Office of National Marine Sanctuaries
National Oceanic and Atmospheric Administration

Technical Appendix: Ocean Guardian – Parents' Values and Opinions of an Ocean Conservation and Stewardship Educational Program

April 2017 | sanctuaries.noaa.gov | MARINE SANCTUARIES CONSERVATION SERIES ONMS-17-09

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Suggested Citation:
Schwarzmann, D., Nachbar, S., Pollack, N., Leeworthy, V., & Hitz, S. 2017. Ocean Guardian – Parents' Values and Opinions of an Ocean Conservation and Stewardship Educational Program. Marine Sanctuaries Conservation Series ONMS-17-09. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of National Marine Sanctuaries, Silver Spring, MD. pp 185.

Cover Photo:
Ocean Guardian Logo

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Abstract

The Ocean Guardian School (OGS) program is a federally funded grant program coordinated out of NOAA's Office of National Marine Sanctuaries. The program was designed to further the educational goals of the National Marine Sanctuaries by supporting hands-on, ocean stewardship projects in K-12 public, private and charter schools. Schools are awarded small grants (up to $4,000) to carry out their own school or community-based conservation projects that make a difference in the health and protection of their local watersheds and/or the world's ocean. Up until this point, little has been known about the benefits parents and children receive from the OGS program. This study uses a contingent choice survey to estimate the value that parents place on their child's participation in this program.

Key Words

Ocean Guardian School, Contingent Choice, Value, Education, Parents, Behavioral Changes

1. Introduction

Ocean Guardian School Program

The Ocean Guardian School (OGS) program is a federally funded grant program coordinated out of NOAA's Office of National Marine Sanctuaries (ONMS). The program was designed to further the educational goals of ONMS by supporting hands-on, ocean stewardship and conservation projects in K-12 public, private and charter schools. Schools are awarded small grants ($1,000 to $4,000) to carry out their own school or community-based conservation projects that make a difference in the health and protection of their local watersheds and/or the world's ocean.

By supporting K-12 schools in their focused watershed/ocean stewardship and conservation hands-on projects, the Ocean Guardian School program strives to:

- **Raise awareness** among the participating K-12 school about the goals of the national marine sanctuary system, the land-ocean connection as well as the environmental issues affecting the health of these special ocean areas and other marine habitats,
- **Inspire** changes in environmental stewardship behavior in school communities and beyond,
- **Encourage** projects that will become sustainable within a school community,
- **Educate** students about Ocean Literacy Principles and more recently about Climate Literacy Principles and how these principles relate to the students' ocean stewardship efforts.

Schools are required to connect their funded projects to one of the established five Ocean Guardian "project pathways": 1) Refuse/Reduce/Reuse/Recycle/Compost, 2) Marine Debris, 3) Watershed Restoration, 4) Schoolyard Habitat/Garden, and 5) Energy & Ocean Health. Each project pathway provides a general focus and framework for the schools' ocean stewardship and conservation project. For example:

- **Refuse/Reduce/Reuse/Recycle/Compost**: Students learn how to reduce waste within the school and/or community. Projects may include: Implementing/improving of school-wide recycling/composting programs, school-based wastewater system, school-wide green purchasing programs, zero waste lunch programs.
- **Marine Debris**: Students focus on how single-use plastics (such as plastic water bottles, bags, straws, flatware, etc.) make their way into our

waterways and impact the health of marine environments. Projects may include: installing of water hydration stations on campus and replacing of single-use bottles with reusable bottles, "no plastic straw" campaigns focused on local eateries, promoting of reusable bags at home and out in the community.

- **Watershed Restoration**: Students focus on the watershed-ocean connection and how restoring the watershed helps to protect the ocean. Projects may include: Removing of invasive species, propagating/growing /planting native plants, improving fish habitats, stabilizing banks/shorelines.
- **Schoolyard Habitat/Garden**: Students design/install/maintain ocean-friendly gardens and/or habitats with an emphasis on native/low-water plants, chemical-free gardening techniques, rain catchment systems, low-water irrigation systems, etc.
- **Energy Use and Ocean Health:** Students learn about how fossil fuel based energy use impacts the health of the world's ocean. Projects may include: Auditing school energy use/carbon footprint with the goal to implement energy saving plans (i.e., "power down" campaign, "no idling" campaign, bike to school days, light bulb/computer energy savings plans, etc.), designing/implementing clean energy alternatives such as wind/solar projects, implementing water savings plans, tree planting projects.

History and Accomplishments of Ocean Guardian School Program

The Ocean Guardian School Program awarded its first grants in the fall of 2009 to schools in 13 counties in California. Since then, the program has grown to support primary schools in 16 counties in California as well as in designated areas in Washington, Oregon, Hawaii, New York, Maryland, Colorado and most recently Galveston, Texas. From 2010-2016, over 40,000 students in more than 70 schools have directly contributed to the protection of our watersheds and our world's ocean. (See below: Measurable Data Table 1.1) In addition to collecting measurable data from their hands-on projects, students also participate in a variety of outreach activities that in turn, provide opportunities for them to talk about their ocean stewardship projects and the project related environmental issues to a variety of school and community audiences. These activities include but are not limited to: presenting their projects to students at other schools, publishing of articles in local newspapers, presenting at local and national conferences, presenting to local governmental agencies and non-profit organizations, and creating large scale art work on their campuses and communities.

Table 1.1 Measurable Data for the Ocean Guardian School Program

Ocean Guardian School Measurable Data	*2010-2016*
Awarded Grants	$682,372
Number of participating schools	84
Number of students directly participated in projects *Includes schools that completed projects + schools that did not complete projects + schools extending projects from prior year	41,278
Pounds of trash removed from school and/or community sites	123,189
Number of recycling bins installed	776
Number of compost bins installed	362
Pounds of compost created from school food waste	1,387
Pounds of reused clam and oyster shells	6,000
Pounds of e-waste recycled	5,131
Number of reusable bags distributed or purchased to replace single use bottles	7,870
Number of reusable bottles distributed or purchased to replace single-use bottles	10,187
Number of single use plastic bottles not used due to reusable hydration stations	108,857
Square feet of non-natives removed from school or community sites	171,108
Square feet of turf removed from school or community sites	29,616
Linear feet of bank stabilization	2,070
Number of native or fruit trees planted at school or community sites	3,228
Number of native perennials planted at school or community sites	28,137
Square feet of native plants planted	117,152
Number of rain barrels installed at school	43
Gallons of water reclaimed on school grounds from use of water catchment system	5,423
Number of storm drains stenciled	63
Number of wildlife structures installed	115
Number of nurdles removed	9,767
Energy Reduction kwh	186,368
Energy smart power strips installed	30
Number of official bike to school days	12

The Purpose of this Study

Although the costs are known and there are some measurable impacts of the Ocean Guardian School Program, little is known about parent preferences and their values towards these types of ocean conservation and stewardship educational programs. This research seeks to fill the informational gaps that currently exist. There have been studies conducted on the value of early childhood education and long term education exposure (Heckman et al., 2010 & Belfied & Schwartz, 2007). At the start of this project a literature review revealed there had been no studies on economic values and parent's preferences for environmental education programs and more specifically ocean conservation and stewardship education. This study focuses on parents for a couple reasons. First, if schools implement additional programs that are not in the budget, presumably, it would be the parents who incur the financial burden, not children. Further, parents generally have a right to review curriculums and supplemental materials and to know the extracurricular clubs and activities that their child has joined. Consequently, it is important to have an idea of the types of educational programs parents support.

In June 2016, Haefele et al., released a paper on the Total Economic Value of the National Park Service and Lands Programs and found respondent's value of NPS educational programs to be $16.7 per 100,000 students. The NPS study is different from the OGS study because only parents of OGS students are asked about their WTP (willingness to pay) for a specific program. Thus, this study is unique in that through the development of the attributes, researchers are able to isolate the willingness to pay (WTP) of parents for OGS characteristics. Further, this study also completes a cost-benefit analysis at the end to provide additional information on the mixes of OGS characteristics that result in net positive benefits.

There are four primary research questions:

1. What are the preferences parents have for environmental education programs?
2. Are students changing their behavior to be more environmentally conscious?
3. What is the willingness to pay of parents for ocean conservation and stewardship programs?
    a. Are there specific characteristics of these programs that parents are willing to pay more for, relative to the other characteristics?
4. Do the benefits (measured in terms of WTP) exceed the costs (grants awarded) of OGS?

Throughout this report, the findings of these research questions will be presented and discussed. Chapter 2 describes the landscape of the current Ocean Guardian Schools. Chapter 3 explains the survey development and implementation. Chapter 4 presents the results of the survey, including the answers to the first two research questions listed above. Chapter 5 explains the methodology and findings of the parents' willingness to pay for ocean conservation and stewardship programs. Chapter 6 presents a cost benefit analysis and the conclusions and future research suggestions.

2. Ocean Guardian Schools

Ocean Guardian School Application Data

Twenty-nine schools participated in the Ocean Guardian School (OGS) program for the 2015-2016 school year. The OGS program serves a variety of school types including; public (including charter) and private schools. Of all the schools in the program 44.8% are Title 1. To be classified as Title 1, schools must have a high percentage of children from low-income families and receive additional funding to help ensure their students meet educational goals and standards.

This survey was conducted during a two-month period at the end of the school year after most of the schools completed their stewardship project. The projects are determined by the schools and may be school-wide or specific to a grade, classroom, or extracurricular activity. A teacher, a parent volunteer or a community partner organization leads each project. There are five ocean conservation topics that schools may choose from to implement including; refuse/reduce/reuse/recycle/, rot (composting), marine debris, watershed restoration, schoolyard habitat/garden, or energy use and ocean health. Additionally, some schools may have OGS students interact with students and teachers outside of their grade or community members outside their school. Table 2.1 shows data from the 2015-2016 applications as it pertains to the above categories. The table also shows the percentage of schools that are first-year schools versus returning schools.

Table 2.1 Application Data for OG Schools during the 2015-2016 School Year

Application Data Category	Percentage of Applications
Type of School	
Public	65.5%
Private	20.7%
Charter	10.3%
Title 1 Schools	44.8%
School-wide vs. Specific Grade/Class	
School-wide	31.0%
By Grade/Class or Extracurricular	69.0%
Run By:	
Teacher	82.8%
Parent	6.9%
Not Specified	10.3%
First Year School vs. Returning	
First Year	41.4%
Returning	58.6%

Census Data

This section presents the census data for OGS based upon the school's zip code. The 2014 American Community Survey was the source of the data for this analysis. This report looks at six aspects of the demographics including; age, education, race, ethnicity, income, and gender. Fifteen of the twenty-nine OGS that were contacted participated in the survey. Both the schools that did and did not participate have their demographic data presented below; to present a complete picture of the zip codes OGS serves. The information is presented separately for schools who participated and for schools that did not participate in the survey. If schools did not participate, the refusal occurred at the teacher level and the parents never received an invitation to complete the survey. Of the schools that participated, 26.7% were Title 1.

If there are several significant differences between the demographics of the zip codes of the schools that did or did not participate then this could be indicative of a potential non-response bias. (When the word community is used in this section, it is synonymous with zip code). Fortunately, there were not many statistically significant differences between the two groups. The zip codes of OGS are shown in Tables 2.2 and 2.3:

Table 2.2 Zip Codes of Schools That Participated in "Willingness to Pay" Survey

City	Zip Code
Carmel, CA	93923
Los Altos, CA	94022
Emeryville, CA	94608
Santa Cruz, CA	95062
Goleta, CA	93111
Oakland, CA	94611
Kenwood, CA	95452
Salinas, CA	93901
Alameda, CA	94501
Marina, CA	93933
Seaside, CA	93950
Watsonville, CA	95076
San Rafael, CA	94903
Salinas, CA	93901
Santa Paula, CA	93060

Table 2.3 Zip Codes of Schools that did not Participate in the "Willingness to Pay" Survey

City	Zip Code
Santa Barbara, CA	93103
Santa Cruz, CA	95062
Santa Barbara, CA	93109
Port Huenema, CA	93041
San Francisco, CA	94131
New York, NY	10004
Hilo, HI	96720
Boulder, CO	80304
San Jose, CA	95111
Seaside, CA	93955
Carmel, CA	93921
Santa Barbara, CA	93105
Indian Head, MD	20640
Waldorf, MD	20603

Age. The average median age of Ocean Guardian School zip codes served during the 2015-2016 school year was 40, with the average age for those schools participating in the survey being 42 and those who did not, 38. The median age for the United States is 37.7 and 36 years old for California. The total age breakdown is shown in Figure 2.1. The average percent of the population that fits into each age range is displayed in Table 2.4, along with the percentage of the population above and below the average. To clarify, for the age group of *under 5 years old*, 48.3% of the schools have a community composition with more than 6% of the population

being under the age of 5, and 51.7% of schools have a community composition that has less than 6% of the populations being under the age of 5.

Figure 2.1 presents age group demographics for the percent of the population that falls into each age category for all OGS, OGS that participated in the program and OGS that did not participate in the survey.

Table 2.5 shows the statistical tests to see if there are statistical differences in the percent of community members in each age group. The only two age groups that were statistically different between schools that participated in the survey and schools that did not were 30-34 years and 80-84 years.

Table 2.4 Average Percentages of Age Ranges in OGS Populations

Age Range	Average %	% of Schools Above Average	% of School Below Average
Under 5 Years Old	6.0	48.3	51.7
5-9 Years Old	5.9	44.8	55.2
10-14 Years Old	5.6	48.3	51.7
15-19 Years Old	5.8	41.4	58.6
20-24 Years Old	6.9	58.6	41.4
25-29 Years Old	6.6	58.6	41.4
30-34 Years Old	6.9	48.3	51.7
35-39 Years Old	6.4	62.1	37.9
40-44 Years Old	7.0	55.2	44.8
45-49 Years Old	6.8	34.5	65.5
50-54 Years Old	7.1	44.8	55.2
55-59 Years Old	6.8	44.8	55.2
60-64 Years Old	6.4	48.3	51.7
65-69 Years Old	5.0	34.5	65.5
70-75 Years Old	3.4	51.7	48.3
76-79 Years Old	2.6	37.9	62.1
80-84 Years Old	1.9	44.8	55.2
85 Years and Older	3.7	24.1	75.9

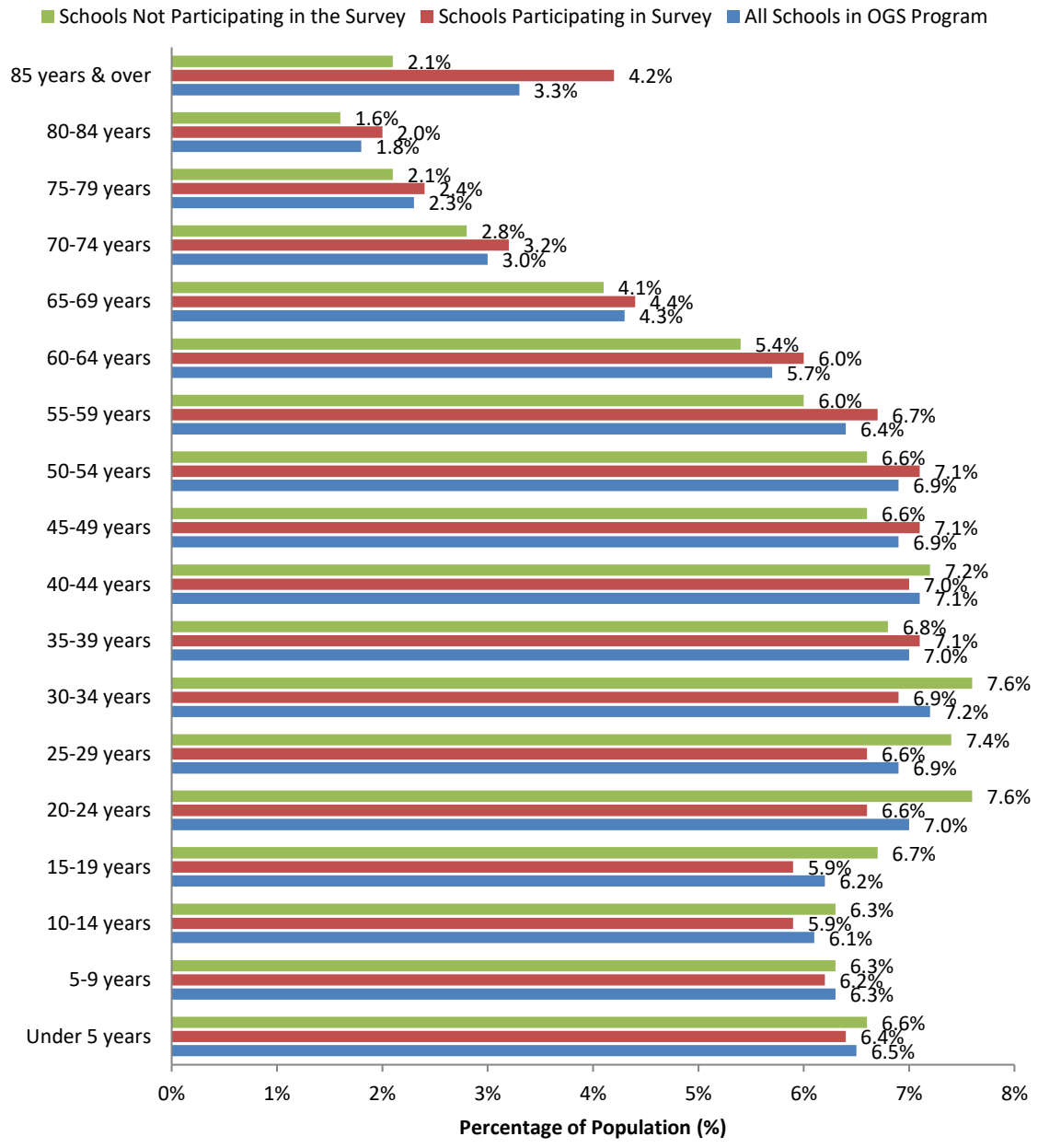


Figure 2.1 Age Demographics of OG School Population

Table 2.5 Test Statistic for Significant Difference in Zip Code Age Groups of Schools that Participated or Did not Participate in the OGS Program Survey*

Age	Pooled	Satterthwaite
Under 5 years	0.89 (.380)	0.89 (.380)
5-9 years	-0.06 (0.953)	-0.06 (.954)
10-14 years	-0.38 (.707)	-0.37 (.712)
15-19 years	1.05 (.304)	1.05 (.304)
20-24 years	1.30 (.206)	1.31 (.202)
25-29 years	1.38 (.178)	1.38 (.181)
30-34 years	**1.89 (.069)**	**1.90 (.068)**
35-39 years	0.48 (.637)	0.48 (.633)
40-44 years	0.92 (.364)	0.91 (.373)
45-49 years	-1.02 (.317)	-1.01 (.324)
50-54 years	-1.49 (.149)	-1.50 (.146)
55-59 years	-1.50 (.145)	-1.52 (.141)
60-64 years	-1.38 (.179)	-1.40 (.174)
65-69 years	-0.33 (.745)	-0.33 (.745)
70-74 years	-1.10 (.280)	-1.10 (.281)
75-79 years	-0.76 (.451)	-0.76 (.457)
80-84 years	**-1.79 (.085)**	**-1.81 (.082)**
85 years & over	-1.28 (.211)	-1.32 (.204)
Median Age	-1.41 (.170)	-1.42 (.168)

*t-value is presented with the p-value in parenthesis.
Less than 0.10 level of significance or 90% confidence in bold.

