

Chesapeake Bay Watershed 2022 Environmental Literacy Report

District of Columbia

Results from the ELIT Survey

Report: 4/10/2023



J. Sickler
CONSULTING

PREPARED BY

Jessica Sickler & Michelle Lentzner

J. Sickler Consulting

PREPARED FOR

NOAA, Chesapeake Bay Program

Table of Contents

- 03** Background & Methods
- 08** Results: LEA Preparedness
- 12** Results: Student Participation in MWEEs
- 17** Results: EE Support Needs



BACKGROUND

Study Purpose & Methods

ELIT Background & Purpose

The Chesapeake Bay Watershed Environmental Literacy Indicator Tool (ELIT) was developed to monitor the capacity and progress of public school districts toward meeting the environmental literacy goal stated in the 2014 Chesapeake Bay Watershed Agreement. The goal was to:

Enable every student in the region to graduate with the knowledge and skills to act responsibly to protect and restore their local watershed.

Three outcomes are stated in the agreement:

1. **Students:** Increase age-appropriate understanding of the watershed through meaningful watershed educational experiences (MWEEs) and rigorous, inquiry-based instruction, with a target of at least one MWEE in elementary, middle, and high school, depending on available resources.
2. **Sustainable Schools:** Increase the number of schools that reduce impact of buildings and grounds on their local watershed, environment, and human health through best practices, including student-led protection and restoration projects.
3. **Environmental Literacy Planning:** Develop a comprehensive and systemic approach to environmental literacy for all students, including policies, practices and voluntary metrics that support environmental literacy goals and outcomes.

The ELIT contributes to monitoring public school districts' progress toward these outcomes, collecting data about:

- School district preparedness to implement a comprehensive and systemic approach to environmental literacy education (Outcome 3);
- Student participation in MWEEs during the school year (Outcome 1);
- School district needs to support further improvements in environmental literacy education.

The ELIT tool was modified in 2022 to reduce the reporting burden on school districts. In this revision, questions about sustainable school practices were eliminated, as relevant data can be obtained through other means.

The ELIT is administered biennially to all local education agencies (LEAs) in six jurisdictions in the Chesapeake Bay Watershed. **This report presents results from the one public school district in the District of Columbia.**

ELIT Data Collection

Data Collection Procedure

The ELIT is typically administered every two years as an electronic survey. It is intended to be completed by a single representative from the administration of each LEA (school district) who is able to report on district-wide activities. Additional data-points that are more reliably obtained through non-survey means (e.g., in/out of watershed; student enrollment) are identified from external sources and merged with the survey responses.

Past ELIT data were collected in 2015, 2017, and 2019. Collection was paused in 2021, due to the substantial impacts on school districts due to the COVID-19 pandemic. Collection resumed in 2022 to assess where the region stands in the wake of these impacts on education systems.

NOAA's Chesapeake Bay Program organized data collection in 2022, and representatives from each state's education office led distribution of the survey to LEAs within their jurisdiction. ELIT data collection targets only public school districts. This report only includes responses from public school districts that fall within the Chesapeake Bay Watershed.

Data Collection Timing

The 2022 ELIT asked districts to report on the status of activities for the 2021-22 school year. To support this, the ELIT survey opened for responses in May 2022. The survey remained open for responses through the spring and summer. In response to demand from several states and LEAs for more time to complete the survey, the deadline for completion was extended through the end of November 2022.

Additional Information about Data

The most significant challenge of the ELIT is obtaining a strong response rate from more than 300 LEAs across six states. As greater numbers of LEAs report their activities into this dataset, the Chesapeake Bay Program has a more accurate understanding of the status of environmental literacy activities across the watershed.

The 2019 dataset, which is included in this report when comparing results year-to-year, was a combined dataset that included all 2019 districts that responded, as well as appending any 2017 data from districts that had not updated their responses in 2019. The underlying assumption was that changes in status within non-reporting districts was likely minor over the course of two years (as ELIT change tends to be incremental). This provided a more robust picture of the region at that time.

In 2022, because the last ELIT was three years ago, and in those three years there were many, major shifts in all aspects of education systems, we did not append this year's data with any historic data. All data are only what was reported this year.

2022 ELIT Response Rate & Paired Data Availability

DC Public Schools, the only non-charter local education agency in the District, responded to the 2022 ELIT survey. The district has consistently responded to the ELIT each year, allowing examination of changes over time.

The public school system in Washington, DC, is comprised of 67 local education agencies. DC Public Schools, the largest local agency, enrolls 53% of the total number of students enrolled in public schools and operates 115 school campuses. The additional 66 agencies are charter schools not represented in this report.

This report represents an accurate picture of environmental literacy efforts for students enrolled in DC Public Schools.

