

Chesapeake Bay Program | Indicator Analysis and Methods Document
Diversity in Staff and Leadership | Updated February 2020

Indicator Title: Diversity in Staff and Leadership at Chesapeake Bay Program Partnership

Relevant Outcome(s): Diversity

Relevant Goal(s): Stewardship

Location within Framework (i.e., Influencing Factor, Output or Performance):
 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?
 The Alliance for the Chesapeake Bay conducted a diversity profile assessment to set a baseline for a partnership diversity profile via email in the summer of 2016. The assessment requested participants answer 11 questions voluntarily and anonymously, using “self-identify” responses. The next iteration of the diversity profile assessment, conducted in 2019, added two questions (questions 12 and 13 below) for a total of 13 questions:

1. What type of organization do you currently work for?
2. Within your organization, what is your role? Please choose one (leadership/management, staff, volunteer, other)
3. Do you identify yourself as a member of CBP leadership? If yes, please select all that apply. (Choices were Principals’ Staff Committee member, Management Board member, Goal Team Chair/Vice-Chair, Workgroup Chair/Vice-Chair or Co-Chair, Advisory Committee Chair/Vice-Chair or Co-Chair), I do not identify myself as a member of CBP leadership, Other)
4. How long have you been participating in the CBP organization? (0-5 years, 6-10 years, 11-20 years, 21-30+ years)
5. What is your gender? (Male, female, gender nonconforming, decline to state)
6. What is your age? (10-24, 25-34, 35-44, 55-64, 65-74, 74 or older, decline to state)
7. Which category(s) best describe you? (Native American or Alaskan Native, Asian / Asian American, Black / African American, Hispanic / Latino/Latina, White /Caucasian, None of the above (please specify), Decline to state)
8. Do you identify as a member of the Lesbian, Gay, Bisexual, Transgender or Gender Nonconforming community? (yes, no decline to state)
9. Do you identify as a person who is disabled? (yes, no decline to state)
10. What Chesapeake watershed jurisdiction do you live in?

11. What landscape do you currently reside in? (Urban, suburban, rural, other)
12. Please list all CBP groups (e.g., Goal Implementation Teams or Workgroups) that you engage with (open-ended response)
13. Did you fill out this demographic profile when it was first sent out in 2016? (yes, no, I do not recall)

This indicator examines the number of respondents who identify in a racial or ethnic category other than White/Caucasian (question 7) out of all respondents. It also compares the number of person of color respondents who self-identify as leaders within the Chesapeake Bay Program to the equivalent self-identified leaders who identified in the White/Caucasian category. Due to the outcome focus on leadership, the tool included questions on management roles within the Chesapeake Bay Program partnership and within a respondent's own organization.

- (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: Voluntary participation from Chesapeake Bay Program leadership, staff, as well as members of Advisory Committees, Goal Implementation Teams (GITs), workgroups, and other CBP groups.
 - Custodian: Tuana Phillips, phillips.tuana@epa.gov, [\(410\) 267-5704](tel:4102675704)
 - Chesapeake Bay Program Contact (name, email address, phone number): Tuana Phillips, phillips.tuana@epa.gov, [\(410\) 267-5704](tel:4102675704)
- (3) Please provide a link to the location of the data set. Are metadata, data-dictionaries and embedded definitions included? N/A

B. Temporal Considerations

- (4) Data collection date(s): June-August 2016; April-June 2019
- (5) Planned update frequency (e.g., annual, biannual, etc.):
 - Source Data: biennial
 - Indicator: biennial
- (6) Date (month and year) next data set is expected to be available for reporting: December 2021

C. Spatial Considerations

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

- (8) Is there geographic (GIS) data associated with this data set? If so, indicate its format (e.g., point, line polygon). No. Survey responses are intentionally anonymized. Only broad jurisdictions are recorded with each set of responses.
- (9) Are there geographic areas that are missing data? If so, list the areas. N/A
- (10) Please submit any appropriate examples of how this information has been mapped or otherwise portrayed geographically in the past. N/A