Education Levels: For the population of 18-24 year olds, education levels were categorized into four different categories, “Less than High School (no diploma)”, “High School or GED”, “Associates or Some College”, and “Bachelor’s Degree or higher”. The category with the highest percentage of the population was “Associate’s Degree or Some College” at 47.8%, with the lowest category being “Less than High School (No Diploma) at 11.1%.

Table 2.6 Average Percentages of Educational Levels in OGS Population (Ages 18-24)

Education Levels (Ages 18-24)	% Average	% of Schools Above Average Percentage	% of Schools Below Average Percentage
Less than High School (No Diploma)	11.1	34.5	65.5
[1]High School or GED	25.6	55.2	41.4
Associate's Degree or Some College	47.8	51.7	48.3
Bachelor's Degree or Higher	15.5	34.5	65.5

There were no statistically significant differences in the educational levels of the populations for schools that did or did not participate in the survey. (Figure 2.2 and Table 2.7).

[1] One school community's average equaled the average for all OGS schools

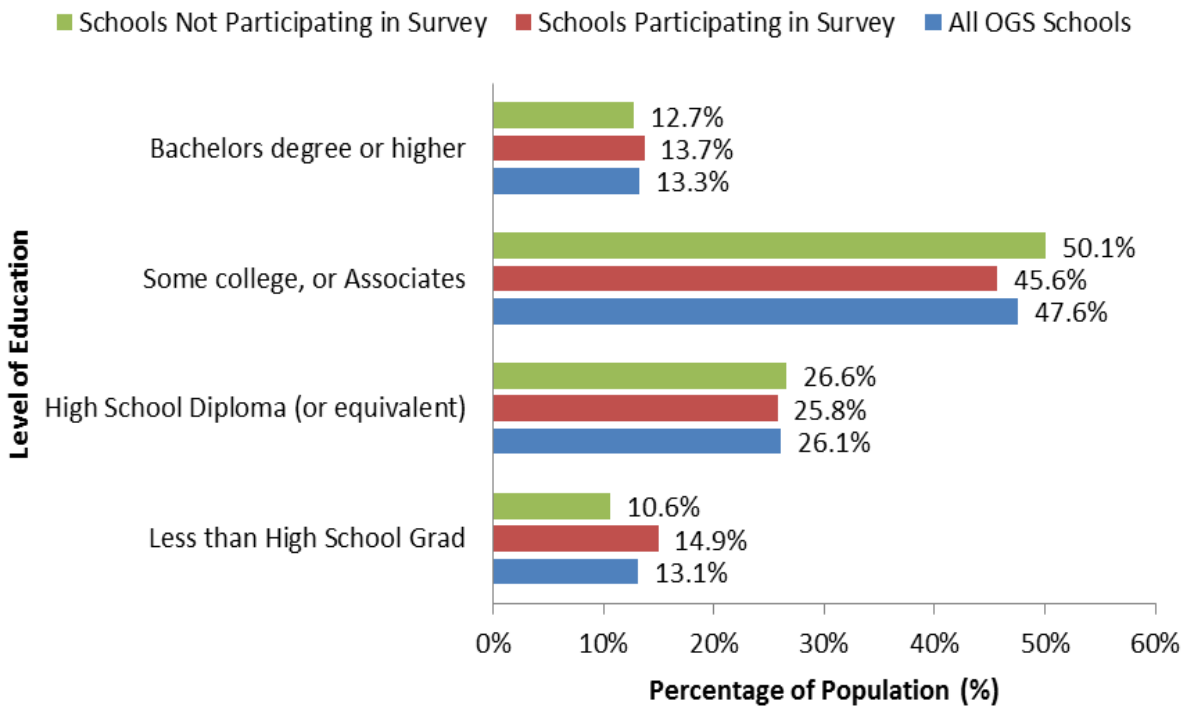


Figure 2.2 Education Levels in OGS Population (Ages 18-24)

Table 2.7 Test Statistic for Significant Difference in Education Levels for 18-24 Years of Age for Schools that Participated or Did not Participate in the OGS Program Survey*

Education Levels (Ages 18-24)	*Pooled*	*Satterthwaite*
Less than High School Graduate	-1.63 (.116)	-1.65 (.112)
High School Diploma (or equivalent)	0.73 (.471)	-0.73 (.473)
Some college, or Associates	0.93 (.363)	0.91 (.370)
Bachelor's degree or higher	0.70 (.489)	0.70 (.493)

*t-value is presented with the p-value in parenthesis

There were six different levels of education for those aged 25 and above. They were: "Less than 9th Grade", "9-12th grade (no diploma)", "High School Grad (or equivalent), "Some College, No Degree", "Associate's Degree", "Bachelor's Degree", and "Graduate or Professional Degree". The education level with the highest percentage of the population was persons with a "Bachelor's Degree" at 24.3%, and the category with the lowest average percentage was "9th-12th Grade (No Degree)" at 5.6%.

Table 2.8 presents the full results.

Table 2.8 Average Percentages of Educational Levels in OGS Population (Ages 25+)

Education Levels (Ages 25 and Older)	*% Average*	*% of Schools Above Average Percentage*	*% of Schools Below Average Percentage*
Less Than 9th Grade	6.7	31.0	69.0
9th-12th Grade (No Degree)	5.6	37.9	62.1
High School Grade (or Equivalent)	16.6	44.8	55.2
Some College, No Degree	20.2	55.2	44.8
Associate's Degree	7.4	51.7	48.3
Bachelor's Degree	24.3	58.6	41.4
Graduate or Professional Degree	19.2	48.3	51.7

The percentage of the population that has each level of education by participation is presented in Figure 2.3. There were no statistical differences in education levels for 25 years or older amongst the schools that did or did not participated (Table 2.9).

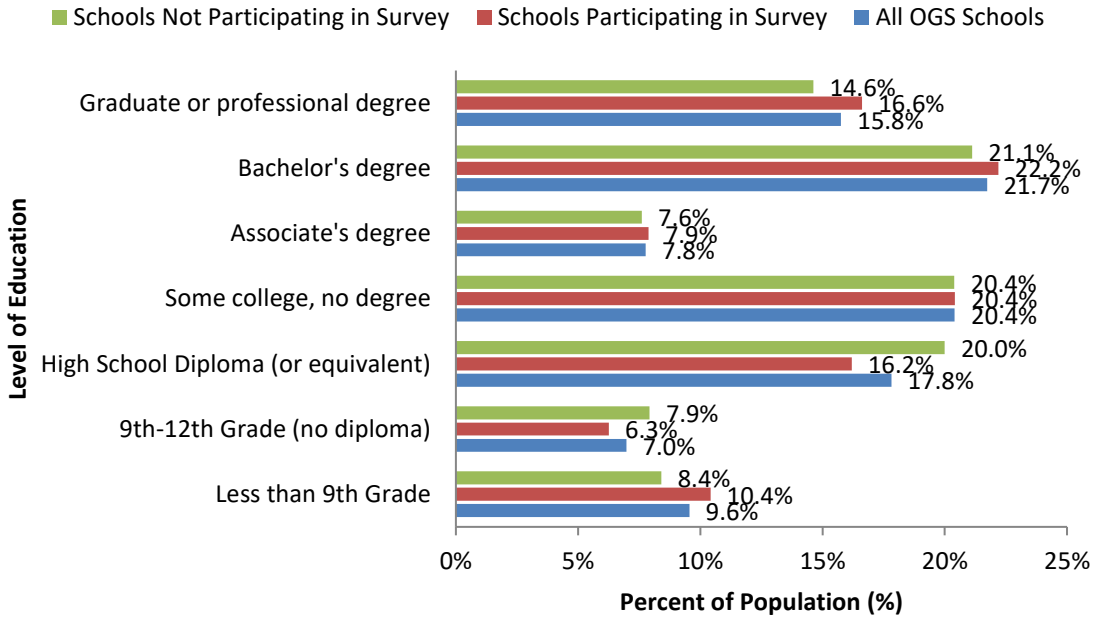


Figure 2.3 Education Levels for OGS Population (Ages 25+)

Table 2.9 Test Statistic for Significant Difference in Education Levels for 25 Years of Age and Older for Schools that Participated or Did not Participate in the OGS Program Survey*

Education Levels (Ages 25 and Older)	***Pooled***	***Satterthwaite***
Less than 9th Grade	-0.70 (.491)	-0.70 (.488)
9th-12th Grade (no diploma)	0.43 (.672)	0.42 (.675)
High School Diploma (or equivalent)	0.54 (.594)	0.53 (.602)
Some college, no degree	0.11 (.913)	0.11 (.914)
Associate's degree	-1.05 (.301)	-1.06 (.299)
Bachelor's degree	0.27 (.789)	0.27 (.791)
Graduate or professional degree	-0.12 (.909)	-0.12 (.909)

*t-value is presented with the p-value in parenthesis

Race: The majority of the communities of schools participating in the OGS program are predominately white, with twenty-five of the twenty-nine schools having the highest percentage of people in their zip code identifying to that race. Two of the school communities) were predominantly Black or African American and the two other school communities were predominately Asian. On average, 63.5% of the populations in the OGS zip codes are white, 58.6% of those communities having a percentage of white persons below the average that average and 41.4% having populations above. 7.2% of the populations identified their race as Black or African American, with 75.9% of school communities having populations that fell below that average. Three of the schools that fall above the 7.2% average have significantly higher percentages of persons being Black or African American. For the category of Native Hawaiian or Pacific Islander, one school community had a higher percentage of persons identifying as Hawaiian or Pacific Islander at 14.2% as their race than the average 0.9% (

Table 2.10).

Ethnicity: For ethnicity, the data for whether or not the population identifies as Hispanic or Latino is displayed in Figure 2.5. Nearly a quarter, 24.2%, were Hispanic or Latino and 75.8% were not. The averages percentage of persons of each race/ethnicity along with the percentage of populations above and below the average can be found in

Table 2.10.

Table 2.10 Average Percentages of Racial and Ethnic Backgrounds in OGS Population

Race/Ethnicity	Average %	% of Schools Above Average Percentage	% of Schools Below Average Percentage
White	63.5	58.6	41.4
Black/African American	7.2	24.1	75.9
American Indian/Alaska Native	.7	44.8	55.2
Asian	10.4	31.0	69.0
Native Hawaiian/Pacific Islander	.9	10.3	89.7
Other	10.5	37.9	62.1
Hispanic or Latino	24.2	31.0	69.0
Not Hispanic or Latino	75.8	69.0	31.0

Using t-tests it was found that there are not statistically significant differences across race or ethnicity between the two groups of schools that did and did not participate. Table 2.11.

Table 2.11 Test Statistic for Significant Difference in Race for Schools that Participated or Did not Participate in the OGS Program Survey*

Race/Ethnicity	*Pooled*	*Satterthwaite*
White	-0.83 (.416)	-0.81 (.425)
Black of African American	0.87 (.393)	0.85 (.405)
American Indian or Alaskan Native	-0.19 (.850)	-0.19 (.850)
Asian	0.30 (.766)	.30 (.768)
Native Hawaiian/Pacific Islander	0.91 (.373)	0.88 (.396)
Other Race	-0.71 (.487)	-0.71 (.483)
Hispanic or Latino	-0.54 (.595)	-0.54 (.592)
Not Hispanic or Latino	0.54 (.595)	0.54 (.592)

*t-value is presented with the p-value in parenthesis

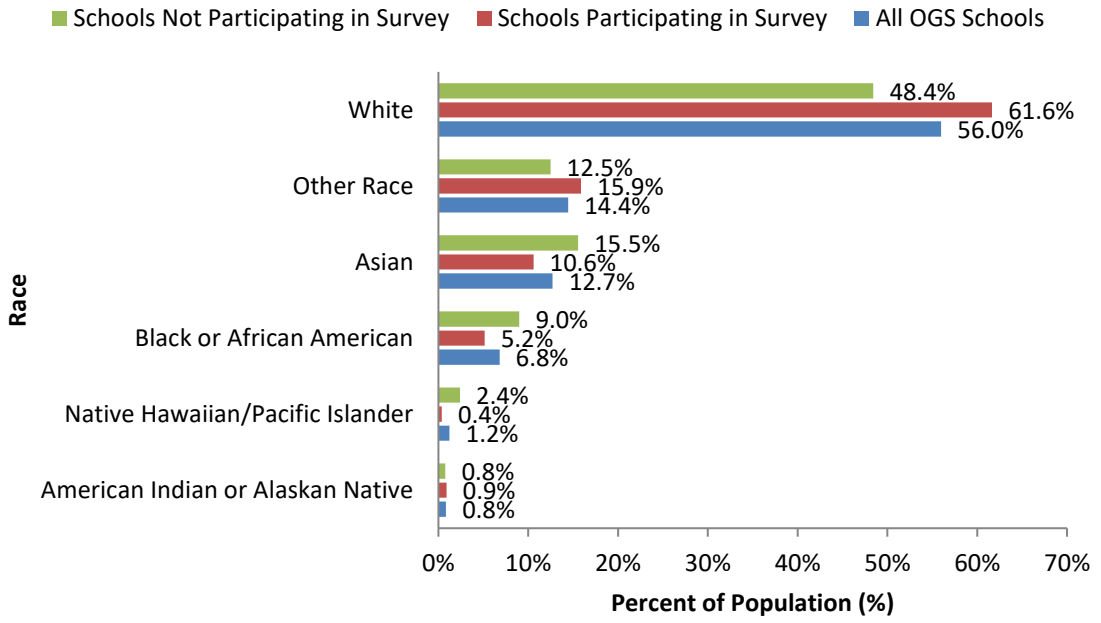


Figure 2.4 Race Demographics in OGS Population

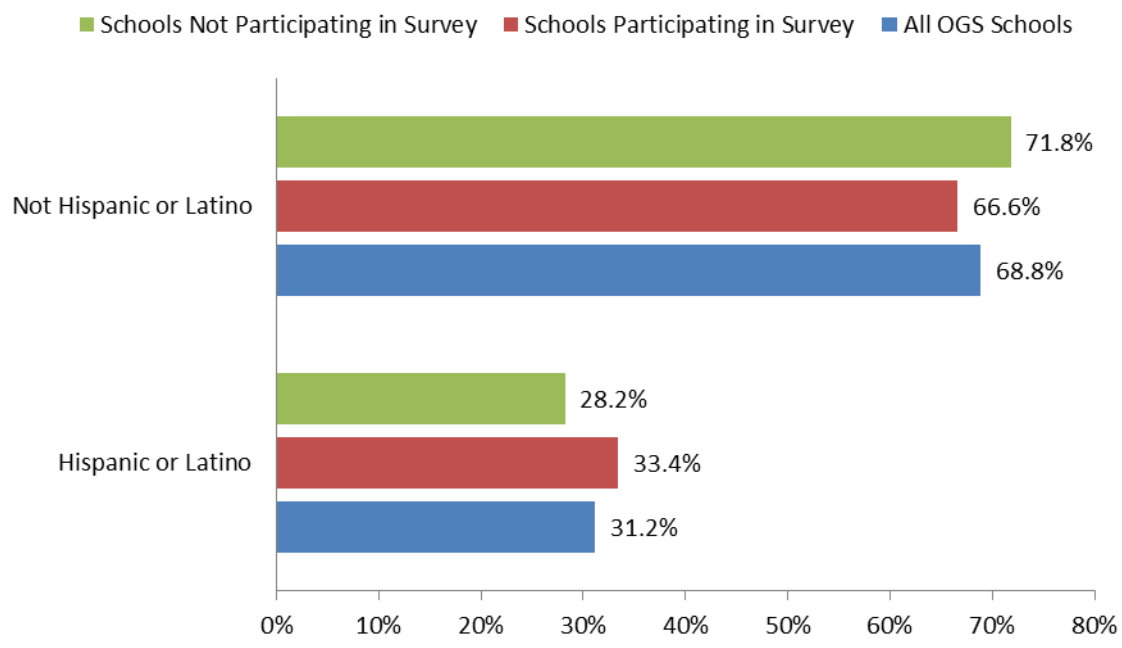


Figure 2.5 Hispanic/Latino Demographics in OGS Population

Income: The average median income for schools enrolled in the OGS Program was $77,080.82[2] with 58.6% of schools being below that amount and 41.4% of schools being above. The average percentage of the population who lives below the poverty line is 11.9%. Nearly half of the school communities have populations falling below that percentage and 51.7% being above. Percentages of people below the poverty line in the school's zip code ranged from 3% to 19.2%. One of OGS program's goals is to bring environmental education to all students regardless on their family's income. Many of the schools that participate in the OGS program are Title 1 schools (44.8%) who have high percentages of students that come from low-income families. By gathering income data for the schools served in the OGS program, there can be a better understanding of the types of communities that the OGS program serves. The average percent of the population in each income bracket, along with the school communities who have a percentage of the population above and below that average can be found in Table 2.12.

[2] Based on median data from 2014 Community Survey

Table 2.12 Average Percentages of Income in OGS Population

Yearly Income	Average %	% of Schools Above Average Percentage	% of Schools Below Average Percentage
$0-$10,000	5.0	51.7	48.3
$10,001-$14,999	3.8	55.2	44.8
$15,000-$24,999	8.1	48.3	51.7
$25,000-$34,999	7.7	62.1	37.9
$35,000-$49,999	10.9	58.6	41.4
$50,000-$74,999	16.2	44.8	55.2
$75,000-$99,999	12.1	58.6	41.4
$100,000-$149,999	15.5	55.2	44.8
$150,000-$199,999	7.8	55.2	44.8
$200,000+	12.0	37.9	62.1

There are no statistical differences between the income groups for schools that did or did not participate in the survey (
Table 2.13 and Figure 2.6).

