

# Environmental Studies Program: *Year-Two Comprehensive Evaluation*

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# Introduction

## Background

On November 13, 2018, the School Board approved the Environmental Studies Program to be opened at the Chesapeake Bay Foundation's Brock Environmental Center in September 2020. The program offers a unique opportunity for students to expand their understanding of sustainable economics and business innovation, social sustainability, and environmental sustainability and natural resource stewardship. Through experiential learning and community partnerships, students learn about sustainability and participate in hands-on Science, Technology, Engineering, and Math (STEM) experiences. Local environmental issues are used to contextualize students' challenge-based, collaborative, and design-thinking learning experiences. Integrated interdisciplinary instruction and service-learning projects broaden student knowledge of local and world issues pertaining to sustainability.

The implementation of the program began in 2020-2021 with grade 11 students. Full implementation was achieved in 2021-2022 and included students in grades 11 and 12. In year-two, the program was expected to serve approximately 100 students at full implementation. As part of the program, students take courses at their home high school, as well as at the Brock Environmental Center.

## Purpose of Program Evaluation

This evaluation provides the School Board, the Superintendent, and the program leadership with information about the Environmental Studies Program's second year of implementation, as well as program outcomes. Because the Environmental Studies Program initiative is a new initiative and operated with local resources, evaluation of the Environmental Studies Program by the Office of Planning, Innovation, and Accountability's research and evaluation staff is required for a minimum of two years by School Policy 6-26. The School Board approved the Environmental Studies Program for an initial implementation evaluation on September 9, 2020, as part of the 2020-2021 program evaluation schedule. The year-one implementation evaluation report was presented to the School Board on October 12, 2021, with recommendations to continue the program with modifications related to providing an additional staff member to support instruction and assist the program's teaching coordinator. The School Board approved the recommendations on October 26, 2021.

The School Board approved a year-two evaluation on September 14, 2021, as part of the 2021-2022 program evaluation schedule. In accordance with School Board Regulation 6-24.2, the year-two evaluation is focused on the program outcomes, progress made toward meeting program goals and objectives, and program effectiveness. In addition, continued implementation of the program is assessed, especially in relation to the School Board approved proposal for the program. This evaluation addresses the extent to which the program was implemented as designed, information about student characteristics, progress toward meeting goals and objectives, stakeholders' perceptions of the second year of operation, and the additional cost to the division compared with the proposed program budget.

## Program Overview

According to the proposal approved by the School Board, the program was established to offer a comprehensive curriculum to students who are interested in environmental science and sustainability. The program aims to prepare students for post-secondary education and provides opportunities to investigate careers related to the environment and sustainability. The program equips students with the skills to be globally competitive and to be successful in pathways after high school to become future scientists, politicians, and business leaders within the community and larger world. Through a personalized learning approach

coupled with advanced placement courses, graduates of the program will secure a high school diploma while benefiting from a variety of partnerships, including with the Chesapeake Bay Foundation and Virginia Wesleyan University. The Environmental Studies Program offers students the opportunity to pursue three curriculum strands within the program of study: Sustainable Economics and Business Innovation, Social Sustainability, and Environmental Sustainability and Natural Resource Stewardship. Through studies within the three strands, students are provided opportunities to be immersed in experiential and meaningful coursework that prepares them for the world of ecological, equitable, and economic sustainability.

## Program Goals and Objectives

According to the program proposal, the goal of the Environmental Studies Program is to empower students in the program to broaden their understanding of sustainability through the following:

- Utilizing the natural community as a context for learning about environmental and sustainability issues.
- Implementing environmental service-learning projects.
- Integrating interdisciplinary instruction.
- Incorporating challenge-based, collaborative, and design-thinking learning.
- Earning the Seal of Excellence in Science and the Environment upon high school graduation.

In addition, another goal of the program is to establish collaborative agreements with institutions of higher education that will result in on-going program development and assessment. The specific goals, as well as data assessing progress toward meeting these goals, are outlined in this report.

## Evaluation Design and Methodology

### Evaluation Design and Data Collection

During the year-two evaluation, the program reached full implementation, and the evaluation focuses on program outcomes, progress made toward meeting the program's goals and objectives, and program effectiveness. The evaluation methods include the use of multiple instruments and data sources. Quantitative data were gathered from the school division's data warehouse and through closed-ended survey items. Qualitative data were collected through document reviews, interviews, and open-ended survey questions. The Office of Research and Evaluation program evaluators employed the following data collection methods:

- Examined the Environmental Studies Program Proposal (November 2018) and program documentation.
- Collected student data from the VBCPS data warehouse for analyzing participant characteristics.
- Collected data on students' academic performance in courses and scores on the Advanced Placement (AP) Environmental Studies exam.
- Administered a perception survey to grade 11 and 12 students in the Environmental Studies Program.
- Administered a perception survey to parents of students in the Environmental Studies Program.
- Conducted two interviews and communicated with the grade 11 teacher and/or the Environmental Studies Program teaching coordinator during the year.
- Collected cost information for the Environmental Studies Program from the Department of Teaching and Learning, the Department of Human Resources, the Office of Business Services, and the Office of Transportation Services and Fleet Management.

## VBCPS Data Warehouse

Student data analyzed as part of the year-two evaluation were extracted from the VBCPS data warehouse. These data included enrollment records, demographic characteristics of participants, and academic outcomes including course grades and scores on the AP Environmental Studies exam. The data for participating program students were analyzed along with data from grade 11 and 12 students across the division for the purpose of providing interpretive context.

## Surveys

Environmental Studies Program students and parents were invited to complete an anonymous survey regarding their perceptions of and experiences with the Environmental Studies Program. A survey was developed for each participant group. The participant surveys consisted mainly of Likert-type items that focused on program operations and program outcomes. In almost all cases, these selected-response items were constructed on a four-point scale: (1) Strongly Disagree/Very Dissatisfied, (2) Disagree/Dissatisfied, (3) Agree/Satisfied, and (4) Strongly Agree/Very Satisfied. Whenever possible, comparable versions of survey items were included on both survey versions. Further, all surveys included open-ended questions regarding what students gained from the program, possible improvements for the program, and the impact the COVID-19 pandemic had on the program. Students in grade 12 completed exit survey items as one part of the survey. Questions on the exit survey included information related to students' plans following graduation, long-term career goals, and if their future plans are related to the environment or sustainability. For all surveys, agreement percentages reported in the evaluation were based on those who answered the survey item (i.e., missing responses were excluded from the percentages). Agreement percentages for survey items that included a Not Applicable response option excluded those who responded with Not Applicable. Because the responses on the Likert-type items had very high percentages of satisfaction, the majority of the data are presented displaying the percentage of respondents who Strongly Agreed and Agreed. By displaying the data in this manner, additional information about the respondents' strength of agreement is provided. Responses to open-ended questions were analyzed for common themes.

The student survey was administered online by the Office of Research and Evaluation to students in the Environmental Studies Program from May 3 to June 8. A link to the online student survey was provided to the program's teaching coordinator who distributed the survey link to the students. The Office of Research and Evaluation emailed survey invitations to all parents of students in the program, and the online parent survey was administered from May 3 to May 13. Response rates are shown in Table 1.

**Table 1: Number of Environmental Studies Program Survey Respondents by Group and Response Rates**

Group	Number of Respondents	Response Rate
Students	78	95%
Parents	50	36%

## Evaluation Questions

Program evaluation questions were based on a review of School Board policy related to year-two evaluations, the Environmental Studies Program proposal to the School Board, and feedback from Department of Teaching and Learning program managers, including the executive director of secondary teaching and learning, the secondary science coordinator, and the Environmental Studies Program teaching coordinator.



## 1. What occurred during the second year of the program's implementation?

- Student Application and Selection Process
- Characteristics of Students Served by the Program
- Staff Selection Process
- Professional Learning Opportunities
- Program of Study and Courses

## 2. What progress was made toward meeting the program goals and objectives?

## 3. What were the stakeholders' perceptions of the program?

## 4. How did the actual costs of the program compare with the projected costs specified in the budget section of the program proposal?

# Evaluation Results and Discussion

This section of the year-two evaluation describes the implementation of the Environmental Studies Program during the 2021-2022 school year. Appropriate comparisons are drawn to the year-one implementation during 2020-2021 and the academy proposal. More specifically, this section addresses the year-two evaluation questions associated with the student application process and student characteristics, staffing, professional learning, and the program of study. Additionally, progress made toward meeting the program's goals and objectives and stakeholders' perceptions of the program during its second year of operation will be discussed. Finally, information about the program's cost will be compared with the proposed budget.

## Program Implementation

### Student Recruitment, Application, and Selection Process

Due to COVID-19 safety protocols, the majority of recruitment in the spring of 2021 for the 2021-2022 grade 11 class took place virtually via Zoom. Program staff set up meetings with schools to present to different groups of students and/or classes interested in the program. Program staff Zoomed with Chemistry and Biology classes, and Physical Education (PE) classes at Advanced Technology Center (ATC) and Virginia Beach Technical and Career Center. In addition, program staff Zoomed with some middle schools and third grade classrooms to further expand the program pipeline. The ability to use Zoom allowed for program staff to "visit" multiple schools/classes in a day.

Beginning in tenth grade, students can apply for admission to the Environmental Studies Program using the standard VBCPS academy program application process. The application is submitted online for current VBCPS students and directly to the coordinator for non-VBCPS students. Applications for the Environmental Studies Program are due in February each year. An essay formulated around the topics of Sustainable Economics and Business Innovation, Social Sustainability, and Environmental Sustainability and Natural Resource Stewardship was included in the application and used to identify candidates who showed a passion for and interest in the fields of study.

Students who met the following criteria were entered into a modified lottery system:

- All course pre-requisites are met (Algebra II, English 10, two Social Studies credits, Biology, Economics and Personal Finance).
- Positive teacher recommendations.
- Student essay displays an ability to rationalize and think creatively and critically to solve or describe a problem pertaining to sustainability.

For the 2021-2022 grade 11 class, program staff modified their original lottery system to a two-tiered system. Students who displayed a passion and interest in the program through their essay were selected first, and then any student meeting the qualifications was selected in the next tier as part of the lottery. As the program is working toward providing equitable and rigorous standards for admittance in the program, the program coordinators allowed for some flexibility with the original application process to enable qualified candidates to enroll. For example, if an interested student applied to the program but had already taken AP Environmental Science during their sophomore year, an independent study opportunity was crafted for the student to allow him or her to enroll in and participate in the program, while other students took AP Environmental Science as part of their first year in the program as a junior.

