Chesapeake Bay Watershed 2024 Environmental Literacy Report

Delaware

Results from the ELIT Survey

Final Report: 04/04/2025

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ELIT Background & Purpose

The Chesapeake Bay 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 used in 2024 was identical to the tool used in 2022.

The ELIT is administered biennially to all local education agencies (LEAs) in six jurisdictions in the Chesapeake Bay Watershed. **This report presents results from all responding LEAs in Delaware, regardless of whether they are in or out of the watershed.**

ELIT Data Collection

Data Collection Procedure

The ELIT is 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 that are more reliably obtained through non-survey means (e.g., student enrollment) are identified from external sources and merged with the survey responses.

Past ELIT data were collected in 2015, 2017, 2019, and 2022. There was a one-year pause in data collection during the COVID-19 pandemic.

The Chesapeake Bay Program Education Workgroup organized data collection in 2024. 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 does not contain data about private or charter schools.

Data Collection Timing & Details

The 2024 ELIT asked districts to report on the status of activities for the 2023-24 school year. The ELIT survey opened for responses in August 2024 and remained open for responses through early December 2024.

This analysis and report present results from across the entire jurisdiction, which includes LEAs both inside and outside of the watershed.

Additional Information about Data

The most significant challenge of the ELIT is obtaining a strong response rate from 680 LEAs across six jurisdictions. As more LEAs report their activities into this dataset, the Chesapeake Bay Program has a more accurate understanding of the status of environmental literacy regionwide.

To maximize ability to generalize about conditions across the region, ELIT results include all data submitted in the current year's survey, as well as available data from prior ELIT surveys, within two years. **In this report, results include all responses to the 2024 ELIT, as well as data from any LEA that responded in 2022, but did not update their records in 2024.** The underlying assumption is that changes for non-reporting districts are likely minor in just two years.

In some analyses, we constrain the dataset to only those districts who provided data in *both* recent years – 2024 and 2022 – to offer the most accurate reporting of patterns of change at the district level.

About Rounding: In tables and graphs throughout this report, we display distributions with whole number percentages. In some tables and graphs, percentages may appear to add up to slightly more or less than 100%. This is due to variation when rounding decimals.

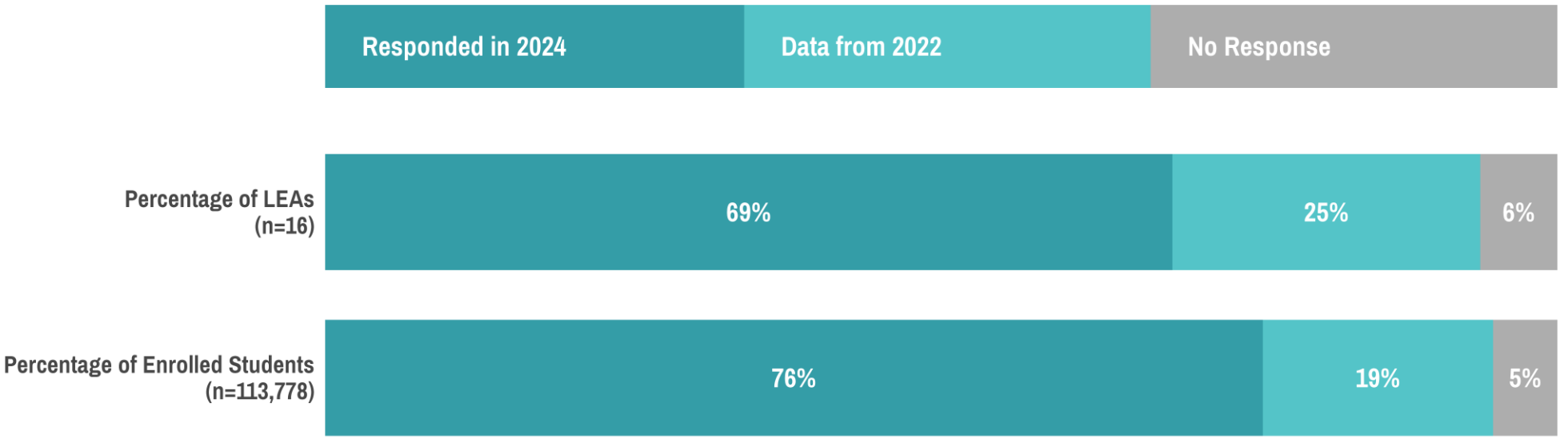
2024 ELIT Response Rate

11 out of 16 LEAs in Delaware completed the ELIT survey in 2024. This constituted a response rate of 69% of all districts, and 76% of enrolled students in the state.

In addition to these new responses, Delaware had 2022 data from 4 LEAs, which was carried forward and included in analysis for the 2024 ELIT results. With these recent (but not updated) data included, the 2024 ELIT results for Delaware represent 94% of all LEAs and 95% of all enrolled students.

Although there were two fewer new responses collected in 2024, the availability of the recent data helped the state reach almost full reporting for analysis. With the inclusion of the 2022 data to supplement the updated 2024 data, the analysis in this report should provide a clear and up-to-date picture of the status of environmental literacy efforts in school districts statewide.

ELIT Response Rate: Percentage of all LEAs and of Enrolled Students across Delaware in 2024



Availability of Paired Year-to-Year Data

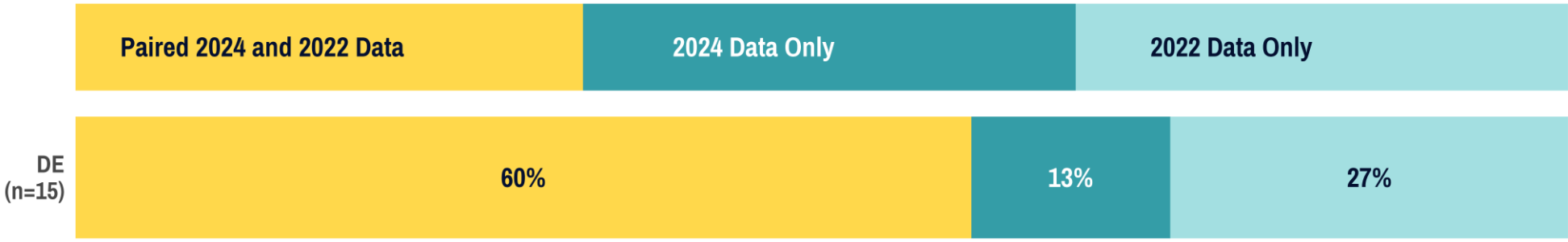
The majority data from LEAs in Delaware included paired responses from both the 2022 and 2024 ELIT surveys. There were 9 districts which provided data in both periods of data collection that can be used for direct comparisons – this is just over half of the LEAs in the state.

In the analyses that follow, we use this paired dataset to explore the degree to which changes have occurred between the last two years of ELIT surveys. By isolating comparisons to districts that responded in both current and previous years, we can eliminate "noise" in the data that may be due to changes in which districts responded (or not) in a given year. While a smaller dataset, these analyses allow the jurisdiction to see the actual movement of a given district between years.

With only about half of the state's LEAs having paired data, year-to-year changes presented by the data should provide some signal of environmental literacy efforts statewide, but may not be fully representative of the state.

Repeat ELIT Respondents: Availability of Paired 2024 and 2022 Data

The dataset used for the 2024 analysis includes data from 15 LEAs. The yellow segments show the proportion of districts for which we have paired data from both 2024 and 2022 ELIT collection. The remaining segments (teal) indicate districts for which we only have one year's data (either 2024 or carried-forward data from 2022).



Staff Responsible for Sustainable Schools

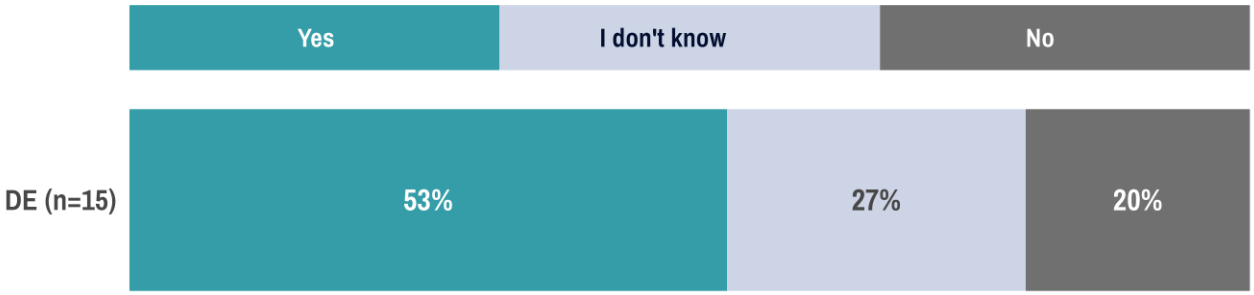
Over half of the responding LEAs indicated that their district has dedicated staff responsible for sustainable schools, while many were unsure.