Table 2.13 Test Statistic for Significant Difference in Income for Schools that Participated or Did not Participate in the OGS Program Survey*

Income	*Pooled*	*Satterthwaite*
Less than 10,000	0.36 (.720)	0.36 (.719)
10,000 to 14,999	-0.66 (.518)	-0.66 (.515)
15,000 to 24,999	-0.71 (.487)	-0.71 (.485)
25,000 to 34,999	0.53 (.602)	0.52 (.605)
35,000 to 49,999	0.01 (.990)	0.01 (.990)
50,000 to 74,999	-0.73 (.470)	-0.73 (.70)
75,000 to 99,999	1.42 (.168)	1.45 (.162)
100,000 to 149,999	1.49 (.147)	1.51 (.144)
150,000 to 199,999	1.57 (.129)	1.55 (.133)
200,000 or more	-0.56 (.581)	-0.57 (.577)
Median Income	-0.29 (.773)	-0.30 (.771)
Mean Income	-0.56 (.579)	-0.57 (.574)
Percentage Below Poverty Level	0.35 (.726)	0.36 (.725)

*t-value is presented with the p-value in parenthesis

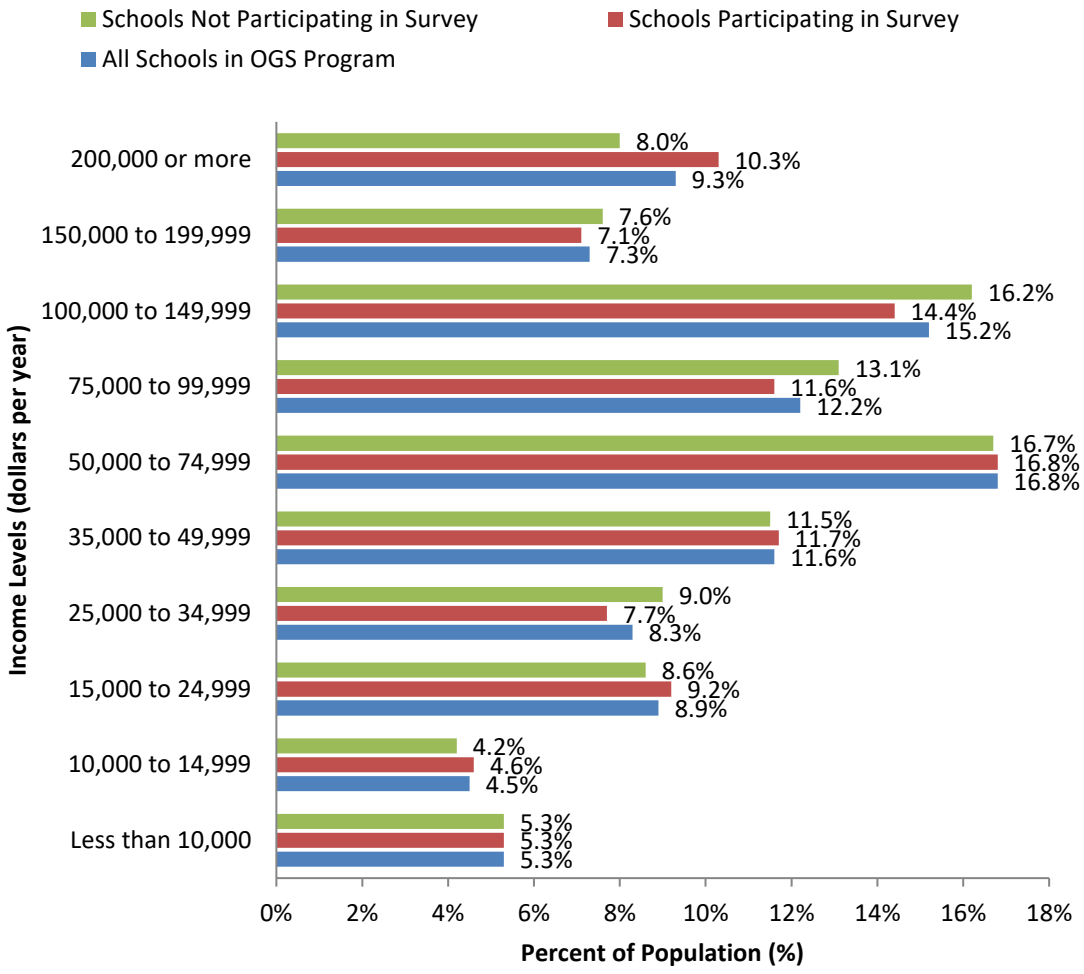


Figure 2.6 Income Levels in OGS Population

The average income for a household in the zip codes of the schools that participated in the survey was $110,542.80[3], while the average for the entire population of schools OGS serves was $106,854.75. The average median income for a household in the school that participated in the survey was $78,103.73, and the average median income for every school in the program was $77,080.82. Compare this to the median income in the United States for 2014, which was $53,657 or California's median income of $64,933. Although the average income and the median income for zip codes of schools participating in the survey are higher than that of all of the OGS program schools, this difference is not statistically significant. The most

[3] Based on mean data from 2014 Community Survey

frequent income bracket for all three categories was the $50,000-$75,000 bracket, with the least common bracket being incomes from $10,000-$14,900.

***Gender*:** For all the school district communities that OGS program serves, 50.7% were female and 49.3% were male. For the US, 49.2% of the population is male and 49.6% of California's population is male. Table 2.14 shows the average of each gender along with how many school communities had populations above or below the average. Table 2.15 shows the results of the t-tests. There are no statistical differences in gender between the two groups. Figures 2.7 shows how the gender data varies for the communities in the OGS program.

Table 2.14 Average Percentages of Gender in OGS Population

Gender	Average (%)	% of Schools Above Average Percentage	% of Schools Below Average Percentage
Male	49.3%	48.3%	51.7%
Female	50.7%	51.7%	48.3%

Table 2.15 Test Statistic for Significant Difference in Gender for Schools that Participated or Did not Participate in the OGS Program Survey*

Gender	*Pooled*	*Satterthwaite*
Male	0.00 (.998)	0.00 (.998)
Female	0.00 (.998)	0.00 (.998)

*t-value is presented with the p-value in parenthesis

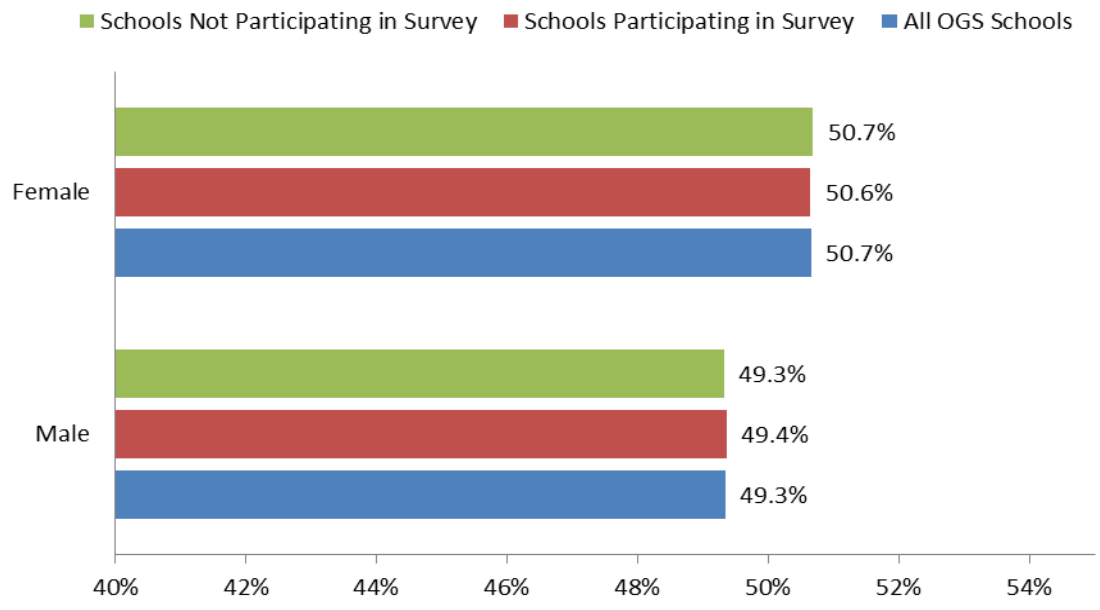


Figure 2.7 Gender Demographics in OGS Population

Several statistical tests were completed to determine if there were any statistical differences between the schools that participated and those that did not, relative to the population of schools. Demographic data that was tested for statistical differences was based upon the most recent ACS census for the zip code for which the school is located.

Table 3.3 below present the results of statistical tests that determine whether the distributions of various census data demographic characteristics are the same for the zip codes of

1. The OGS that participated in the survey versus all OGS
2. The OGS that did not participate in the survey versus all OGS, and
3. The OGS that participated versus those that did not participate in OGS.

Of these tests, there were statistical difference in the distributions in Hispanic/Latino for non-participating schools and the entire school population, non-participating schools and participating schools. Each distribution of race was statistically different from one another and education was statistically different for four category and seven category of participating and non-participating schools.

Table 2.16 Statistical Test of Participating and Non-Participating School Demographics

Demographic Variable	*Statistical Test*		*Chi-Square*	*DF*	*Pr>ChiSq*
Income	Participating Schools	Entire School Population	4.1321	9	0.9025
Income	Non-Participating Schools	Entire School Population	2.43	9	0.9827
Income	Participating Schools	Non-Participating Schools	13.32	9	0.1482
Gender	Participating Schools	Entire School Population	0.004	1	0.9496
Gender	Non-Participating Schools	Entire School Population	0	1	1
Gender	Participating Schools	Non-Participating Schools	0.004	1	0.9496
Hispanic/Latino	Participating Schools	Entire School Population	2.2548	1	0.1332
Hispanic/Latino	Non-Participating Schools	Entire School Population	4.1928	1	**0.0406**
Hispanic/Latino	Participating Schools	Non-Participating Schools	13.3547	1	**0.0003**
Race	Participating Schools	Entire School Population	20.8548	5	**0.0009**
Race	Non-Participating Schools	Entire School Population	40.6393	5	**<.0001**
Race	Participating Schools	Non-Participating Schools	89.6988	5	**<.0001**
Education Level (4 Categories)	Participating Schools	Entire School Population	3.4684	3	0.3249
Education Level (4 Categories)	Non-Participating Schools	Entire School Population	6.4505	3	0.0916
Education Level (4 Categories)	Participating Schools	Non-Participating Schools	22.5133	3	**<.0001**
Education Level (7 Categories)	Participating Schools	Entire School Population	3.338	6	0.7654
Education Level (7 Categories)	Non-Participating Schools	Entire School Population	6.5048	6	0.3691
Education Level (7 Categories)	Participating Schools	Non-Participating Schools	18.654	6	**0.0048**
Age	Participating Schools	Entire School Population	6.6307	17	0.9878
Age	Non-Participating Schools	Entire School Population	7.2837	17	0.9796
Age	Participating Schools	Non-Participating Schools	9.2793	17	0.9311

Less than 0.05 level of significance or less or 95% or higher confidence in bold.

3. Questionnaire Design and Implementation

Questionnaire Design

Questionnaire design began in the fall of 2015. Several discussions with Ocean Guardian Program faculty and Office of National Marine Sanctuary leadership determined the goals of the survey. To reiterate from Chapter 1 the goals were;

1. What are the preferences parents have for environmental education programs?
2. Are students changing their behavior to be more environmentally conscious?
3. What is the willingness to pay of parents for ocean conservation and stewardship programs?
    a. Are there specific characteristics of these programs that parents are willing to pay more for, relative to the other characteristics?
4. Do the benefits (measured in terms of WTP) exceed the costs (grants awarded) of OGS?

This required the development of three distinct groups of questions, in addition to demographic data. A series of questions were developed to understand if students became more environmentally conscious in their behaviors towards the environment. In addition, parents were asked a similar set of questions to determine if the OGS program had an impact on others. Questions were also developed for the parents to understand their attitudes and preferences towards their child being taught specific concepts and topics relative to ocean literacy and conservation. Lastly, the contingent choice method was used to estimate the value of the Ocean Guardian Program.

The SAS macros 'choiceff' and 'mktex' provided in Johnson et al. (2007) was used to develop an orthogonal and balanced design with 50 combinations of attribute and price levels in addition to the status quo. Each respondent answered five choice questions. Each choice question had the "Status Quo" which always set the attributes to the "Low" level and cost the household $0 per year (an opt-out option) and two additional options that offered various attributes of the OGS program.

The survey went through the Office of Management and Budget (OMB) review to assure respondent burden was minimized and the questions were asked in a way that could produce results that could be extrapolated to the OGS population. The initial

60-day notice was posted to the Federal Register on November 6, 2015. The second notice was posted February 12, 2016 and approval was granted March 30, 2016.

Survey Implementation

The survey was implemented from May to June 2016 via Survey Monkey and paper versions were sent home with students. Utilizing existing relationships between ONMS and Ocean Guardian School staff, on April 1, 2016 ONMS staff e-mailed the OGS contact at each school to inform them about the upcoming webinar and survey (See Appendix A). Each teacher was asked to send three letters home to the parents, an initial contact e-mail informing parents about the impending survey, an e-mail with links to the survey and a reminder survey. Teachers could also opt for paper versions of these letters. Additionally, teachers could request Spanish versions based upon the school's student population. All of the letters are provided in Appendix A.

Teacher Webinar

There were three webinars held for teachers to attend to learn more about the purpose, application of results and their responsibilities. The teachers were asked to send home an initial contact letter, a letter with the survey, a reminder and a second letter with the survey. Additionally, if schools had more than 120 OGS students, then the teachers were asked to conduct a random sample of 120 students from their total OGS student population. Instructions to conduct a random sample were provided in the webinar, in addition to a spreadsheet with step by step instructions of how to populate it with data and draw a sample. If teachers were not comfortable conducting a random survey, ONMS staff was available to help. The PowerPoint presentation used for the teacher webinar is presented in the Technical Appendix to this report.

On the webinar several teachers raised the issue of needing to be able to offer the survey in Spanish. Consequently, the survey was translated to Spanish to accommodate parents who either do not speak English or English is not their first language.

Further, teachers were given the option of requesting paper copies of the surveys to send home. All participants had the option to go online to Survey Monkey to complete the study, even if they received a paper version.

School Participation

In total, there are 33 Ocean Guardian Schools. After internal staff discussion, the four schools located in Washington State were removed from the sampling frame. These were new schools to the program located in impoverished areas. There was concern that implementing this survey at these schools would lead parents to believe they would have to pay for the program, and hinder the partnerships ONMS is building with these communities.

Six schools opted out of the survey in April. Some teachers reported that they were in the middle of testing and did not have additional time to accommodate ONMS's request. In addition, some teachers stated they did not have time to get approval from their respective Boards of Education. Of the 23 remaining schools, 5 schools never participated in the webinar and did not respond to our requests. Three additional schools participated in the webinar but did not implement the survey due to testing or the teacher's time constraints. In total, 15 schools participated. If you consider that ONMS elected not to include 4 schools and 6 schools indicated it was not feasible to conduct this study due to testing or administrative requirements, 29 schools were asked to attend the webinar and complete the survey. The response rate of schools invited to complete the webinar and survey was 51.7% (15 of the 29 schools).

Implementation of the Survey

The survey was implemented in late spring and early summer. School staff that were helping to implement the survey received three e-mails. On May 10, 2016 staff was asked to send home an initial survey letter, informing parents that a survey would soon be sent home for them to complete. The next e-mail contained the initial survey letter to parents and 11 days letter, they received the reminder survey letter and e-mail.

Table 3.1 Schedule of Survey implementation

Action Item	***Date***
Survey Design	Fall 2015-Spring 2016
Teacher Webinars	April 26, April 29 & May 9, 2016
Initial Contact Letter to Parents	May 10, 2016
Initial Survey Letter to Parents	May 13, 2016
Reminder Survey Letter to Parents with Survey	May 24, 2016

Response Rates

In total, 270 parents participated in the OGS program survey out of a sample of 1,371 for a response rate of 19.7%. Individual school participation rates ranged from 5.0% to 80.0%. Taking the response rate at each participating schools and averaging yielded 21.3%. The average response rate for electronic communications was 18.4%. Four schools requested paper copies, and their average response rate was 29.3%. However, if you removed the school that received an 80% participation rate (the next highest participation rate was 37.9%), then the average response rate declines to 12.4%.

Table 3.2 Response Rate by Mode

Mode	***Frequency***	***Percentage***
English	244	90.4
Spanish	26	9.6
Paper Version	108	40.0
Electronic (Online) Version	162	60.0
English Paper Version	162	60.0
Spanish Paper Version	26	9.6
English Electronic Version	82	30.4
Spanish Electronic Version	0	0.0

4. Results of the Survey

The next section presents the information collected by the survey. In total, 270 surveys were collected and analyzed. Data was collected from an OGS student's parent. Demographic data was collected for both the child and the parent. Information collected includes:

- behavioral changes as a result of child participation in the OGS program,
- benefits that the student may have acquired through the program,
- OGS program's influence on parent and child environmental perceptions,
- parent's attitudes towards ocean conservation programs,
- level of parent support for OGS and similar programs,
- and the economic value of the OGS program.

Demographics Data

Child's Age: For the child, the age with the highest frequency was age 13 and age 15 was the least frequent. The average age for a child represented in the Ocean Guardian School was 11.1, with the median age being 12. 15.2% of participants opted out to not answer the question. Figure 4.1 shows the frequencies of each age of children represented in the survey.

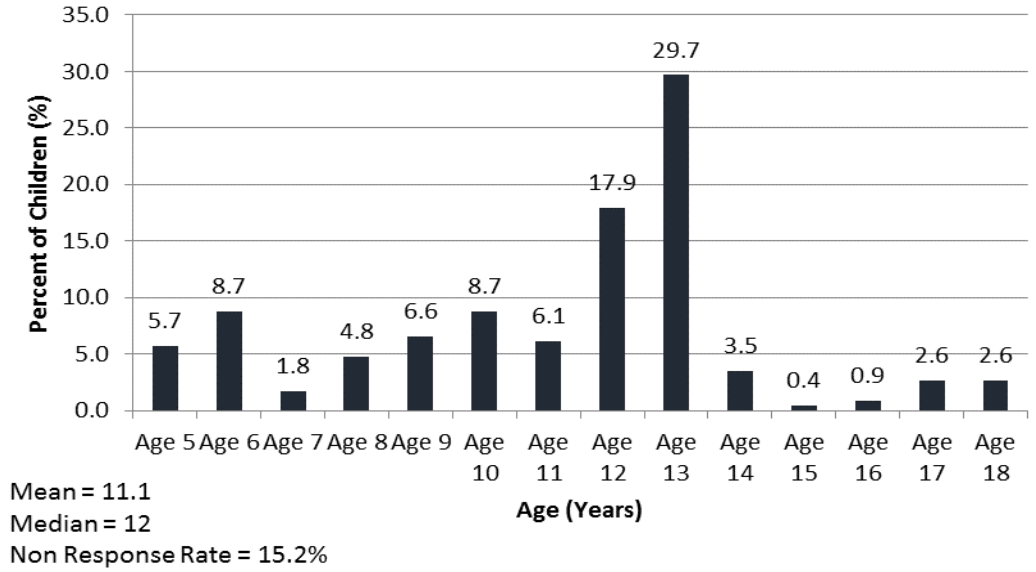
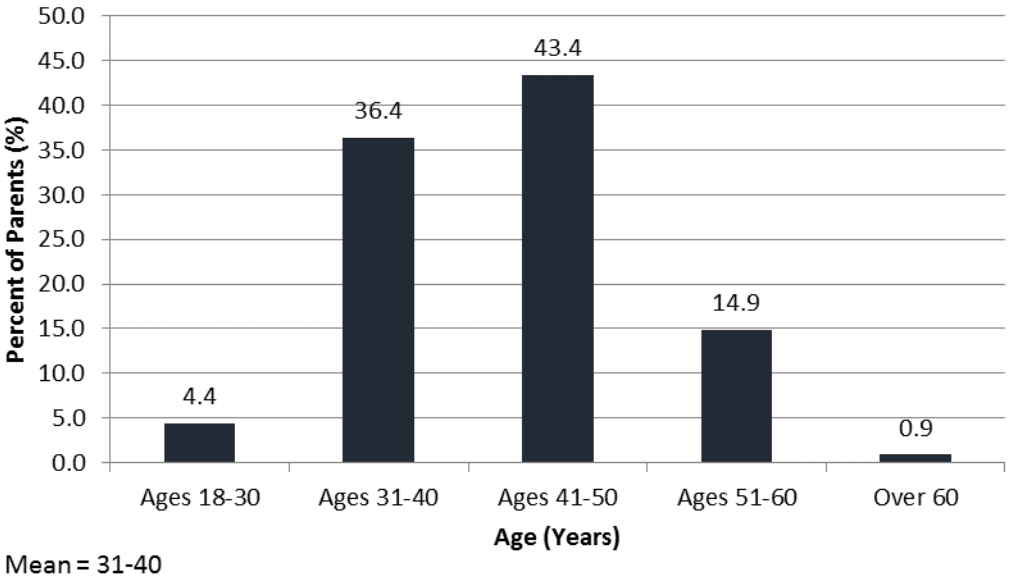


Figure 4.1 Child Age Data from "Willingness to Pay" Survey

Parent's Age: For the parents, 43.4% of participants fell into the "Ages 41-50" category with the second highest frequency bracket being "Ages 31-40". The age data lines up with the median age of persons in the Ocean Guardian School program's school districts, which was 40-50. Less than one percent of participants recorded being in the "Over 60" age bracket. A total of 15.6% of participants opted out of this question. The complete distribution of parent ages can be found in Figure 4.2.