According to the proposal, the goal is for each incoming class to include 50 students. The program received 62 completed applications. Sixty-two students qualified for the lottery, and 45 grade 11 students were enrolled as of September 30, 2021. By the end of the school year, one student had left the program leaving 44 grade 11 students in the program.

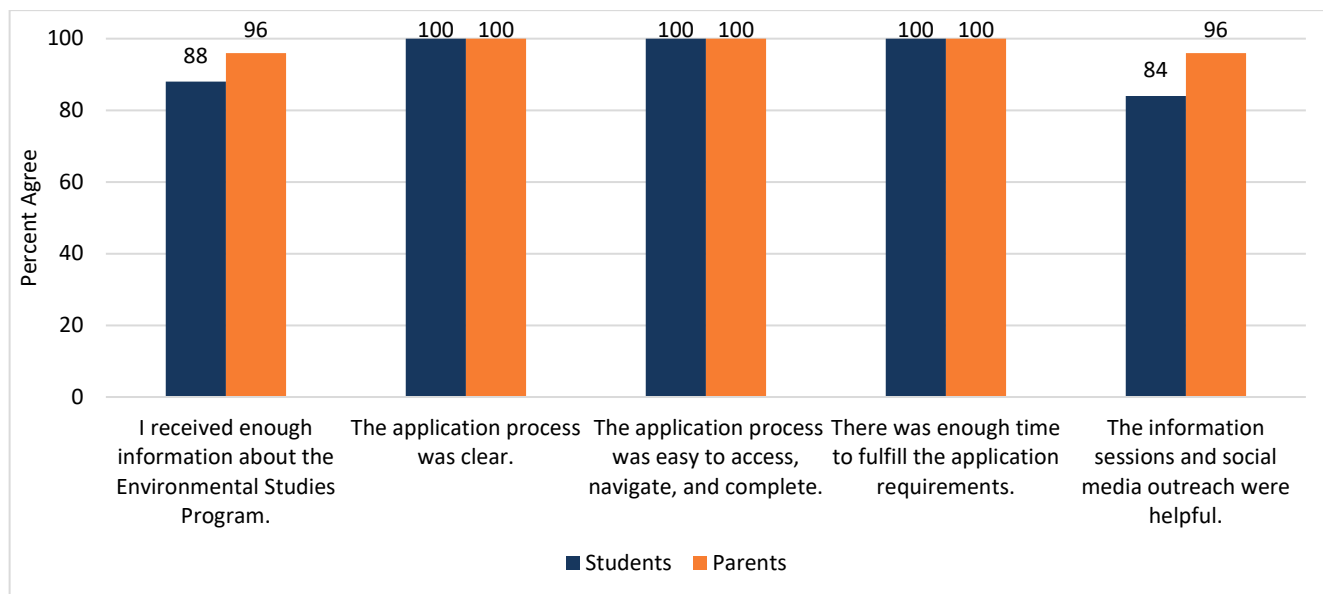
Changes were made by program staff in spring 2022 in efforts to improve the recruitment and student selection process for the 2022-2023 school year. Recruitment efforts in spring 2022 for the incoming 2022-2023 grade 11 class focused on schools with low enrollment in the program. Program staff visited these schools and conducted assembly-like presentations for grade 10 students. Prior recruitment efforts focused on students who already had an interest in the topic and would participate to hear more about the program, but program staff decided to market in a more general way to bring awareness to the program by presenting to all grade 10 students. Because of previous COVID-19 protocols, spring 2022 was the first year that program staff was able to recruit in-person and in an assembly-like setting.

Due to the overrepresentation of candidates from certain schools, in addition to adjusting their recruitment efforts to be more inclusive, the program staff also modified their lottery system for the 2022-2023 grade 11 class. First, a committee of about five individuals including VBCPS staff members and other professionals reviewed the applications and determined if each application met the above criteria. Then, the committee selected three students, if possible, from each school based on their essays and other application factors. The remaining applicants who met the admissions criteria were entered into a spreadsheet and a random number generator selected students for morning and afternoon sessions based on transportation zones. Selected students were then notified of admission. Alternates were identified using the same process to fill any openings based on students declining admission into the program. For the 2022-2023 grade 11 class, the program received 99 applicants. As of August 26, 2022, 51 grade 11 students are slated to begin the Environmental Studies Program for the 2022-2023 school year.

### ***Perceptions of Application and Selection Process***

Grade 11 students in 2021-2022 and their parents were asked about their perceptions of the application and selection process on the end-of-year survey. Figure 1 displays the agreement percentages of students and parents with several statements regarding the application process. Overall, students and parents had positive perceptions of the Environmental Studies Program application process with nearly all respondents agreeing with the survey items. All students and parents indicated that the application process was clear; was easy to access, navigate, and complete; and that they had enough time to fulfill the application requirements.

**Figure 1: Student and Parent Perceptions of the Environmental Studies Program Application Process**



### Reasons for Enrolling

An open-ended survey item asked students and parents to provide their reasons for enrolling in the Environmental Studies Program. In general, students and parents had similar responses. Among the 43 students in grade 11 who responded to the item, the most common reason for enrolling in the program involved being interested in, having passion for, or enjoying the overall topic of the program including the environment, sustainability, and aquatic wildlife. Thirty-four students (79%) cited such a reason. Twenty students (47%) indicated they were interested in the program because the program was a unique and new opportunity that provided an alternative to a traditional high school learning environment including hands-on learning. The third most common reason involved the program aligning with their future aspirations – mainly, students expressed wanting a future job or career in the environmental field. This was cited by eight student respondents (19%). A small number of students (7%) indicated that they enrolled in the program because of recruitment efforts made by program staff. Of the 26 grade 11 parent responses to a similarly worded open-ended survey item, 21 parents (81%) explained that they had enrolled their child in the Environmental Studies Program because of their child’s overall interest in the program. Another 13 parents (50%) explained that the program afforded their child with a unique educational opportunity. Four parents (15%) also explained that they enrolled their students in the program because they planned to have a future job or career in the environmental field.

### Student Characteristics

On September 30, 2021, a total of 9,538 students were enrolled in eleventh and twelve grade across the division. Of these students, 83 (1%) were enrolled in the Environmental Studies Program. There were 45 grade 11 students and 38 grade 12 students with the total enrollment at 83 percent of the program’s capacity of 100 students. In the program’s second year, the grade 11 class was at 90 percent capacity, while the grade 12 class was at 76 percent capacity. The lower percentage at the twelfth-grade level was to some extent a continuing impact of the COVID-19 pandemic, which impacted the capacity of the eleventh-grade class in 2020-2021, which was at 82 percent capacity in September 2020.

## Student Demographics

Table 2 displays the demographic characteristics of both the students enrolled in the Environmental Studies Program and all grade 11 and 12 students across the division. The majority of the students in the program were female (61%), and the majority of students in the program were Caucasian (78%). Similar to last year's cohort, the student enrollment mirrored the characteristics of the applicants. For example, the percent of applicants who were female was 60 percent, which is about the same percentage of grade 11 students who enrolled through the lottery. The race/ethnicity of those students who enrolled through the lottery in grade 11 were similar with differences ranging from 1 to 5 percentage points. Compared to the grade 11 and 12 students in the division, the Environmental Studies Program had a higher percentage of female and Caucasian students (i.e., more than a 5-percentage point difference). Conversely, the Environmental Studies Program had markedly lower percentages of male, African American, Hispanic, or economically disadvantaged students.

**Table 2: Demographic Characteristics of Environmental Studies Program Students and Grade 11 and 12 Students Across the Division**

Characteristic	Environmental Studies Program (N=83)		Division Grades 11 and 12 (N=9,538)	
	N	%	N	%
<b>Gender</b>				
Female	51	61%	4,714	49%
Male	32	39%	4,819	51%
<b>Ethnicity</b>				
American Indian	<	<	24	<1%
Asian/Native Hawaiian/Pacific Islander	<	4%	705	7%
Black/African American	5	6%	2,241	23%
Hispanic	4	5%	1,045	11%
Multiracial	5	6%	902	9%
White	65	78%	4,621	48%
<b>Economically Disadvantaged</b>				
Yes (Free/Reduced Lunch)	12	14%	3,386	36%
<b>Identified Limited English Proficiency</b>				
Yes	<	<	186	2%
<b>Identified Gifted*</b>				
Yes	27	33%	1,791	19%
<b>Identified Military Connected</b>				
Yes	10	12%	1,352	14%
<b>Identified Special Education</b>				
Yes	<	<	1,067	11%

Note: Enrollment as of September 30, 2021. Percentages may not add up to 100 percent due to rounding.

\*Includes artistically and intellectually gifted students.

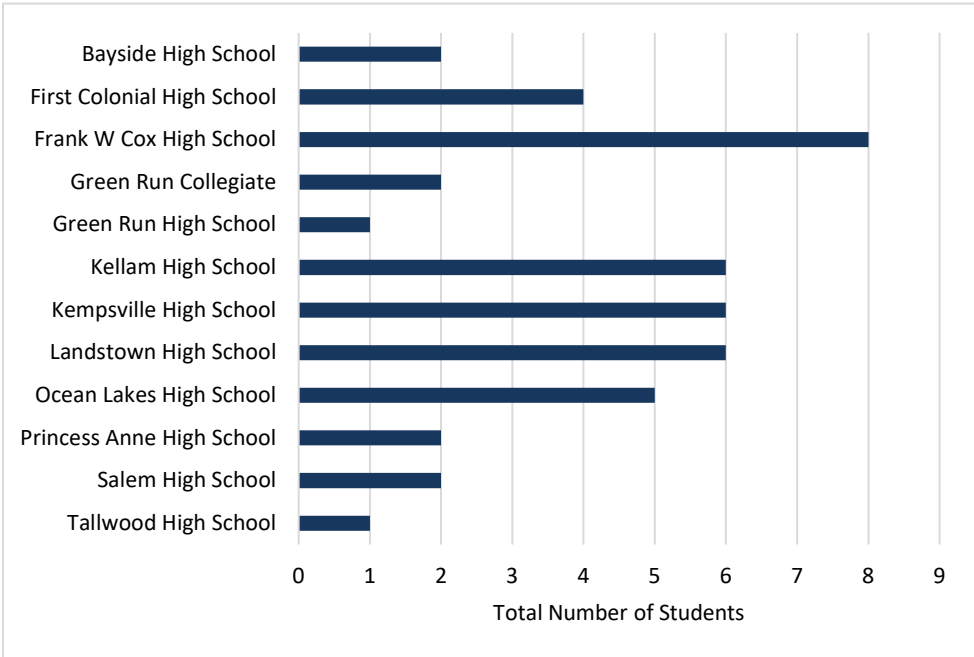
<Less than 5 students.