The 2024 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.

Delaware reported that 8 of 15 LEAs had staff responsible for sustainable schools. There were 4 districts which were unsure if they had staff for sustainability 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.

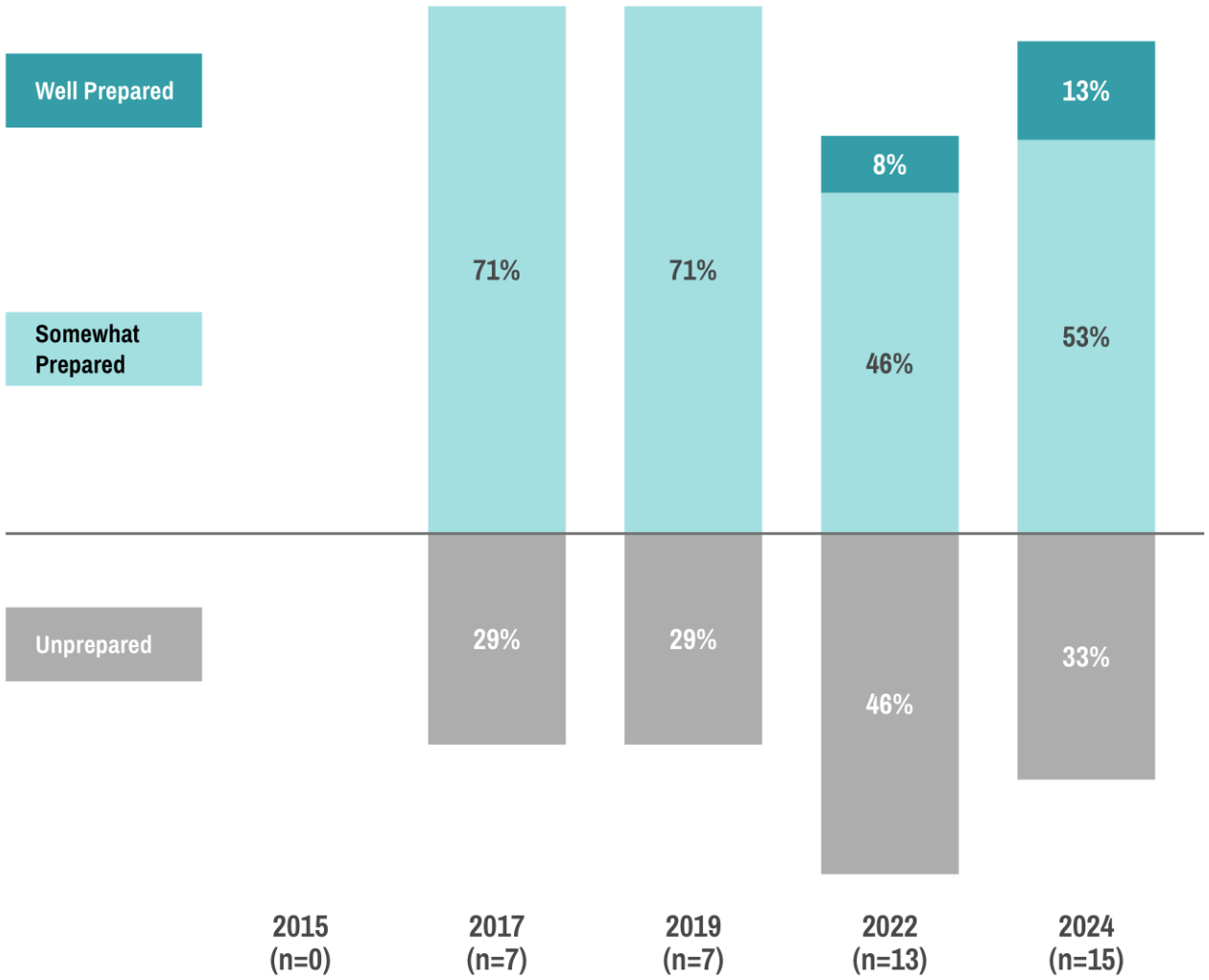
e) A plan to ensure opportunities for all students to engage in meaningful watershed educational experiences (MWEEs) at the elementary, middle and high school levels.

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 (2015-2024)

State-wide preparedness levels in each of the ELIT years' reporting. Divergence illustrates the change in proportion of districts reporting any level of preparedness. Number of reporting districts may vary from year to year.



Two-thirds of LEAs in Delaware are somewhat or well-prepared to implement high quality environmental education in 2024.

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

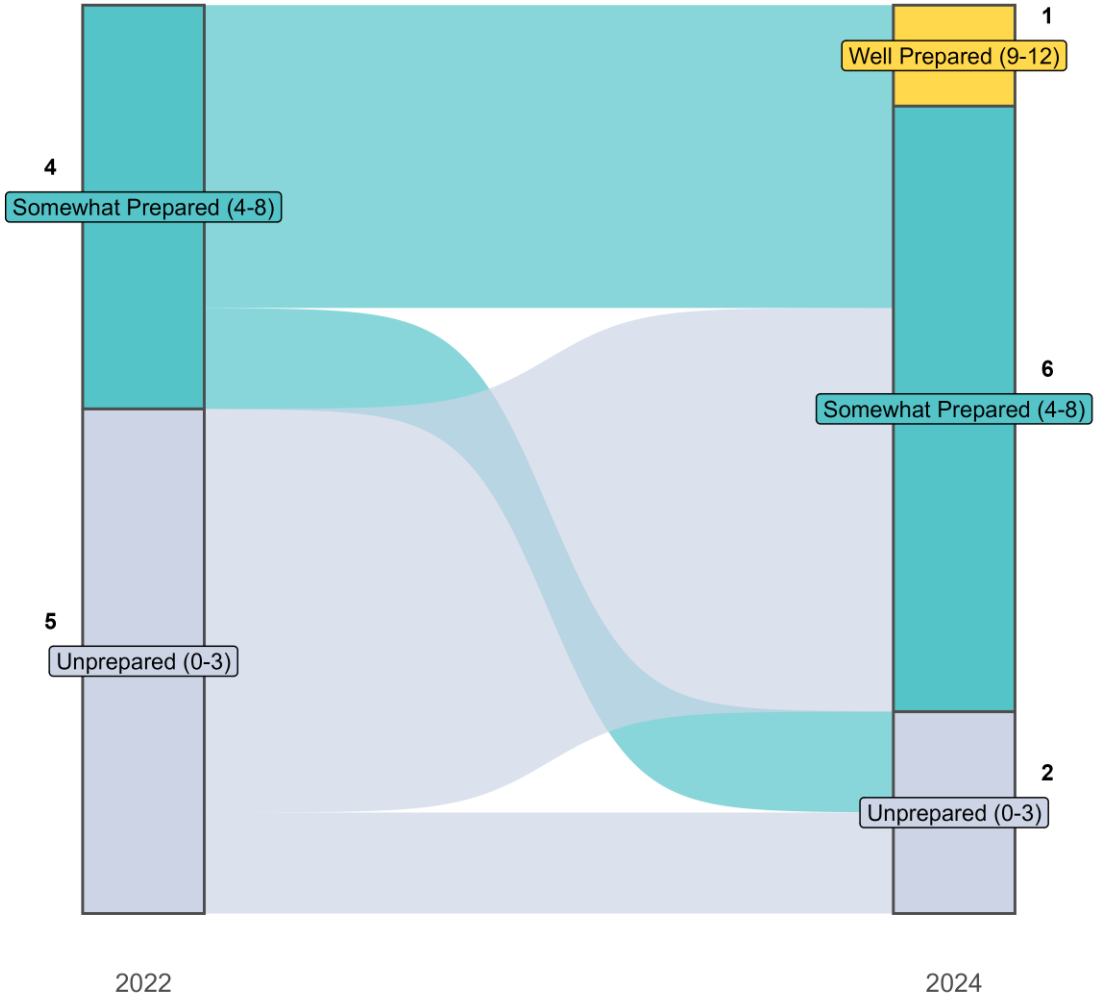
Looking at the aggregate numbers, there appeared to be growth in the rate of well-prepared LEAs, and the rates of unprepared LEAs almost returned to the rates prior to 2022. This appears to be positive movement in this indicator for the state of Delaware.