Mean = 31-40
Median = 41-50
Non Response Rate = 15.6%

Figure 4.2 Parent Age Data from "Willingness to Pay" Survey

Race: This question had the highest non-response rate (27.8%). The results are presented for parents who answered this question. For the category of race, participants were asked to note the race and ethnicity or both for themselves (the parents) and their child. Nearly two thirds (62.4%) of respondents' children were "White", 12.6% were "Asian", and 3.9% were "Black or African American". The "other" category was chosen by 15.2% of respondents, either noting a race that was not listed as a category or noting that their child was multi-racial. Roughly, two-thirds, 67.0%, of parents were "White", 13.6% were "Asian", 2.4% were "Black or African American", and 14.1% of parents chose "other". Figure 4.3 shows the percentage of children who identified as one race, two races or three races. Figure 4.4 shows the same data for the parents. The complete breakdown of race can be found in Figure 4.5 and Figure 4.6.

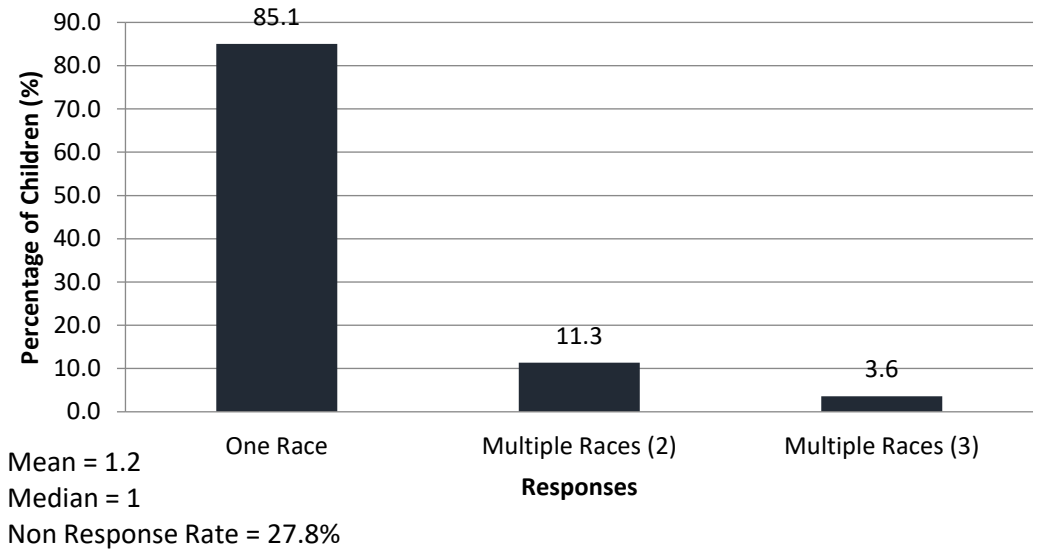


Figure 4.3 Response Rates for Child Race Data Questions

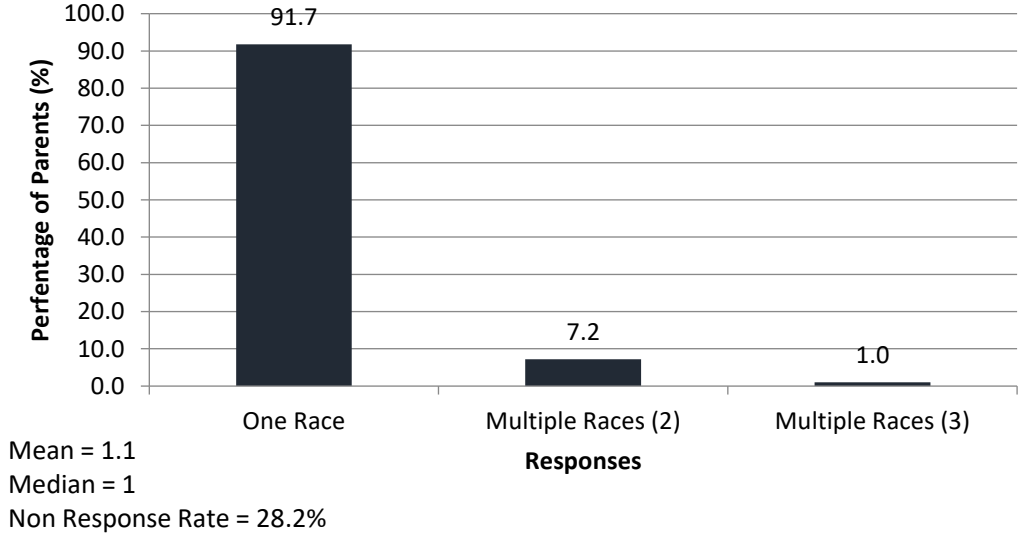
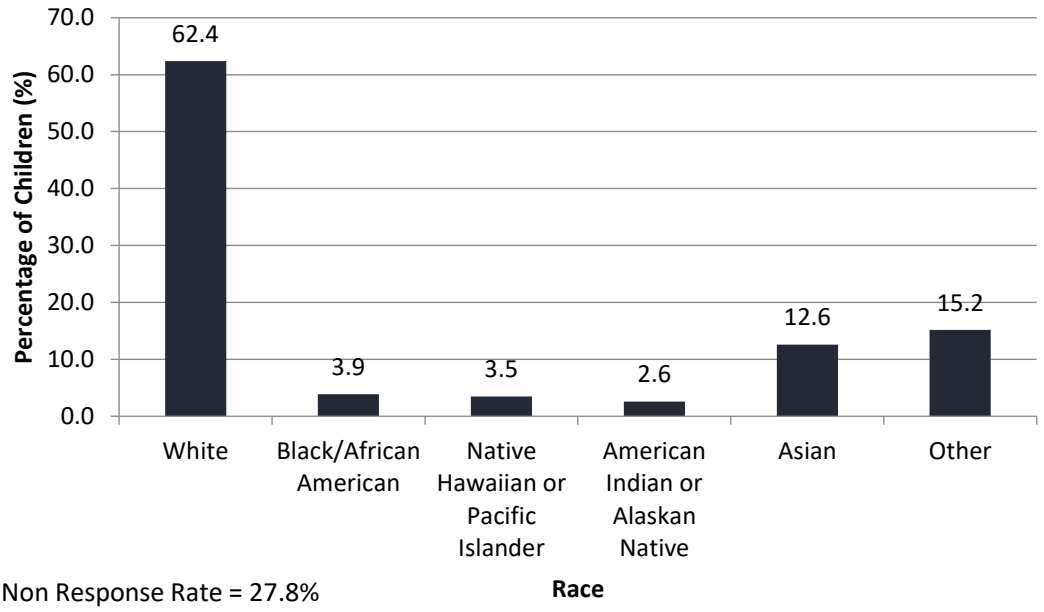
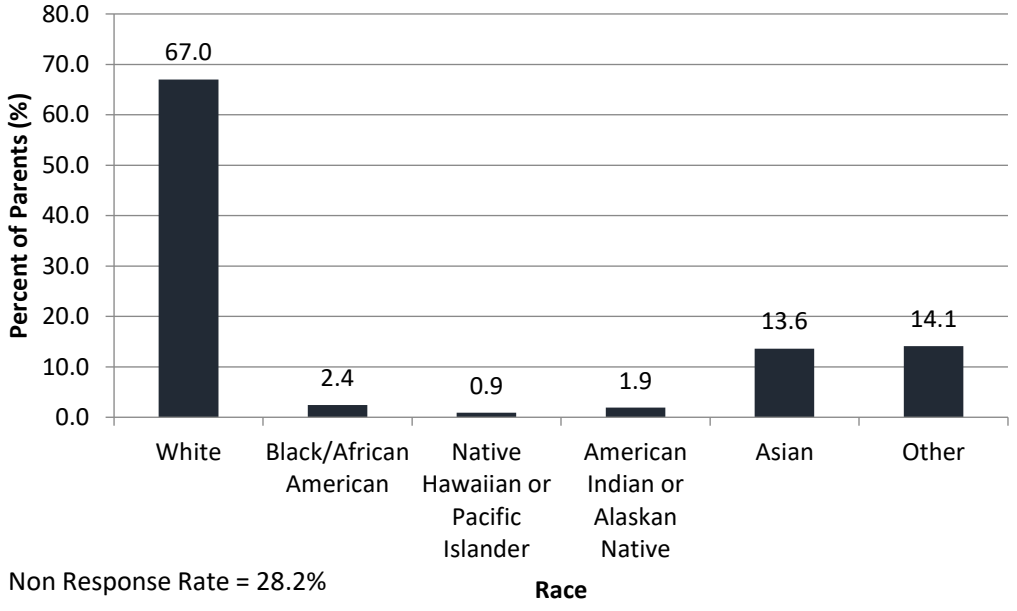


Figure 4.4 Response Rates for Parent Race Data Questions



Non Response Rate = 27.8%

Figure 4.5 Child Race Data from Survey



Non Response Rate = 28.2%

Figure 4.6 Parent Race Data from Survey

Child's Ethnicity: For ethnicity, parents were asked whether their child was Hispanic or Latino. Thirty-nine percent of parents who answered this question indicated that their child was Hispanic or Latino while 60.8% noted that their children was not, with 17.8% of parents choosing not to respond to this question. Figure 4.7 shows the ethnicity data for the child.

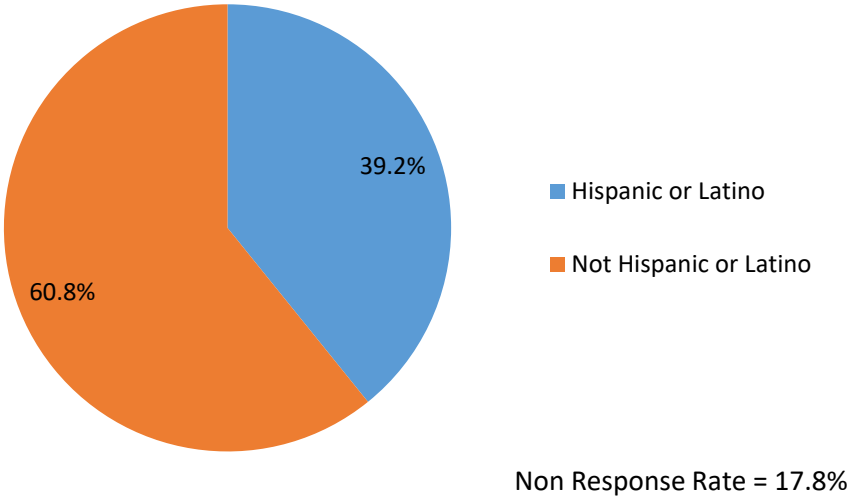


Figure 4.7 Child Ethnicity Data from Survey

Parent's Ethnicity: Of the parents who answered this question, roughly 35.8% of parents identified themselves as Hispanic or Latino while 64.3% identified themselves as not. 17.8% chose not to respond to this question. Figure 4.8 shows the ethnicity data for the parent.

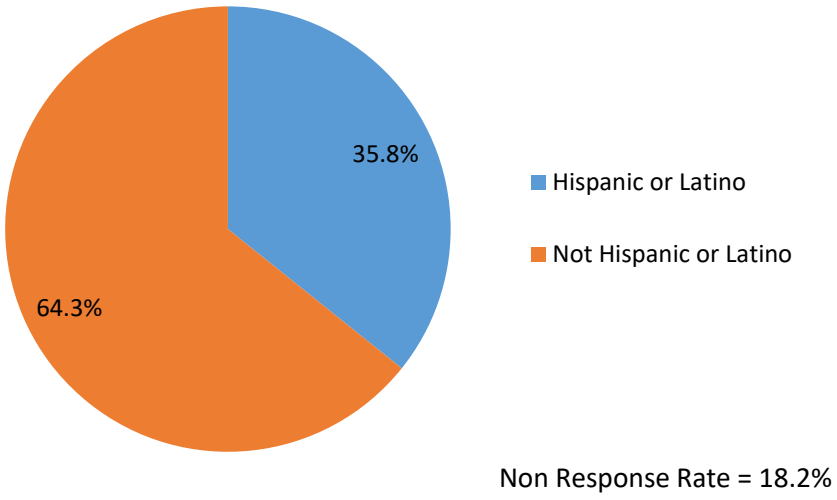


Figure 4.8 Parent Ethnicity Data from Survey

Child's Gender: For the child's data, 45.2% of parents who answer this question responded their child was male, while 54.8% responded their child was female. 14.8% percent of parents opted out of this question. Figure 4.9 shows the gender data for the child.

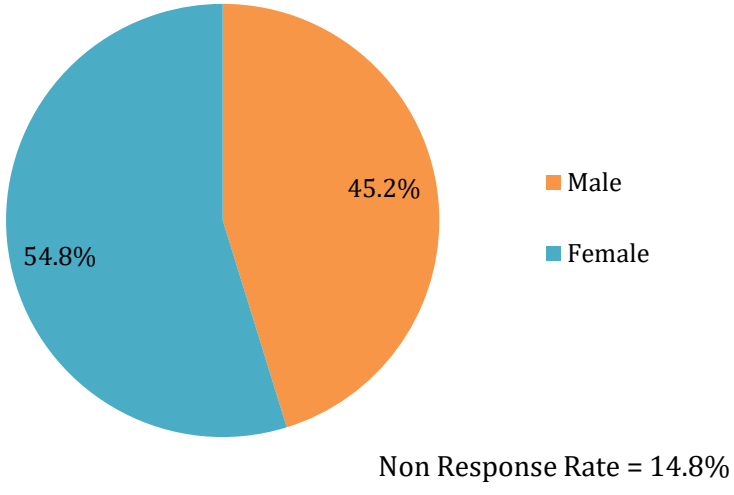


Figure 4.9 Child Gender Data from "Willingness to Pay" Survey

Parent's Gender: For the parents that answered the gender question, 87.3% of parents who took the survey were female, while 21.7% were male. This question was not answered by 18.5% of parents. Figure 4.10 shows the gender data for the parent.

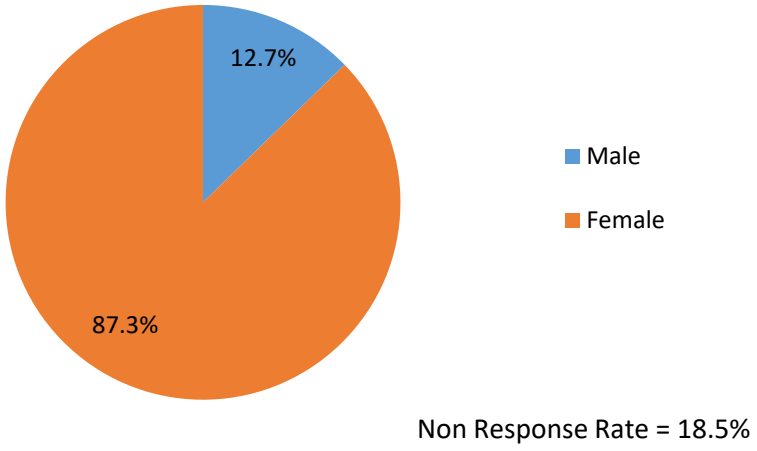


Figure 4.10 Parent Gender Data from "Willingness to Pay" Survey

Parental Support

At the beginning of each survey, parents were asked if they support their child's participation in the OGS Program. Overall 88.5% of parents support their child's participation in the program. Another 7.4% of parents were unsure if they supported their child's involvement and 0.4% did not support their child in the program. Figure 4.11 shows the frequencies of each response.

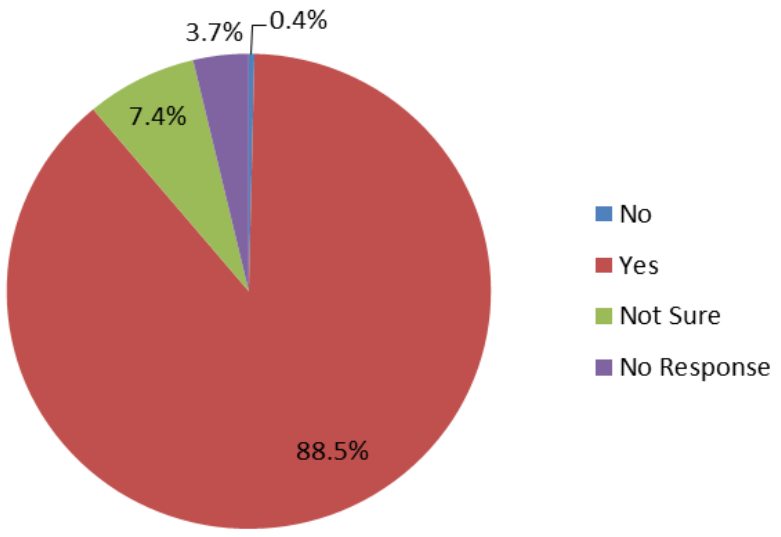


Figure 4.11 Parents' Support of the OGS Program

Program Benefits

At the start of each survey, participants were asked to select from a list of ten choices describing potential benefits children may receive through participating in the Ocean Guardian School Program. Participants were permitted to select all that applied from the list, including an option for not sure or no benefits. Both the number of benefits and the type of benefit selected was recorded in the analysis of the survey. The median number of benefits and skills selected by parents was six. Of all participants, 86.1% noted that their child received at least one benefit from the OGS program, and 12.2% of participants selected every benefit from the list. "No benefits" was selected by 2.2% of respondents, and 11.9% selected "not sure". The three most frequently chosen benefits and/or skills acquired by the OGS program were "Increased responsibility towards the environment" (72.2%), "Increased understanding of how people interact with the environment" (66.7%) and "Positive environmental change" (66.3%). Seven out of the ten benefits/skills had 50% or higher percentages of parents noting that the statement applied to their child's experience. Figure 4.12 shows the frequencies of the number of benefits and skills selected and

Table 4.1 shows the frequency of each potential benefit selected.