## Student Home High Schools

The 45 incoming grade 11 students represented all 12 home high schools. The largest number of students were from Frank W. Cox High School with a total of 8 students (18%), followed by Kellam High School, Kempsville High School, and Landstown High School each with 6 students (13%). Ocean Lakes High School was

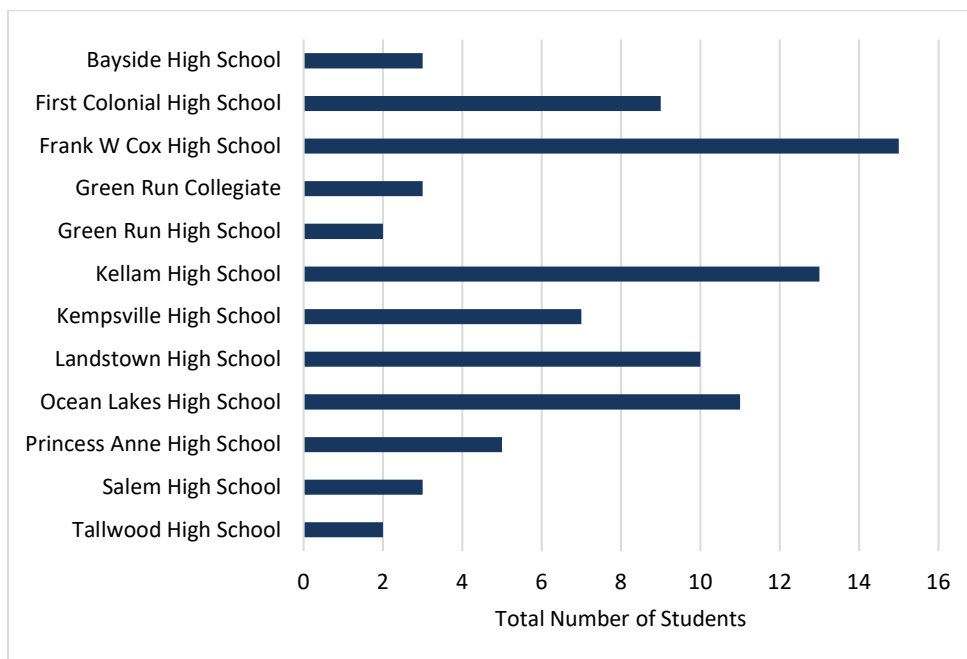
represented next with 5 students (11%). Figure 2 displays the home schools of the remaining 13 students. The program staff’s modification to the student selection process to avoid overrepresentation from certain schools has helped students be more evenly represented across all 12 high schools.

**Figure 2: Home High Schools of Environmental Studies Program Grade 11 Students**



The 83 students in grades 11 and 12 also represented all 12 home high schools. The largest number of students were from Frank W. Cox High School with a total of 15 students (18%), followed by Kellam High School with 13 students (16%), Ocean Lakes High School with 11 students (13%), Landstown High School with 10 students (12%), and First Colonial High School with 9 students (11%). Figure 3 displays the home schools of the remaining 25 students.

**Figure 3: Home High Schools of Environmental Studies Program Students**



### Staff Selection Process

During the second year of implementation, the Environmental Studies Program consisted of two staff members. The program's teaching coordinator was hired in March 2020 and prior to full implementation in year-two, another full-time staff member was hired. According to the teaching coordinator, the new teacher hired for year-two taught grade 11 students and the teaching coordinator looped with the program's first cohort of students and taught grade 12. The staff selections were based on the following qualifications:

- Experience teaching environmental-based courses
- Excellence in teaching and delivery of instruction
- Endorsements in the fields of study
- Varied professional work experiences in the field
- Strong technology skills
- The ability to work flexibly with instruction of higher learning and community business leaders
- Teaching coordinator must have a master's degree and a Virginia license in Administration and Supervision PreK-12

Based on a School Board approved recommendation from the year-one evaluation report, a general assistant position was added to help support the program.<sup>1</sup> As posted by the VBCPS human resources department, general responsibilities of this position include the following: "Under the direction of the school coordinator and staff, the person will work in providing assistance to the Coordinator and Teacher of the Environmental Studies Program. The employee in this class is responsible for performing clerical and instructional tasks as well as participating and supporting daily indoor and outdoor activities." A complete job description can be found in Appendix A. The Department of Human Resources posted the position on July 8, 2022, and interviews began July 14, 2022. An individual was hired for this position in August 2022 with a start date of August 31, 2022.

### Professional Learning Opportunities

Staff development in year-two continued to be based on the needs of program staff. Program staff focused on making connections with community partners. The goal is that these partnerships can provide learning opportunities for both program staff and students. The grade 11 teacher participated in an AP Environmental

Summer Institute. Students created a podcast titled “Turbine Talks” in a partnership with Dominion Energy and from the Mayor’s Commission on Offshore Wind and Clean Energy to discuss emerging regional markets related to renewable experts. A partnership was formed with Guston School focused on watershed preservation. The teaching coordinator continued to be an active committee member and collaborated with other experts in the field by serving on various local committees noted below:

- Back Bay Committee
- City Green Ribbon Committee
- State Committee for Environmental Education
- City Offshore Renewable Energy Committee

### Program of Studies and Courses Offered

The Environmental Studies Program is comprised of three major strands: Sustainable Economics and Business Innovation, Social Sustainability, and Environmental Sustainability and Natural Resource Stewardship. According to the program proposal, the Environmental Studies Program is designed with the personalized learning approach in mind. Table 3 displays an outline of the expected courses throughout the life of the program.

**Table 3: Courses of Environmental Studies Program**

Pre-Requisites*	Grade 11	Grade 12
Algebra II	Math Analysis or AP Statistics*	Elective*
English 10	English 11*	English*
2 Social Studies Credits	Government or AP Government*	VA and US History or AP US History*
Biology	Elective*	Elective*
Economics and Personal Finance	AP Environmental Science**	Topical Research**
	Sustainability: Core Concepts and Environmental Systems**	EcoSummit Senior Independent Study**
	Natural Resource Management**	
	Watershed Hydrology**	

\*Indicates general courses taken at home school.

\*\*Indicates courses taken at the Brock Center.

During their junior year (i.e., first year of the program), students take AP Environmental Science, Sustainability: Core Concepts and Environmental Systems, Natural Resource Management, and Watershed Hydrology. These courses are an introduction to the content of the three strands of study offered to Environmental Studies Program students. As reported in the year-one evaluation, initially the plan was for students to select one curriculum strand for in-depth study, but according to the teaching coordinator, the three strands cannot be viewed distinctly, but instead as three interconnected components of sustainability. Considering the interconnectedness of the three strands, students can choose one or multiple strands of study as a lens to guide their Topical Research course and EcoSummit Senior Independent study in the second year of the program. The courses within the strand(s) are immersive, experiential opportunities that will provide students their own course of study based on interests and career goals they have set for themselves. During students’ senior year, the program culminates with seniors presenting at a showcase called an EcoSummit where students present their independent study work with solutions or ideas to the local issue they focused on.

A foundational component of the Environmental Studies Program includes experiential learning through hands-on scientific field work. As part of the curriculum, students are fully immersed in the environment,

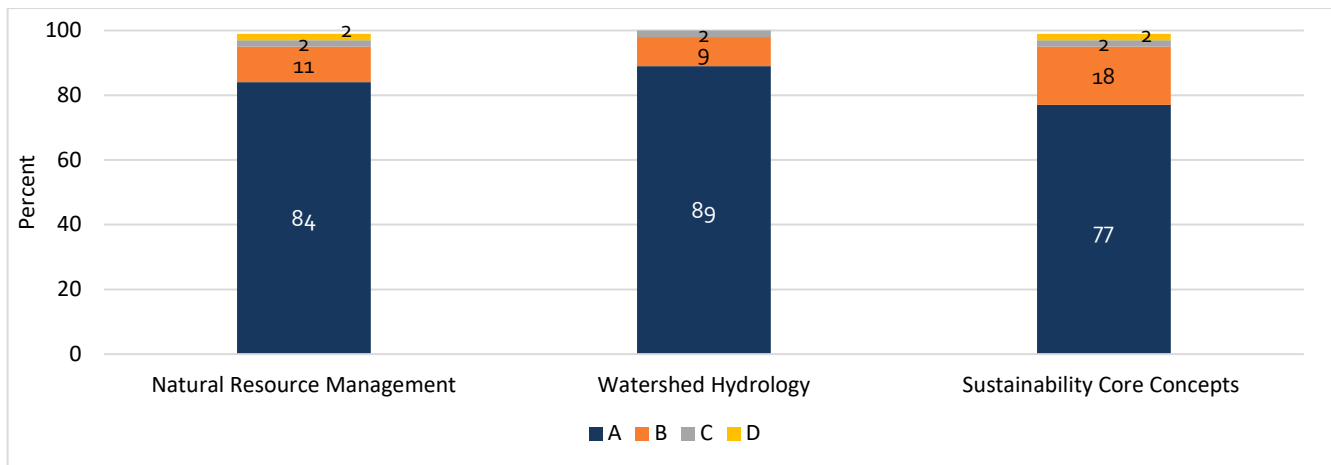
interacting with the elements designed to help students think critically and creatively. As stated in the proposal, “The Chesapeake Bay is one of the many important natural resources found in Virginia Beach that will serve the Environmental Studies Program as a local resource, utilized to provide a personalized, globally competitive hands-on curriculum.” Through partnerships with postsecondary institutions and local/national organizations, students are exposed to a variety of learning opportunities to meet their individual needs. For example, as part of the program in 2021-2022, students had the opportunity to travel to Bozeman, Montana and the Grand Tetons as a partnership with the Teton Science Schools. On this trip, students participated in experiential learning and explored sustainability on a national level including natural resource management practices in the National Park system.

### Course Enrollment and Performance

Students in the Environmental Studies Program take five courses at the Brock Environmental Center. Students take three courses in grade 11 and two courses in grade 12. Students’ course grades specific to the Environmental Studies Program were examined, including performance in AP Environmental Science (i.e., course grades and AP exam scores). Then to provide a point of reference, course grades and AP exam scores for all division grade 11 students were analyzed.