On the next page, we examine changes for just districts with paired 2022 and 2024 data, which provides a more nuanced look at changes that occurred.

LEA Preparedness: District Changes from 2022 to 2024

ELIT Preparedness: Pathways of Change between 2022 and 2024

This graphic shows how the planning level of individual school districts changed between the 2022 and 2024 ELIT. It includes only districts that responded to the survey in both years (n=9). Numbers show counts of districts at each level.



When we look only at districts for which we have reported data in both 2022 and 2024, we see that more LEAs reported being well prepared in 2024 – going from no LEAs to one LEA.

This analysis provides a clear picture of year-to-year change and pathways of movement in the metric by tracking each individual district that reported status in both years. Most districts increased their level of preparedness over the two years – the visual shows many LEAs moving up from unprepared to somewhat prepared. And one district raised their score to the well-prepared level since 2022.

When we look at the raw, total preparedness score (used to assign the levels) of all LEAs with paired data, **the average total score increased from 3.78 in 2022 to 5.56 in 2024**. This indicates an overall trend of school districts reporting higher preparedness items in place since 2022.

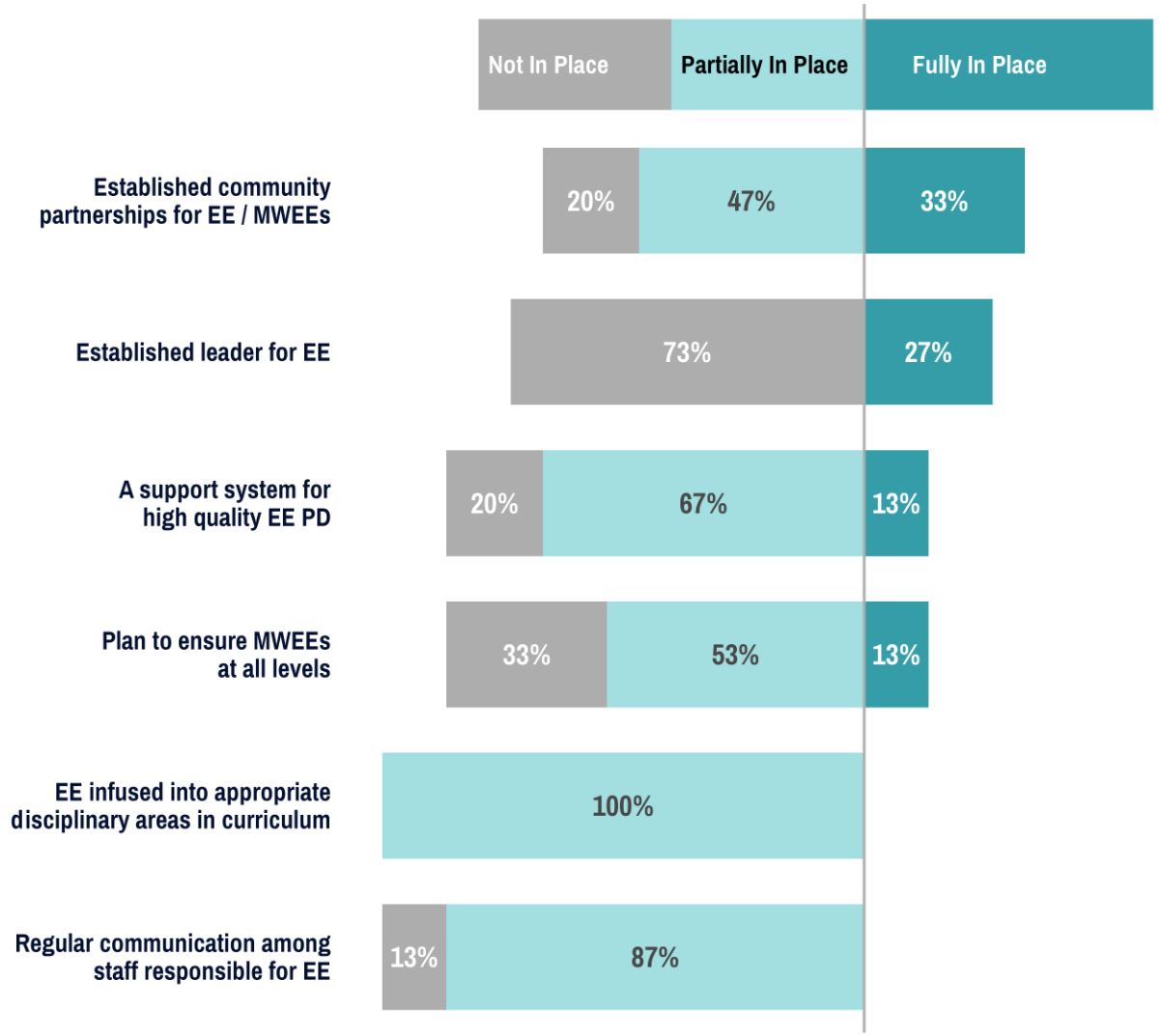
Breaking Down the Elements of Readiness

One-third of LEAs in Delaware reported established community partnerships for environmental education, followed by having an established EE leader as the most common strategies fully in place.

Most of the other elements of readiness seemed difficult for LEAs to have fully in place, although the majority seemed to be making some progress on these elements. Creating an integrated program that infuses environmental topics across the curriculum is the area in which the greatest number of LEAs have made some progress (100%), but none have fully achieved this element. Communication among staff responsible for EE was similar in this regard.

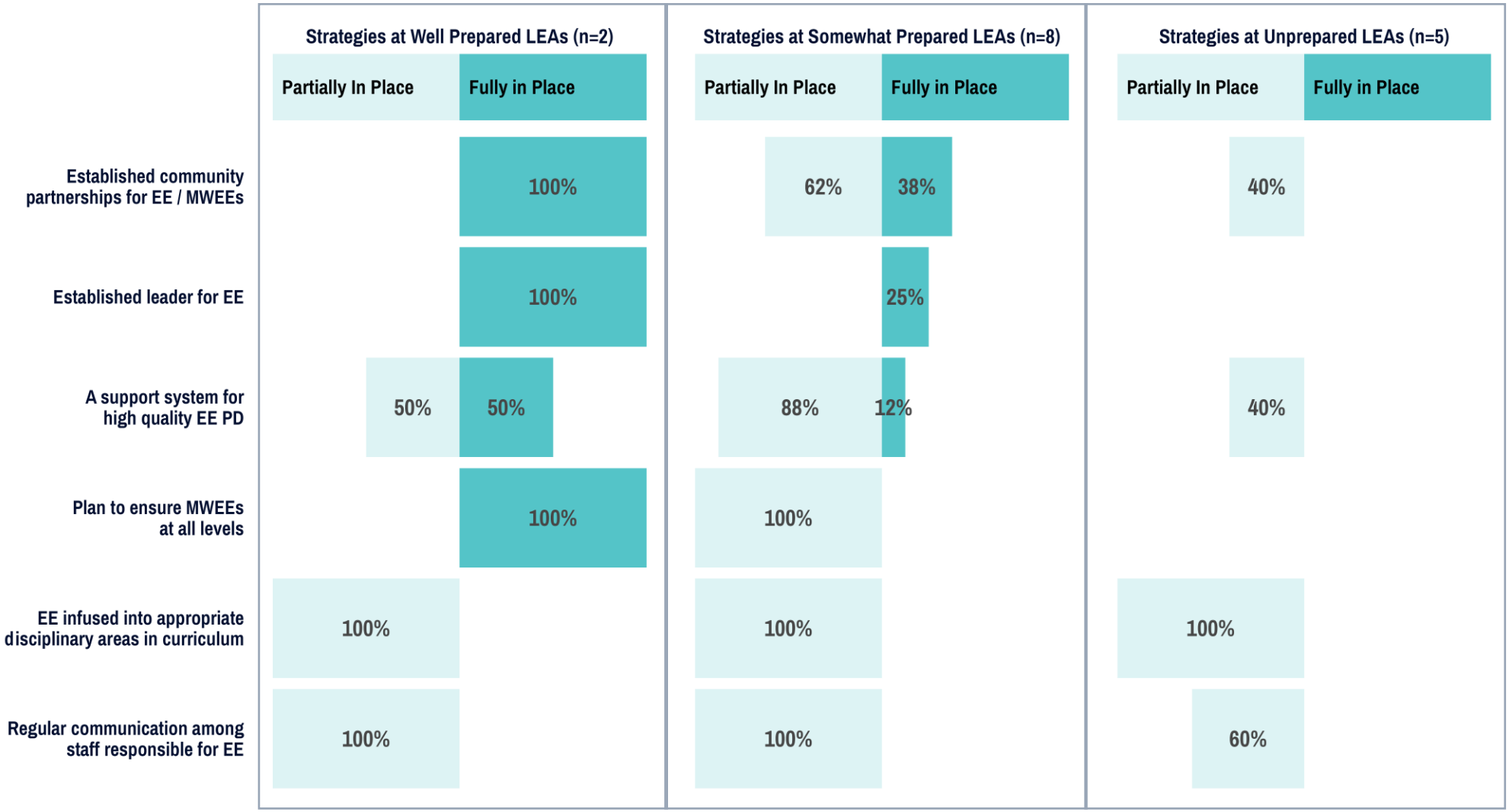
The next page further breaks down these data, by comparing the three sub-groups (well-prepared, somewhat prepared, or unprepared). It suggests that establishing an EE leader, building community partnerships, and developing PD opportunities may be areas in which less-prepared districts make strides toward greater preparedness.