ELIT Response Rate: LEAs and Enrolled Students



ELIT Response Rate of Non-Charter Public LEA in DC



Percentage of Enrolled Students within DC Public Schools Represented by ELIT Data

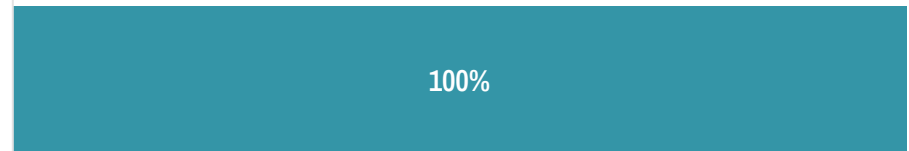


Repeat ELIT Respondents: Availability of Paired Year-to-Year Data

This graph considers the full, historic dataset of ELIT responses in DC. Segments of the graph show the proportion of districts that were entirely new to ELIT reporting this year, those that have responded at both periods, and those who responded previously, but did not update their data in 2022.



District of Columbia (n=1)



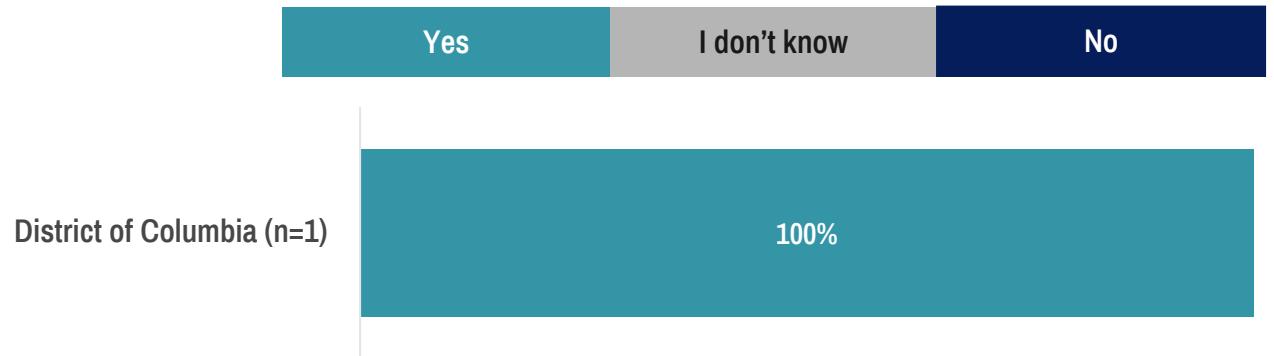
Staff Responsible for Sustainable Schools

DC Public Schools reported having staff responsible for coordinating sustainable school efforts.

The 2022 ELIT did not engage in a full inquiry of sustainable schools practices, to reduce the burden on districts where data may be gathered elsewhere. Only one question was asked, which was to gauge if the district had dedicated staff responsible for sustainable school efforts.

Sustainable Schools: Presence of Support Staff

Responses to the question: Does your LEA have a staff lead or team responsible for coordinating sustainable schools efforts?



