How the Matrix can benefit your work

Caroline Donovan

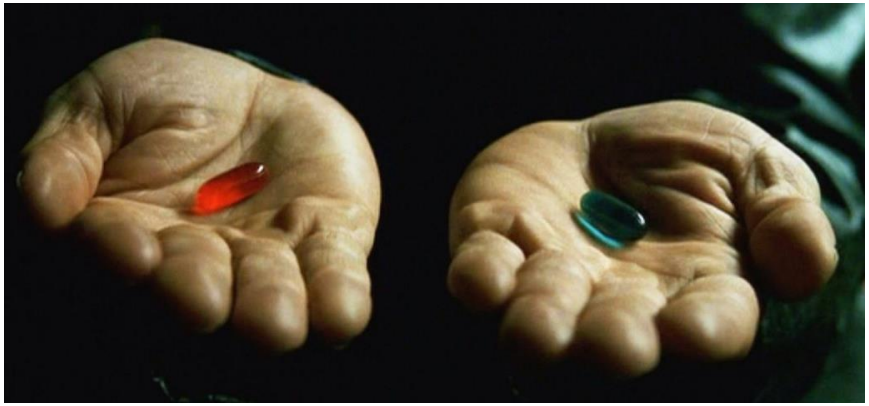
Thursday, May 25, 2017

CBP STAR Meeting

CMC
Chesapeake Monitoring Cooperative

Two parts to the Matrix

- Background
- Indicator factsheets
- Indicator matrix
  - By Goal Team
- How can the matrices help the Goal Teams?

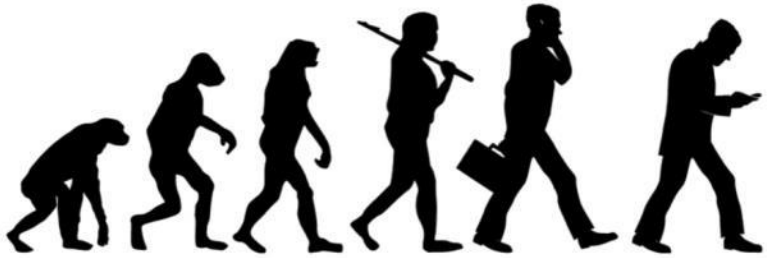


Evolution of the product

- Research, develop, and test new citizen-based monitoring and nontraditional partner monitoring programs' data-based indicators and metrics for their ability to measure and evaluate the effectiveness of management actions. … Prioritization considerations will be given to indicators that support goals and factors affecting outcomes of the 2014 Chesapeake Bay Watershed Agreement. An "Indicator Effectiveness" matrix will be developed outlining the results of this process that can be used by monitoring groups to review their existing and future programs.

Evolution of the product

- May – October 2016
  - Literature review
  - CMC Census results
  - Drafts of potential products