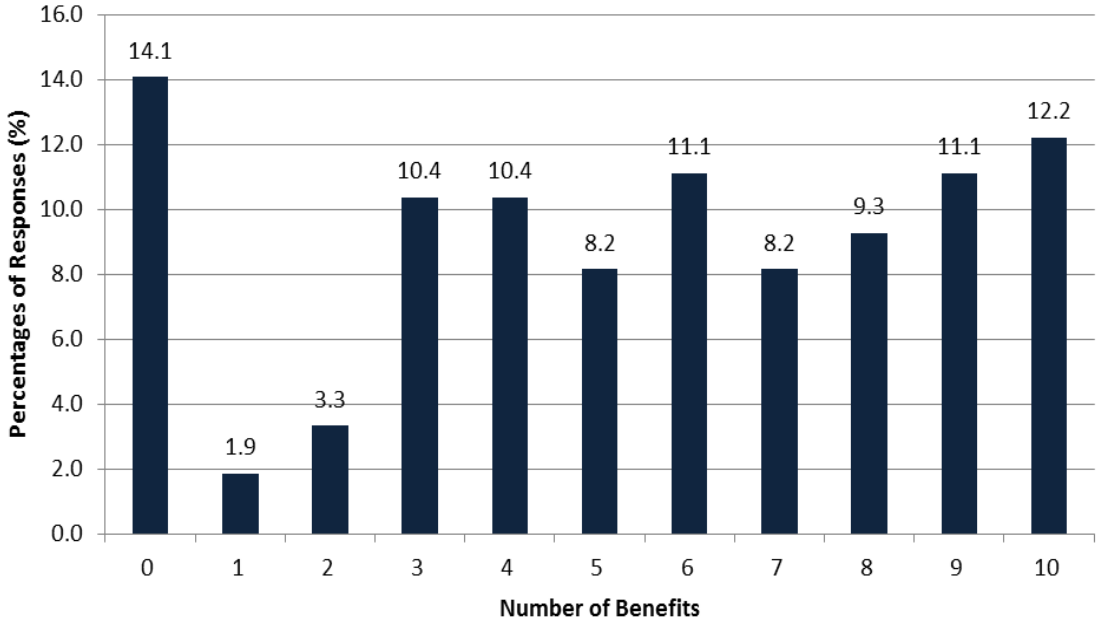


Figure 4.12 Number of Benefits and Skills Acquired By Child through OCS Program

Table 4.1 Frequencies of Types of Benefits and Skills Acquired By Child through OGS Program

Benefits Child Acquired From the Ocean Guardian School Program	Percentage of Participants Who Selected Each Benefit
Increased sense of community	59.3%
Work Experience (resume, future applications for scholarships, high school, etc.)	23.3%
Development of self-esteem & self-confidence	37.4%
Experience working with peers as a part of a team	55.9%
Sense of Accomplishment (seeing a project through start to finish)	47.4%
Appreciation for volunteering/increased likelihood to volunteer in the future	50.0%
Positive Environmental Change	66.3%
Increased understanding of how people interact with the environment	66.7%
Increased responsibility towards the environment	72.2%
Increased commitment to environmental protection	63.3%
None of the above	2.2%
Not Sure	11.9%

Behavioral Changes

One of the goals of Ocean Guardian is to promote ocean conservation and stewardship. Parents were asked several questions about behavioral changes on topics about recycling, minimizing water usage or using less water, minimizing single-use plastics, encouraging others to make eco-friendly decisions and talking to others about ways to improve the environment. As seen in Figure 4.13, 95.6% of children were recycling before participating in the program, 83.7% were minimizing their water usage, 80.7% were minimizing their use of single-use plastics, 67.0% were encouraging others to make eco-friendly decisions and 35.6% were talking to others about ways to improve the environment.

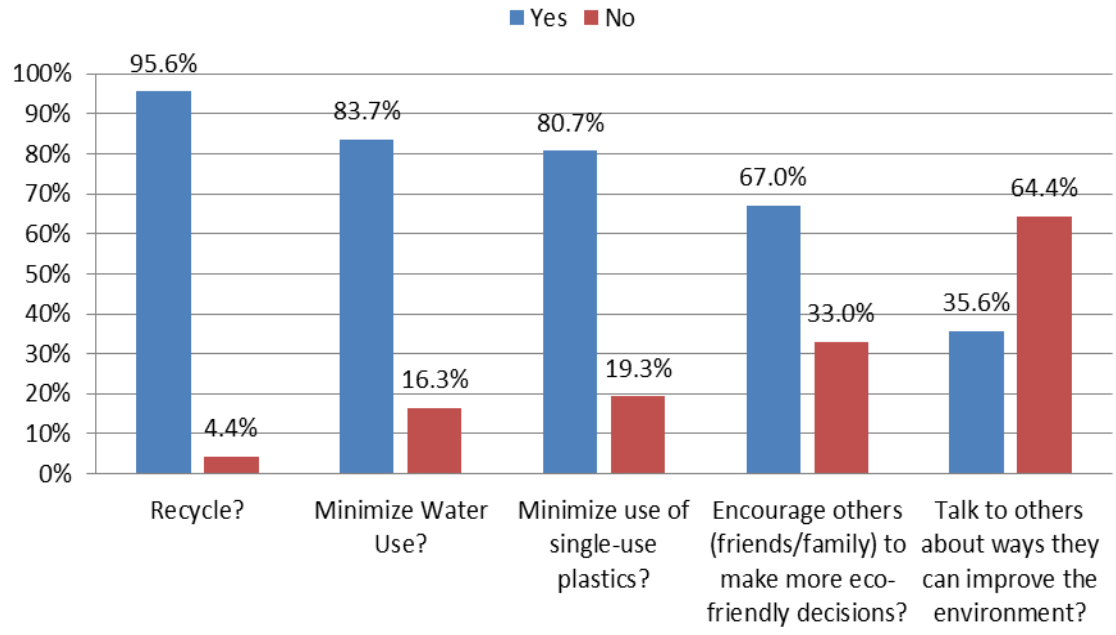


Figure 4.13 Child's Behaviors before Participating in OGS Program

When asked about their child's behaviors after participating in the OGS program, the results show that, for most categories, approximately 22% of student's behaviors were influenced by their participation in the OGS program. This number may be small because the majority of students were already engaged in most of the behaviors. The number of students recycling, minimizing water use and minimizing single use plastics were near the ceiling of 100% prior to receiving the OGS education. The only category that had large improvement was when parents were asked if their child "is talking to others about ways they can improve the environment". Figure 4.14 shows behavior changes in the child as a result of participating in the program.

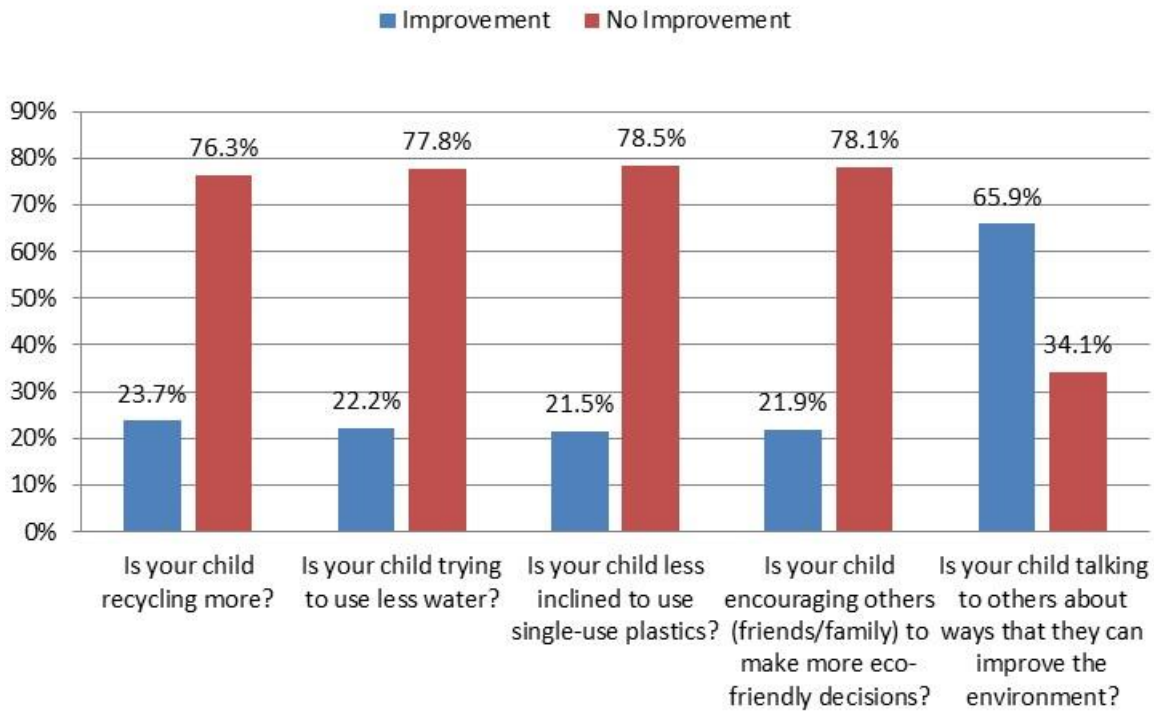


Figure 4.14 Child's Behavior's After Participating in OGS Program

Another way to analyze the data is to look at whether or not a person engaged in the behavior prior to the OGS program and how their behavior changed afterwards. The next five tables present the information for each behavior that OGS program aims to teach students.

Table 4.2 shows the behavior of students towards recycling. Prior to OGS program, 12 students did not recycle, after exposure to the program one-third of those students began recycling. Before the program, 258 students were recycilng, after the program 60 students recycling more.

Table 4.2 Measuring Changes in Child's Recycling Before and After OGS Program

	Did not Recycle Prior	*Recycled Prior*	*Total after OGS Program*	*Did not Recycle Prior*	*Recycled prior*	*Total after OGS Program*
	Frequency			Percentage		
No Change in Recycling	8	198	*206*	3.0	73.7	*76.7*
Recycle or Recycle More	4	60	*64*	1.5	22.2	*23.7*
Total Prior to OGS Program	*12*	*258*	*270*	*4.5*	*95.9*	*100*

Next, children were taught to minimize water use. Sixteen percent of students did not minimize water use prior to the program. After the porgram 19 of the 44 students who initially did not minimize water use began to minimize water.

Table 4.3 Measuring Changes in Child's Water Use Before and After OGS Program

	Did not Minimize Water Use Prior	*Minimized Water Use Prior*	*Total after OGS Program*	*Did not Minimize Water Use Prior*	*Minimized Water Use Prior*	*Total after OGS Program*
	Frequency			Percentage		
No Change in Water Use	25	185	*210*	9.3	68.5	*77.8*
Use less Water	19	41	*60*	7.0	15.2	*22.2*
Total Prior to OGS Program	*44*	*226*	*270*	*16.3*	*83.7*	*100*

Table 4.4 shows that of the 270 students surveyed, 5.6% of students began using less single use plastics and an additional 16.0% reduced their use further for a total 21.6% of students using less single use plastics after exposure to the program. Nearly 81% of students were already minimizing their single use plastics prior to the program though.

Table 4.4 Measuring Changes in Child's Single Use Plastics Before and After OGS Program

	Did not Minimize Plastic Use Prior	*Minimized Plastic Use Prior*	*Total after OGS Program*	*Did not Minimize Plastic Use Prior*	*Minimized Plastic Use Prior*	*Total after OGS Program*
	Frequency			Percentage		
No Change in Plastic Use	37	175	*212*	13.7	64.9	*78.6*
Use less Single Use Plastics	15	43	*58*	5.6	16.0	*21.6*
Total Prior to OGS Program	*52*	*218*	*270*	*19.3*	*80.9*	*100*

Two-thirds of students were encouraging others to make more eco-friendly decisions. However, after the program one-third of students, who were not encouraging others prior to the program, were now encouraging others. Of those who were already encouraging others, roughly 11.1% were doing it more so after the program.

Table 4.5 Measuring Changes in Child Encouraging Others Before and After OGS Program

	Did not Encourage Others Prior	*Encouraged Others Prior*	*Total after OGS Program*	*Did not Encourage Others Prior*	*Encouraged Others Prior*	*Total after OGS Program*
	Frequency			Percentage		
No Change in Encouraging Others	60	151	*211*	22.2	56.0	*78.2*
Encouraging Others or Encouraging Others More	29	30	*59*	10.7	11.1	*21.8*
Total Prior to OGS Program	*89*	*181*	*270*	*32.9*	*67.1*	*100*

The most notable changes in behavior were in the form of students talking to others about ways they can improve the environment. Prior to the school year, two-thirds of students (174 students) were not talking to others about how they can improve the environment. However, after the program, more than half of the students (96)

that were not talking to others prior to the program were now talking to others. Further, 82 of the students who were talking to others, increased their efforts after receiving the OGS program.

Table 4.6 Measuring Changes in Child Talking to Others Before and After OGS Program

	Did not Talk to Others Prior	*Talked to Others Prior*	*Total after OGS Program*	*Did not Talk to Others Prior*	*Talked to Others Prior*	*Total after OGS Program*
	Frequency			Percentage		
No Change in Talking to Others	78	14	*92*	28.9	5.2	*34.1*
Talking to Others or Talking to Others More	96	82	*178*	35.6	30.4	*66.0*
Total Prior to OGS Program	*174*	*96*	*270*	*64.5*	*35.6*	*100*

As noted in Table 4.6, 66% of parents reported that their child is talking to others about how to improve the environment. The frequencies of who their child is speaking to about the environment is displayed in the figure below. This question was meant to see if the program is expanding beyond just educating the student. Out of the 121 responses received for "Identifying the relationship of the student to the person(s) they are talking to [about environmental stewardship]" 36.4% said that their student is communicating with both friends and family about what they have learned through the OGS Program. Nearly thirty percent responded that their student was educating both immediate and extended family members, while 7.4% spoke primarily to his/her parents. 8.3% reported responses that did not indicate a specific person or person to whom the child has communicated, but did note that they have seen a noticeable impact on their child's perceptions of environmental issues. A sampling of some of the specific comments from parents are also presented below Figure 4.15.

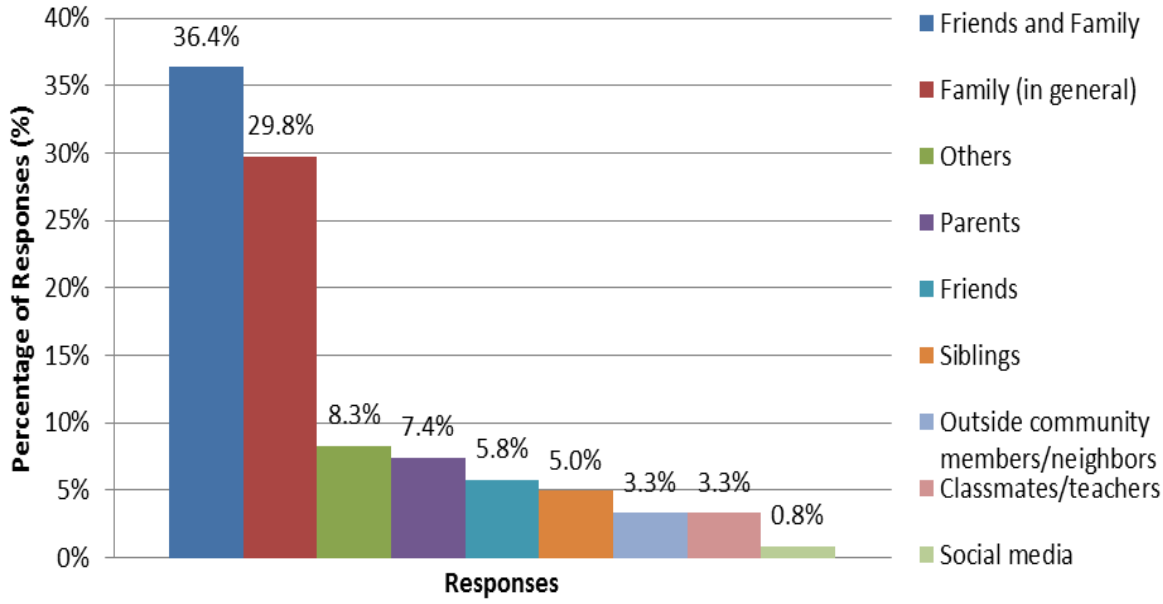


Figure 4.15 Persons Being Educated by the Student (Relationships)

"He talks frequently about the impact of what we do around the house on the ocean. We live near a creek and he and I have gone down three times and cleaned up trash (the creek is near a bus stop and people throw tons of trash in the creek bed)."
–Ocean Guardian School Parent

"My daughter wants to go back to her preschool to teach younger kids about ocean pollution" *–Ocean Guardian School Parent*

"Everyone! She is very concerned about trash ending up in the ocean and stops us in our activities to pick up trash when we are out."
–Ocean Guardian School Parent

"Friends, siblings, new contacts on social media, teachers, other organizations where she works, at the gym" *–Ocean Guardian School Parent*

"Everyone who comes over she tells them not to waste water. My dad came to visit and she called him out on leaving the water in while brushing his teeth!! She also is very concerned with not hurting plants."
–Ocean Guardian School Parent

In addition to the five specific questions above, parents were able to write-in behavioral changes. As seen in Figure 4.16, out of the 109 responses for the

question “Have you percieved any other noticeable shifts in your child’s behavior/attitude resulting from the program?” the most frequent response, with 25.7%, is that their child’s “overall environmental awareness and/or knowledge increased”. Additionally, 11.9% of parents noted that their child “picks up litter and trash”, 11.0% said that their child is trying to “eliminate marine debris by not using single-use plastics”, and 10.1% their child is now “actively recycling” because of taking part in an OGS program. Further, 14.7% of participants wrote in a response that either did not fit a specific category, or did not answer the question properly.