RESULTS



**Preparedness to Implement
Environmental Education**

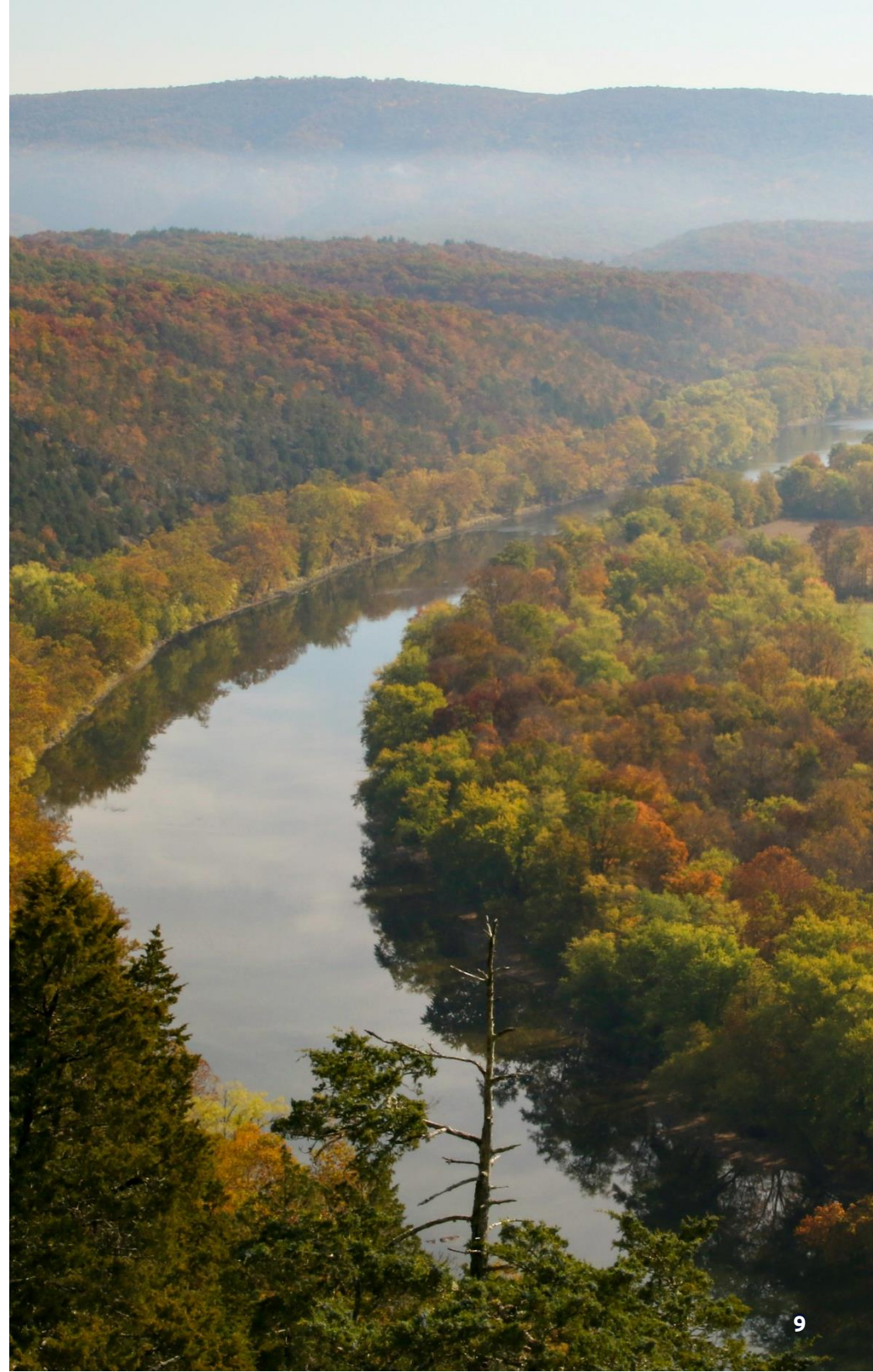
Measurement Overview

To assess each LEA's current capacity to implement a comprehensive and systemic approach to environmental education (EE), respondents considered six elements (below) and indicated for each whether it was:

- Not in place
 - Partially in place
 - Fully in place
- The response for each element was scored with a value of 0, 1, or 2, respectively. These values were summed to arrive at a total preparedness score for the district.

Six Elements Used to Determine LEA Preparedness for EE:

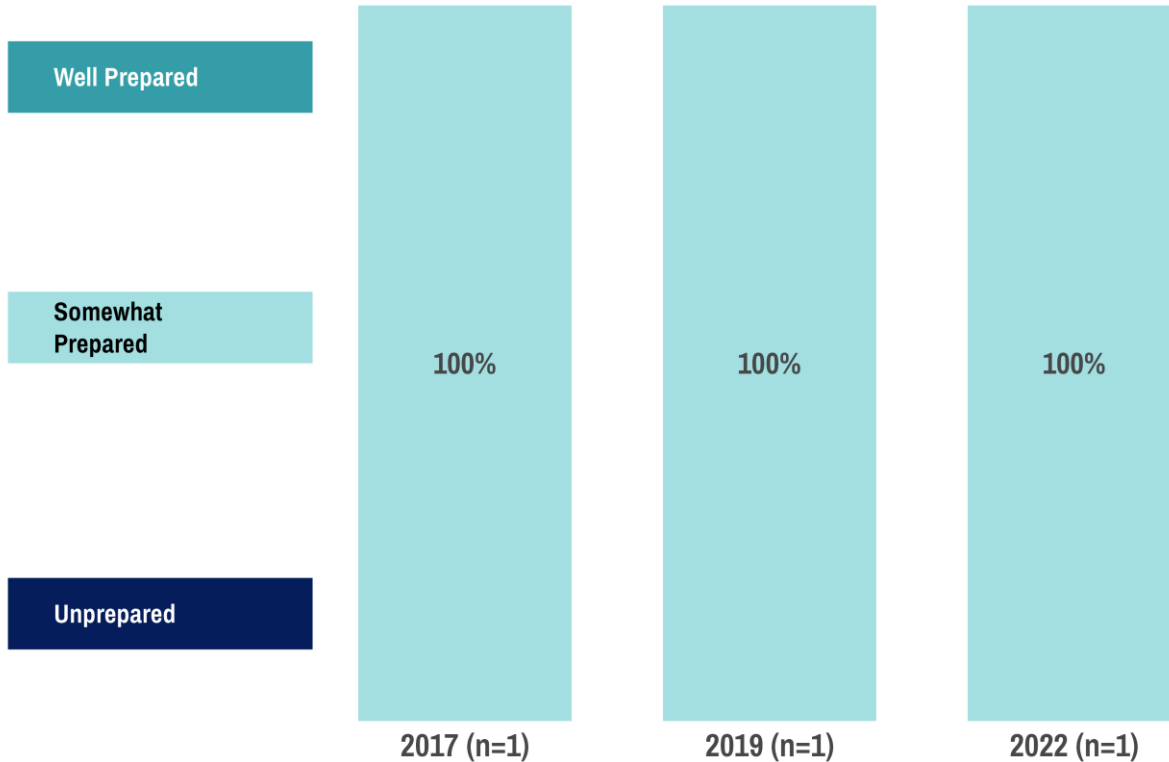
- a) An established program leader for environmental education (providing effective, sustained, and system leadership).
- b) An integrated program infusing environmental concepts into appropriate curricular areas.
- c) Regular communication among staff responsible for environmental education curriculum and program implementation.
- d) A support system in place that enables teachers and administrators to engage in high quality professional development in content knowledge, instructional materials, and methodology related to environmental education.
- e) A plan to ensure opportunities for all students to engage in meaningful watershed educational experiences (MWEEs) at the elementary, middle and high school levels.
- f) Established community partnerships for delivery of environmental education, including implementation of MWEEs.