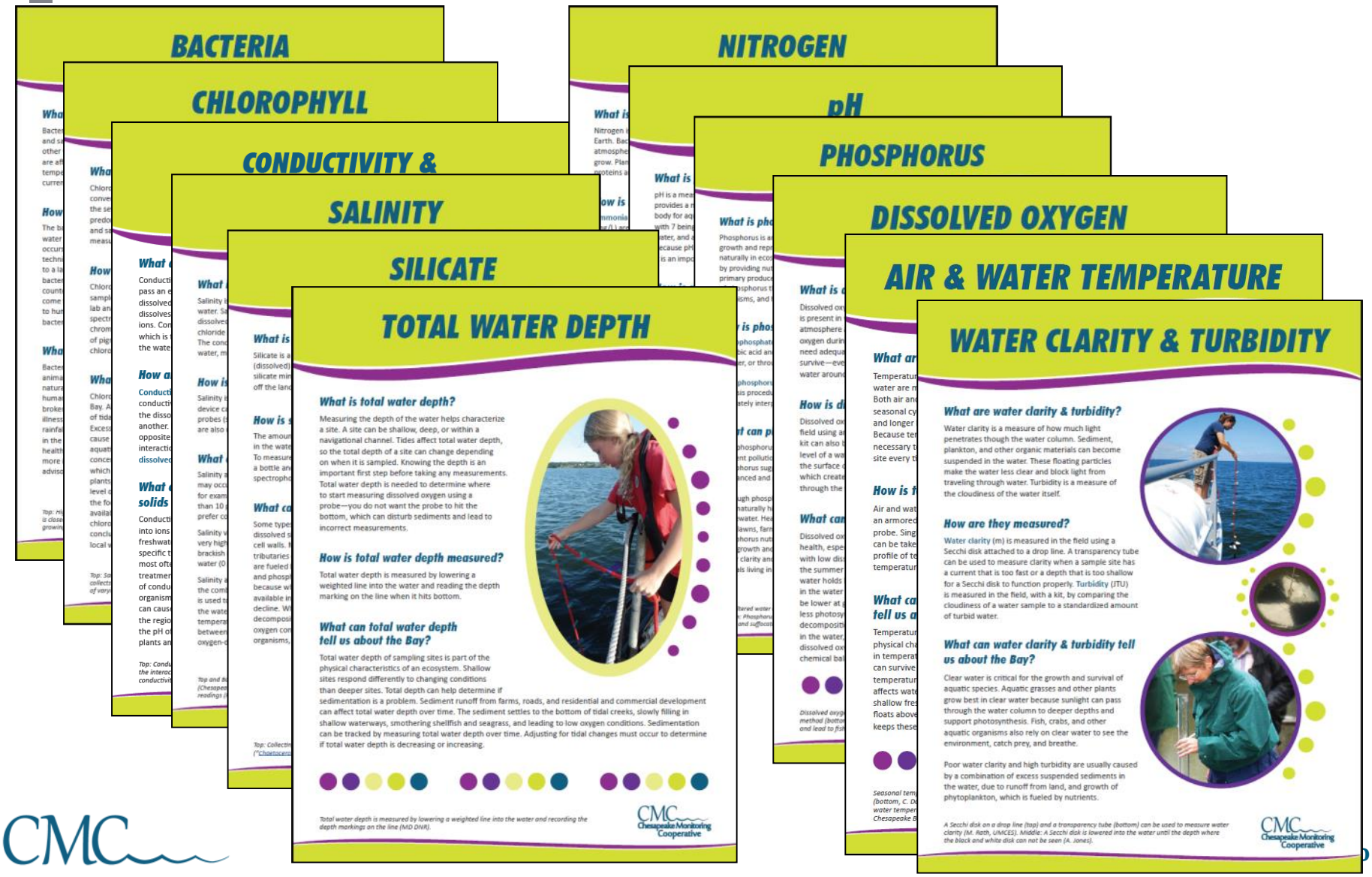
https://sites.psu.edu/whothehelldoyouthinkiam/2015/04/16/the-big-one-evolution/

- October 2016
  - Met with CBP partners to change the deliverables to match lessons learned over the summer
- November 2016 – March 2017
  - Generated 12 factsheets
  - Generated 24 matrices

Indicator **factsheets**

- Used by nontraditional partners in their training materials
- http://ian.umces.edu/press/brochures/publication/551/tidal_water_quality_indicator_factsheets_2017-04-18/

Indicator **factsheets**



The Matrices

- Bay Agreement Goals → Outcomes of the goals → Management Strategies to achieve outcomes → 2 year workplans
- ~20 Management Strategies Workplan documents
  - Key action and performance targets – do they match the CMC objectives and/or are there groups out there that can help?
- Strategies already working on
  - Water quality
    - See Prioritization report
  - Stream health
    - See Prioritization report
    - Part of Stream health workgroup

Water Quality Matrix

Water Quality **Goal Team**

- Forest buffers
  - Work with local groups to expand tree planting programs (Successful programs such as Turf to Trees, Backyard Buffers, NY's Trees for Tribs, and CLIPS (Baltimore Co)--meet with LGAC, local leadership group, and others to determine how best to do this)
    - Map of all groups
    - Determine which groups are interested in tree planting
- Tree canopy
  - No overlapping objectives, but could work with groups on several performance targets