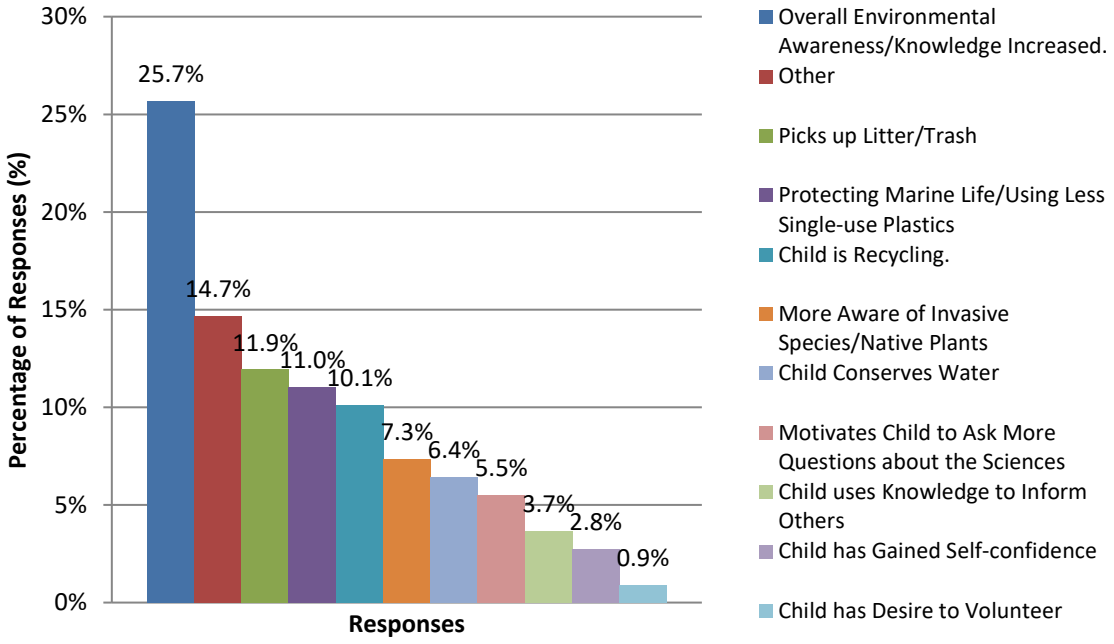


Figure 4.16 Shifts in Behaviors/Attitudes Results from OGS Program

“She is more expert on environmental matters. She will stop us and we will have a conversation about her learning. It's also showing in her creative writing.”
–Ocean Guardian School Parent

“Sharing ideas on conservation more freely through social media. Interest in colleges that are "green".” *–Ocean Guardian School Parent*

“My son is very interested in supporting beach cleanup me, reusable plastics and bags, as well as noticing Native plants in our neighborhood. He is also very good at explaining to others the impact their class has had on restoration.”
–Ocean Guardian School Parent

"School already has rich eco emphasis, but the OG program allowed us to create a large restoration site right along the creek that passes our school. Very good hands on experience that I think helped move the curriculum from conceptual to practical, which is what really develops the ethic and value for the kids."

–Ocean Guardian School Parent

"She is more aware of the necessity to respect and protect the environment. She loved the project and she loved having the opportunity to work at it with her friends from school."

–Ocean Guardian School Parent

"My daughter has become passionate about reducing environmental impact and has become much more outgoing and willing to speak in public about this. She is a shy kid. This has been a huge deal!" *–Ocean Guardian School Parent*

Parent's behavioral changes were also important to this study, as they show that students may be influencing their parents' and others' behaviors as a result of what they are learning from the OGS program. Figure 4.17 shows parent's behaviors before their child had participated in the OGS program, and Figure 4.18 shows the improvement in behavior after program participation. Again, like the students, the majority of parents were already practicing eco-friendly behaviors before their child's participation in the Ocean Guardian School Program, and approximately 20% of parents noted that after their child's participation, their behaviors changed.

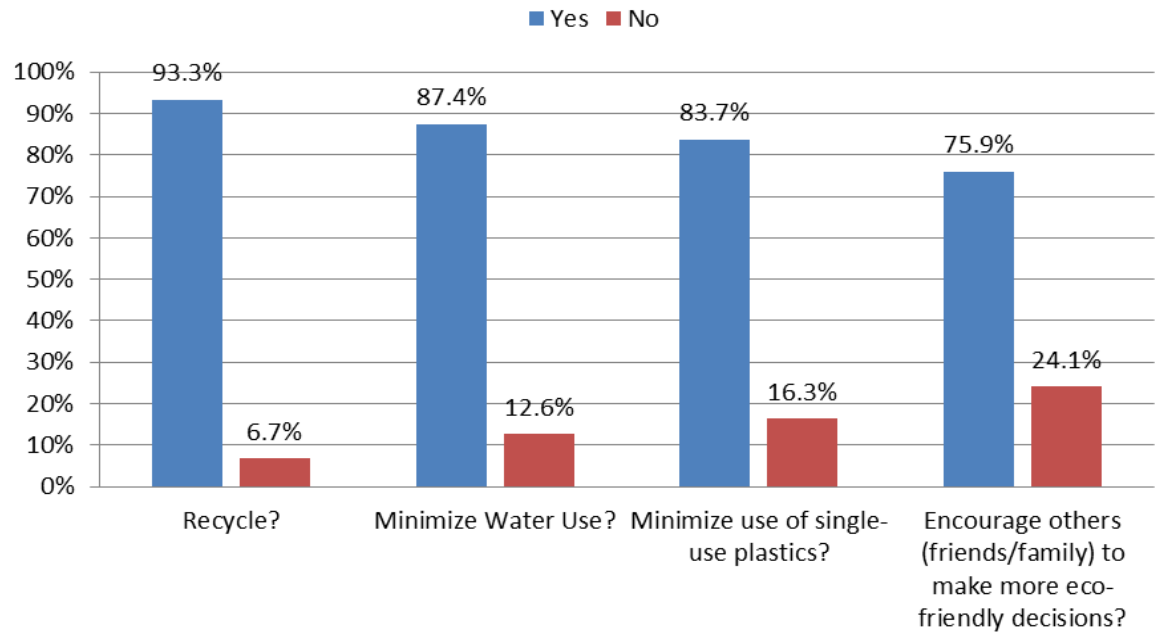


Figure 4.17 Parents' Behaviors Before Childs' Participation in the OGS Program

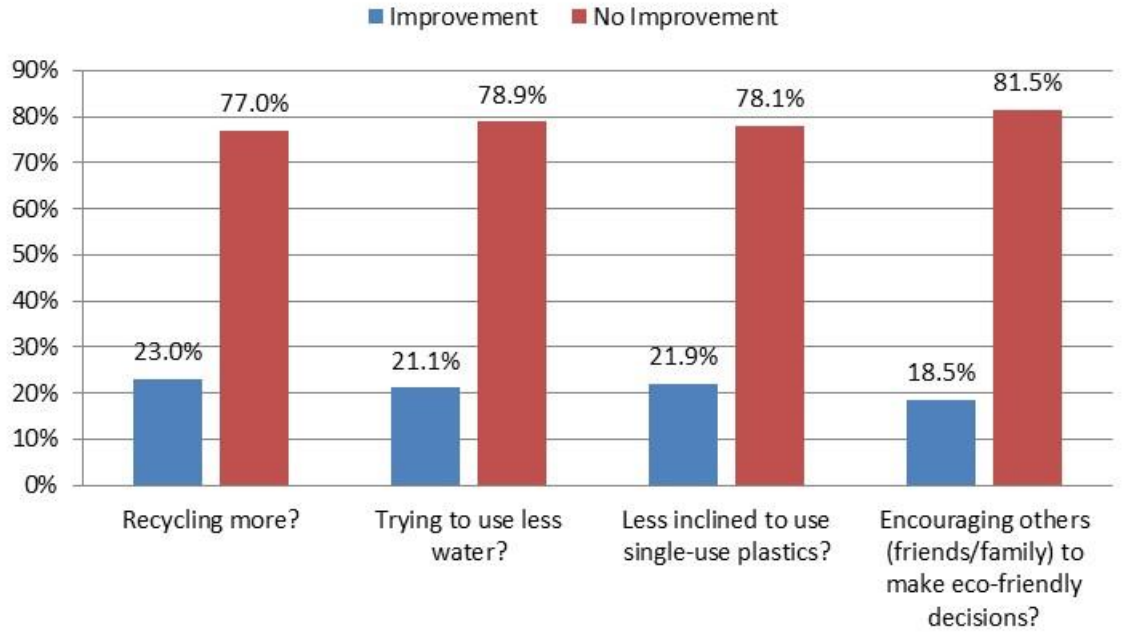


Figure 4.18 Parents' Behaviors After Childs' Participation in the OGS Program

Again, it is possible to look at the data based on whether or not parents engaged in the behavior prior to their student participating in the OGS program. Table 4.7 shows the behavior of parents towards recycling. Nearly one-fourth (23%) of parents were recycling more after their child participated in the program.

Table 4.7 Measuring Changes in Parent's Recycling Before and After OGS Program

	Did not Recycle Prior	*Recycled Prior*	*Total after OGS Program*	*Did not Recycle Prior*	*Recycled prior*	*Total after OGS Program*
	Frequency			Percentage		
No Change in Recycling	15	193	*208*	5.6	71.5	*77.1*
Recycle or Recycle More	3	59	*62*	1.1	21.9	*23.0*
Total Prior to OGS Program	*18*	*252*	*270*	*6.7*	*93.4*	*100*

Eighty-seven percent of parents were already minimizing water use prior to the program. However, of those that were not minimizing use, nearly 40% (13 of 34) did begin to minimize water use (Table 4.8).

Table 4.8 Measuring Changes in Parent's Water Use Before and After OGS Program

	Did not Minimize Water Use Prior	*Minimized Water Use Prior*	*Total after OGS Program*	*Did not Minimize Water Use Prior*	*Minimized Water Use Prior*	*Total after OGS Program*
	Frequency			Percentage		
No Change in Water Use	21	192	*213*	7.8	71.1	*78.9*
Use less Water	13	44	*57*	4.8	16.3	*21.1*
Total Prior to OGS Program	*34*	*236*	*270*	*12.6*	*87.4*	*100*

Table 4.9 Measuring Changes in Parent's Single Use Plastics Before and After OGS Program

	Did not Minimize Plastic Use Prior	*Minimized Plastic Use Prior*	*Total after OGS Program*	*Did not Minimize Plastic Use Prior*	*Minimized Plastic Use Prior*	*Total after OGS Program*
	Frequency			Percentage		
No Change in Plastic Use	33	178	*211*	12.2	65.9	*78.1*
Use less Single Use Plastics	11	48	*59*	4.1	17.8	*21.9*
Total Prior to OGS Program	*44*	*226*	*270*	*16.3*	*83.7*	*100*

After their child received the educational experience, one-quarter of parents who were not encouraging others to make eco-friendly decisions began to do so. Of the 205 parents who were already encouraging others to make eco-friendly decisions, 32 (15.2%) increased their encouragement. See Table 4.10 for the full display of information.

Table 4.10 Measuring Changes in Parent Encouraging Others Before and After OGS Program

	Did not Encourage Others Prior	*Encouraged Others Prior*	*Total after OGS Program*	*Did not Encourage Others Prior*	*Encouraged Others Prior*	*Total after OGS Program*
	Frequency			Percentage		
No Change in Encouraging Others	47	173	220	17.4	64.1	81.5
Encouraging Others or Encouraging Others More	18	32	50	6.7	11.9	18.6
Total Prior to OGS Program	65	205	270	24.1	76	100

Parent Perceptions

One of the goals of the OGS program is to positively influence the perceptions that children and parents have of watersheds, ocean ecosystems and the natural world. Parents were asked to rate their perceptions on a scale of 1 to 7, with 1 being "strongly disagree", 4 being "neutral" and 7 being "strongly agree". Overall, parents strongly agree that the OGS program has positively influenced their perceptions and their child's percpetions on watersheds, ocean ecosystems and the natural world. Parents were also asked to rate the environmental impact of their child's OGS project. The same scale was used as the perception questions, except a rating or "1" meant that parents believed their school's project had a "very negative" impact, and a rating of "7" meant that they believed it had a "very positive impact". Almost, forty percent of parents strongly agree that their child's OGS project had a positive impact on the environment. The results on the perception survey questions can be found in Figure 4.19 and Figure 4.20.

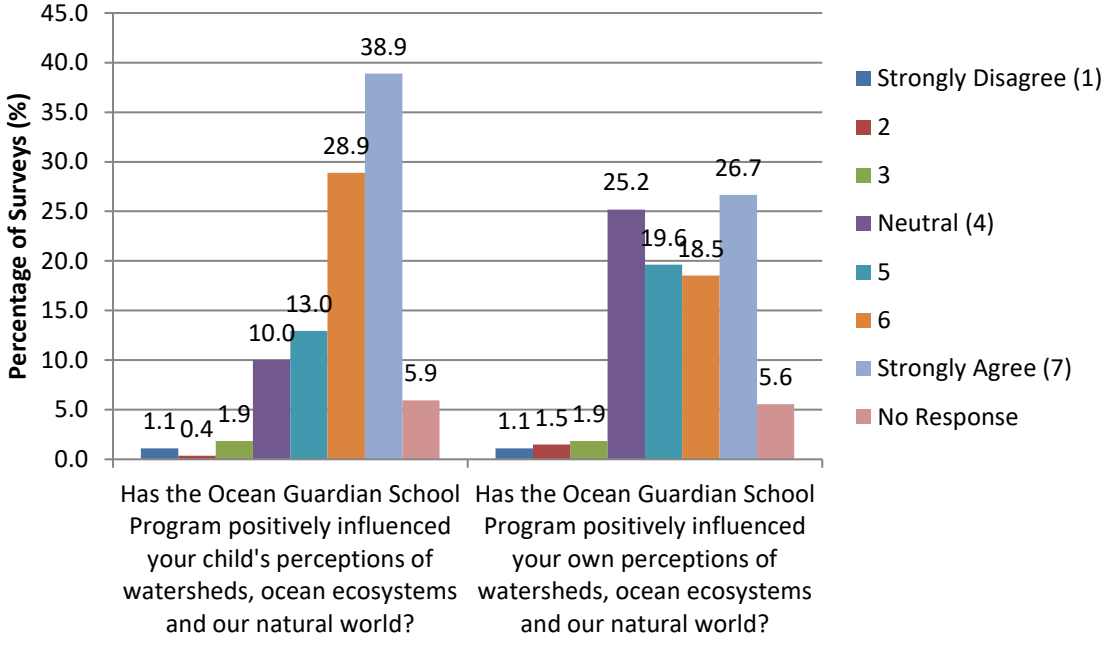


Figure 4.19 Ocean Guardian School's Influence on Parent and Child's Perceptions of Watershed, Ecosystems, and the Natural World

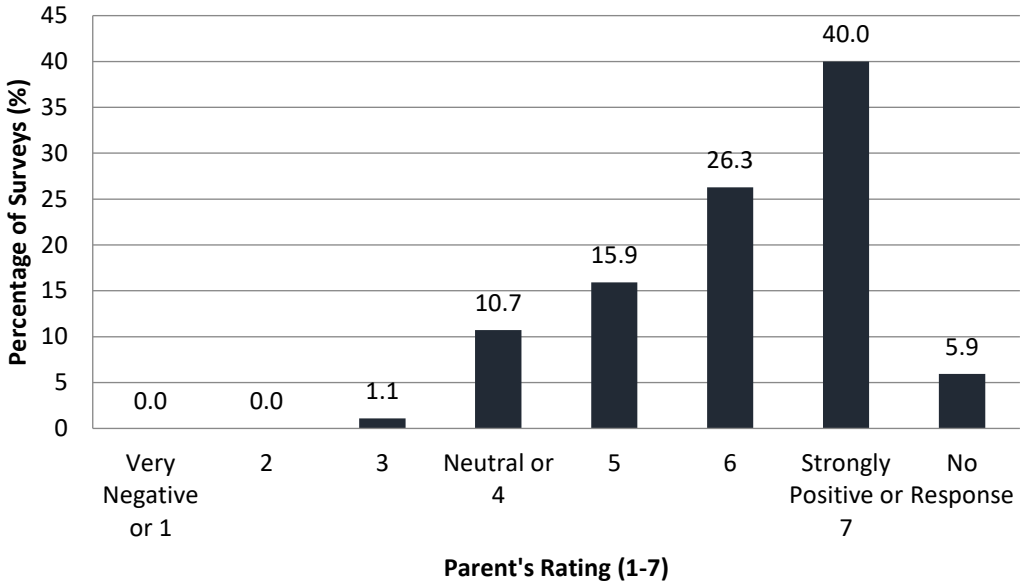


Figure 4.20 Environmental Impact of Ocean Guardian School Projects

Preference Statements

In order to get a sense of environmental attitude, each participant was asked to read four different statements and select each one that they believe is important for their child to learn. The four statements were:

- The importance of protecting wildlife and ocean habitat
- The importance on protecting endangered species
- Humans can impact the natural world to the point where it is difficult to restore
- The importance of protecting rare plants and species to maintain genetic diversity

This question also may reveal whether or not parents are supporting of the lessons students are learning through OGS program. Figure 4.21 shows the responses for each statement. Statements that were considered important were marked as a "yes" and those that were not, a "no".

From the data, it was apparent that more parents valued "the importance of protecting wildlife and ocean habitat" (77.8%) than the other three categories. "The importance of protecting rare plants and species to maintain genetic diversity" had the least amount of support (68.9% agreement).

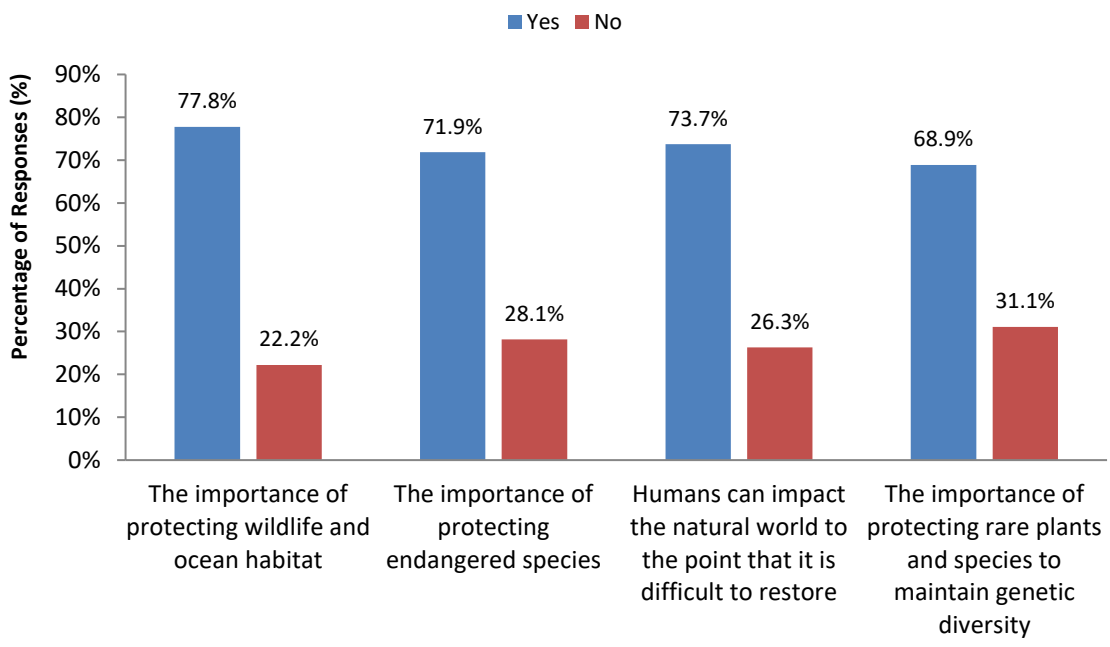


Figure 4.21 Parents' Attitudes to Different Environmental Topics

School Subject Support

Another objective of the survey was to determine how environmental education varies in level of importance among parents compared to other subjects and educational topics. Parents were asked to rate seven subjects taught in school, environmental education, outdoor education, art, music, mathematics, sciences, and natural resource conservation on a scale from one to seven; one being "do not support" and seven being "highly support".

