BASIN Final Products and Next Steps

STAR Leadership Meeting

March 26, 2015

BASIN Water Quality Report

Estimated Release: TBD

Report Layout

- Chapter 1: History of the Monitoring Program & What is BASIN?
- Chapter 2: Monitoring Needs to Support Adaptive Management
- Chapter 3: Global Webinar Series Insights
- Chapter 4: Approaches to Sustain and Enhance the Monitoring Program
  - Reducing Uncertainty in Tidal Bay Monitoring
  - Explaining Response to Management Actions
  - Sustaining Resources to Support Monitoring
- Chapter 5: How to Implement Recommendations & Moving Forward with BASIN III

Status of BASIN Report

- March 26, 2015:
  - First Review of the Report by Authors
  - Graphics are being created
  - Summary of Recommendations

Next Steps

- Finalize Timeline and Responsibilities for Report Roll-Out

Proposed Timeline

3/26

First Draft Review &

Graphics Review

Date: TBD

Chapter 5: Outline Plans for BASIN III

Date: TBD

Second Draft Review plus Designated Review Team (including comm. staff)

Date: TBD

Work with Communications Team on Roll-Out Plan

ACTION:

Authors will make first round of edits to report

ACTION:

Who will write BASIN III Section?

ACTION:

Determine Designated Review Team

ACTION:

Respond to Comments from Review Team and Comm. Team

Intelligent Monitoring Trifold

Estimated Release: TBD

Method of Discovery:
STAR Global Seminar Series

The Scientific, Technical Assessment, and Reporting (STAR) Team invited monitoring programs from around the globe to share their monitoring knowledge and experiences. As a means to gain insights from monitoring programs old and new, large and small, representatives were asked a series of questions addressing objectives and network design, operational and funding models, innovations, successes, and challenges faced.

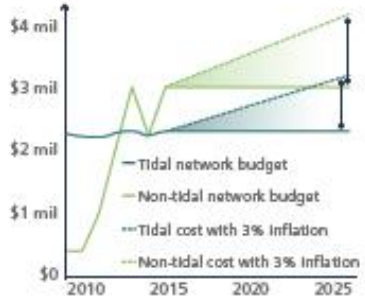
Insights gained from the series of monitoring programs are being assessed for their potential applicability in the Chesapeake region.

Science and Monitoring is a foundation of the new Bay Agreement

The 2014 *Chesapeake Bay Watershed Agreement* is focused on restoring and conserving the nation's largest estuary and its watershed. Ten interconnected goals work towards sustaining fish and wildlife, restoring habitats and water quality, reducing the effects of toxic contaminants, protecting healthy watersheds and lands, and making all these systems more resilient to climate change, while also striving for a more diverse stewards of the Bay watershed through increased public access and environmental literacy in schools.

Science and monitoring will be critical to inform decision-making to carry out the new Agreement. Science provides the foundation in developing management strategies that will achieve the goals in an effective manner. Monitoring provides the accountability needed to assess progress toward the goals and outcomes and identify if changes are needed using an adaptive management framework.

The challenges to acquiring scientific support and sustained data include unpredictable funding, inflationary pressures and expanding partnerships. Unpredictable funding is a growing concern given the multiple demands on tax dollars, while inflation can double the cost of monitoring over a decade. The Chesapeake Bay Program needs to expand its partnerships but understands the challenges of aligning resources and gathering comparable information.



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Online Availability
This publication is also available electronically at www.chesapeakebay.net/basin

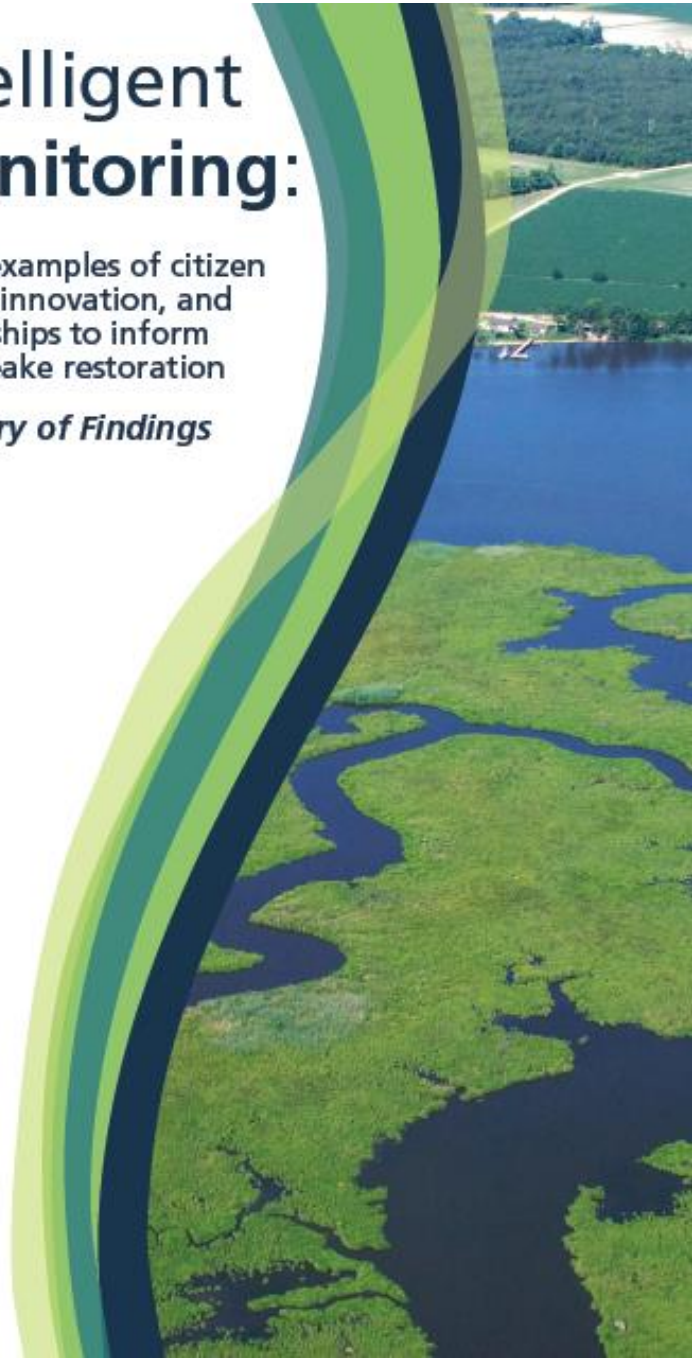
Science Communication, Design, & Layout
Lea Rubin, Chesapeake Research Consortium at the Chesapeake Bay Program.