Toxic contaminants research

- Based on the toxic research goal and management strategy, would suggest reaching out to groups in specific geographic locations who may be interested in monitoring contaminants
- Potential partners include
  - Groups who monitor fish
  - Groups in geographical locations specific to targets
  - UOG research – ALLARM has extensive shale gas monitoring program and data; other groups as well in NY and PA

Toxic contaminants Policy and Prevention

- TMDL source investigation studies included where PCB TMDL being developed. Includes sediment monitoring and low level water column samples in tidal James River and tribs, Elizabeth River and tribs
  - James River Association
  - Elizabeth River Project
- Continue annual PCB monitoring in support of PCB TMDL development. Monitoring includes collection of water column (non-tidal/tidal), sediment and fish tissue samples for PCB analysis to support the development of water quality models in establishing PCB TMDLs in Potomac River (Montgomery and Frederick County)
  - MD Stream Waders
  - Audubon Naturalist Society
  - Rock Creek Conservancy

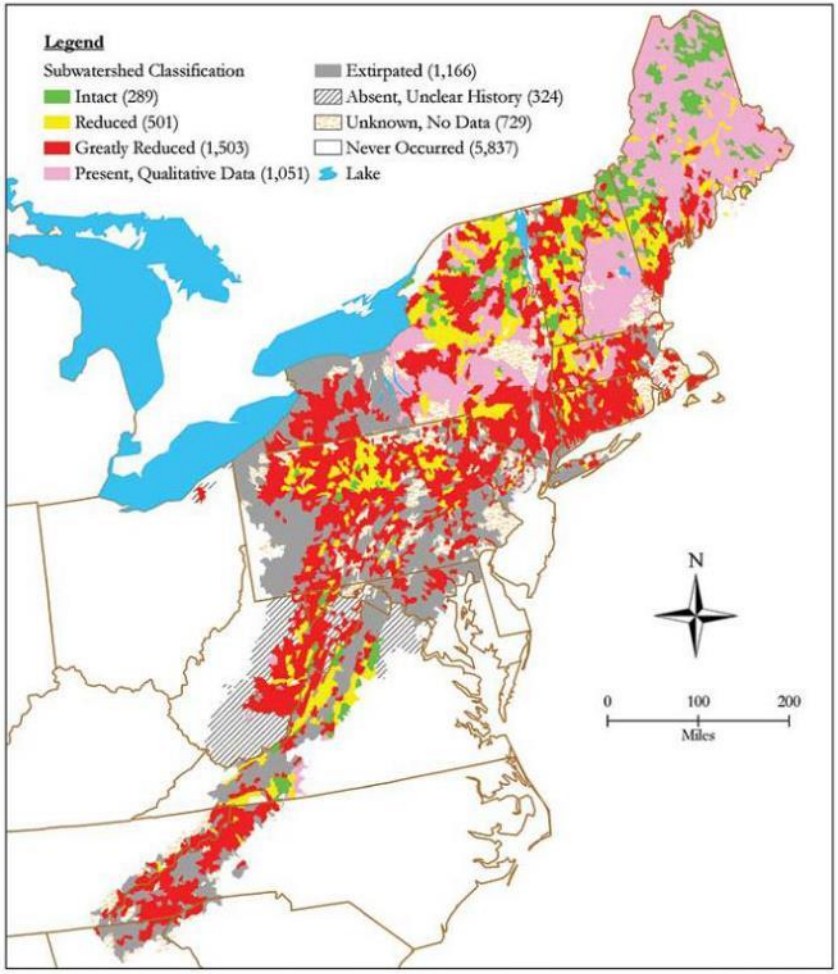
Maintain healthy watershed **Goal Team**

- Healthy watersheds
  - Performance targets that nontraditional partners can support
    - Identify healthy watersheds (DC and MD)
    - Assess existing watersheds (DC and PA)
    - Measuring water quality (NY)
    - Shale gas monitoring (PA)
    - Develop long-term strategy for sustainable monitoring of existing healthy watersheds (MD)
    - Expand stream monitoring to identify new healthy watersheds (MD)
    - Etc.