Table 4.11 shows the average level of support amongst respondents for each educational subject. In general, parents are supportive of these curriculums.

Table 4.11 Average Level of Parent Support for School Subjects/Educational Topics

Topic	*Mean*	*Standard Error*	*Minimum*	*Maximum*	*N*
Environmental Education	6.32	0.06	3	7	222
Outdoor Education	6.18	0.07	2	7	230
Art	6.29	0.07	2	7	225
Music Education	6.28	0.07	3	7	228
Mathematics	6.64	0.05	4	7	228
Sciences	6.67	0.04	4	7	227
Natural Resource Conservation	6.18	0.07	2	7	230

As shown in Figure 4.22, science had the highest percentage of parents who "highly support" the inclusion of that subject in schools (63.7%). Mathematics came in second with 63.0% of parents highly supporting the subject. The subjects with the least amount of parent support were outdoor education and natural resources conservation, with 47.0% of parents highly supporting the inclusion of these topics in school. Environmental education ranked fifth highest, with science, mathematics, music, and art education having a higher percentage of support from parents.

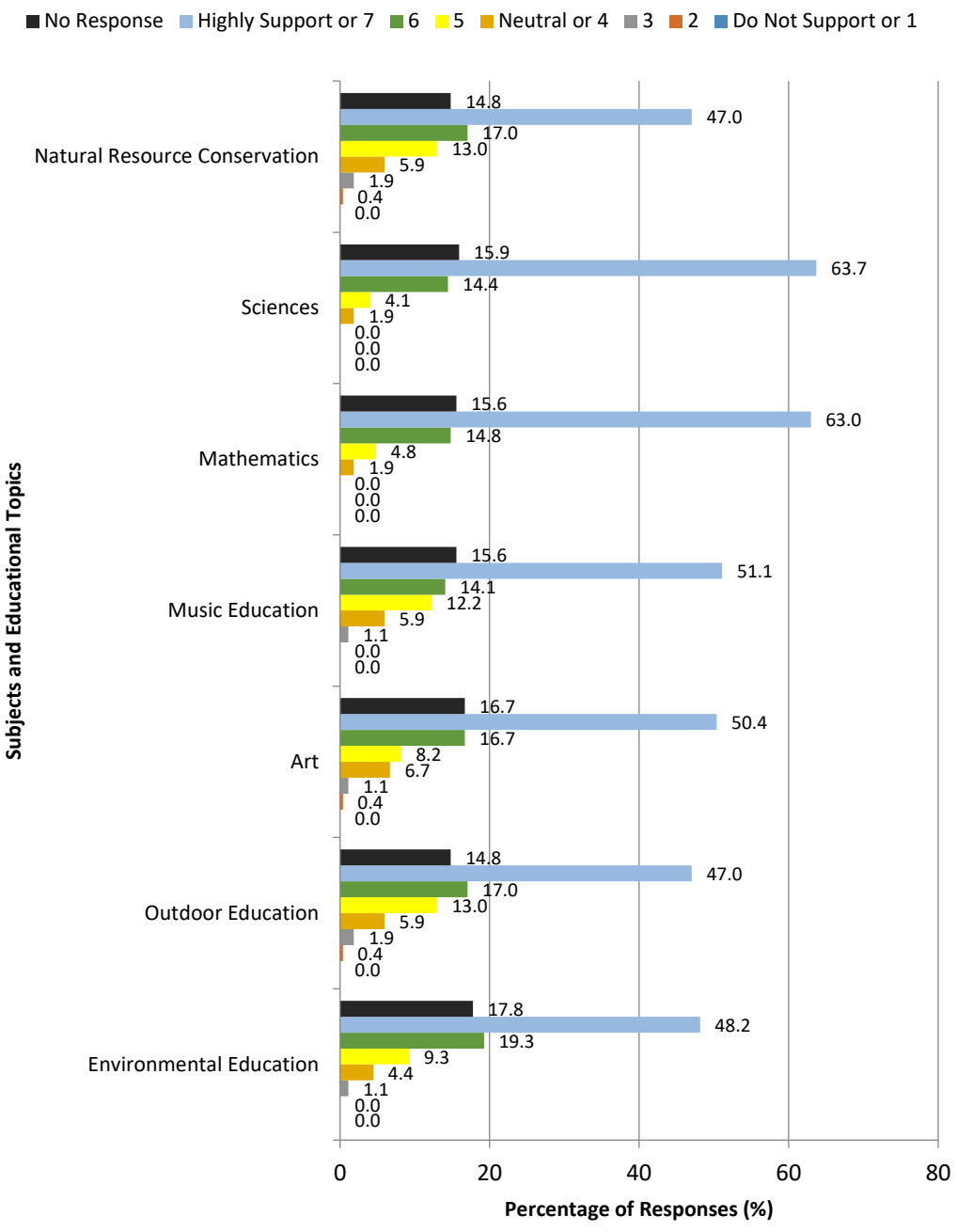


Figure 4.22 Parent Support for School Subjects/Educational Topics

Open Ended Responses

Participants were given the opportunity to answer some key questions that may help national marine sanctuary staff analyze the program and determine the most successful aspects of the program and what needs improvement. Parents were also asked to identify what they deemed to be the most successful aspects of the OGS program.

Out of 153 responses to the question of what they liked most, 22.9% of parents responded they liked their child's "Overall sense of awareness and stewardship to the ocean and environment increased", while 8.5% noted their child has an "increased sense of responsibility both for the environment and other aspects of their lives". Tied at 6.5% were "having hands-on projects", "the ability to learn outside the normal classroom setting" and "Emphasizing the Ocean Health and Marine Debris categories". Overall parents felt OGS program is making a positive influence in their child's lives in terms of environmental stewardship, protecting the ocean and marine life, and developing environmentally–friendly daily habits. 18.3% provided varying responses that did not fit into a specific category. Their responses to these open-ended questions are displayed in Figure 4.23

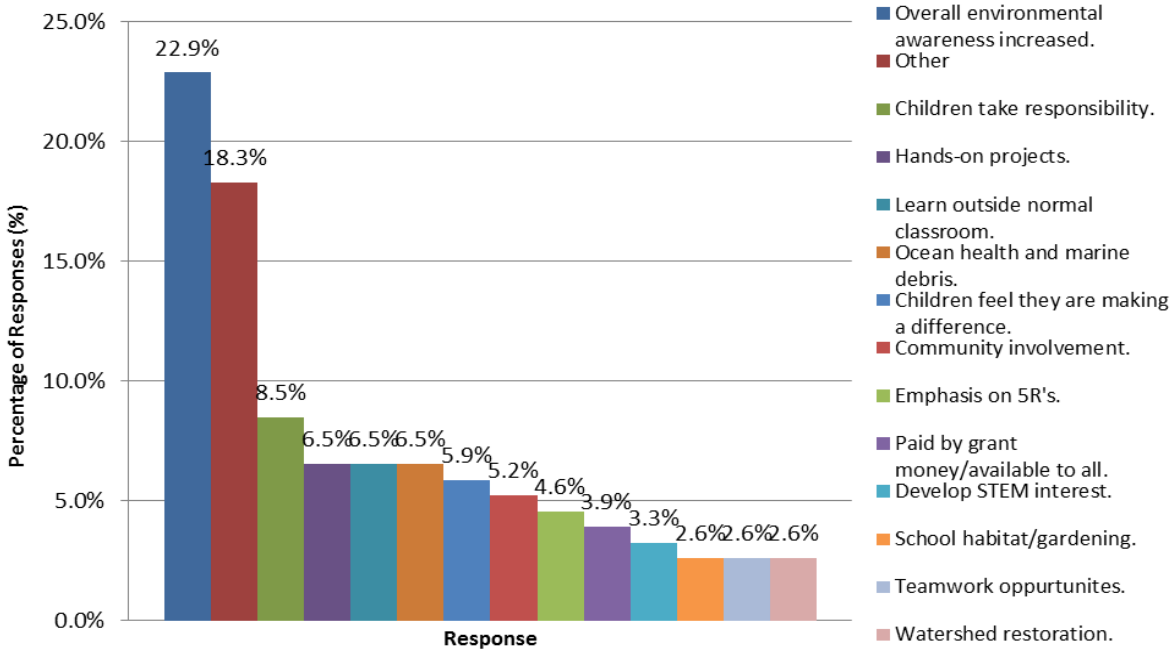


Figure 4.23 Most Successful Aspects of the Ocean Guardian School Program

Some of the "other" comments included responses that were either too unique to fit into one specific category or were too vague to assign to a category. Some of the

more notable responses (whether categorized or place in "other") are recorded below:

"I like that students make a difference in their community. My daughter's school has a restoration garden where they planted native plants. The garden is now beautiful and kids can see and be proud of their achievement." *–Ocean Guardian School Parent*

"I like the sense of ownership that my son had of the restoration site. I also like that he had to put in some hard physical labor to make an impact. I also like that it affected his daily life, like when he wanted to repeatedly clean up trash in the creek behind our house." *–Ocean Guardian School Parent*

"Our school is located on a creek in a roughly 7 mile long watershed between the mountains and the ocean. It's a perfect for us. I like the duration because it allowed us to create a restoration project in multiple phases and actually see it work."
–Ocean Guardian School Parent

"It was presented in an exciting manner appropriate for my kindergarten child, as she came home after ocean guardian and told me all about the programs and what she learned. She was able to talk about some of the ideas when we visited the aquarium."
–Ocean Guardian School Parent

"It was a surprise! Knew nothing about it [the OGS program] until it happened. It was refreshing that something happened without having to push for it. (We have a relatively poor school district and have to constantly battle the finances)"
–Ocean Guardian School Parent

Out of the 109 responses received for suggestions on what the OGS Program could improve, 39.4% responded with "Nothing at this time". Second highest was the "cost of the program" at 11.9%. OGS program is currently free to parents, so there may have been some type of misunderstanding about potential costs proposed in the choice questions. Roughly ten percent were "unsure of what they would change about the program" and 8.3% of parents would like to see the program "available to more students, schools, and teachers", with several noting that federal funding (the current source of funding) is important because it provides lower income families with the opportunity to participate.

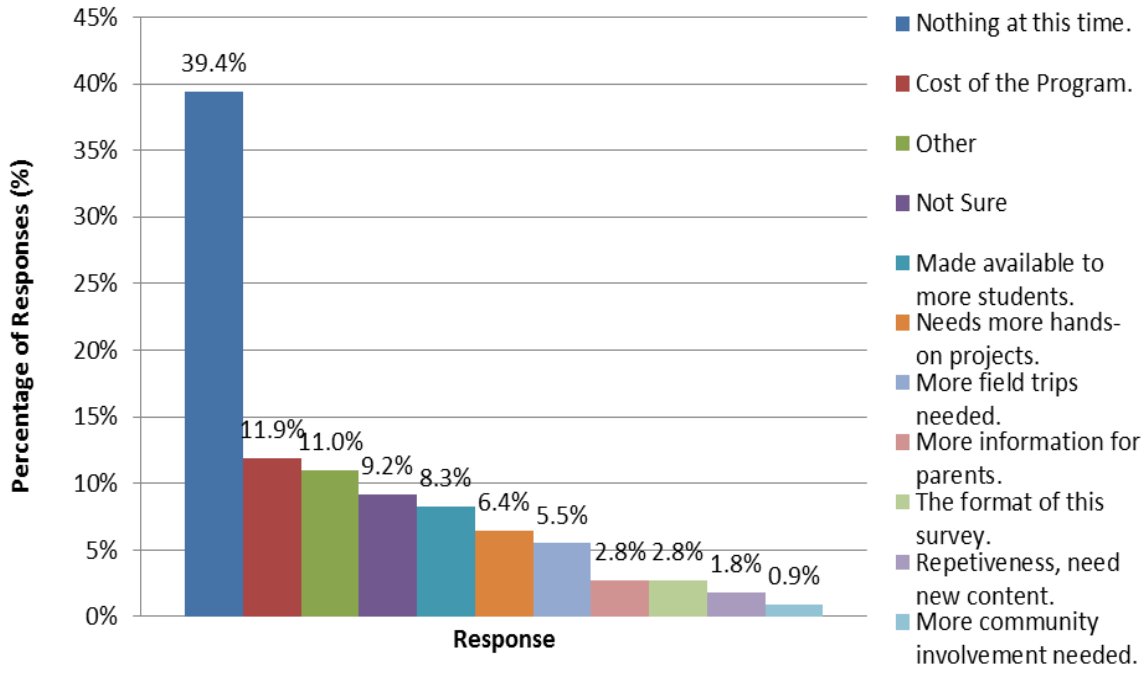


Figure 4.24 Suggested Changes for OGS Program

Eleven percent of parents wrote in a unique response that did not fit into any specific category. Below are notable comments taken from the survey:

"Offer more flexibility on projects to focus on based on a school's location and community needs. Integrate some aspects (ex: alternative energy) into their regular science classes"

–Ocean Guardian School Parent

"Be available to low income schools" *–Ocean Guardian School Parent*

"Recycling/composting are often commonly taught and practiced in schools. Don't use time about this and other (primarily) land-based conservation efforts that indirectly impact ocean and water quality and instead focus on direct impacts to ocean and watersheds."

–Ocean Guardian School Parent

"Our particular program for kindergarten seemed to have quite a few items which were not for the kids to learn from, but seemed like public relations (for example posters). The kids aren't learning anything from this and it seemed like unnecessary advertising."

–Ocean Guardian School Parent

5. Economic Modeling of Results

Introduction

There have been few studies completed on the economic value of education. In regards to the economic value of environmental education, no studies were found during a thorough literature review. (Although since work began on this project one paper by Haefele et al., 2016 has been published online that estimates a value of all the National Park Service educational programs provided to school children). There was an abundance of blueprints and guidance documents to develop environmental educational curriculum and activities, but none of these discussed the economic values apart from anecdotal evidence. One of the goals of this research was to fill this informational gap and to provide the monetary value for a comprehensive ocean literacy program and for specific attributes or characteristics of ocean literacy and conservation programs.

There have been studies analyzing the economic value of specific types of education. For example, a cost-benefit analysis of preschool programs found that for every dollar invested in the Perry Preschool program, benefits totaled $7 to $10 (Heckman et al., 2010). The same study also found that Perry Preschool saved $3 to $8 in crime costs for each dollar spent on the preschool. Other studies have found that every dollar spent at the Chicago Child-Parent Centers generates almost $11 (Belfied & Schwartz, 2006). A report produced by the Whitehouse looking at the value of increased future earnings from those who received early childhood programs suggests that increased earning over the student's lifetime results in benefits ranging from $1.60 to $5.90 for each dollar spent (White House, 2015). These studies only focus on early childhood education and do not discuss the benefits of environmental education or the economic value parents have for such programs.

Additionally, several studies have begun to look at the economic value of higher education. One report produced by the Department of the Treasury and Department of Education found that in 2011 the median weekly earnings of a full-time employee with a bachelor's degree were 64% higher than those with a high school degree. Further, higher education increases a person's economic mobility and expands a person's job opportunities. It is clear there are economic benefits from exposure to early childhood education and higher education, what remains unknown are the benefits derived from exposing students to environmental and ocean education in small doses.

Contingent Choice Method

The method used to collect data is the stated-preference conjoint analysis (Louviere, Hensher and Swait, 2009). Although this method has not been applied to education, its vast application to business marketing, healthcare and the environment justifies its application to education. Utilizing this method allows the estimation of parents' marginal willingness to pay for various characteristics/opportunities that the OGS program has to offer.

In the survey, there are 7 attribute levels, one attribute with 3 levels, 5 attributes with 2 levels and the price attribute has 6 levels. This means there are 450 possible choice sets. Given our sample size, a full factorial design would not yield results that could be analyzed; consequently, a fractional factorial design was estimated. As discussed in Chapter 3, The SAS macros 'choiceff' and 'mktex' provided in Johnson et al. (2007) was used to develop an orthogonal and balanced design.

In Orme (1998), the following formula is found for determining the minimum sample size for a given design:

N = 500 * NLEV/(NALT*NREP)
Where,

N = minimum sample size required
NLEV = the largest number of levels in any attribute (here 6 for number of prices)
NALT = number of alternatives (options) per choice set (not including the Status Quo, there are 2 alternatives)
NREP = number of choice sets per respondent (Each respondent received 5 choice sets).

Therefore, in our design, the minimum suggested sample size for statistical efficiency is equal to 300. There were a total of 270 respondents and 203 clusters used in the regression analysis. Therefore, although the suggested minimum of 300 was not achieved, the sample size was close to the suggestion. In addition to the above, as a rule, six observations are needed for each attribute in a bundle of attributes to identify statistically significant effects (Bunch and Batsell, 1989 and Louviere et al, 2000). This suggestion was met, with far more than 6 respondents answering each version of the survey.

Variables Used

Another part of the survey was designed to determine what parents would be willing to pay for a year of an OGS project if federal funding was not available. Participants were informed that the programs would be paid through increased school supply and field trip costs. This type of payment vehicle is plausible and consequential, thus minimizing potential payment vehicle bias and hypothetical bias.

Each version has a set of five different choices. Each choice has three different scenarios. The scenarios vary in the types of programs (5 R's, Marine Debris, Watershed Restoration, Schoolyard Habitat/Garden, and Energy Use and Ocean Health) preferred, the level of involvement (the student stays within their grade, the student interacts with multiple grades, or interacts with local community members such as small businesses, non-profits, or local government officials), and the cost ($20, $40, $70, $110, or $175). Option A or "status quo" represents an option where there is no OGS program at the child's school. Options B and C include a combination of hands-on programs, levels of involvement, and costs associated with that choice. In each question parents were asked to choose which of the three scenarios (A, B, or C) they prefer, the reasoning for their choice, and their level of confidence in the choice that they have chosen.