Degree of Readiness for Each Element of LEA Planning and Infrastructure.
Distribution of ratings to individual items in the planning indicator by all LEAs in Delaware (n=15)



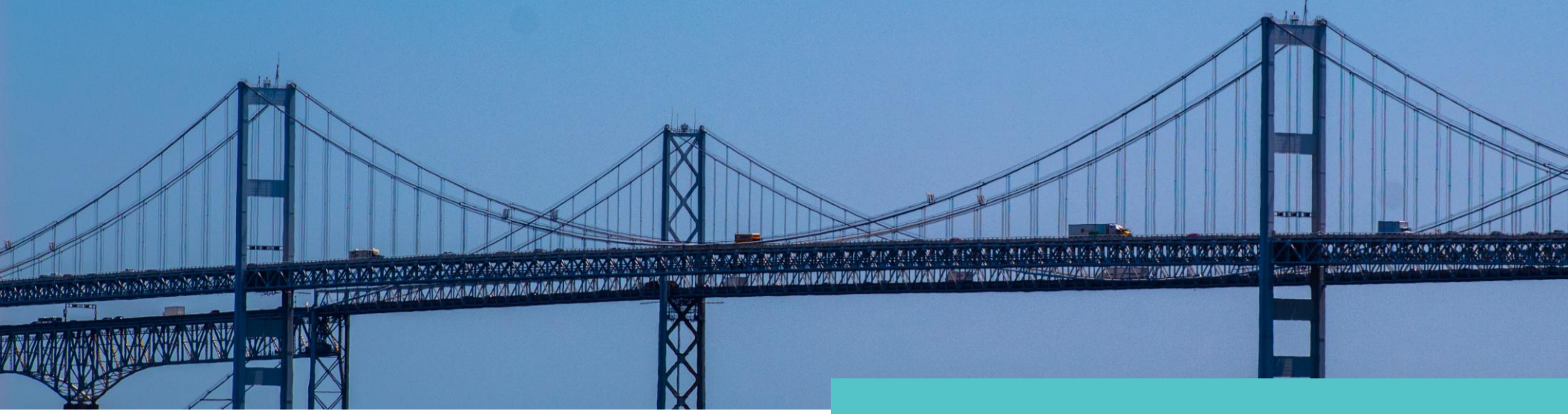
Elements Fully or Partially in Place

Comparing Strategies between Levels of Preparedness



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).

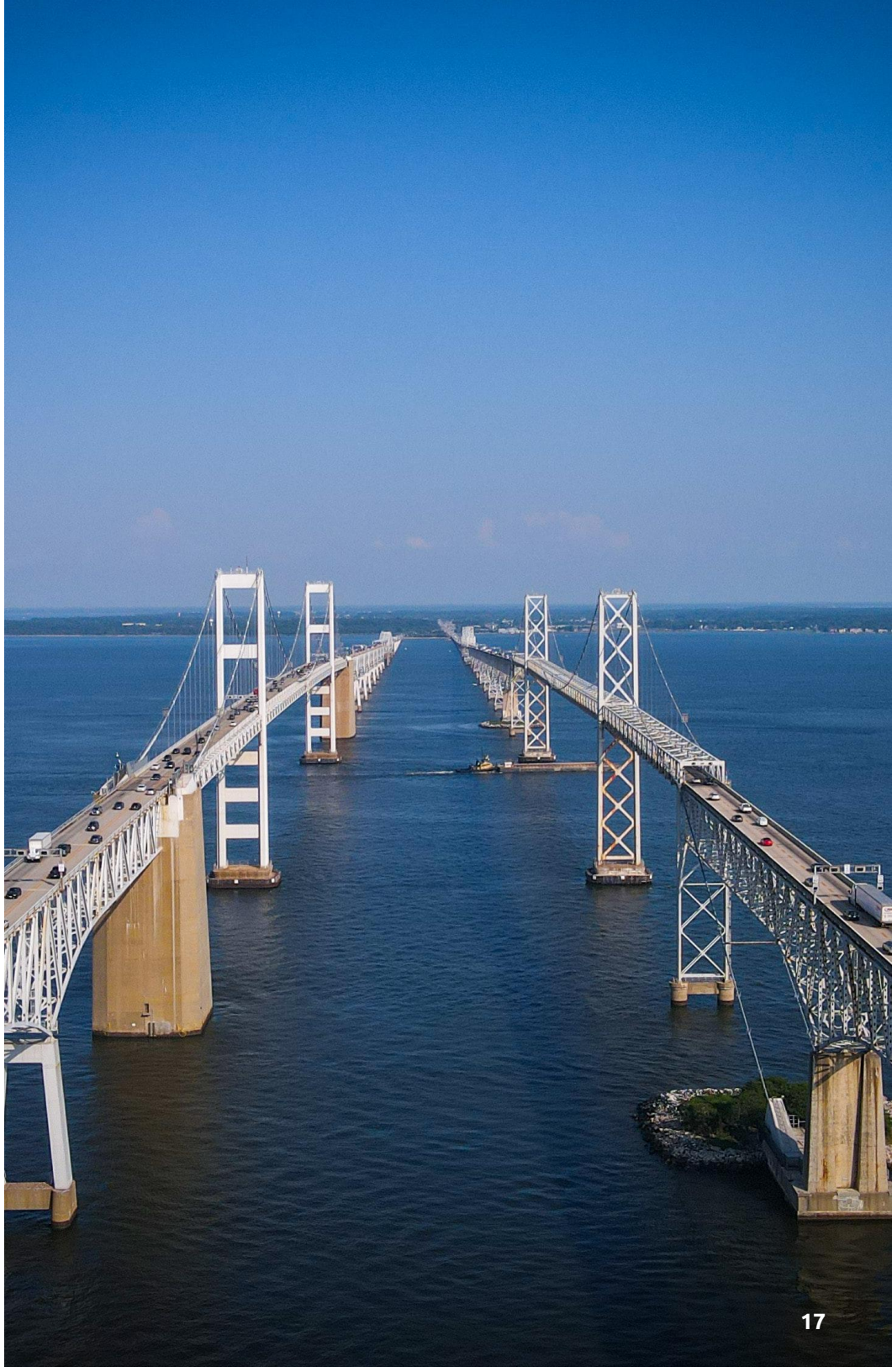
HS MWEE Measurement

The method for gathering data about high school MWEEs in 2024 was identical to the method used in 2022. However, the 2022 method was a shift from past years, as described below.

Early ELIT surveys received feedback that there may be inaccuracies in how high school courses were reported, particularly regarding clarifying whether MWEE reports were clearly limited to *required* courses (a critical element to be "system-wide"). For example, an AP course might be listed as a system-wide MWEE; but as AP course are electives, it indicated that early ELIT reports may have conflated requirements and electives.