D. Communicating the Data

- (11) What is the goal, target, threshold or expected outcome for this indicator? How was it established? The Diversity Outcome of the 2014 Chesapeake Bay Watershed Agreement states, “identify stakeholder groups that are not currently represented in the leadership, decision-making and implementation of conservation and restoration activities, and create meaningful opportunities and programs to recruit and engage them in the partnership’s efforts.” Because the outcome does not set a specific goal or target, the Diversity Workgroup worked to establish a target that considers the 2016 baseline data and national and watershed demographics of the general population (see question 25 for more details). In 2018, the Principals’ Staff Committee approved the following targets for increasing diversity by 2025:
- Increasing the percentage of people of color in the Chesapeake Bay Program to 25%.
 - Increasing the percentage of people of color in leadership positions (that is, the percentage of leadership roles filled by people of color) to 15%.
- (12) What is the current status in relation to the goal, target, threshold or expected outcome?
- The baseline indicator established in 2016 found that the percentage of people of color in the Chesapeake Bay Program was 13.7%. The 2019 survey found that the percentage of people of color in the Chesapeake Bay Program was 14.6%.
 - The baseline indicator established in 2016 found that the percentage of people of color in the Chesapeake Bay Program Leadership was 9.1%. The 2019 survey found that the percentage of people of color in the Chesapeake Bay Program Leadership was 10.3%.
- (13) Has a new goal, target, threshold or expected outcome been established since the last reporting period? Why? The target was established and approved by the Principals’ Staff Committee in 2018, two years after the baseline profile was conducted.

- (14) Has the methodology of data collection or analysis changed since the last reporting period? How? Why? Data collection has not changed appreciably from the 2016 survey to the 2019 survey.
- (15) What is the long-term data trend (since the start of data collection)? From the 2016 to 2019 surveys, the proportion of people of color to white/Caucasian people involved with the partnership has increased slightly, as has the proportion of people of color among respondents in leadership roles. These changes over time are not statistically significant to a 90% or 95% confidence level, per the testing described in Section 22 of this document. That said, while statistical significance testing provides helpful context, it should not be overemphasized in this case. The data set for this indicator inevitably involves relatively small sample sizes—especially for the subset who self-identify as “leadership”—such that even a change of several percentage points (which would undoubtedly be meaningful to the Chesapeake Bay Program) might not register as “statistically significant” according to standard tests.
- (16) What change(s) does the most recent data show compared to the last reporting period? To what do you attribute the change? Is this actual cause or educated speculation? From 2016 to 2019, little progress has been made to achieve the goals of increasing the percentage of people of color in the partnership to 25%, with 15% in leadership, by 2025, despite the Diversity Workgroup’s efforts to increase this number. The following challenges have been identified: turnover and vacancy in Diversity Workgroup staff positions, lack of funding, organizational culture, and hiring.
- (17) What is the key story told by this indicator? Studies such as Green 2.0, by Dr. Dorcetta Taylor, highlight that environmental organizations lack ethnic diversity within their workforce. After evaluating existing research on diversity in environmental organizations, the Chesapeake Bay Program decided to track the progress of including diverse populations in environmental policies and decision making by first establishing and then continuing to monitor the diversity profile indicator. The Chesapeake Bay program obtained the 2016 diversity profile results in order to establish a baseline against which to measure progress. For the Chesapeake Bay Program, the 2016 indicator was the first of its kind since the partnership was formed in 1983. The work to increase representation of underrepresented populations will lead to a positive change in other outcomes, by increasing the amount of new perspectives and ideas that support restoration. As this indicator tracks participation in the Chesapeake Bay Program from previously underrepresented stakeholder groups, it is hoped that greater representation will further the objectives of other goals and outcomes of the 2014 Watershed Agreement.

E. Adaptive Management

(18) What factors influence progress toward the goal, target, threshold or expected outcome? With the introduction of the diversity outcome in the 2014 Watershed Agreement, a diversity workplan was created in 2016. The indicator will be influenced by the four components of the diversity workplan, known as the four management approaches. The four management approaches are the following: 1. Enhancing Communications and Outreach, 2. Employment and Professional Engagement, 3. Promoting and Integrating Environmental Justice, and 4. Tracking and Assessment of Diversity. The fourth management approach, assessing and tracking, will closely keep track of the other three management approaches progress, to ensure goals, targets and expected outcomes are met, and if not, how to begin adjustments.

A few factors that influence progress will be assessed:

- # of environmental career events that EPA – CBP attends
- # of hired employees within each evaluation timeframe
- # of qualified applicants
- # of position openings and turnover in staff
- # of Community Leaders identified to join leadership positions
- Hiring, recruitment, and retention strategies/practices

(19) What are the current gaps in existing management efforts? The Diversity Outcome Management Strategy lists several gaps and challenges in our current work, including:

- inadequate communication and outreach
- lack of employment opportunities and professional engagement
- lack of community-based organization capacity to fully participate in programs related to Bay Program protection and restoration activities
- lack of coordination between restoration/protection activities and environmental justice issues

(20) What are the current overlaps in existing management efforts? The diversity outcome overlaps with several other outcomes and goals of the 2014 Chesapeake Bay Watershed Agreement. The diversity outcome falls under the stewardship goal, which is to “increase the number and the diversity of local citizen stewards and local governments that actively support and carry out the conservation and restoration activities that achieve healthy local streams, rivers, and a vibrant Chesapeake Bay.” The Diversity Workgroup actively seeks to collaborate with the Stewardship Goal Team and its other workgroups, including the Public Access Workgroup and Education Workgroup. The Diversity Workgroup also seeks to work with additional groups at the Chesapeake Bay Program, such as the Forestry Workgroup’s tree canopy team and the Local Leadership Workgroup, to identify common areas of interest and work in synergy.