In grade 11, students in the Environmental Studies Program take three program-specific courses. These courses include Natural Resource Management, Watershed Hydrology, and Sustainability Core Concepts. Student grade distributions are displayed in Figure 4. Overall, the 44 students with course grades performed academically well across the three courses with students having the highest performance in the Watershed Hydrology course, with 89 percent of students earning some form of an A. The Sustainability Core Concept course had more variation in course performance.

**Figure 4: Grade Distribution Percentages of Students in Program Specific Courses**

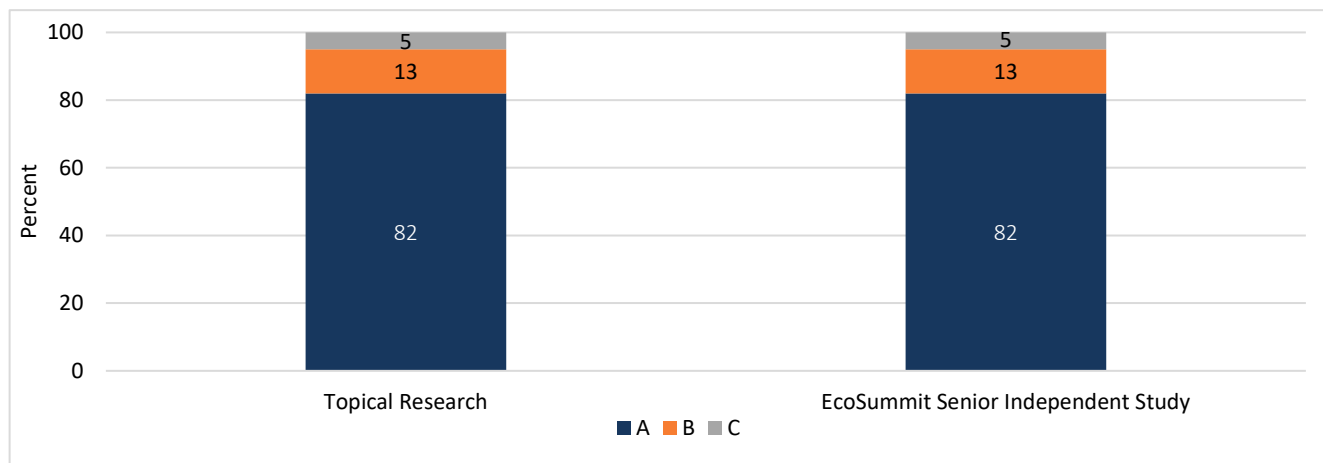


In grade 12, students take two program specific courses: Topical Research and EcoSummit Senior Independent Study. Student grade distributions are displayed in Figure 5. Overall, the 38 students with course grades performed academically well across both courses. Over 80 percent of students earned some version of an A in both courses. None of the students earned less than a C.

Additional data indicated that all grade 12 students who took the survey indicated that they participated in a senior independent study/internship. Nearly all (97%) of the grade 12 students indicated that their senior independent study/internship was useful.

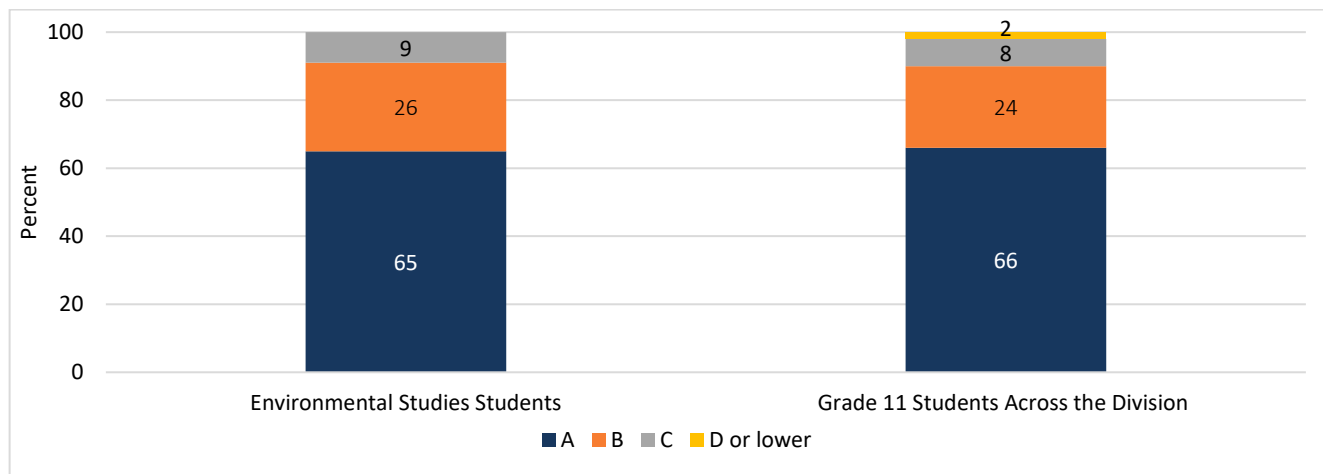


**Figure 5: Grade Distribution Percentages of Students in Program Specific Courses**



Sixty-five percent (65%) of the 43 students who took the AP Environmental Science course earned some form of an A, and 26 percent earned some form of a B (see Figure 6). Grades in AP Environmental Science for all grade 11 students (n=323) across the division are shown in Figure 6 for reference. Students in the Environmental Studies Program and all grade 11 students had relatively the same distribution of grades; however, no students in the Environmental Studies program earned a grade lower than a C.

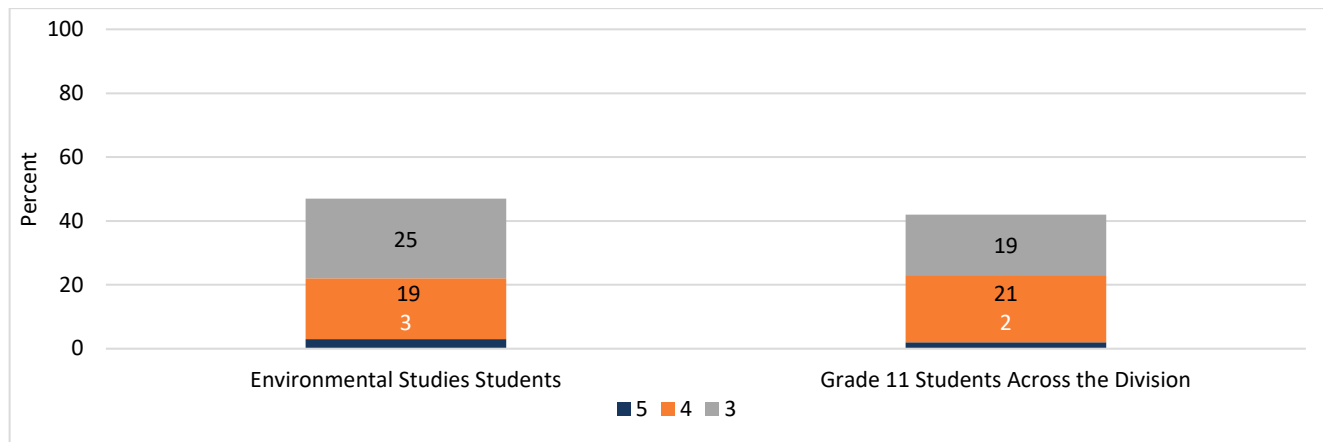
**Figure 6: Grade Distribution Percentages of Students in AP Environmental Science**



### AP Exam Scores

All students who take AP Environmental Science have the option to earn college credit by taking the corresponding AP exam and earning a qualifying score (e.g., scores of 3 or higher). Of the grade 11 students eligible to take the AP Environmental Studies exam, 32 students (74%) took the AP Exam. Three percent (3%) earned a score of 5 on the exam, 19 percent of the students scored a 4 on the exam, and 25 percent scored a 3 on the exam (see Figure 7). Of the 323 grade 11 students enrolled in AP Environmental Science course across the division, 68 percent (n=221) took the AP Exam. Two percent (2%) of the students scored a 5, 21 percent scored a 4, and 19 percent scored a 3 on the exam. Overall, in 2021-2022, 47 percent of students earned a score of 3 or higher on the AP Exam, which was similar to 2020-2021 when 48 percent of students earned a score of 3 or higher on the AP Exam.

**Figure 7: Distribution of Student AP Exam Scores**



## Progress Toward Meeting the Program Goals and Objectives

This section of the report examines progress that has been made toward meeting the following program goals and objectives. The Environmental Studies Program’s overarching goal was broadening students’ understanding of sustainability, which it aims to do through five objectives:

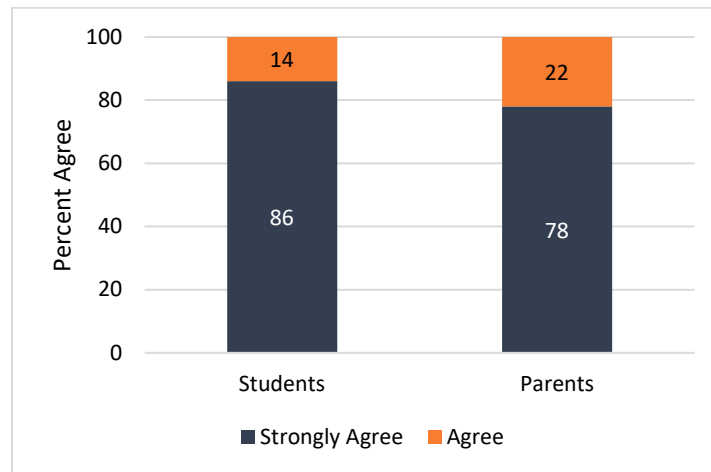
- Utilizing the natural community as a context for learning about environmental and sustainability issues.
- Implementing environmental service-learning projects.
- Integrating interdisciplinary instruction.
- Incorporating challenge-based, collaborative, and design-thinking learning.
- Earning the Seal of Excellence in Science and the Environment upon high school graduation.

In addition, another goal of the program is to establish collaborative agreements with institutions of higher education that will result in on-going program development and assessment.