In 2022, the question provided LEAs with an inventory of specific, common 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 subjects 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

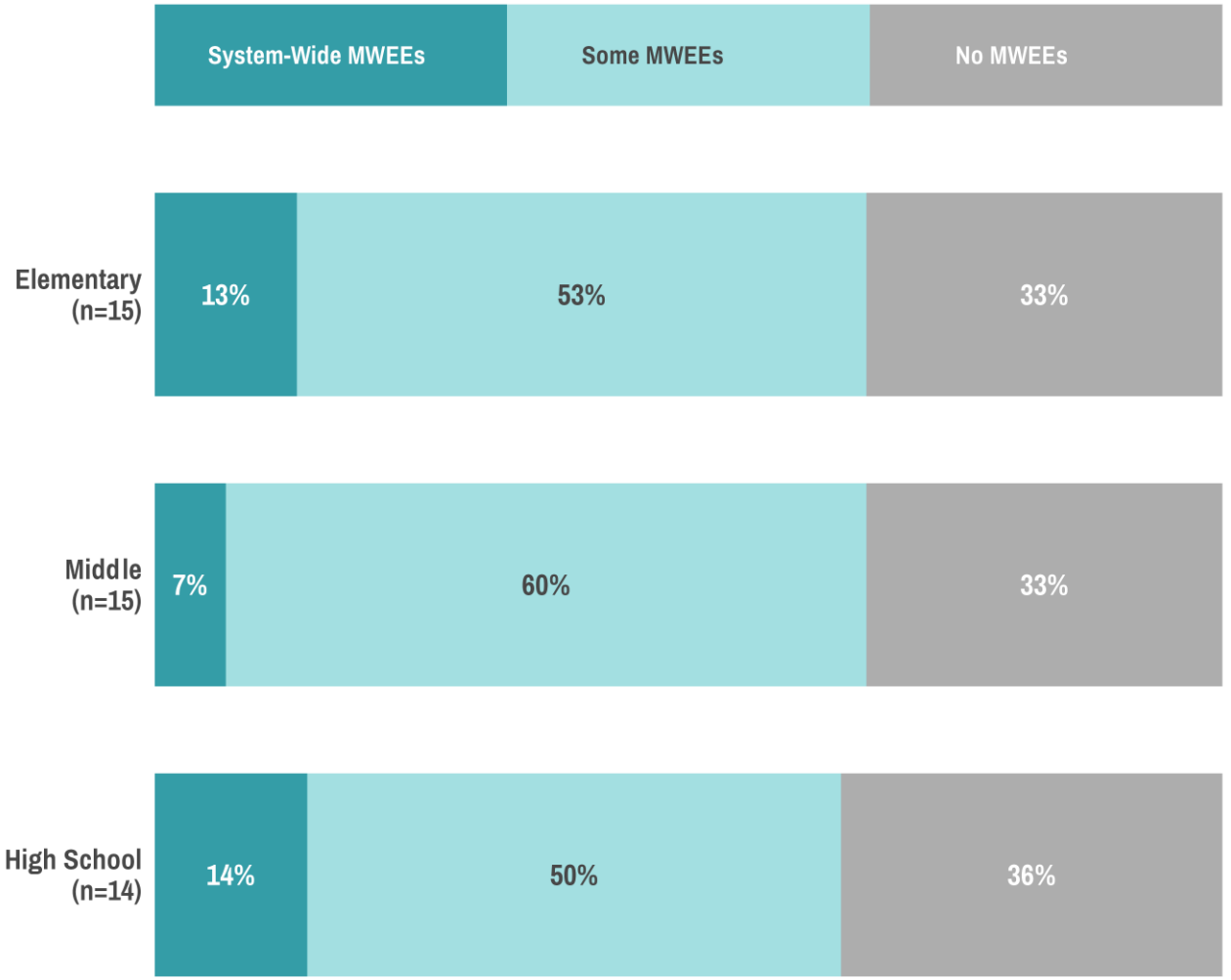
Rates of system-wide MWEEs were similar across grades, with 1 or 2 responding LEAs meeting this level in each grade band. Largely, LEAs report that they have some MWEE presence in each grade band, but not widespread enough to consider system-wide.

The three grade bands have identical rates of LEAs reporting no MWEE presence at all, with 5 districts per grade band reporting at this level.

On the next page, results from ELIT years 2017 through 2024 are compared. Overall, rates of system-wide MWEEs increased in each grade band and the rate of LEAs reporting no MWEEs at all decreased from 2022. These are all encouraging signs of progress.

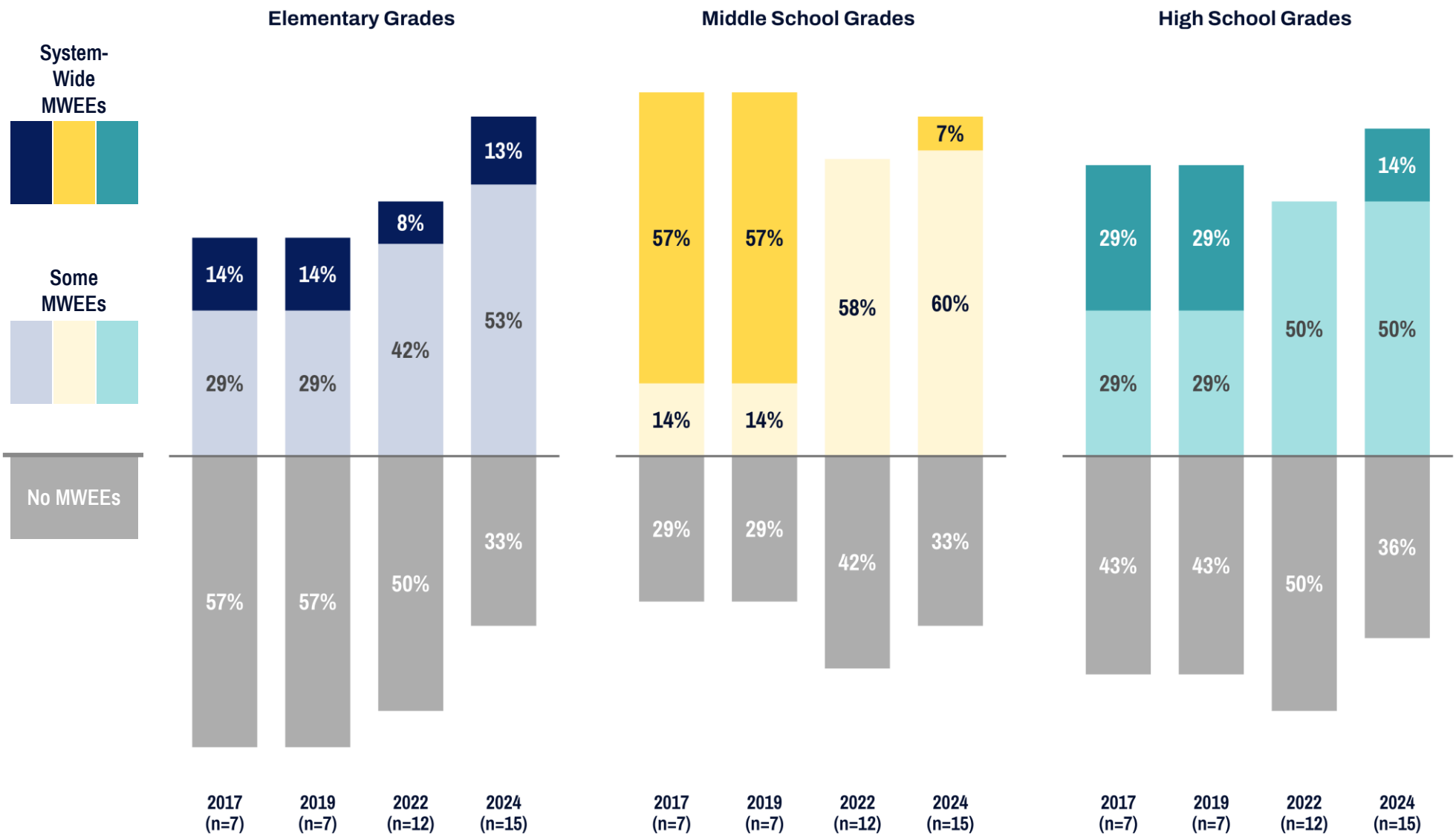
MWEE Availability among LEAs within Delaware in 2024

Rates of availability across all responding LEAs. 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.



Note: sample sizes reflect the number of LEAs that answered question(s) for each grade band. LEAs that do not respond to some items result in varying sample sizes.