LEA Preparedness: Trends Over Time

Changes in Environmental Literacy Preparedness Over Time (2017-2022)

Preparedness levels in all reporting LEAs in the jurisdiction



DC Public Schools reported being somewhat prepared to implement high quality environmental education in 2017, 2019, and 2022.

Responding LEAs rated how fully their district has implemented the six indicators of planning and infrastructure for high quality EE. Total preparedness scores, across all indicators, were grouped into three levels of preparedness:

Well Prepared: scores from 9-12

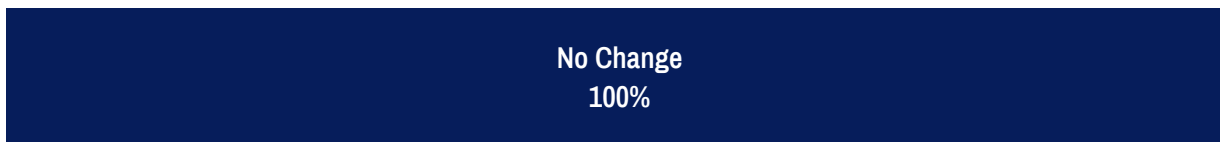
Somewhat Prepared: scores from 4-8

Not Prepared: scores from 0-3

DC Public Schools had a preparedness score of 7 (out of 12) in 2022, which is consistent with both 2019 and 2017.

Comparing Paired 2019 and 2022 Data

Changes in preparedness within individual LEAs for which we have paired data. (n=1)

