Chesapeake Bay Program | Indicator Analysis and Methods Document
[Insert Indicator Title Here] | Updated [Insert Date Here]

Indicator Title:

Relevant Outcome(s):

Relevant Goal(s):

Location within Framework (i.e., Influencing Factor, Output or Performance):

A. Data Set and Source

(1) Describe the data set. What parameters are measured? What parameters are obtained by calculation? For what purpose(s) are the data used?

(2) List the source(s) of the data set, the custodian of the source data, and the relevant contact at the Chesapeake Bay Program.
  • Source:
  • Custodian:
  • Chesapeake Bay Program Contact (name, email address, phone number):

(3) Please provide a link to the location of the data set. Are metadata, data-dictionaries and embedded definitions included?

B. Temporal Considerations

(4) Data collection date(s):

(5) Planned update frequency (e.g., annual, biannual, etc.):
  • Source Data:
  • Indicator:

(6) Date (month and year) next data set is expected to be available for reporting:

C. Spatial Considerations

(7) What is the ideal level of spatial aggregation (e.g., watershed-wide, river basin, state, county, hydrologic unit code)?

(8) Is there geographic (GIS) data associated with this data set? If so, indicate its format (e.g., point, line polygon).

(9) Are there geographic areas that are missing data? If so, list the areas.

(10) Please submit any appropriate examples of how this information has been mapped or otherwise portrayed geographically in the past.

D. Communicating the Data

(11) What is the target or threshold measured by this indicator? How was it established?

(12) What is the current status in relation to the target established in the outcome? Why? Would you define our outlook[1] toward <u>achieving the outcome</u> as on course, off course, uncertain, or completed? Upon what basis are you forecasting the outlook?

(13) Has a new target, threshold or outcome been established since the last reporting period? Why?

(14) Has the methodology of data collection or analysis changed since the last reporting period? How? Why?

(15) What is the long-term data trend (since the start of data collection)?

(16) What change(s) does the most recent data show compared to the last reporting period? To what do you attribute the change? Would you characterize that change in the recent progress[2] as an increase, decrease, no change, or completed for this outcome?

(17) What is the key story told by this indicator?

E. Adaptive Management

(18) What factors influence progress toward the goal, target, threshold or expected outcome?

(19) What are the current gaps in existing management efforts?

(20) What other workgroups or Goal Implementation Teams have overlapping management efforts? Is there existing cross-goal collaboration?

(21) According to the management strategy written for the outcome associated with this indicator, how will we (a) assess our performance in making progress toward the goal, target, threshold or expected outcome, and (b) ensure the adaptive management of our work?

F. Analysis and Interpretation
Please provide appropriate references and location(s) of documentation if hard to find.

(22) What method is used to transform raw data into the information presented in this indicator? Please cite methods and/or modeling programs.

(23) Is the method used to transform raw data into the information presented in this indicator accepted as scientifically sound? If not, what are its limitations?

(24) How well does the indicator represent the environmental condition being assessed?

(25) Are there established reference points, thresholds, ranges or values for this indicator that unambiguously reflect the desired state of the environment?

(26) How far can the data be extrapolated? Have appropriate statistical methods been used to generalize or portray data beyond the time or spatial locations where measurements were made (e.g., statistical survey inference, no generalization is possible)?

G. Quality
Please provide appropriate references and location(s) of documentation if hard to find.

(27) Were the data collected and processed according to a U.S. Environmental Protection Agency-approved Quality Assurance Project Plan? If so, please provide a link to the QAPP and indicate when the plan was last reviewed and approved. **If not, please complete questions 29-31.**

(28) *If applicable:* Are the sampling, analytical and data processing procedures accepted as scientifically and technically valid?

(29) *If applicable:* What documentation describes the sampling and analytical procedures used?

(30) *If applicable:* To what extent are procedures for quality assurance and quality control of the data documented and accessible?

(31) Are descriptions of the study design clear, complete and sufficient to enable the study to be reproduced?

(32) Were the sampling, analytical and data processing procedures performed consistently throughout the data record?

(33) If data sets from two or more sources have been merged, are the sampling designs, methods and results comparable? If not, what are the limitations?

(34) Are levels of uncertainty available for the indicator and/or the underlying data set? If so, do the uncertainty and variability impact the conclusions drawn from the data or the utility of the indicator?

(35) For chemical data reporting: How are data below the MDL reported (i.e., reported as 0, censored, or as < MDL)? If parameter substitutions are made (e.g., using orthophosphate instead of total phosphorus), how are data normalized? How does this impact the indicator?

(36) Are there noteworthy limitations or gaps in the data record?

H. Additional Information (*Optional)*

(37) Please provide any further information you believe is necessary to aid in communication and prevent any potential misrepresentation of this indicator.

[1]Outlook: Outlook is the forecasted trajectory for whether the Chesapeake Bay Program is on course to achieving the outcome. An outcome's outlook may be on course, off course, uncertain, or completed. This information will be incorporated into the outcome's progress page. An outcome's course outlook is reviewed and updated during the outcome's Strategy Review System (SRS) Quarterly Progress Meeting in addition to when recent progress is assessed.

[2]Recent Progress: Recent Progress describes the change in the indicator based on the most recent data collected since the last reporting period. The recent progress icon will reflect this change as an increase, decrease, no change, or completed, depending upon this progress. This information will be discussed at the outcome's Strategy Review System (SRS) Quarterly Progress Meeting.