Need standardization of terminology
- There are a number of piecemeal efforts to monitor plastics in the Bay, but no systematic effort and no organized effort directed at micro- and nano-plastics.
- **The MOST URGENT need is to identify assessment endpoints that represent areas of environmental and human health concern and to characterize the severity of those risks.**

UPCOMING STAC WORKSHOPS

- **Targeting Non-Point Source BMP Implementation:** November 12-13, 2019: Fairfax, VA
- **Satellite Image Integration for the CB SAV Monitoring Program: Session 1**: October 15-16, 2019: VIMS
- **Linking In-Field and Edge-of-Field Water Management to Soil and Watershed Health:** January 23-24, 2020; WVU
- **Incorporating Freshwater Mussels in the Chesapeake Bay Partnership**: March 5-6, 2020: Annapolis, MD

STAC SCIENTIFIC GAP ANALYSIS (NAME CHANGE)

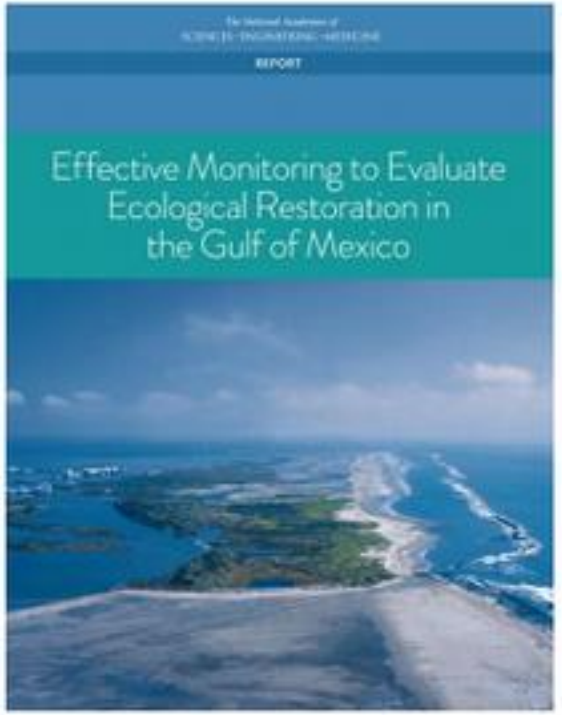
Assessing Ecosystem Restoration Effects on Fish and Shellfish

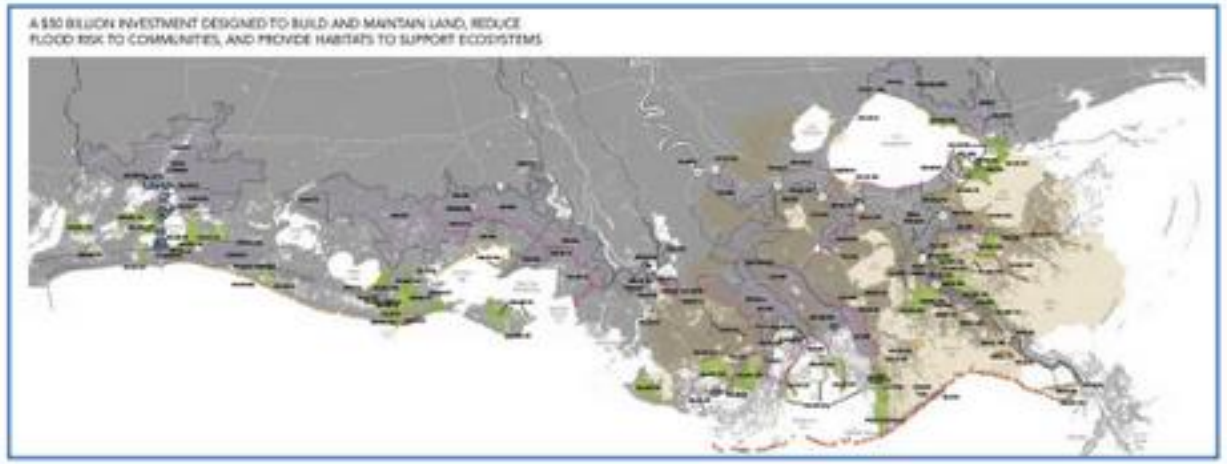
Necessary, Messy, Doable

Kenneth Rose
University of Maryland Center for Environmental Science
Horn Point Laboratory