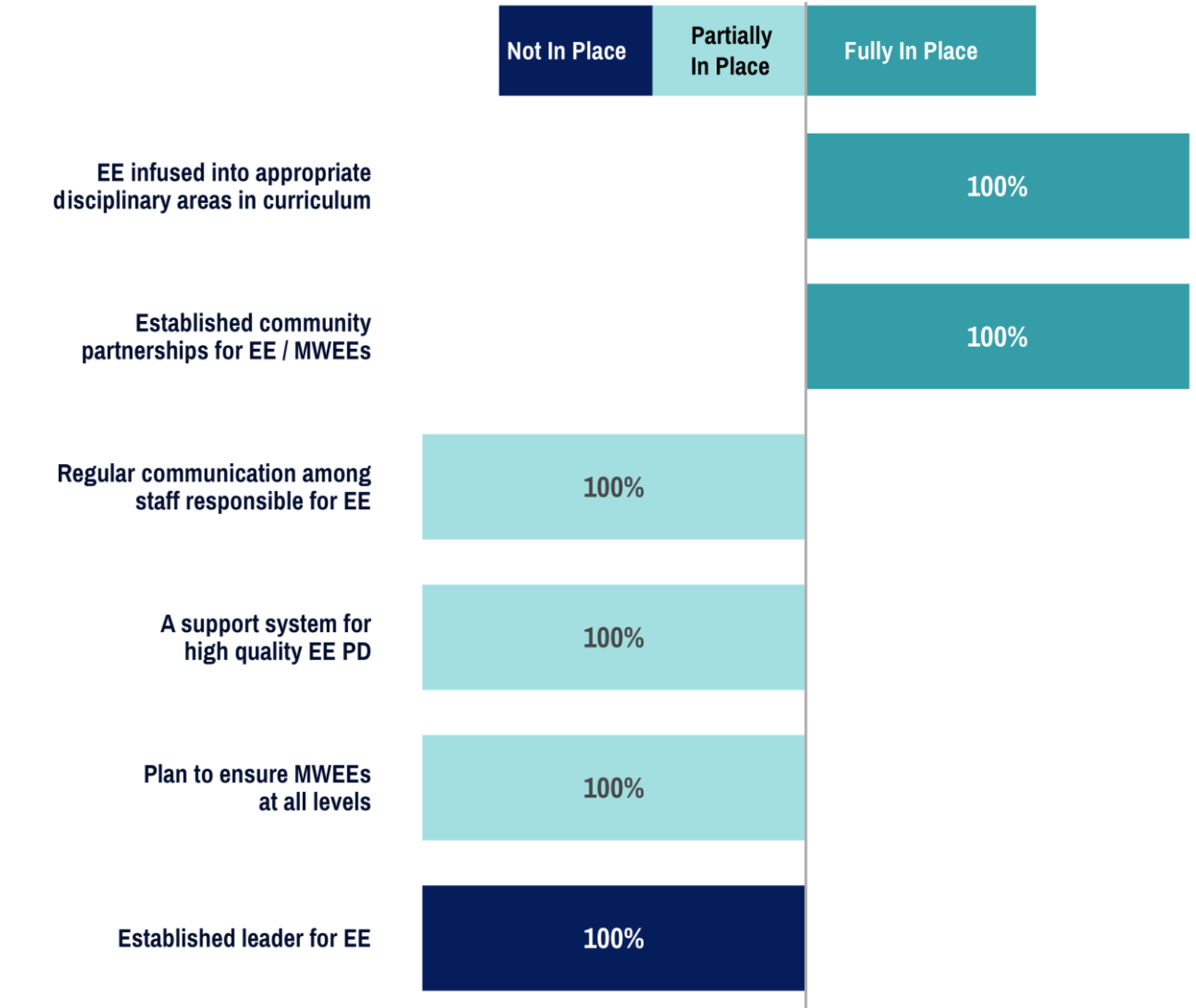


Breaking Down the Elements of Readiness

DC Public Schools reported that two elements were fully in place as of 2022 – infusing EE into appropriate disciplines across the curriculum and having established community partnerships.

All 6 of the planning elements were unchanged from reported 2019 data.

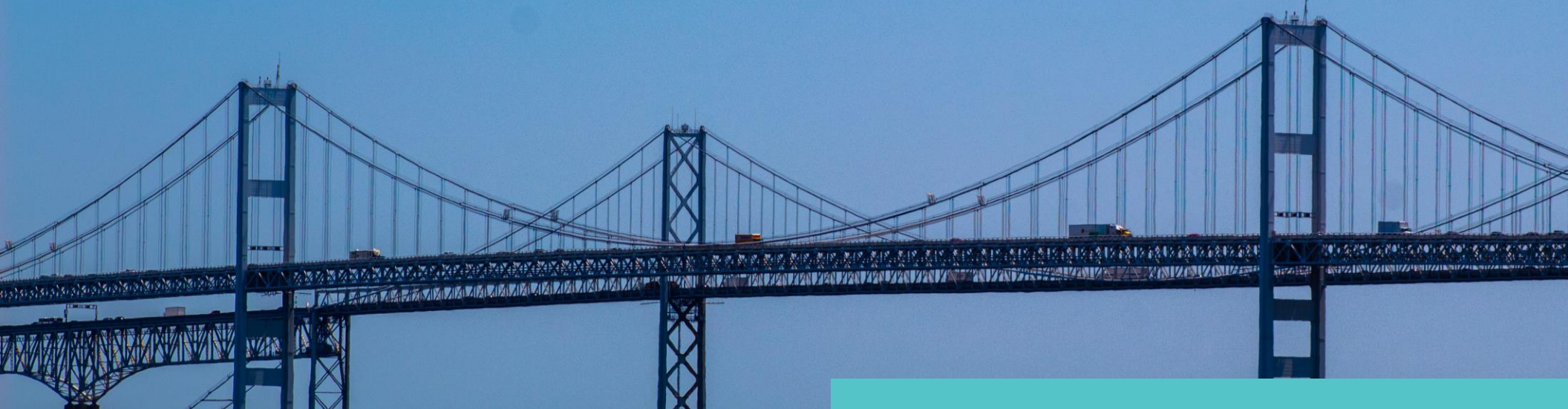
Degree of Readiness Among Elements of LEAs' Planning and Infrastructure (n=3)



RESULTS

Student Participation in Meaningful Watershed Educational Experiences (MWEEs)





RESULTS: STUDENT PARTICIPATION IN MWEEs

Measurement

To assess the level of student participation in MWEEs within each LEA, respondents were asked to assess the presence of MWEEs within curricular offerings within each grade level (K-12), considering if they were system-wide or isolated to schools or classes. (See detail, right.) Respondents were given a reminder of the complete definition of a MWEE before the questions.

Although respondents reported at individual grade levels, analysis aggregated these data to report results by grade band (elementary, middle, or high school). The aggregation grouped each LEA into one of three levels within each grade band:

- At least one system-wide MWEE provided in the grade band;
- Some MWEE programming in the grade band, but not system-wide;
- No MWEE programming provided in the grade band.

For elementary (K-5) and middle school (6-8) grades, respondents indicated whether the district had:

- A system-wide MWEE experience for students in this grade
- Some schools or classes in this grade participate in MWEEs
- No evidence that students in this grade participate in a MWEE

For high school, MWEEs are more likely to correspond to a course than a grade level. Therefore, respondents reflected on courses at the high school level, indicated if the course was required or elective and whether the district had:

- A system-wide MWEE experience for students in this course
- Some schools or classes participate in MWEEs for this course
- No evidence that students in this course participate in a MWEE

The MWEE level was computed based only on courses that were indicated to be graduation requirements (i.e., needed for all students).