### Broaden Understanding of Sustainability

When asked about the overall goal of the program, students and parents unanimously agreed that the program has broadened understanding of sustainability. Further, as shown in Figure 8, both students and parents strongly agreed (78% to 86%) that the program broadened their understanding or their child’s understanding of sustainability. This is particularly important because the knowledge and understanding of sustainability is a hallmark of the program. In a separate exit survey designed specifically for seniors, grade 12 students were asked how the program impacted their interest in environmental science or sustainability, and 85 percent of students reported that their interest in environmental science or sustainability had increased since entering the program.

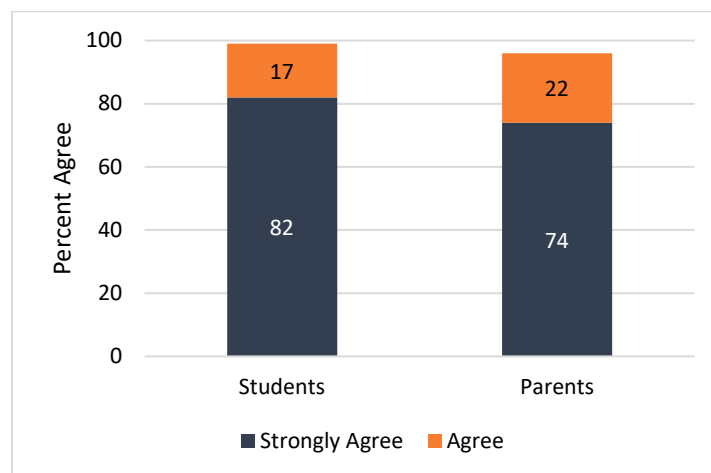
**Figure 8: Student and Parent Perceptions That the Environmental Studies Program Broadened Understanding of Sustainability**



### Utilize the Natural Community

One objective of the program was to utilize the natural community as a context for learning about environmental and sustainability issues. Almost all students (99%) and parents (96%) agreed that the Environmental Studies Program provided place-based learning opportunities (see Figure 9). These place-based learning opportunities were provided at the Brock Learning Center where students had the opportunity to participate in field work in close proximity to the Chesapeake Bay.

**Figure 9: Student and Parent Perceptions That the Environmental Studies Program Provided Place-Based Learning Opportunities**



### Implement Service-Learning Projects

The program’s teaching coordinator helped students make connections for their senior year service-learning project(s) or for their participation in community partnership(s). Example service-learning partnerships included the Virginia Beach Aquarium, the Chesapeake Bay Foundation, Parks and Recreation, and Department of Wildlife Resources, while other opportunities were embedded in schools. For example, according to the teaching coordinator, a group of 12 seniors worked directly with fifth-grade classrooms in a partnership with six Title I elementary schools. The seniors served as ambassadors of outdoor education and sustainability to

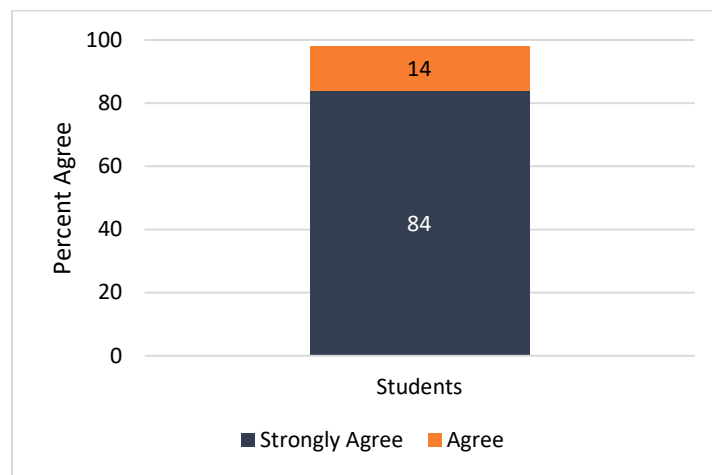
empower the next generation of environmental leaders. On the end-of-year survey, 88 percent of seniors indicated that they participated in a service-learning project, and 100 percent of those students agreed that the service-learning project was useful.

According to the teaching coordinator, students in grade 11 also engaged in a minimum of 50 service-learning hours embedded in their school day. These opportunities included partnering with Lynnhaven River Now in stewardships projects, adopting Lochaven Park and Stormwater impoundment through the Parks and Recreation Foundation with regular stewardship/clean ups, facilitating interactive displays at Malibu Elementary’s Science Night, creating an Eco and Art Club for fourth graders at Three Oaks Elementary, and hosting students in grade 5 from Landstown Elementary to guide students through sustainability and design-thinking. About 93 percent of grade 11 students indicated that they participated in service-learning or community partnership projects on the end-of-year survey, and 100 percent of grade 11 students indicated they found the service-learning project or community partnership useful.

### Integrate Interdisciplinary Instruction

A third program objective is integrating interdisciplinary instruction. Almost all students (98%) agreed that the “Environmental Studies Program integrated learning across subject areas including policy, science, contemporary social issues, environmental issues, and economic issues.” Eighty four percent (84%) of students strongly agreed with this statement and 14 percent agreed (see Figure 10).

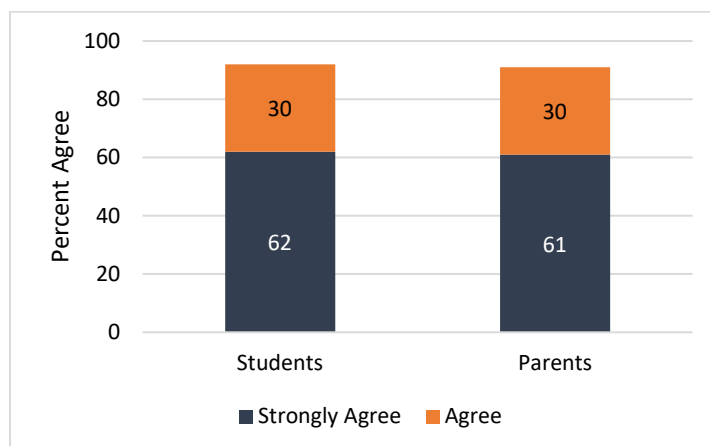
**Figure 10: Student Perceptions That the Environmental Studies Program Provided Interdisciplinary Instruction**



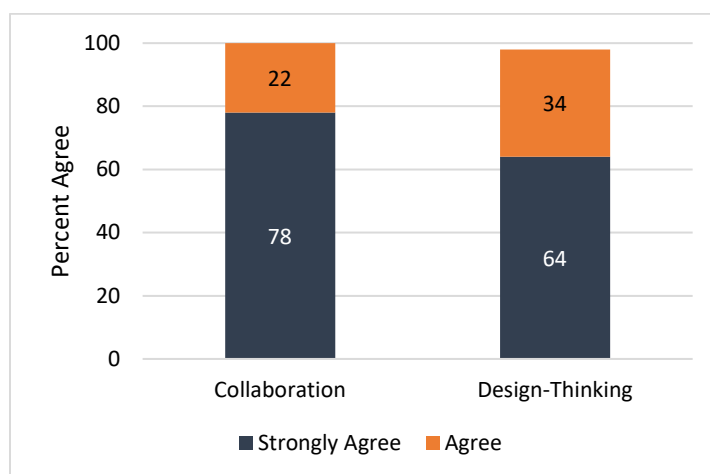
### Incorporate Challenge-Based, Collaborative, and Design-Thinking Learning

The fourth objective of the Environmental Studies Program was to incorporate challenge-based, collaborative, and design-thinking learning. To gauge whether this goal was met, students were asked three questions on the survey and parents were asked one. Because this goal is specific to experiences that students might have had within the program, students and parents were not asked the same questions. Ninety-two percent (92%) of students and 91 percent of parents agreed that the program provided them or their child with rigorous and challenging learning experiences (see Figure 11). One hundred percent of students agreed that the program provided them opportunities to be collaborative and 98 percent of students agreed that the program provided them opportunities to participate in the design-thinking learning model (see Figure 12).

**Figure 11: Student and Parent Perceptions That the Environmental Studies Program Provided Rigorous and Challenging Learning Opportunities**



**Figure 12: Student Perceptions That the Environmental Studies Program Provided Opportunities for Collaboration and Opportunities to Participate in Design-Thinking**



### Earn the Seal of Excellence in Science and the Environment

The Seal for Excellence in Science and the Environment is awarded to students who entered the ninth grade for the first time in the 2018-2019 year and thereafter, and met each of the following criteria:

- Earn either a Standard or Advanced Studies Diploma
- Complete at least three different first-level board-approved laboratory science courses and at least one rigorous advanced-level or postsecondary-level laboratory science course, each with a grade of “B” or higher
- Complete laboratory or field-science research and present that research in a formal, juried setting
- Complete at least 50 hours of voluntary participation in community service or extracurricular activities that involve the application of science such as environmental monitoring, protection, management, or restoration.<sup>2</sup>

Of the 38 students in grade 12, 37 students (97%) earned the Seal of Excellence in Science and the Environment. In addition, 36 students (95%) earned an Advanced Diploma and 2 students (5%) earned a Standard Diploma.

Seniors in the Environmental Studies Program were asked about their future plans on an exit survey. Most students (93%) pursuing furthering their education after high school graduation indicated that their intended major was related to environmental science or sustainability, and 75 percent of those seeking employment after graduation indicated that their future planned job is related to environmental science or sustainability.