Habitat Goal Team

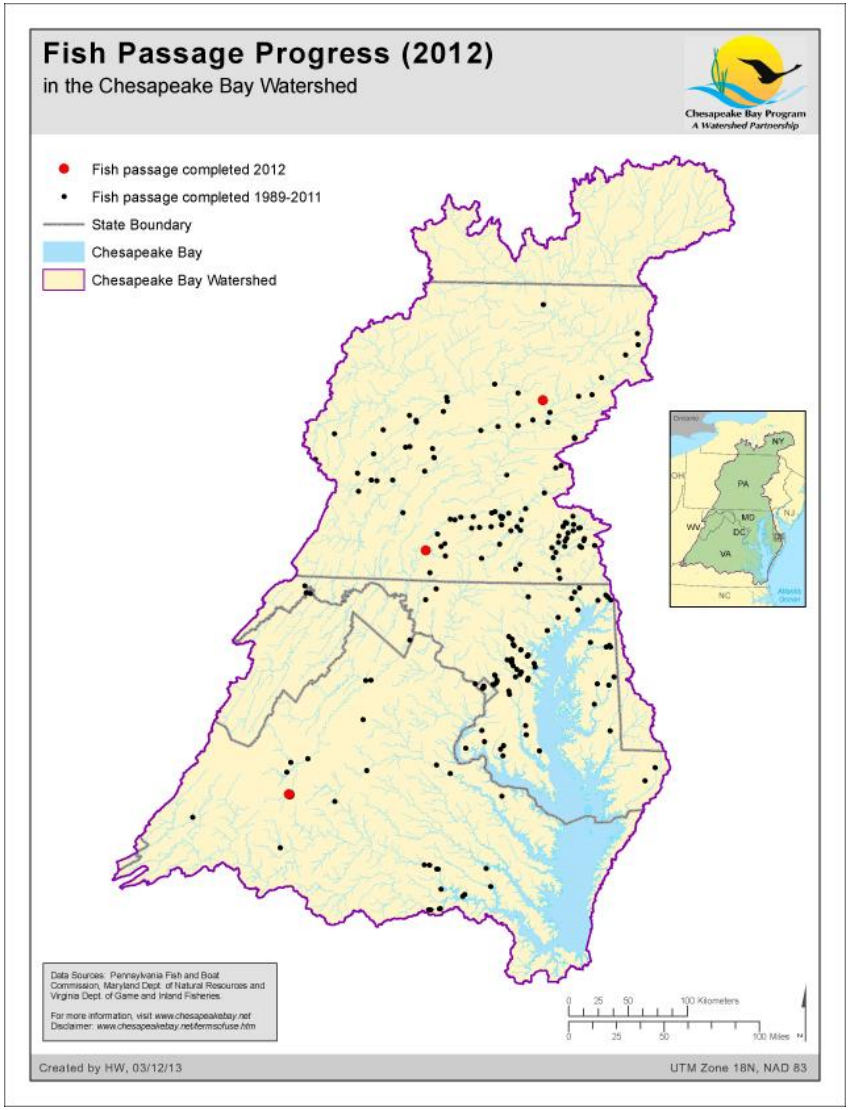
Brook trout

- While no objectives overlap between groups and Performance targets, there are 17 groups listed in the CMC census that monitor fish or are interested in fish
- Geographically, many groups overlap with the brook trout habitat areas, just need to narrow the focus



Fish passage

- ~25 groups overlap with 2013 fish passage progress
- Let's map future fish passage with current groups to see what overlaps and how they can help you!