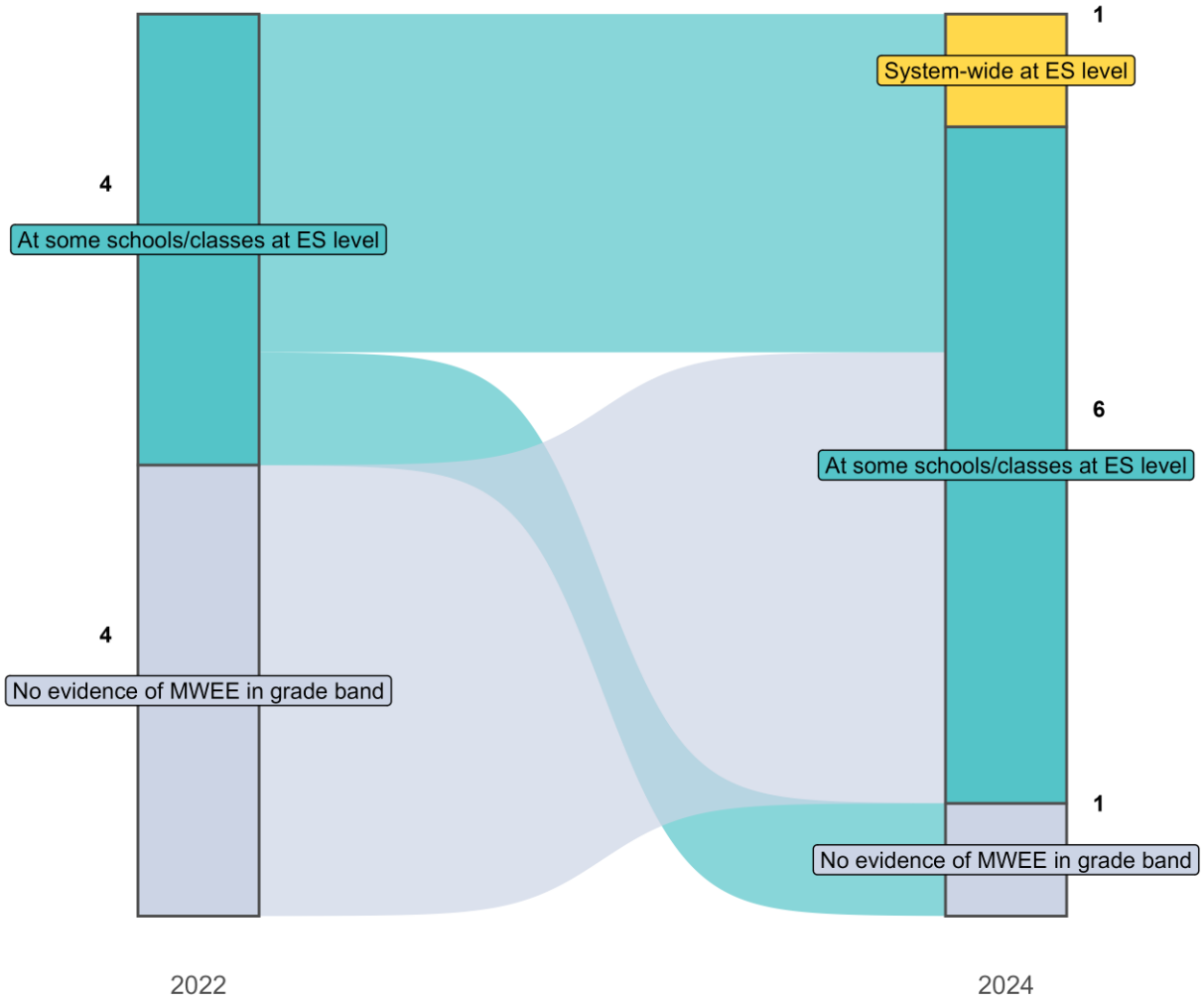
MWEEs by Grade Band: Change Over Time



Change in Elementary: Paired 2022 and 2024 Data

ES MWEEs: Pathways of Change between 2022 and 2024

This graphic shows how the presence of MWEEs of individual school districts changed between the 2022 and 2024 ELIT. It includes only districts that responded to the survey in both years (n=8). Numbers show counts of districts at each level.



Exploring the subset of LEAs for which we have year-to-year data, we see a substantial increase in the presence of MWEEs in elementary schools from 2022 to 2024.

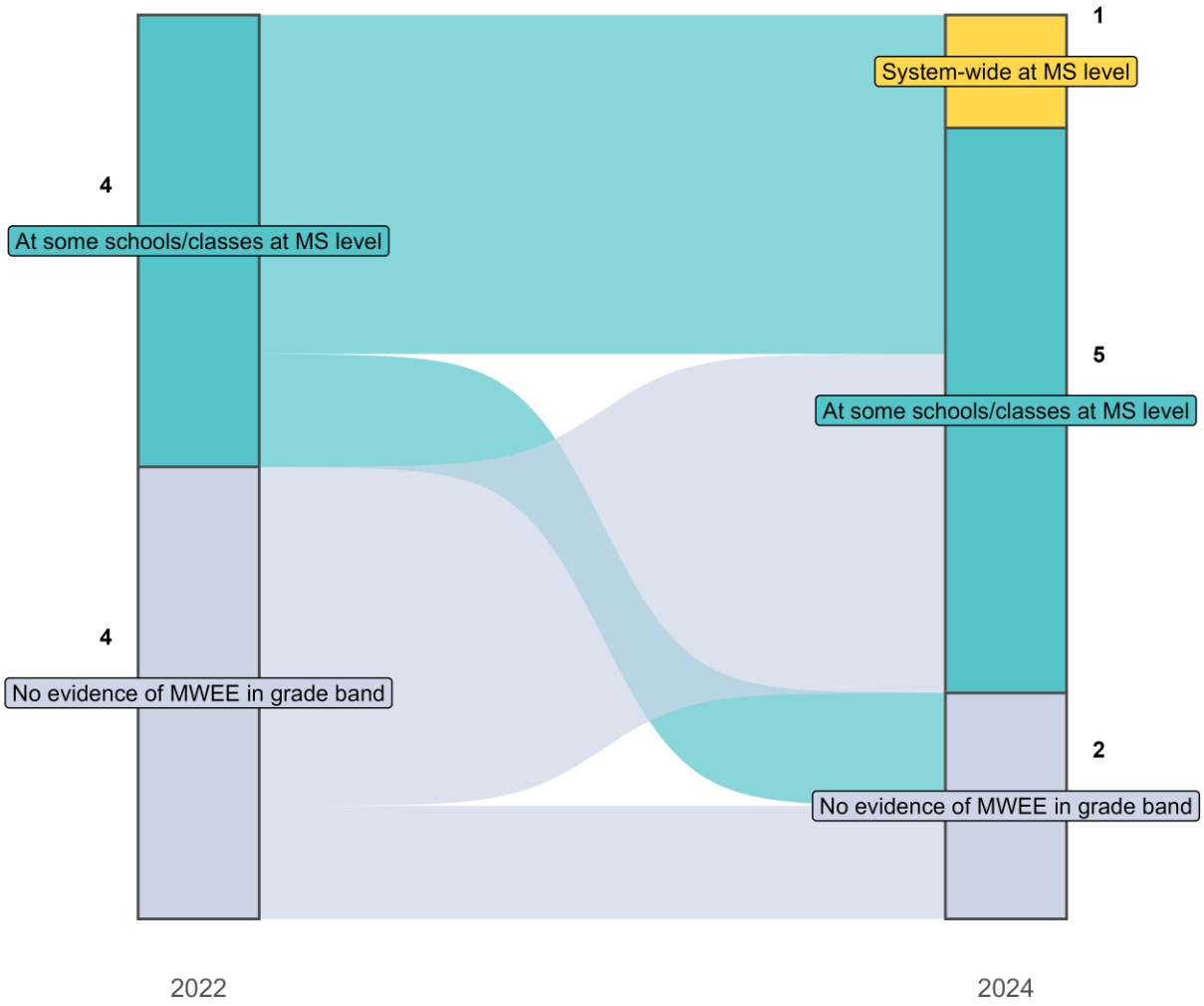
The smaller set of paired data highlight one LEA that shifted upward to report a system-wide MWEE in this grade band. It also shows that every LEA that reported no evidence of MWEEs in 2022 reported progress – increasing to having some presence of MWEEs in elementary grades in 2024. Only one LEA dropped down to reporting no MWEE presence in their system this year.

As is illustrated here, most LEAs reported growth in their use of MWEEs since 2022. This reinforces the picture of an overall positive trend in the presence of MWEEs within Delaware's elementary schools.

Change in Middle School: Paired 2022 and 2024 Data

MS MWEEs: Pathways of Change between 2022 and 2024

This graphic shows how the presence of MWEEs of individual school districts changed between the 2022 and 2024 ELIT. It includes only districts that responded to the survey in both years (n=8). Numbers show counts of districts at each level.