### Establish Collaborative Agreements

A final goal of the Environmental Studies Program is to establish collaborative agreements with institutions of higher education that result in ongoing program development and assessment. The program has continued to make progress on this goal and has been able to partner with Old Dominion University, Virginia Wesleyan University, and Virginia Tech Agricultural Extension. Asterisks indicate a new collaborative agreement in the 2021-2022 school year. Additional partnerships include:

- Back Bay National Wildlife Refuge
- Back Bay National Wildlife Refuge Friends nonprofit organization
- Chesapeake Bay Foundation
- Chesapean Eco Tours\*
- Convert Solar LLC\*
- Dills Architects
- First Landing State Park
- Lynnhaven River NOW
- Mayor's Commission for Offshore Wind and Clean Energy\*
- Nature Matters LLC
- Norfolk Botanical Gardens
- Operation Smile\*
- RBA Architects\*
- Renewable Energy Dominion Power\*
- RRMM Architecture & Interior Design Firm
- Virginia Aquarium
- Virginia Beach City Council Student representatives:
  - Active Transportation Advisory Committee\*
  - Clean Community Commission\*
  - Green Ribbon Committee
- Virginia Beach Parks and Recreation
- Virginia Department of Wildlife Resources
- WPL Landscape Architecture\*

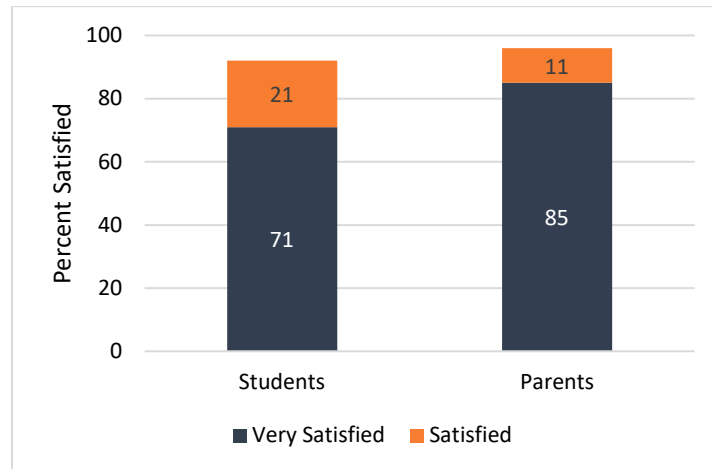
## Stakeholder Perceptions

Students and parents were asked several survey items to assess their general perceptions of the Environmental Studies Program.

### Satisfaction

Stakeholders were asked to indicate their overall satisfaction with the program. As shown in Figure 13, strong positive results were found for both respondent groups with 92 percent of students and 96 percent of parents reporting that they were satisfied with the program. Eighty-five percent (85%) of parents were “Very Satisfied” and 71 percent of students were “Very Satisfied.”

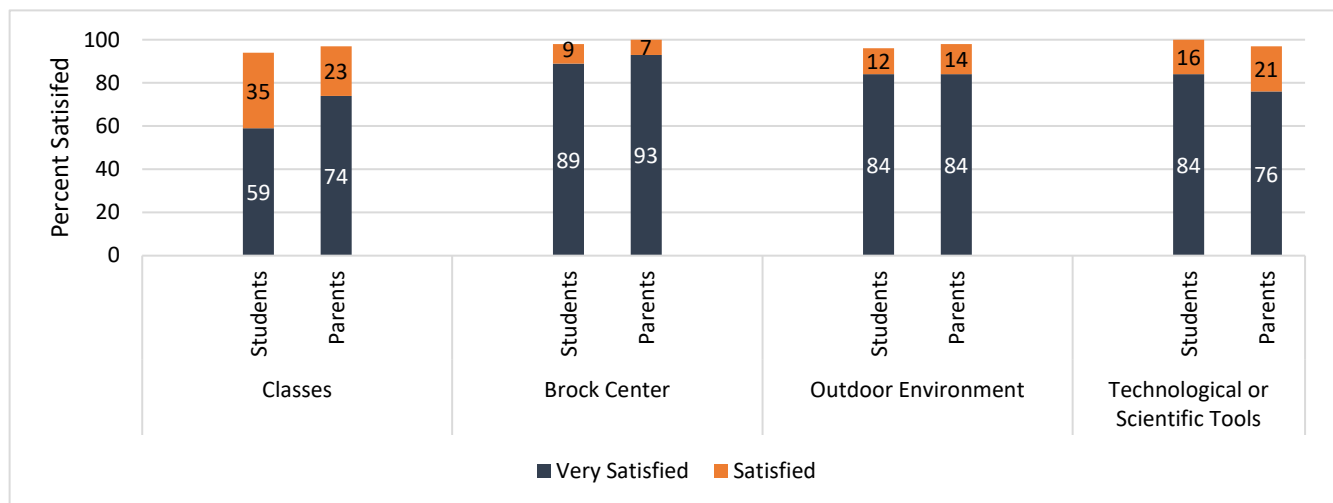
**Figure 13: Student and Parent Overall Satisfaction With the Environmental Studies Program**



Grade 12 students were asked to rate their experience in the program in 2021-2022 compared to their experience in 2020-2021. A total of 26 students (76%) indicated that their experience this year (2021-2022) was better than their experience last year. Three students (9%) reported that their experiences were about the same. As reported in the year-one evaluation report, the program was greatly impacted by the COVID-19 pandemic during 2020-2021 because students were virtual for about half of the year. The program itself is grounded in hands-on, field-based learning which was difficult to attain in an online environment.

In addition, stakeholders were asked their satisfaction with specific components of the program including classes, the Brock Learning Center, the outdoor learning environment, and technological or scientific tools. Overall, the components were viewed positively by both students and parents (see Figure 14). There was 100 percent satisfaction among students regarding scientific or technological tools, and 100 percent satisfaction among parents regarding the Brock Learning Center. All other program components ranged in satisfaction from 94 to 98 percent, with relatively high percentages reporting that they were very satisfied.

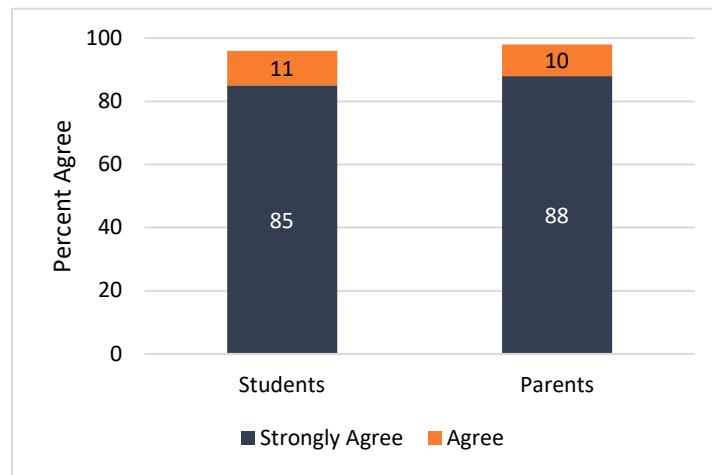
**Figure 14: Student and Parent Perceptions of Components of Environmental Studies Program**



Students were also asked if they would recommend the Environmental Studies Program to other students. Similarly, parents were asked if they would recommend the Environmental Studies Program to the parents of

other students. As displayed in Figure 15, 96 percent of students agreed they would recommend the program to other students, and 98 percent of parents agreed they would recommend the program to other parents.

**Figure 15: Student and Parent Perceptions for Recommending the Environmental Studies Program**



### Impact of Program

As an overall assessment of the program’s impact on students, a portion of the survey for seniors included future-oriented questions about their postgraduation plans and preparation. Results from seniors showed that:

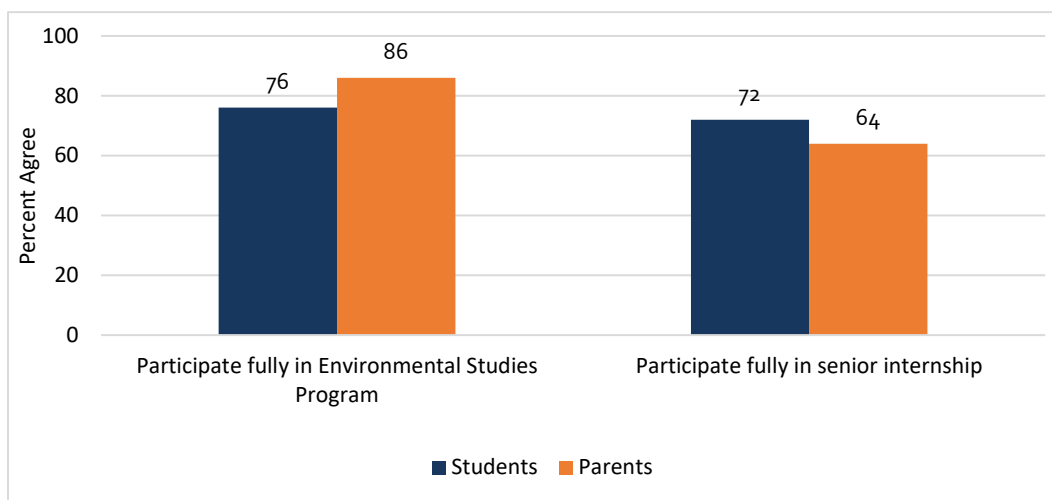
- 88 percent indicated their primary focus after high school was to further their education, and 13 percent indicated their primary focus was to seek employment.
- 94 percent of seniors agreed or strongly agreed that the program helped them make decisions about their future education or employment.
- 88 percent of seniors indicated that the program prepared them to continue their education in environmental science, sustainability, or a related field.

### Transportation

During the year-one evaluation, when stakeholders were asked ways to improve the program, school bus transportation was mentioned as an area that could be improved. Students were asked to report about their experience with school bus transportation in the program’s second year in terms of it allowing them to fully participate in the program. Overall, the majority of students agreed (72%-76%) that the school bus transportation provided by the program enabled them to participate fully either in the program or in the senior internship (see Figure 16). The majority of parents (86%) agreed that school bus transportation allowed their child to participate fully in the Environmental Studies Program, and 64 percent agreed that it allowed them to participate fully in his/her senior internship. Percentages do not include students or parents who indicated that the transportation-related survey items did not apply to them.



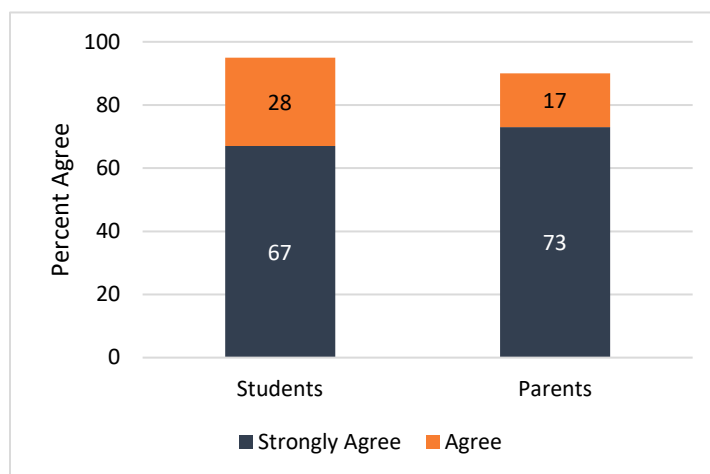
**Figure 16: Student and Parent Perceptions of School Bus Transportation**



### Meeting Students' Needs

Students and parents were asked to what extent the Environmental Studies Program was meeting students' learning needs. A large majority of students and parents agreed (90%-95%) that the program met the students' learning needs (see Figure 17).