University of Maryland
CENTER FOR ENVIRONMENTAL SCIENCE

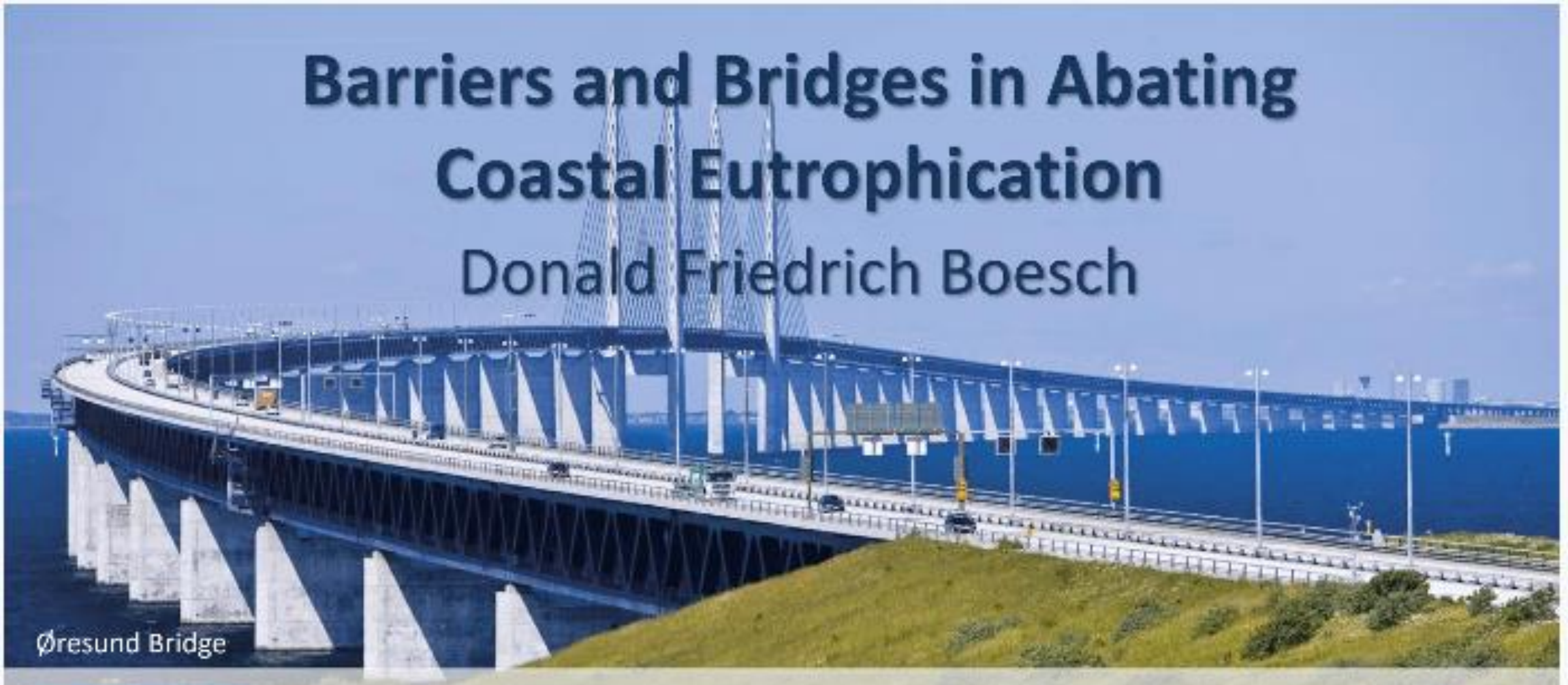
Chesapeake Bay is not alone!





Barriers and Bridges in Abating Coastal Eutrophication

Donald Friedrich Boesch



Øresund Bridge

University of Maryland
Center for Environmental Science

Scientific & Technical Advisory Committee
September 10, 2019

Barriers & Bridges 2

Theme	Barriers	Bridges
Reducing nutrient loads	Debates over limiting nutrients	Holistic N & P strategies
	Atmospheric sources out of control of water mgrs.	Air quality regulations reduce N loads
	Voluntary implementation	Performance compliance
	Expansion of biofuels	Transition to cellulosic biofuels
	Legacies and lags	Focus on sources with more immediate pathways

SCIENCE NEEDS OF THE CBP

EMILY TRENTACOSTE (EPA) AND SCOTT PHILLIPS (USGS)

WHAT WORKED FOR STAC AND WHAT DIDN'T

Fish Habitat science needs

STAC

- **GIS data inventory:** collect and compile fish habitat geospatial datasets
- **Phytoplankton/zooplankton monitoring:** identify cost-efficient options
- **Shallow water monitoring:** identify existing gaps, develop plan
- **Monitor vertical water column:** for hypoxia volume/extent
- **Shoreline condition inventory:** baywide inventory of shoreline condition/type
- **Pilot fish habitat assessment:** determine locations, carry out assessment

Tracking Progress Towards Stream Health

- **Immediate need**: Finalize protocol for updating ChessieBIBI and reporting data
- **Long term need**: Update the ChessieBIBI on whatever frequency we determine to be feasible and perform analysis