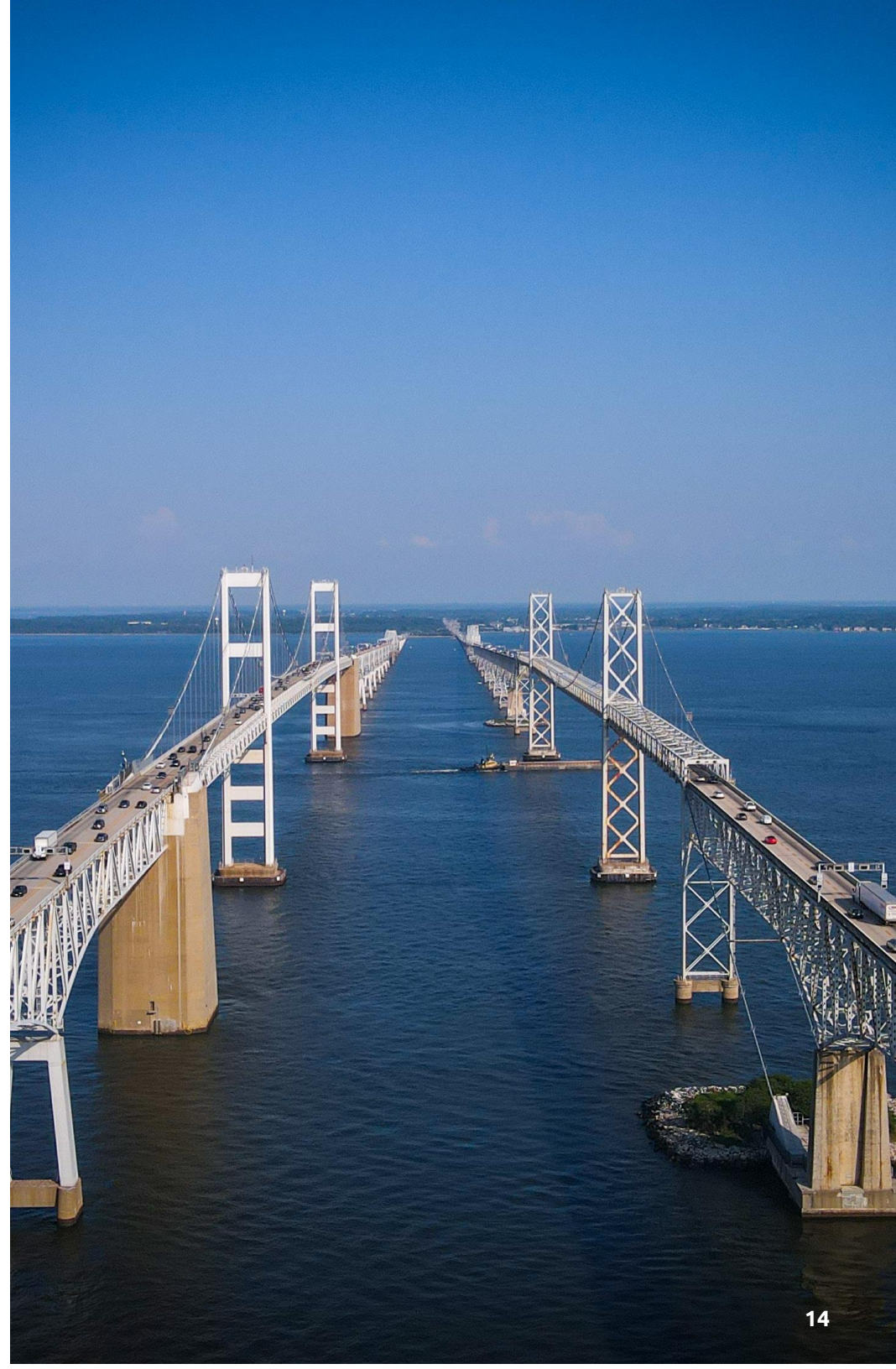
HS MWEE Measurement

A change was made to how data about high school MWEES was collected in 2022, in an effort to make it easier on LEAs and improve accuracy of what was reported.

In past years' ELIT survey, data suggested there may be inaccuracies in how courses were reported, particularly regarding clarifying whether MWEE reporting was clearly limited to *required* courses (a critical part of being considered system-wide). For example, an AP course might be listed as a system-wide MWEE, which indicates the task of focusing on requirements and electives separately was difficult for LEAs to do.

In 2022, the question was streamlined, providing LEAs with an inventory of more specific subjects, including: biology, chemistry, physics, Earth/environmental science, history, government/civics, geography, algebra I, algebra II, geometry, language arts, literature, health/physical education, AP science, AP English, AP math, AP history, with space for write-in courses. LEA representatives reported the presence of MWEEs in each of these courses (system-wide, some schools, no evidence) – *regardless* of if it was required or elective. This allowed LEAs to focus on course topics.

A secondary question provided the same list of core subjects (without AP items) and asked them to indicate which courses were graduation requirements. Analysis used this response to distinguish if each MWEE rating (above) pertained to a requirement (for the indicator) or an elective.