**Figure 17: Student and Parent Perceptions of the Environmental Studies Program Meeting Students' Learning Needs**



### Continued Participation

Students were asked if they intended to continue their enrollment in the Environmental Studies Program during the 2022-2023 school year. Among the Environmental Studies Program students, 35 of the 38 respondents in grade 11 (91%) indicated "Yes." The four students who indicated they would not be attending had a variety of reasons, including other plans for high school completion, lack of interest in the focus of the program or its approach, and experiences in the program. Of the 26 parents who responded to the survey item, 24 (92%) indicated that their child intended to return to the program.

## Participant Comments

The student and parent surveys contained open-ended questions about what was gained from being enrolled in the Environmental Studies Program during 2021-2022; what improvements to the Environmental Studies Program, if any, would the survey respondent suggest; and how the program was impacted by the pandemic. As mentioned previously, open-ended survey responses were coded into thematic categories for qualitative analysis. Note that some individual responses included more than one theme, and the responses could contribute to two or more category percentages. As a consequence, percentages often sum to more than 100 percent.

### *What is Gained From Being Enrolled*

One open-ended survey question asked, “What do you think students gain from enrollment in the Environmental Studies Program?” Table 4 displays a summary of the themes by respondent group.

**Table 4: Perceptions of What is Gained From Enrollment in the Environment Studies Program**

Item	Students (N=73)	Parents (N=31)
Knowledge of the environment and/or sustainability	66%	58%
Innovative learning experience (e.g., place-based education, field research experience, non-traditional classroom experience)	26%	32%
Sense of community; friendships	29%	3%
Exposure to knowledge, skills, and/or experience toward future college/career	21%	32%
Soft skills involving collaboration and communication and/or sense of confidence	11%	16%

The most common student and parent response was knowledge of the environment and/or sustainability. Both students and parents identified the innovative learning experience the program offered to be an important benefit. Students identified the sense of community that the program fostered and the friendships that they gained to be an important benefit of the program more so than parents.

### *Suggested Improvements*

Students and parents were also asked to suggest ways that the Environmental Studies Program could be improved. Seventy-two students and 20 parents responded to this question on the survey. Of the students who responded to the question, 39 students (53%) provided suggestions for improvement and 33 (46%) did not provide suggestions and gave responses like “None or N/A.” Of the parents who responded, 11 parents (55%) provided suggestions for improvements and 9 parents (45%) did not provide suggestions for improvement and responded with answers like “None or N/A.” Of the students and parents who gave suggestions, 11 students (28%) and 7 parents (64%) expressed wanting more from the program including more field trips, more hands-on activities, more speakers, and a couple of students mentioned that they wanted the program to be longer in length (four years instead of two). Six students (15%) expressed wanting the program to have more structure including strict due dates and clearly defined assignments. In addition, six students (15%) and two parents (18%) indicated transportation for the program needed to be improved. Transportation challenges included to and from home schools and to and from internships. Five students (13%) indicated that there was a need for more staff members, which aligned with the recommendation that was made as a result of the year-one program evaluation and is currently in process. A small number of students (8%) and one parent expressed wanting more preparation for the Environmental Science AP exam.

## **Impact of the Pandemic**

An open-ended survey question asked, “How was your/your child’s experience in the program impacted by the pandemic?” A total of 73 students (30 grade 12 students and 43 grade 11 students) and 34 parents (12 grade 12 grade parents and 22 grade 11 parents) responded to this question. Of the parents who responded, 19 parents (56%) stated that the pandemic did not impact their child’s experience. However, most of these parents (n=16) were grade 11 parents. About a quarter of parents (26%) reflected on their child’s first year in the program and expressed disappointment that their child missed out on part of the program when it was virtual for part of the 2020-2021 school year. All of these parents had students in grade 12. Two parents discussed disappointment that their child was unable to participate in the program because their child was part of the afternoon cohort of students, and seven Wednesdays during the 2021-2022 school year were half days so students could not attend the program during those days.

Students shared similar sentiments as the parents. Sixty-five percent (65%) of grade 11 students who responded to the survey indicated that their experience was not impacted by the pandemic. Eleven students (19%) in grade 11 discussed challenges related to safety mitigations due to the COVID-19 pandemic like social distancing and wearing a mask. One hundred percent of the students in grade 12 who responded to this question expressed disappointment about their experience in the 2020-2021 school year being virtual for about half the year.

## **Additional Cost**

The final evaluation question focused on the extent to which the proposed budget was an accurate prediction of needs by comparing the actual costs to the projected costs in the budget section of the program proposal that was approved by the School Board. Costs could include both (a) the one-time purchase and start-up costs and (b) the operating costs for the program’s second year. The program’s budget from the original program proposal is included in Appendix B for reference.

Information about actual expenditures was provided by the Department of Teaching and Learning,<sup>3</sup> the Office of Transportation and Fleet Management Services, the Office of Budget Development within the Department of Budget and Finance, and the Department of Human Resources. Two types of program costs were considered: one-time, start-up costs and annual recurring operating costs.

For the purposes of this evaluation, start-up costs were one-time purchases. In general, start-up costs are defined as costs associated with physical or tangible assets that have a useful life of more than one year and that were incurred in the year prior to the initial implementation of the program’s first grade level – grade 11 in the case of the Environmental Studies Program. In addition, some expenses during the first two years of implementation are defined as start-up costs because they are one-time purchases required to fully implement the program across each of the proposed grade levels (grades 11 and 12). Start-up expenses could include costs for items in the following cost categories: curriculum development, instructional materials/equipment for student research, furniture, technology, additional buses needed for program transportation, and improvements to the facilities. Because this program was implemented at a new location offsite, some office supplies that were required for the first year of operation were also considered start-up costs. Cost data received for the 2021-2022 fiscal year did not specifically identify any one-time, start-up costs in these categories. Data from the year-one evaluation indicated that a total of \$136,686 had been spent previously on one-time purchases in 2019-2020 or 2020-2021.

Operating costs were defined as annual, recurring expenses for program operation. Operating expenses include costs for items in the following cost categories: consumable instructional materials, field trip expenses,

professional learning, communication/marketing, consumable office and computer supplies, personnel, transportation, and facility use fees. These are costs that are expected each year after the program reaches full implementation across grades 11 and 12.

Following the methodology of the June 2005 academy cost analysis report, the operating costs reported in the tables are in excess of school-generated funds and the per pupil allocations that travel with the students that would have been expended on the students in any setting. To answer the evaluation question, the actual costs in 2021-2022 were compared to the overall costs in various cost categories specified in the proposal. Costs are rounded to the nearest dollar figure. The operating expenses accrued during 2021-2022 are shown in Table 5.

Table 5 displays the annual operating costs for the program in 2021-2022 which totaled \$329,091. This was \$50,891 more than the total projected annual operating costs of \$278,200 for year-two of the program. The largest operating cost included program-specific staff, which included the salary and benefits for the teaching coordinator and one full-time teacher. The second largest cost is attributed to transportation. The transportation cost for the program’s second year was \$95,938, which was above the projected amount of \$78,430. This cost includes the use of 6 buses and 5 vans for providing services for 41 students in the program. The next largest cost is attributed to building use, which was not allocated for in the proposed budget. VBCPS and the Chesapeake Bay Foundation (CBF) have a formal agreement related to the use of the classroom in the Brock Environmental Center which is owned by the CBF. As part of this agreement, VBCPS must agree to the terms of use and pay a “Use Fee” of quarterly installments of \$3,904. About \$7,000 was spent on communication/marketing which included graduation-related expenses like food and t-shirt memorabilia. Instructional materials included items such as water testing solutions that will need to be purchased annually. A total of \$1,800 paid for travel to the Montana and the Grand Tetons. The budget included \$2,500 allocated for professional learning that was not used during year-two.

**Table 5: Annual Operating Costs for the Environmental Studies Program in 2021-2022**

Cost Category	Proposed Budget	Actual Cost 2021-22 Fiscal Year
Instructional Materials	\$4,000	\$3,975
Field Trips/Site Visits	\$5,000	\$1,800
Professional Learning	\$2,500	\$0
Communication/Marketing (senior celebrations and memorabilia)	\$0	\$7,307
Office Supplies	\$0	\$0
Technology	\$2,000	\$0
Program-Specific Staff*	\$186,270	\$204,455
Transportation	\$78,430	\$95,938
Use of Brock Environmental Center Building**	\$0	\$15,616
<b>Total Annual Operating/Recurring Cost</b>	<b>\$278,200</b>	<b>\$329,091</b>

\*Based on salary for teaching coordinator and full-time teacher including fringe benefits, health insurance, and allowances and supplements.

\*\*There was a \$10,000 deposit submitted by VBCPS that would be expected to be returned when the contract expires with the Chesapeake Bay Foundation in 2030 if it is not renewed. This deposit is not included as a cost.

Overall, the proposed budget for one-time start-up and operating costs for the first two years of the program was \$580,791. Including cost information collected during the year-one program evaluation, as well as the current year-two evaluation, the total one-time start-up and operating costs for the first two years of operation totaled \$613,334. Thus, the actual costs were \$32,543 more than the proposed budget for the initial two years of the program to be fully implemented.

## Summary

The Environmental Studies Program year-two evaluation focused on the program's year of full implementation for students in grades 11 and 12. The Environmental Studies Program at the Chesapeake Bay Foundation's Brock Environmental Center offers students the unique opportunity to learn beyond the classroom and to study, understand, and explore the intersection of business, culture, and natural resources. The experiential and place-based nature of this program links students with community partners to broaden personal pathways. The program provides a comprehensive program of study for students interested in a sustainability perspective with hands-on, scientific field work, and challenge-based investigative learning opportunities.

During the program's second year, the program included two full-time staff members: the teaching coordinator, who was hired in year one and a full-time teacher who was hired at the start of year two. The teaching coordinator served as both a teacher and the program manager. During year two, the teaching coordinator taught grade 12 students and the new teacher taught grade 11 students. A total of 83 students were enrolled in the Environmental Studies program on September 30, 2021 (45 grade 11 students and 38 grade 12 students). The majority of the students in the program were female (61%), and the majority of the students in the program were White (78%). Overall, grade 11 students performed academically well across the four courses taken at the Brock Environmental Center: AP Environmental Science, Sustainability: Core Concepts and Environmental Systems, Natural Resource Management, and Watershed Hydrology with students having the highest performance in the Watershed Hydrology course, with 89 percent of students earning an A. Grade 12 students took two courses at the Brock Environmental Center during year-two: Topical Research and EcoSummit Senior Independent Study. All seniors performed well in these courses with 82 percent earning an A for each course. Seventy-four percent (74%) of the students in grade 11 who were eligible took the Environmental Science AP Exam. Three percent (3%) of the students scored a 5 on the exam, 19 percent of the students scored a 4 on the exam, and 25 percent of the students scored a 3 on the exam, which would potentially allow them to earn college credit for the course.

