Survey Questions (Draft)

Background Materials

3-5 minute video preamble video to introduce the monitoring – tidal monitoring, NT, data analysis Indicators, reports, citizen science (Amanda and I put together the slides)

In Design One page: Station Maps, indicators, Monitoring Network FAQs

Identifying Questions

1. Name (text)
2. Position (text)
3. Affiliation (text or check option)
4. Role at the Bay Program (Drop down: Interested party, GIT Chair, STAR, STAC, TMAW, NTWG, other)

Indicators

Chesapeake Bay Program Indicator Framework

The indicator framework employs a matrix approach that groups the indicators by functional role and then places each indicator into a hierarchy of detail within that functional role. The functional role groupings separate indicators into the primary use, whether the indicator is used to communicate the state of the Bay, the state of its watershed, the state of Bay restoration, or the influence of a stressor on the Bay's health. Within each of the four functional groupings, the indicators are ordered into a hierarchy based on the degree of synthesis and detail required.

Indicator functional groupings

All indicators are divided into one of four groups based on their function within an adaptive management framework:

- **Factors Impacting Chesapeake Bay and Watershed Health:** All indicators used to measure stressors and other factors that are affecting the health of the Bay and watershed.
- **Chesapeake Bay Health:** All indicators used to assess the ecosystem health of Chesapeake Bay and its tidal tributaries.
- **Chesapeake Bay Watershed Health:** Indicators used to assess the ecosystem health of the Bay watershed's non-tidal rivers, stream corridors and surrounding watersheds.
- **Restoration and Protection Efforts:** All indicators used to measure and communicate specific actions being undertaken to improve the health of Chesapeake Bay and its watershed.

Indicator hierarchy

Within each functional group, individual indicators are categorized into ***reporting*** or ***related*** (or component) indicators.

Reporting indicators are a small number of indicators, which effectively communicate the key messages of the functional group. All reporting indicators are further divided into sub-categories in recognition of the diversity within each functional group.

Related (or component) indicators are indicators that either facilitate the interpretation of the reporting indicators or provide greater level of detail related to the reporting level indicators.

5. Do you use any of the following Chesapeake Bay Program Indicators to assess improvements in the Bay and its Watershed: (check all that apply)
    - Nitrogen Loads and River Flow To the Chesapeake Bay
    - Phosphorus Loads and River Flow To the Chesapeake Bay
    - Sediment Loads and River Flow To the Chesapeake Bay
    - River Flow
    - Bay Grass Abundance – Baywide
    - Bay Grass Abundance by Zone
    - Bay Grass Density
    - Bottom Habitat (Benthic Index of Biotic Integrity)
    - Tidal Wetlands Abundance
    - Achievement of Bay Water Quality Standards (new indicator)
    - Dissolved Oxygen Standards Attainment (Surface Area Assessment)
    - Dissolved Oxygen Standards Attainment (Volume Assessment)
    - Water Clarity
    - Chlorophyll a
    - Chemical Contaminants
    - Health of Freshwater Streams in Watershed
    - Nitrogen in Rivers Entering the Bay: Long-Term Flow Adjusted Concentration Trends
    - Nitrogen Short-Term Flow Adjusted Concentration Trends in Watershed Streams/Rivers
    - Nitrogen Yields in Watershed Streams/Rivers
    - Phosphorus in Rivers Entering the Bay: Long-Term Flow Adjusted Concentration Trends
    - Phosphorus Short-Term Flow Adjusted Concentration Trends in Watershed Streams/Rivers
    - Phosphorus Yields in Watershed Streams/Rivers
    - Sediment in Rivers Entering the Bay: Long-Term Flow Adjusted Concentration Trends
    - Sediment Short-Term Flow Adjusted Concentration Trends in Watershed Streams/Rivers
    - Sediment Yields in Watershed Streams/Rivers

6. Do you use any of the following Water Quality Indicators for the rationale of decision making? (check all that apply)

    - Nitrogen Loads and River Flow To the Chesapeake Bay
    - Phosphorus Loads and River Flow To the Chesapeake Bay