Student Participation in MWEEs

In DC Public Schools, there is a system-wide MWEE in place at the elementary school level, and some MWEEs are available in both middle and high school (but not system-wide).

There were no changes in this indicator between 2019 and 2022. Like in 2019, the high school level MWEEs took place in required biology courses. Other elective courses that sometimes incorporated a MWEE included environmental science and chemistry.

On the next page, 2017, 2019 and 2022 results are compared. System-wide MWEEs have been in place in elementary grades through all three data collection years. Similarly, MWEEs were available in some (but not all) middle school grade bands. High school MWEEs were not available in 2017, they have been available in some high schools since 2019.

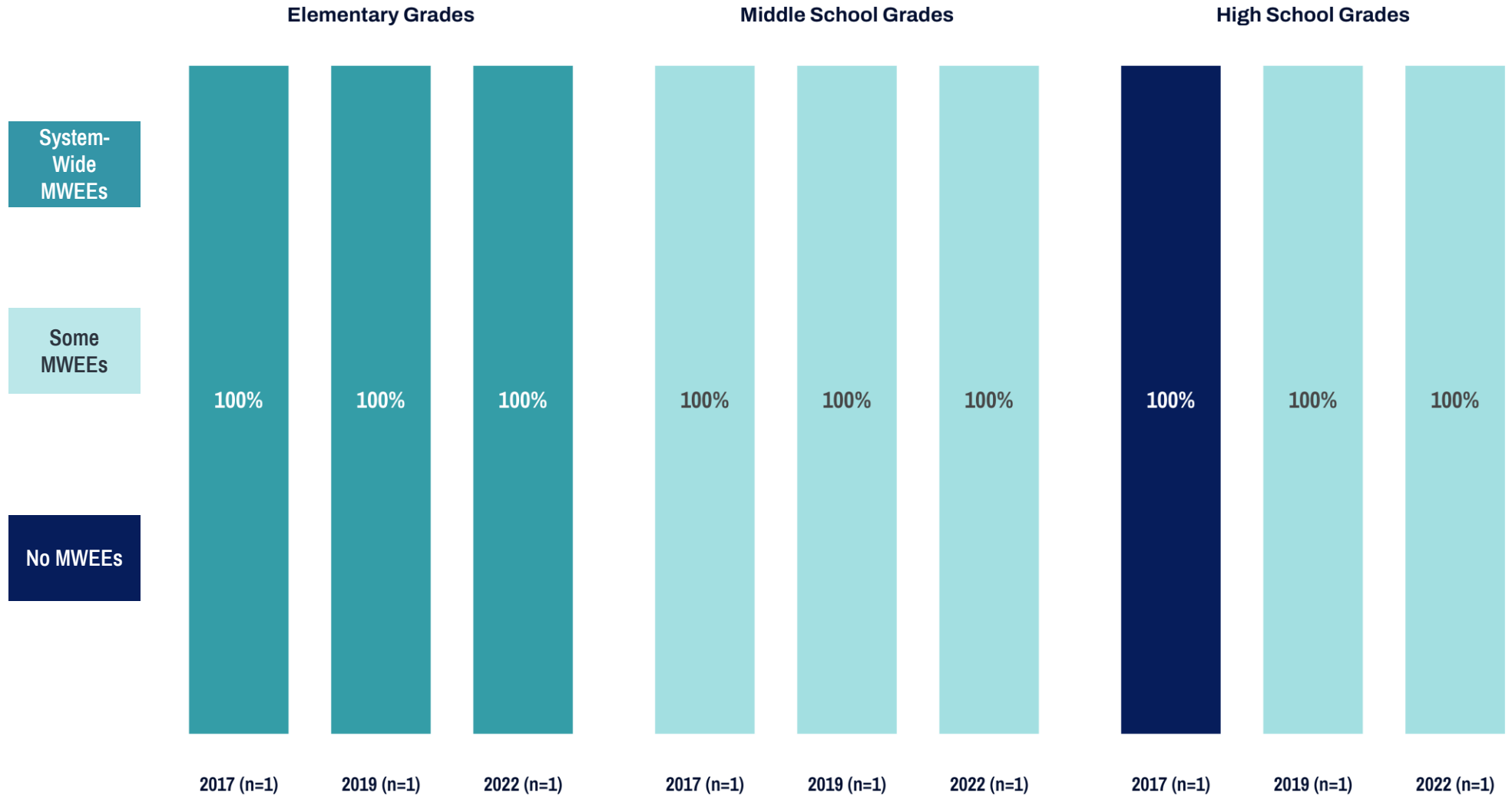
In high school, the District reported that MWEEs are available in some sections of required biology classes, as well as in elective courses of chemistry and earth/environmental science.

MWEE Availability among LEAs within District of Columbia

Rates of availability by state in 2022. If a district reported there was a system-wide MWEE at any grade level(s), they were scored as having “System-Wide MWEEs”; “No MWEEs” indicates no MWEEs at any grade in the band.