Front Cover Photo © Chesapeake Bay Program

Intelligent Monitoring:

Global examples of citizen science, innovation, and partnerships to inform Chesapeake restoration

Summary of Findings



Citizen science has tremendous potential but requires coordination, training and continuity

Citizen science has a long, rich history contributing to scientific discovery for environmental monitoring purposes. Citizen science data is not free, but requires coordination and training to be sustainable. The state of Wisconsin, for example, has highly developed citizen science programs assessing water quality in lakes and streams. Wisconsin maintains a rigorous training program with different competency tiers of citizen scientists.

There are hundreds of active citizen science groups in the Chesapeake region. Expanding citizen scientist involvement in monitoring and analysis has multiple benefits:

- allowing for more frequent data collection at more sites,
- providing more trained eyes observing the ecosystem, and
- enhancing community engagement.

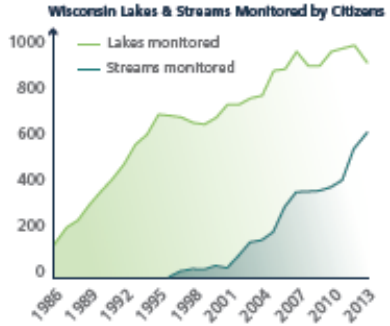
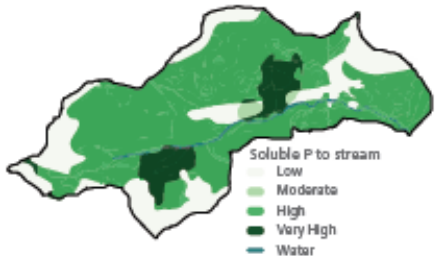


Image to come

Wisconsin Citizen-based Monitoring

Innovation enables new insights, gains efficiencies but can be resource intensive

Globally, technological innovations have provided the application of novel monitoring and assessment approaches. Innovation can be resource intensive and time consuming to develop and implement. There are usually increased costs to develop, test, and implement new innovations, technologies, and partnerships. Depending on the innovation, some technologies require a high degree of maintenance—and higher costs—while others provide long-term savings.



The European Union has two directives to monitor and improve water quality: the Watershed Framework and Marine Framework. Ireland, for example, integrated its inland and coastal waters programs into an innovative risk-assessment system using 3 monitoring components: surveillance, operational, and investigative. The risk assessment provides a tiered assessment of: 1. waters at risk, 2. sources of the pollution, and 3. areas where more detailed investigations are needed. Government funding, and plastic bag and land-fill waste user fees support the monitoring program.

Ireland Environmental Protection Agency

Partnerships can expand capacity, diversify funding but institutional obstacles require effort

Funding for monitoring is typically managed by individual agencies and designed to meet specific program mandates. Pooling funding resources provides opportunities for efficiencies and integration of priorities.

The Puget Sound Partnership has implemented a regional monitoring program funded through contributions by individual municipal storm-water permittees. By creating a common fund, individual costs were reduced and a more robust monitoring program was designed.

Leveraging monitoring data for multiple purposes can also provide partnership opportunities. MARACOOS utilizes a network of stakeholder liaisons to broaden individual user's needs into a regional theme. Partners in the regional network see benefits beyond their individual contributions through leveraging.

These types of partnerships can result in more robust monitoring, but typically require increased coordination, and require that government entities think beyond their individual programs. The benefit is an integrated monitoring program, but care must be given that the initial monitoring objectives of the funders are met and communicated.

Image to come

Chesapeake Bay Program

Next Steps

- Update symbols at the top of interior pages
  - IAN digital library
- Flowchart graphic for Innovation page
  - Risk Assessment Input → Map → Impact Management Decisions
- Graphic for Partnership page
  - Stormwater Pooled Funds in Puget Sound
- Add photo of citizen science monitoring (A few to select from)
- Photo of water quality monitoring for Partnership page and front cover
  - Will Parson and USGS staff
- Editorial Review by STAR Amigos
- Discuss Roll-Out plan with Communications Team

Comments and Feedback, Please.