Submerged Aquatic Vegetation

- Overlaps with water quality objectives
- Working on an SAV monitoring program for nontraditional groups outside the CMC effort

Fisheries **Goal team**

- Oyster restoration
  - Conduct stakeholder outreach meetings for local communities near selected tributaries during the restoration planning process
    - Should work with watershed organizations in these areas; are a conduit to all stakeholders
    - Need more geographically explicit information to determine which groups
  - Marylanders Grow Oyster program
    - Should work with watershed organizations
      - Phillips Wharf Environmental Center already involved

Climate change **workgroup**

- Climate adaptation
  - Work with STAR and STAC to recommend and establish performance metrics and/or indicators to assess Climate Resiliency Goal and Outcome implementation effectiveness, as well as ecological response.
    - The CMC Team members can meet with Climate Change Workgroup to determine which parameters nontraditional monitoring groups should be monitoring to inform this target
  - Data collection, indicator refinement, analysis and development of interpretive data products for second integrated vulnerability assessment in Choptank Watershed
    - Midshore Riverkeeper Conservancy; UMCES' Horn Point Laboratory

Climate change **workgroup**

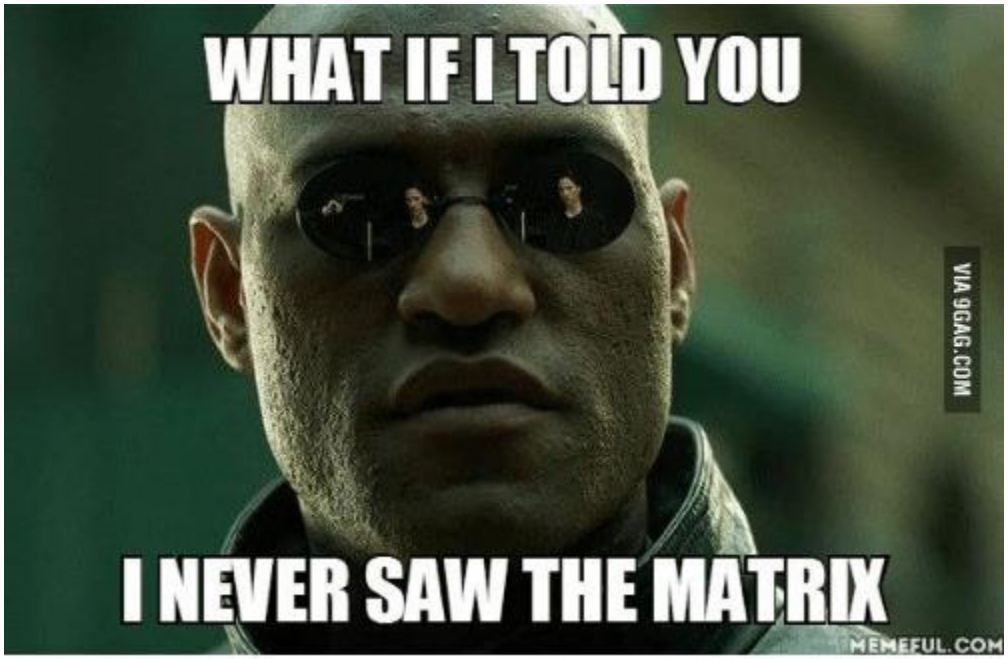
- Climate monitoring and assessment
  - Several overlapping objectives and potential groups
  - More geographically explicit information needed

Stewardship Goal Team

- Citizen stewardship
  - Several overlapping objectives
    - The CMC team
- Local leadership
  - Review management strategies and workplans and engage in dialogue with CBP goal teams and workgroups to identify high priority content and information areas necessary to facilitate local government implementation of 2014 Bay Agreement goals.
    - This Matrix project!

Thank you!

Caroline Donovan, Integration & Application Network, UMCES
cdonovan@umces.edu
Chesapeakemonitoringcoop.org



Front cover photo: Chesapeake Bay Program

Land use options and Methods and Metrics

- No overlapping objectives or groups identified

Wetlands

- No overlapping objectives
- Geographically specific groups could help support performance targets

Fisheries Goal Team

- Blue crab
  - No overlapping objectives or groups identified
- Fish habitat
  - No overlapping objectives
  - Plenty of groups that could apply to performance targets by group objective or geographic region
- Forage fish
  - No overlapping objectives
  - Groups working within the tidal areas of Chesapeake

Stewardship Goal Team

- Protected lands
  - No overlapping priorities, but many groups in geographic areas
- Public access
  - No overlapping priorities