The Environmental Studies Program consists of one overarching goal of broadening students' understanding of sustainability which it aims to do through five objectives: utilizing the natural community as a context for learning about environmental and sustainability issues; implementing environmental service learning projects; integrating interdisciplinary instruction; incorporating challenge-based, collaborative, and design-thinking learning; and earning the Seal of Excellence in Science and the Environment upon high school graduation. Students and parents both unanimously agreed that the Environmental Studies Program broadened their or their child's understanding of sustainability. In addition, when asked how students benefited from enrolling in the program, the most common response was related to knowledge about the environment and/or sustainability. Most students (99%) and parents (96%) agreed that the program provided place-based learning opportunities or the natural community as a context for learning about environmental and sustainability issues. Eighty-eight percent (88%) of seniors indicated that they participated in a service-learning project and 100 percent of students agreed that the service-learning project was helpful. In addition, 93 percent of grade 11 students indicated that they participated in service-learning projects. One hundred percent (100%) of grade 11 students indicated they found the service-learning project or community partnership useful.

Ninety-eight percent (98%) of students agreed that the program integrated learning across subject areas including policy, science, contemporary social issues, environmental issues, and economic issues. Ninety-two percent (92%) of students reported that the program provided rigorous and challenging learning experiences along with 91 percent of parents. One hundred percent (100%) of students reported that the program provided them with opportunities to be collaborative, and 98 percent of students reported that the program provided them opportunities to participate in design-thinking. All seniors in the Environmental Studies

Program graduated from high school, with 95 percent of the students earning an Advanced Studies Diploma. Of the grade 12 students, 97 percent earned the Seal of Excellence in Science and the Environment.

Another goal of the program is to establish collaborative agreements with institutions of higher education that result in ongoing program development and assessment. Currently, the program has partnerships with three institutions of higher learning, and 20 additional organizations including non-profits.

Overall, the program was perceived very positively by both students and parents who responded to the surveys. Students and parents had positive perceptions of the application process with 100 percent of students and parents agreeing that the application process was clear; it was easy to access, navigate, and complete; and that they had enough time to fulfill the application requirements.

Students and parents indicated strong satisfaction with the overall program, with satisfaction levels between 92 and 96 percent. In addition, 76 percent of grade 12 students indicated their experience in year two of the program was better than their first year in the program when it was impacted by the COVID-19 pandemic. Student retention in the program appears strong with 91 percent of students indicating they would be enrolling again next year. In addition, 95 percent of students and 90 percent of parents reported that the Environmental Studies Program was meeting their or their child's learning needs. Programmatic components including the program's classes, the Brock Environmental Learning Center, the outdoor learning environment, and science or technological tools were viewed positively with 94 to 100 percent of students and parents reporting that they were satisfied. One area that was rated somewhat lower was transportation related to senior internships. Approximately 72 percent of grade 12 students and 64 percent of parents of seniors agreed that school bus transportation allowed them or their child to fully participate in the senior internship.

The Environmental Studies Program's year-two annual operating costs totaled \$329,091. This was \$50,891 more than the total projected annual operating costs of \$278,200 for year-two of the program. The largest operating cost included program-specific staff, which included the salary and benefits for the teaching coordinator and one full-time teacher. The program-specific staff cost was approximately \$18,000 more than proposed. The second largest cost was attributed to transportation. The transportation cost for the program's second year was \$95,938, which was above the projected amount of \$78,430.

## Recommendations and Rationale

**Recommendation #1: Continue the Environmental Studies Program with modifications noted in Recommendations 2 and 3.** *(Responsible Group: Department of Teaching and Learning)*

**Rationale:** The first recommendation is to continue the Environmental Studies Program with modifications noted in the recommendation below. Based on School Board Policy 6-26, following an evaluation, a recommendation must be made to continue the program without modifications, continue the program with modifications, expand the program, or discontinue the program. The recommendation to continue the Environmental Studies Program with modifications is based on the academic success of students, the positive perceptions of the program by both parents and students, and the novel experiences given to students in the program.

**Recommendation #2: Continue to monitor the recruitment and admissions process to ensure the program is operating at capacity as well as serving a diverse population.** *(Responsible Group: Department of Teaching and Learning)*

**Rationale:** The second recommendation is to continue to monitor the recruitment and admissions process to ensure the program is operating at capacity, as well as serving a diverse population. The program's capacity is 100 students with 50 in grade 11 and 50 in grade 12. During year-one (2020-2021), the program began with 42 students, or was at 84 percent capacity. By the end of that school year, 38 students remained enrolled in the program. Year-one enrollment was impacted by the COVID-19 pandemic. In September of year-two (2021-2022), 45 grade 11 students were enrolled in the program, which was 90 percent of the program's capacity for grade 11 students. During the 2021-2022 school year, the program was at 83 percent capacity including both grade 11 and grade 12 students. A majority of students enrolled were female (61%) and a majority were White (78%), which mirrored the characteristics of the applicants. In addition, a large majority of applicants and those admitted were from Frank W. Cox and Kellam high schools. During spring 2022, program staff made concerted efforts in their recruitment strategies for the incoming grade 11 class to ensure the program operates at capacity and to improve student diversity. As a result of these efforts, the program received a larger number of applications than before, and the incoming grade 11 class is expected to be at capacity with 51 students. Continuing to monitor the impacts of recruitment strategies and the admissions process will allow the program to ensure the program operates at capacity with a diverse group of students representing each high school.

**Recommendation #3: Investigate potential transportation solutions for seniors to participate in internships.** *(Responsible Groups: Department of Teaching and Learning, Office of Transportation Services and Fleet Management)*

**Rationale:** The third recommendation is to investigate potential transportation solutions for seniors to participate in internships. During the year-two evaluation, school bus transportation was noted by several students and parents as an area for improvement, and survey results suggested that this was centered on senior students and their ability to fully participate in their internships. When asked on the survey about bus transportation, 72 percent of grade 12 students and 64 percent of parents of seniors agreed that school bus transportation allowed them or their child to fully participate in the senior internship. Internships are an embedded component within the grade 12 course EcoSummit Senior Independent Study. Therefore, it is recommended that program staff in conjunction with the Office of Transportation Services and Fleet

Management investigate options for ensuring that all senior students have access to transportation to fully participate in their senior internship.



# Appendix

## Appendix A: General Assistant Position Description

### GENERAL RESPONSIBILITIES

Under the direction of the school coordinator and staff, the person will work in providing assistance to the coordinator and teacher of the Environmental Studies. The employee in this class is responsible for performing clerical and instructional tasks as well as participating and supporting the daily indoor and outdoor activities. The successful candidate must be able to work collaboratively with VBCPS team members, Chesapeake Bay Foundation staff, community stakeholders, and students.

### ESSENTIAL TASKS

(These are intended only as illustrations of the various types of work performed. The omission of specific duties does not exclude them from the position if the work is similar, related, or a logical assignment to the position.)

- Assist the Environmental Science Program teachers and coordinator in performing specific duties as assigned or undertaking specialized tasks.
- Confident in a variety of indoor and outdoor activities including:
  - Assist the coordinator and the teacher in creating a safe environment that is joyful and conducive to learning
  - Handle a variety of technical and administrative assignments.
    - Serve as primary clerical support to the coordinator and staff; serve as school receptionist and telephone operator; prepare and maintain files and records; assist students and teachers
    - Bookkeeping, process orders, and other purchasing logistics
  - Handle a variety of technical and administrative assignments; create office newsletter, catalogs, brochures, and papers required for office distributions
  - Reinforce skills taught by the classroom teacher to small and large groups of students
  - Provide minor care and first aid
  - Able to hike on the trails, explore a range of wooded and aquatic habitats and assist the teacher and/or coordinator with student safety during learning activities
  - Some offsite driving may be required (training will be provided)

### KNOWLEDGE, SKILLS, AND ABILITIES

General knowledge of the practices, methods, and techniques used in classroom teaching; ability to maintain confidential files and information and to compile reports; ability to deal effectively with students and teachers; skill in the use of classroom and instructional equipment; ability to operate standard office, Word and data processing equipment; ability to establish and maintain effective working relationships with teachers, parents, students, and associates. A background in outdoor education/environmental education is preferred.

### EDUCATION AND EXPERIENCE

**Required:** High School Diploma or GED

**Preferred:** Experience in environmental science or outdoor education with strong technological skills

## Appendix B: Proposed Budget

One-time purchase costs and recurring costs to develop and implement the Environmental Studies Program are listed in the table below.

		<b>One-Time Purchase and Start-up Costs</b>	<b>Recurring Costs</b>
<b>Description</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>
Transportation*		\$78,430	\$78,430
Instructional Costs			
• Instructional materials		\$15,000	\$2,000
• Equipment for student research		\$50,000	\$2,000
• Field Trips and Site Visits			\$5,000
• Curriculum development	\$10,000	\$5,000	\$1,000
• Professional development	\$2,500	\$5,000	\$2,500
Technology		\$25,000	\$2,000
Teacher salaries		\$110,661 (1 FTE Coordinator)	\$186,270 (1 FTE Coordinator and 1 FTE Teacher)
<b>Total</b>	<b>\$12,500</b>	<b>\$289,091</b>	<b>\$279,200</b>

## End Notes

<sup>1</sup> The complete recommendation from the year-one evaluation stated, “Provide an additional staff member to support instruction and assist the program coordinator with logistics related to safety when working in the field, transportation concerns, and other duties as needed.”

<sup>2</sup> Source: [https://www.doe.virginia.gov/instruction/graduation/diploma\\_seals/index.shtml](https://www.doe.virginia.gov/instruction/graduation/diploma_seals/index.shtml)

<sup>3</sup> Department of Teaching and Learning provided their BuySpeed documentation by searching for the keyword “ESP.”

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Virginia Beach City Public Schools  
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For further information, please call (757) 263-1199

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