(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? This indicator will be evaluated three more times by 2025: in 2021, 2023, and 2025. These evaluations will be a repeat of the diversity profile, and the results will be compared. This assessment will be ongoing, with the hopes that state jurisdictional agencies will do the same in order to conduct a more in-depth analysis.

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. Raw data downloaded from the survey platform were analyzed in Microsoft Excel. Summation calculations were created for each question to determine how many respondents selected each choice. To enable comparison for this indicator, results were analyzed for all participants as well as for the subset of participants who self-identified as “persons of color.”

For this analysis, “persons of color” includes respondents who answered survey question #7 as follows:

- Respondents who selected any race/ethnicity other than “white/Caucasian.”
- Respondents who selected two or more racial/ethnic groups, even if one of their choices was “white/Caucasian.” The survey analysts classified these people as “multi-racial”—consistent with the 2016 survey structure, to ensure that responses are not double-counted.
- Respondents who self-identified as “None of the above.”

Respondents who skipped question #7 or chose “Decline to state” were not included in calculating white and person of color percentages.

This analysis also looked at diversity within the subset of respondents who represent program leadership roles. “Leadership” includes the subset of respondents who answered survey question #3 with any of the following selections:

- Principal Staff Committee Member
- Management Board Member
- Goal Team Chair/Vice-chair
- Workgroup Chair/Vice-chair or Co-chair
- Advisory Committee Chair/Vice-chair or Co-chair

Some respondents selected “other” in response to question #3 and then added an explanation in a text field. These responses were analyzed individually to determine whether they should be considered “leadership” according to the definition above. This step of the analysis led to the inclusion of people who: stated that they held more than one role, if at least one of their stated roles fit the definition of “leadership”; or who indicated membership in one of the “leadership” groups by a slightly different name or acronym. This step of the analysis excluded people who listed affiliations that were not consistent with the definition of “leadership” above; said they were former but not current members of a leadership group; or gave an indeterminate answer such as “I wear many hats.”

To differentiate between the “other” responses that were considered leadership, and those considered not leadership, two fields were created to report the results of the survey: “Other response not considered leadership” and “Other response considered leadership.” These fields replace the “Other (please specify)” response that was used by respondents in the actual survey.

Diversity within program leadership was assessed by focusing on the group of respondents in leadership roles and calculating what proportion of these respondents identified as persons of color. To take a hypothetical example, if 100 respondents said they held leadership roles, and 12 of those 100 people were persons of color, we would calculate a diversity percentage of 12%. The indicator was calculated this way because the CBP is interested in increasing the number of people of color overall in the partnership and would like to see program leadership reflect the increasing diversity of the partnership. Calculating the indicator in this manner also aligns with the way the 15% leadership diversity target has been defined; thus, the indicator offers a way to track progress toward achieving the target.

Chi-squared tests were performed to assess the statistical significance of differences between the 2016 survey and the 2019 survey in percentage of persons of color, both in the overall group and in leadership roles. A chi-squared test is ideal in this case because it is designed to test whether there is a statistically significant difference between observed frequencies of categorical variables (e.g., the proportion of respondents identifying as persons of color in 2016 and 2019) and expected frequencies (e.g., if there was no difference in these proportions for 2016 and 2019). In this case, testing indicated that the differences between 2016 and 2019 were not statistically significant to either a 90% or a 95% level (two commonly used thresholds for significance testing).

- (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? Yes. The indicator relies on simple mathematical operations (sums and percentages) and

does not make any inferences beyond the survey sample. Quality control reviews minimize the possibility of human error in calculating the results.

- (24) How well does the indicator represent the environmental condition being assessed? The indicator is meant to represent participation of people of color in Chesapeake Bay Program leadership, decision-making, and implementation activities. It does not represent involvement from related groups that may be outside the scope of the Program's network (i.e., not participating regularly on GITs/workgroups) but are doing work complimentary to the Program's goals.