MWEES by Grade Band: Change Over Time



RESULTS

Environmental Education Support Needs



Greatest Needs for EE Support

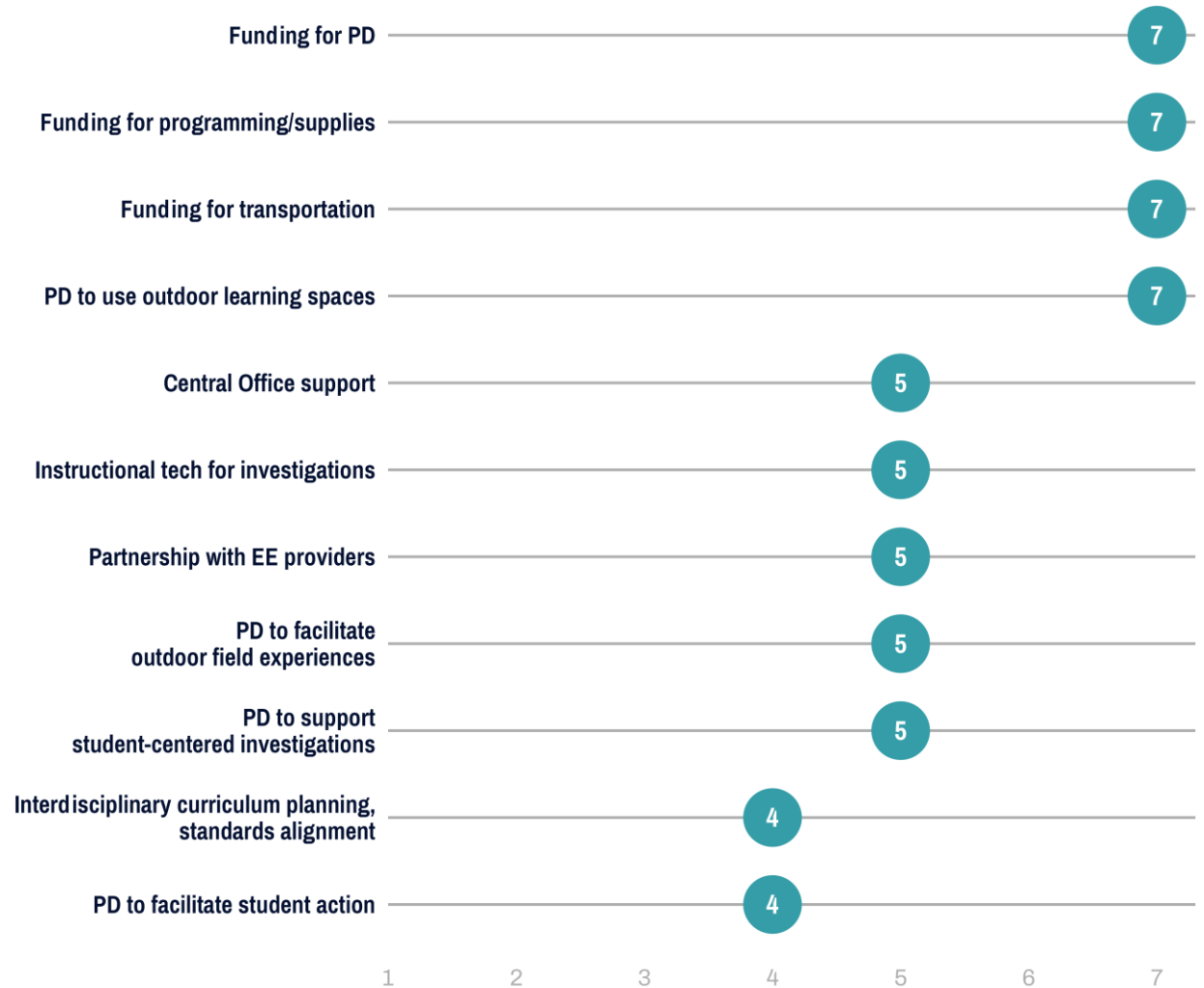
In DC Public Schools, funding for transportation, funding for programming and supplies, funding for PD, and PD to use outdoor learning spaces were all rated equally high.

Support from the central office / administration was rated the lowest need, along with PD to facilitate student action.

Note: the items asked were revised for the 2022 ELIT survey; as a result, there is no year-to-year comparison possible.

Rating of Need for Support in Each Area in DC (n=1)

Responding LEA was asked to rate their level of need for support in each area from 1 to 7, with 7 being the greatest need.





All images in this report courtesy of Unsplash, including work from photographers:

Chris Liu-Beers

Bob Burkhard

Taylor Cole

Liz Guertin

Ashley Hajimirsadeghi

Sara Cottle

Max Shein

Mary Oakey



J. Sickler
CONSULTING

For more information about this report, contact:

Jessica Sickler

Shannon Sprague

J. Sickler Consulting

NOAA, Chesapeake Bay Office

jessica@jsickler.net

Shannon.Sprague@noaa.gov