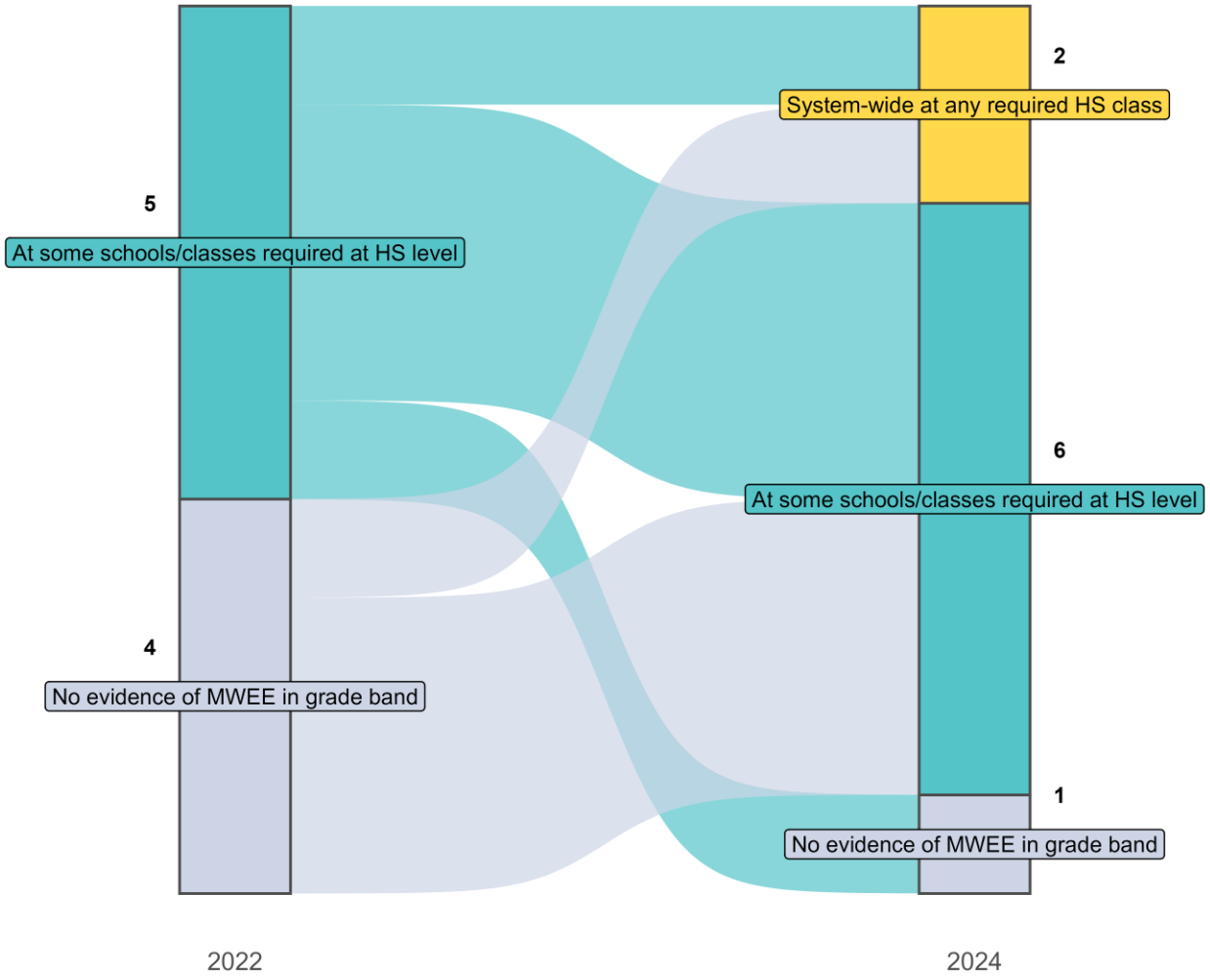
Middle schools followed a similar pattern to elementary schools. Overall MWEE use increased over the two years, including the addition of one LEA reporting a system-wide MWEE.

Again, the overall pattern of change was LEAs reporting an increase in the use of MWEEs at middle school since 2022. The largest area of movement were LEAs that went from having no MWEE presence in middle school in 2022 to reporting some use in 2024. One district reported a shift downward, no longer offering MWEEs in middle school, for a total of two districts with no MWEEs reported in this subset of paired data.

Change in High School: Paired 2022 and 2024 Data

HS MWEEs: Pathways of Change between 2022 and 2024

This graphic shows how the presence of MWEEs of individual school districts changed between the 2022 and 2024 ELIT. It includes only districts that responded to the survey in both years (n=9). Numbers show counts of districts at each level.



High schools showed the highest proportion of system-wide MWEEs in 2024, growing from no LEAs to two LEAs. As with the younger grades, there was an overall positive trend toward more MWEEs, even if not system-wide.

Every district which reported no MWEE presence in 2022 showed growth in 2024 – reporting at least some MWEE use in high school classes. In total, 5 districts increased their MWEE level, with 2 of these districts implementing MWEEs system-wide in 2024. There were 3 districts who maintained some (but not systemic) MWEEs in 2024 from the previous years.

High School: Required Courses Using MWEEs

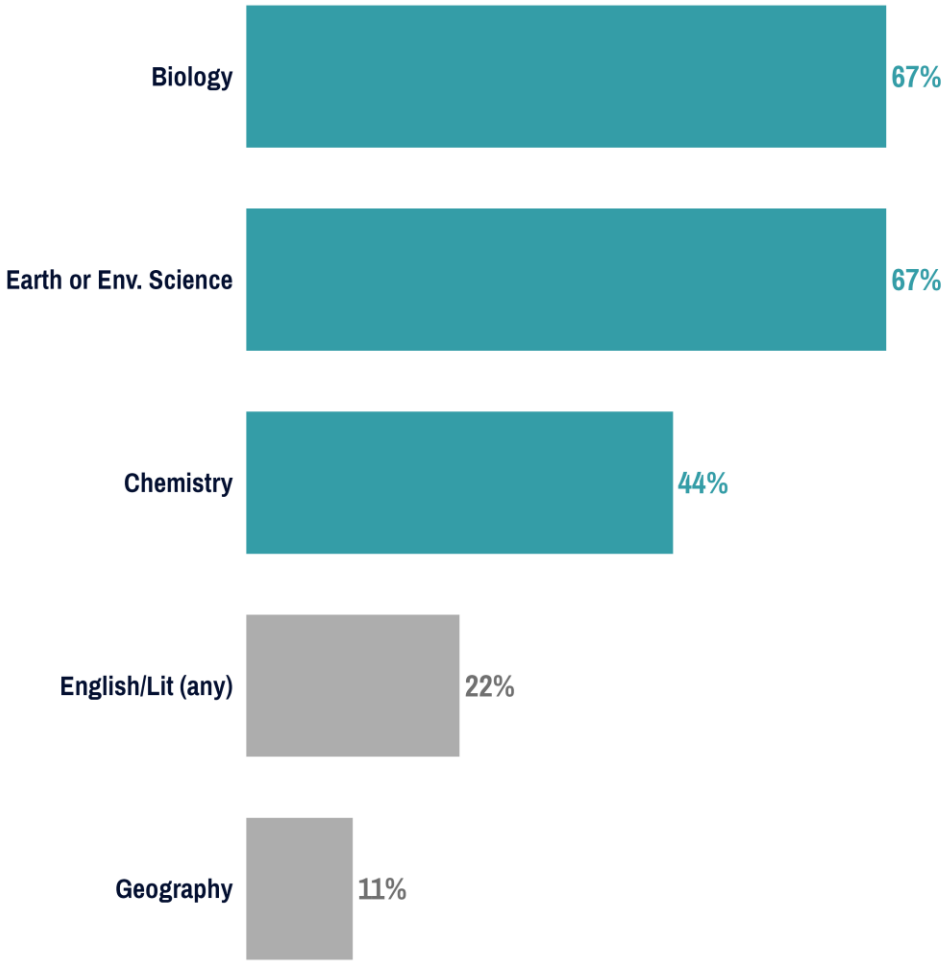
Of the 9 LEAs that reported having at least some MWEE experiences within required high school course(s), most tended to be within science courses.

Biology and environmental sciences were by far the most common required subject that incorporated MWEEs. Chemistry was another common required course for MWEEs at the high school level.

Among required non-science courses, literature was the most common subject for a MWEE to be present followed by geography.

Percentage of LEAs that Provide MWEEs within Each Required Subject (n=9)

Sample is just of LEAs that reported having MWEE(s) in at least one required high school course. Data rely on accurate self-reports that courses are requirements. Teal-colored bars indicate science-focused courses (the most common broad subject area); gray bars indicate non-science courses.



High School: Elective Courses Using MWEEs

7 Delaware LEAs reported offering MWEEs within high school elective courses; most of these were in AP sciences or environmental science.

Three of the top 4 most common elective subjects that included a MWEE were all science courses. The only non-science course in the top 4 were history courses.