In 2016, the assessment tool was distributed via email to members and interested parties of GITs, workgroups, and other groups in the CBP. Therefore, it was not randomly distributed or sampled in a certain manner but sent out via email because it was a more convenient way to sample; membership lists include all staff and partners who could voluntarily fill out the assessment on their own time. Work by an intern in 2017 estimated that these distribution lists encompass approximately 750 Program staff and partners. Thus, in 2016 there was a 50% response rate (375 total respondents). Assuming the same number of program staff and partners, the 2019 assessment had a 38% response rate (282 total respondents). When an organization is externally requesting responses from its constituents, (e.g., healthcare patients), on average, a positive response rate can range anywhere between 30 and 40%. However when an organization is conducting internal employee surveys, it is important to strive towards obtaining at least a 50% response rate (Reilly & Wrensen, 2007, available at http://www.sperduto.com/wp-content/uploads/2013/02/Increasing_Your_Response_Rate.pdf).

It is unknown why exactly the 2019 assessment had fewer respondents, but it may have been due "assessment fatigue" (i.e., members of the partnership had been contacted relatively recently at the time to fill out another diversity assessment, unrelated to this indicator).

- (25) Are there established reference points, thresholds, ranges or values for this indicator that unambiguously reflect the desired state of the environment? The 2025 target was established with consideration of the baseline 2016 indicator results as well as the watershed and national percentages of people of color as reference points. The average percentage of people of color out of the entire watershed population is about 35.2%. This percentage was calculated with information at the census block level from the American Community Survey 2014 5-year estimates. By using the census block community data, the watershed percentage reflects all block groups within Bay jurisdictions that intersect the Bay watershed. GIS tools were used to eliminate census blocks within counties that are not within the boundaries of the Chesapeake Bay Watershed. This approach allows for a more accurate watershed population number and more accurate percentages of categories within that population. The percentage of people of color (i.e., not a

non-Hispanic or Latino white) in the entire nation is 38.4% (Source: [U.S. Census, 2015](#)).

- (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)? Data cannot be extrapolated beyond those responses received.

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. No.**
- (28) *If applicable:* Are the sampling, analytical and data processing procedures accepted as scientifically and technically valid? Yes. The profile questions were voluntary and used “self-identify” responses. The Alliance for the Chesapeake Bay distributed the profile to representatives of state and jurisdiction agencies and other partner organizations. It was sent out with reminders to complete the profile periodically throughout the summer.
- (29) *If applicable:* What documentation describes the sampling and analytical procedures used? This “analysis and methods” document accurately describes how the assessment was conducted.
- (30) *If applicable:* To what extent are procedures for quality assurance and quality control of the data documented and accessible? The 2016 and 2019 data analyses have been independently reviewed for quality control. Results of these reviews have been recorded in separate Excel spreadsheets maintained by the Chesapeake Bay Program. Each quality control review involved starting from the raw data and attempting to replicate all calculations.
- (31) Are descriptions of the study design clear, complete and sufficient to enable the study to be reproduced? Yes. This documentation includes methods and questions used to conduct the profile assessment.
- (32) Were the sampling, analytical and data processing procedures performed consistently throughout the data record? Yes. The 2016 and 2019 surveys were conducted in a similar manner, with the same sampling frame and similar outreach methods. The analytical and data processing procedures are consistent between the 2016 and 2019 surveys, with a few inconsequential exceptions described below.

- The 2019 survey added questions 12 and 13, so the 2019 analysis for these questions is novel. These questions do not change the results of the diversity indicator, though.
- The structure of survey question #7 changed for the 2019 survey, allowing for multiple answers. This changed the way person of color respondents were counted. In the 2016 survey, person of color respondents were counted as anyone who did not choose “white/Caucasian” or “decline to state.” The 2019 results were analyzed as described above in question 22 of this document. Methods for analyzing the 2019 responses were designed to yield results that were as comparable as possible with the 2016 analysis.

(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? *N/A*

(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? *Data users or reviewers should be aware of the response rate for this profile assessment (see answer to question 24 of this document). Participation across jurisdictions working on Chesapeake Bay restoration and protection may be uneven.*

(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? *N/A*

(36) Are there noteworthy limitations or gaps in the data record? *N/A*

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.

In the future, we will evaluate the potential of adding additional sub-indicators, such as measuring diversity participation for partners and partner activities outside of the Chesapeake Bay Program partnership. We will also explore creating targets for other diversity indicators that are captured in the profile (e.g., representation from rural, urban, suburban areas; percentage of people who self-identify as a member of the LGBTQ and/or gender nonconforming community).