- Sediment Loads and River Flow To the Chesapeake Bay
- River Flow
- Bay Grass Abundance – Baywide
- Bay Grass Abundance by Zone
- Bay Grass Density
- Bottom Habitat (Benthic Index of Biotic Integrity)
- Tidal Wetlands Abundance
- Achievement of Bay Water Quality Standards (new indicator)
- Dissolved Oxygen Standards Attainment (Surface Area Assessment)
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- Sediment in Rivers Entering the Bay: Long-Term Flow Adjusted Concentration Trends
- Sediment Short-Term Flow Adjusted Concentration Trends in Watershed Streams/Rivers
- Sediment Yields in Watershed Streams/Rivers

7. How can the information be improved to help with updating the phase 3 watershed implementation plans (WIPs)?

<u>Synthesis Products</u>

8. Have you used any of the following summary reports for rationale of decision making? (check all that apply)
   - New Insights Report (UMCES-IAN)
   - Bay Barometer (CBP)
   - Others

9. I found the information provided in the New Insights Report to be helpful in decision making:
   - Strongly Agree
   - Agree
   - Neutral

- Disagree
- Strongly Disagree

10. I found the information provided in the Bay Barometer to be helpful in decision making:
    - Strongly Agree
    - Agree
    - Neutral
    - Disagree
    - Strongly Disagree

11. Rank the following sources of Chesapeake Bay and Watershed Health from MOST to LEAST useful:
    - Indicators on the CBP website
    - Bay Journal Articles
    - Annual UMCES Report Cards
    - Eyes on the Bay Website (MD-DNR)
    - CBF Annual Report Card
    - Chesapeake Stat website (CBP)
    - BayStat website (Maryland.gov)

12. Rank the following sources of Chesapeake Bay and Watershed Health based from MOST to LEAST trusted:
    - Indicators on the CBP website
    - Bay Journal Articles
    - Annual UMCES Report Cards
    - Eyes on the Bay Website (MD-DNR)
    - CBF Annual Report Card
    - Chesapeake Stat website (CBP)
    - BayStat website (Maryland.gov)

<u>Citizen Science</u>

13. What are your concerns with incorporating Citizen Science into the Chesapeake Bay Water Quality Assessments, please rank the following from MOST concerned to LEAST concerned:
    - Coordination time needed
    - Trainings/Personnel turnover
    - QA/QC issues
    - Continuity of Monitoring Sites
    - Difficult and dangerous locations causing hazards for volunteers
    - Other

14. Where do you see Citizen Science playing a role in the Chesapeake Bay Program monitoring networks: (check all that apply)
    - Water sample collection

- Data analysis
- Others

15. What citizen science groups should we tap into? (Rank from MOST trusted to LEAST trusted)
    - Academic research groups
    - River Keeper Network
    - Non-profit organizations
    - Others

Funding of the Networks

16. In the current monitoring budget the funding is distributed as such… With limited monitoring resources, what percentage of the Monitoring budget would you spend on the following operations: (out of 100%)
    - Mainstem sampling
    - Watershed (Stream/River) sampling
    - Interpretation of the data
    - Sample lab analysis (to increase the number of parameters measured)
    - Citizen Science
    - Other

17. Currently all the money from monitoring comes through the EPA…, and it currently represents x amount of the EPA budget. Rank the following based on who you believe the responsibility for monitoring should be on: (From LARGEST Responsibility to SMALLEST responsibility)
    - States
    - Counties
    - Amount of Discharge from Municipalities (wording?)
    - Developers
    - Grantees of persons implementing BMPs
    - Others

18. If you were responsible for cut backs of the monitoring network would you rather: (Spatial vs. temporal question)
    - Reduce the amount of Mainstem cruises and sampling events in order to keep or expand the spread of stations across the Bay and Watershed, or
    - Increase the number of Mainstem Cruises and sampling events but reduce the number of sampling station

Community Interest

19. In order to make better decisions about Chesapeake Bay Restoration and Policies, what is it that you want to learn more about (Rank from MOST interested to LEAST interested)

- Fisheries
- Long term trends
- Nutrient inputs to the Bay
- Hypoxia events
- Storm Impacts

20. What are you most concerned about for the future of the Bay (Rank from MOST concerned to LEAST concerned)
    - Climate change
    - Contaminants of emerging concern
    - Conowingo dam
    - Sea level rise
    - Toxic contaminants

21. Did you attend any of the BASIN seminars?
    - Yes
    - No

22. I believe the BASIN Seminars were useful.
    (BASIN wrap-up webinar video)
    - Strongly Agree
    - Agree
    - Neutral
    - Disagree
    - Strongly Disagree