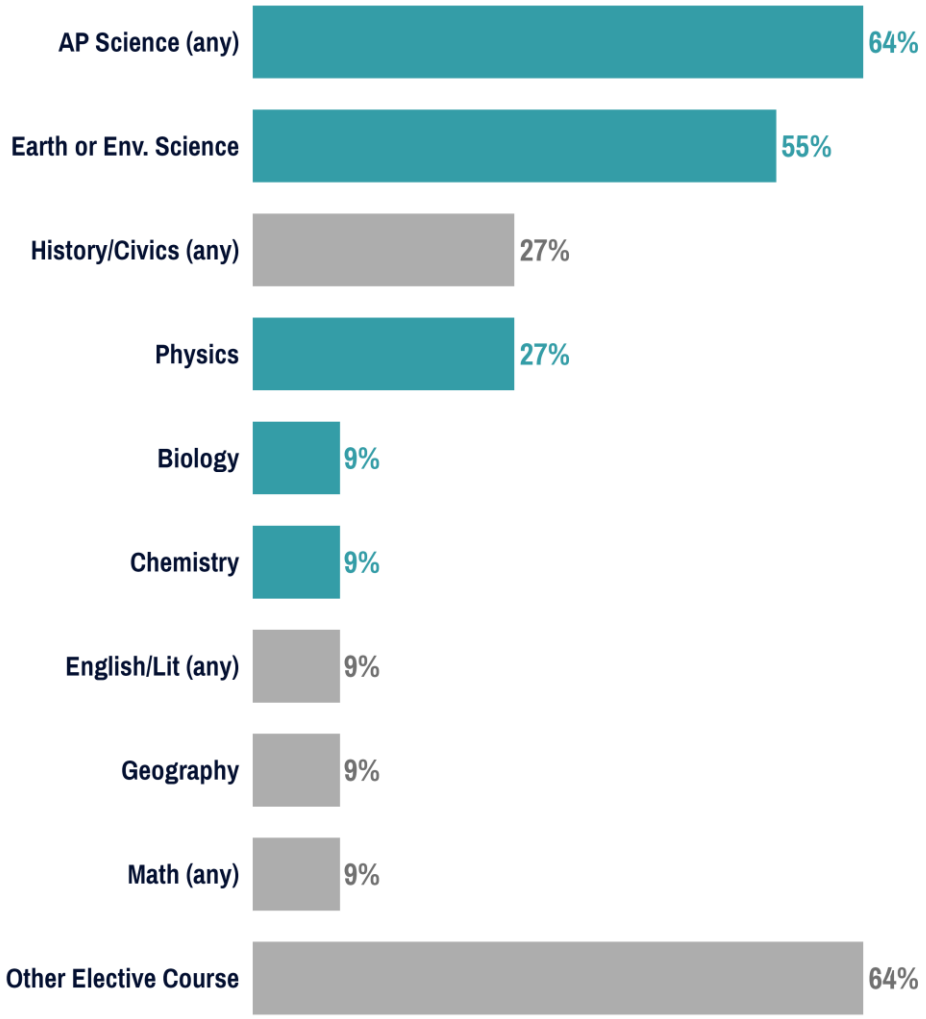
Among those that indicated MWEE usage in AP Science courses, the specific subjects were largely AP Environmental Science.

One LEA listed a wide variety of AP subjects within "other elective courses" that they indicated were using MWEEs, including AP Statistics, AP US History, AP Literature, and other courses. It may be possible that the respondent misunderstood the question and thought it was asking if the *AP* course was offered system-wide (rather than the *MWEE* being offered system-wide).

The three other districts that wrote in other electives where MWEEs were used specified they were: "CTE Ag Science Program," "K-12 Teacher Academy," and "Marine Science" as the subjects that used MWEEs.

Percentage of LEAs that Provide MWEEs within Each Elective Subject (n=11)

Sample is just of LEAs that reported having MWEE(s) in at least one elective high school course. Data relies on accurate self-reports that courses are requirements. Teal-colored bars indicate science-focused courses (the most common broad subject area); gray bars indicate non-science courses.



RESULTS

Environmental Education Support Needs

Greatest Needs for EE Support

In Delaware, most of the items were rated at very similar levels of need. By a very small margin, the respondents seemed to favor need for professional development to help with student action, funding for programming, and funding for transportation.

Support from the central office and administration was rated the lowest need. There also seemed to be slightly lower need for instructional technology.

Three respondents wrote in "other needs" in response to this question:

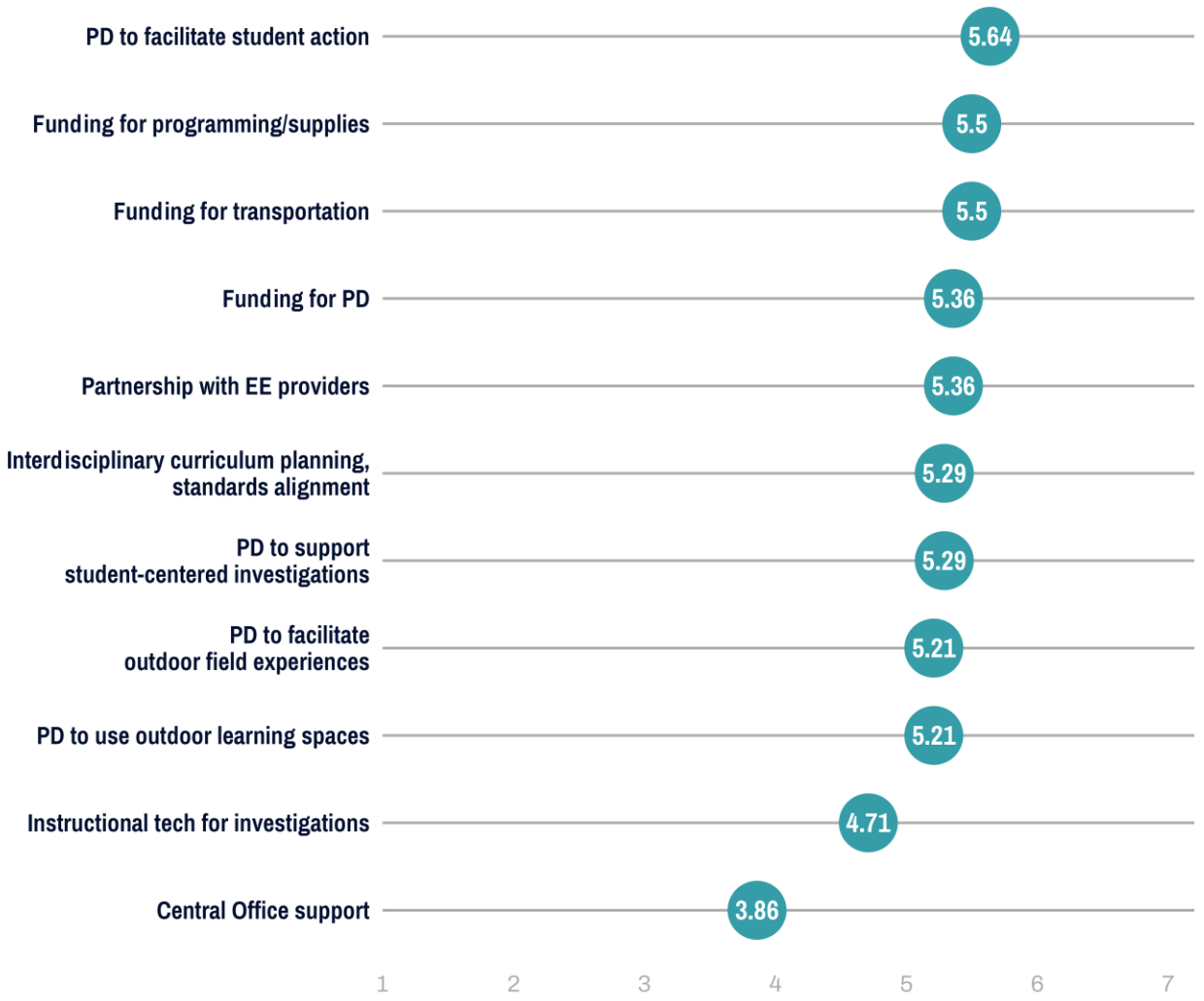
"Funding for maintenance of outdoor learning spaces as well as assistant staff for programming and maintenance"

"Recruitment of teachers and grant writing support"

"Coordination with local programming"

Average Ratings of Need for Support in Each Area Statewide

Responding LEAs rated their level of need for support in each area from 1 to 7, with 7 being the greatest need. Number of respondents to each item may vary if some LEAs skipped items (n=14).



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