Description of Variables

Table 5.1 Description of Variables

Ocean Guardian Program (possible values)	Status Quo Definition (and value)	Improvement Definition (and value)
Chosen2 (0,1)	Dependent variable – respondent choose status quo (0)	Dependent variable – respondent choose an improvement to the status quo (1)
Asc (0,1)	Alternative specific constant (0)	Alternative specific constant (1)
prt_wild_asc[0] (0,1)	The importance of protecting wildlife and ocean habitat interacted with asc. This is a yes (1) or no (0) question	The importance of protecting wildlife and ocean habitat interacted with asc. This is a yes (1) or no (0) question
prj_imt_asc[0] (0-7)	Please rate the level of environmental impact resulting from your child's Ocean Guardian School project interacted with asc (0)	Please rate the level of environmental impact resulting from your child's Ocean Guardian School project interacted with asc (range of 0-7)
restoration[1] (0,1)	Learning about local watersheds and participating in projects to improve the local watershed; such as removing invasive species, planting native species or improving fish habitat (0)	Learning about local watersheds and participating in projects to improve the local watershed; such as removing invasive species, planting native species or improving fish habitat (1)
habitat[1] (0,1)	Learning about ocean-friendly gardens and habitats and participating in projects to create/ improve school gardens and yards with eco-friendly practices and methods such as planting native species, reducing run-off, installing rain barrels (0)	Learning about ocean-friendly gardens and habitats and participating in projects to create/ improve school gardens and yards with eco-friendly practices and methods such as planting native species, reducing run-off, installing rain barrels (1)

Ocean Guardian Program (possible values)	**Status Quo Definition (and value)**	**Improvement Definition (and value)**
energy[1] (0,1)	Learning about how fossil fuel-based energy use impacts the ocean; participating in projects to reduce energy use and/or implementing renewable energy projects such as wind or solar (0)	Learning about how fossil fuel-based energy use impacts the ocean; participating in projects to reduce energy use and/or implementing renewable energy projects such as wind or solar (1)
recycle[1] (0,1)	Learning how to reduce waste and implement programs to reduce their waste within the school	Learning how to reduce waste and implement programs to reduce their waste within the school (1)
debris[1] (0,1)	Learning how to reduce one-time use plastics (such as plastic water bottles) and participating in projects to reduce trash entering the ocean (0)	Learning how to reduce one-time use plastics (such as plastic water bottles) and participating in projects to reduce trash entering the ocean (1)
involve_med (0,1)	Your child would interact with students and teachers in their grade, as they normally do (0) *or* In addition to interacting with students and teachers in their grade and other grades, your student would also interact with <u>local community members</u>, such as small businesses, non-profits or local government officials (0)	In addition to interacting with students and teachers in their grade, your student would also interact with <u>students and teachers in other grades</u> (1)

Ocean Guardian Program (possible values)	Status Quo Definition (and value)	Improvement Definition (and value)
involve_high (0,1)	Your child would interact with students and teachers in their grade, as they normally do (0) *or* In addition to interacting with students and teachers in their grade, your student would also interact with students and teachers in other grades (0)	In addition to interacting with students and teachers in their grade and other grades, your student would also interact with local community members, such as small businesses, non-profits or local government officials (1)
Cost ($20, $40, $70, $110 or $175)	Free -- $0	$20, $40, $70, $110 or $175 This amount would be paid by you through additional school supply and field trip costs next school year

[0] Variables were deemed to be insignificant and not included in the presentation of results. See the Appendix F for more information.

[1] A value of 0 represents the status quo and means their child does not receive this education in school

Table 5.2 Statistics of Selected Model Variables

Variable Name	*mean*	*se(mean)*	*min*	*max*	*N*
chosen2	0.33	0.01	0	1	2901
asc	0.67	0.01	0	1	2901
prt_wild_asc	0.59	0.01	0	1	2901
prj_imt_asc	4.02	0.06	0	7	2898
restoration	0.33	0.01	0	1	2901
habitat	0.33	0.01	0	1	2901
energy	0.33	0.01	0	1	2901
recycle	0.33	0.01	0	1	2901
debris	0.33	0.01	0	1	2901
involve_med	0.24	0.01	0	1	2901
involve_high	0.23	0.01	0	1	2901
cost	57.48	1.06	0	175	2901

Protest Bids

The survey included a series of questions that were asked to identify potential protestors. Question 1, after the choice questions on the survey (Appendix C) used a Likert scale to ask respondents how much they agreed or disagreed with a series of statements. The four statements used to identify protesters are;

a. I should not have to pay for my child's education
b. Costs should not be a factor in a child's education
c. I do not believe these scenarios accurately reflect the education my child should receive
d. I should not have to pay any additional monies for my child to participate in this program.

If a respondent rated their level agreement as a '5' or higher and they chose the status quo for all the questions they answered, then they were considered to be a protester and removed from the analysis. Protesters are removed from the data set because they do not have a true 'zero' value for the program; instead, they are protesting the method of payment or a question's validity. Including these protesters would artificially deflate the value of the program. If a respondent answered zero but did not indicate an objection to the method of payment or question, then their zero values were included in the analysis. In total, 21 respondents were removed from the data set for being protesters.

Table 5.3 Frequency of 'Yes' to Potential Protest Questions

Protest Question	Frequency of 'Yes'
I should not have to pay for my child's education	40
Costs should not be a factor in a child's education	53
I do not believe these scenarios accurately reflect the education my child should receive	23
I should not have to pay any additional monies for my child to participate in this program	24

Table 5.4 presents the number of respondents and the total number of protest questions that they responded 'yes' too. The frequencies below are only for respondents that are included in the regression analysis below.

Table 5.4 Number of Protest Responses by Respondent

Number of Responses	Number of Respondents
1	5
2	5
3	9
4	2

Model Results

Considerations Prior to Modelling

Three types of models were estimated: Multinomial Logit (MNL), Nested Multinomial Logit Model (NMLM) and Mixed Logit or Random Parameters Model (RPM). Only the final models selected are presented here, additional model specifications may be found in Appendix F. The NMLM and RPM were estimated because the MNL failed to pass the Hausman-McFadden IIA test for the assumption of independence of irrelevant alternatives (Hausman and McFadden, 1984). However, not passing the IIA assumption should not be of much concern, as the alternatives "can plausibly be assumed to be distinct and weighted independently in the eyes of each decision maker" (Long and Freese 2006, p. 243).

As the survey was developed to present respondents with distinct scenarios to choose from, it is reasonable to accept this model specification. So the MNL model is included as a possible legitimate model in addition to the other two model specifications.

One benefit of the NMLM and RPM is that they allow for heterogeneity and address the IID violation of constant variance for the observed portion of the variance (Louviere, Hensher and Swait, 2009).

The mathematics behind each model can be found in Louviere, Hensher and Swait (2009). Hence, this information is not included in this Technical Appendix. STATA Version 14 (StataCorp, 2015) was used to estimate all three models.

An alternative specific constant (ASC) was also assigned to each choice observation. This created variable takes on the value of 0 for status quo and the value of '1' for Option A or B. It signifies the respondent chose the status quo alternative or has chosen to purchase an improved educational experience for their child centered on ocean conservation and stewardship. The ASC takes up the variation in choices that cannot be explained by the attributes and socioeconomic variables (Bennett & Blamey, 2001).

Several variables, other than the attributes, were considered in the estimation of the equations. Each individual characteristic that was tested for its influences on a respondents' choice was interacted with the alternative specific constant (ASC) to allow for heterogeneity among the respondents. Individual specific characteristics have to be interacted with the ASC to be included in the equation because they do not vary across each alternative, and without this variation they cannot be estimated in the models.

The results of alternative specifications with additional variables are presented in Appendix F. Two other variables that were tested were prt_wild_asc (whether or not parents thought it was important to protect wildlife) and prj_imt_asc (the level of impact the project has on the environment). The impact of the project was insignificant in all model specifications. Whether or not parents thought it was important to protect wildlife was only significant in the RPM and thus not included in the final model specification.

In all models, the medium level of student involvement was not significant. Focus groups with parents were not conducted prior to the implementation of the survey, so it is unclear why the medium level of parent involvement is insignificant. However, it is possible that parents simply do not value this attribute or that they do not value the attribute in the context of OGS programs because studnets interact with other grade levels and adults outside of school through sports, extracurricular or family relationships. Given the insignificance of this variable in all model specifications and runs, the medium level of involvement was dropped from the final model.

As discussed in Chapter 4, most of the demographic data is not complete for survey respondents. The non-response rates were 15%, 27%, 18% and 15% for age, race, ethnicity and gender respectively. When looking at the differences between schools that participated and did not, the only statistically significant differences identified between the two school groups were race, Hispanic and the four level education category (Chapter **Error! Reference source not found. - Error! Reference source not found.**). However, it is unknown if this would translate to statistical differences in respondents of the survey and the population. Given the non-response rates to these demographic questions, the data is not weighted and it is unknown if there are statistical differences between respondents and the population.

Statistical testing revealed that there were no differences between the results of those that were sure of their responses and those that were not. Several models were estimated using three different model specifications; Multinomial Logit Model (MLM), Nested Multinomial Logit Model (NMLM) and Random Parameters Model (RPM). The results of the selected models are presented in this Chapter, but the remaining estimated models can be found in Appendix F - **Error! Reference source not found.**.

Multinomial Logit Model (MLM)

This section presents the results and testing and the multinomial logit model. All models were estimated using STATASE 14. Several variables, other than the attributes, were considered in the estimation of the equations (Appendix F). Each individual characteristic that was tested for its influences on a respondents' choice was interacted with the alternative specific constant (ASC) to allow for heterogeneity among the respondents.

Table 5.5 MNL Final Model Specification

Variable	*Coefficient* [1]	*Standard Error*	*Z*	*P-Value*	*95% Confidence Interval*	
asc	0.7372	0.2227	3.3100	0.0010	0.3006	1.1737
restoration	0.3745	0.0881	4.2500	0.0000	0.2018	0.5473
habitat	0.4968	0.0820	6.0600	0.0000	0.3361	0.6575
energy	0.3104	0.0819	3.7900	0.0000	0.1498	0.4710
recycle	0.2083	0.0879	2.3700	0.0180	0.0360	0.3807
debris	0.2130	0.0801	2.6600	0.0080	0.0561	0.3699
involve_high	0.1615	0.0888	1.8200	0.0690	-0.0125	0.3355
cost	-0.0092	0.0018	-5.2100	0.0000	-0.0126	-0.0057
observations	2,901					
clusters	203					
pseudo log likelihood (full)	-932.926					
pseudo Log likelihood (null)	-1029.30					
Chi-square (24)	118.14					
Chi-square Significance	0.00					
pseudo R^2	0.122					
Adj. pseudo R^2	0.084					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.

Nested Multinomial Logit Model (NMLM)

The nested logit model is commonly used when the IIA is violated, as in this case. The NMNL is a generalized version of the MNL that repeatedly applies the model in a tree structure reflecting the assumed correlation causing violations to the IIA (Kanninen, 2006 p. 230). Figure 5.1 below shows the tree structure of the nested logit model. The first choice the respondent makes is whether or not to choose the OGS Program. If they choose yes, then they are presented with a second choice to select Option B or C.

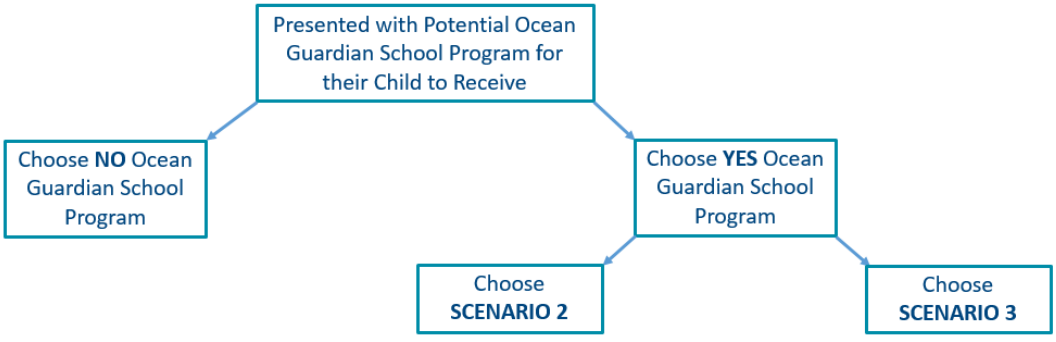


Figure 5.1 Nested Logit Tree Structure

Table 5.6 NMLM Final Specification

Variable[1]	*Coefficient*	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
asc	0.3789	0.4112	0.9200	0.3570	-0.4271	1.1849
restoration	0.4964	0.1719	2.8900	0.0040	0.1596	0.8333
habitat	0.6457	0.1884	3.4300	0.0010	0.2764	1.0151
energy	0.3990	0.1362	2.9300	0.0030	0.1320	0.6660
recycle	0.2718	0.1349	2.0200	0.0440	0.0075	0.5362
debris	0.2843	0.1217	2.3400	0.0190	0.0458	0.5228
involve_high	0.1976	0.1211	1.6300	0.1030	-0.0398	0.4350
cost	-0.0108	0.0027	-3.9200	0.0000	-0.0162	-0.0054
dissimilarity parameters						
/status_quo_tau	1.0000					
/other_tau	1.3431	0.3798			0.5986	2.0876
observations	2,901					
clusters	203					
pseudo log likelihood (full)	-932.30					
Chi-square (22)	80.89					
Chi-square Significance	0.00					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.

Random Parameters Model (RPM)

The RPM is also used in the case of an IIA assumption violation and when heterogeneity in attributes might exist. In this application, all the attributes are treated as random, while cost is a fixed parameter. All the attributes in the RPM, except involve_high, show significant heterogeneity (i.e., the standard deviations are significant).

Table 5.7 RPM Final Specification

Variable[1]	*Coefficient*	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
Mean						
asc	0.8024	0.3061	2.6200	0.0090	0.2025	1.4024
restoration	0.7568	0.1940	3.9000	0.0000	0.3766	1.1370
habitat	0.9845	0.1842	5.3400	0.0000	0.6234	1.3456
energy	0.5357	0.1664	3.2200	0.0010	0.2095	0.8618
recycle	0.2979	0.1980	1.5000	0.1320	-0.0902	0.6859
debris	0.4294	0.1701	2.5200	0.0120	0.0960	0.7627
involve_high	0.566963	0.1763	3.2200	0.0010	0.2214	0.9125
cost	-0.0164	0.0023	-7.2300	0.0000	-0.0209	-0.0120
SD						
restoration	1.6705	0.2198	7.6000	0.0000	1.2398	2.1012
habitat	1.5840	0.2130	7.4400	0.0000	1.1666	2.0015
energy	1.1221	0.2370	4.7400	0.0000	0.6576	1.5865
recycle	1.7403	0.2436	7.1400	0.0000	1.2628	2.2177
debris	1.3951	0.2277	6.1300	0.0000	0.9488	1.8414
involve_high	0.610465	0.3756	1.6300	0.1040	-0.1258	1.3467
observations	2,901					
pseudo log likelihood	-837.92					
Chi-square (22)	190.01					
Chi-Square Significance	0.00					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.

The cost variable and each attribute of the choice questions were statistically significant. In each case, as a student was exposed to energy, debris, restoration and habitat education parents were willing to pay for these programs. In all models except the RPM the recycling variable was significant at the 95% level. Further, parents were also willing to pay more to increase their child's interactions with

those outside the school. (However, in the MNL & NMNL the significance was at the 90% confidence level instead of the 95% confidence level). To understand a more detailed interpretation of these variables, Chapter 6 discusses how coefficient estimates are used to estimate the marginal willingness to pay for improvements to education.

6. Economic Value and Costs of Ocean Guardian

Monetary Benefits

The regression estimates presented in Chapter **Error! Reference source not f ound.-Error! Reference source not found.** may be used to estimate parents' willingness to pay for improvements or enhancements to their child's education in regards to ocean education and stewardship. The formula for MWTP is the attribute's coefficient divided by the negative of the price coefficient (Louviere, Hensher and Swait, 2009; Green, 2007). The formula is not presented here, but the reader should refer to the previous references for details of the mathematics behind the calculations. The results for the MLM, NMLM, and RPM models are summarized below in Tables 6.1, 6.2, and 6.3. Table 6.4 presents the willingness to pay when these models are averaged across one another. Averaging the models takes into account the variances that may occur due to the specification.

In each model specification, the attribute of ocean guardian that had the highest willingness to pay was habitat - learning about ocean-friendly gardens and habitats and participating in projects to create/ improve school gardens and yards with eco-friendly practices and methods such as planting native species, reducing run-off and installing rain barrels. The highest valued attribute of OGS program is habitat, the average WTP across all models is $58.52 per student. The attribute with the second highest WTP was restoration - learning about local watersheds and participating in projects to improve the local watershed; such as removing invasive species, planting native species or improving fish habitat, with an average of $44.79. In regards to the remaining three attributes, energy, marine debris and recycling had the third, fourth and fifth highest marginal WTP per attribute in all three models, respectively. When the three models are averaged, the marginal willingness to pay for energy is $34.24, marine debris is $25.50 and the average marginal WTP is $21.41 for recycling.

Table 6.1 MLM Willingness to Pay

	Status Quo to Receive Education with High Interaction
asc	$80.44
restoration	$40.87
habitat	$54.21
energy	$33.87
recycle	$22.73
debris	$23.24
involve_high	$17.62
TWTP	$272.98

Table 6.2 NMLM Willingness to Pay

	Status Quo to Receive Education with High Interaction
asc	$35.20
restoration	$46.11
habitat	$59.98
energy	$37.06
recycle	$25.25
debris	$26.41
involve_high	$18.35
TWTP	$248.37

Table 6.3 RPM Willingness to Pay

	Status Quo to Receive Education with High Interaction
asc	$48.88
restoration	$46.10
habitat	$59.97
energy	$32.63
recycle	$18.15
debris	$26.15
involve_high	$34.54
TWTP	$266.42

Table 6.4 Average Willingness to Pay Across Selected MLM, NMLM, RMP Specifications

	Status Quo to Receive Education with High Interaction
asc	$52.78
restoration	$44.79
habitat	$58.52
energy	$34.26
recycle	$21.41
debris	$25.50
involve_high	$25.48
TWTP	$262.73

Costs of Ocean Guardian

The next table presents the average cost per student (grant amount per student) for the Ocean Guardian School Program. Schools could potentially receive three grant amounts. For years one to three, schools receive $4,000. Schools receive $2,500 for the fourth year and $1,000 for the fifth year. The average cost was calculated for the three different funding levels and the number of students that each school reported as being part of the OGS program. The cost per student is derived by taking the dollar amount that the school receives divided by the number of students that participate in the program at the school.

Costs per student are further broken down by all OGS, schools that participated in this survey and schools that did not participate in this survey. The t-test of means were used to identify differences in costs amongst participating and non-participating schools and all OGS. At the 5% alpha level, there are costs differences between participating schools ($P>|t| = .0158$) and the entire OGS population and for non-participating schools and the entire OGS population ($P>|t| = .0469$).

Table 6.5 Costs per Student

	Annual Cost	*Minimum Cost Per Student*	*Maximum Cost Per Student*	*Average Cost Per Student*	*Standard Error*	*N*
All Schools	$4,000	$5.30	$333.33	$52.91	$12.54	33
	$2,500	$3.31	$208.33	$33.07	$7.84	33
	$1,000	$1.32	$83.33	$13.23	$3.13	33
Participating Schools	$4,000	$5.30	$200.00	$48.44	$13.08	15
	$2,500	$3.31	$125.00	$30.27	$8.17	15
	$1,000	$1.32	$50.00	$12.11	$3.27	15
Non Participating Schools	$4,000	$5.33	$333.33	$56.64	$20.58	18
	$2,500	$3.33	$208.33	$35.40	$12.86	18
	$1,000	$1.33	$83.33	$14.16	$5.14	18

Cost Benefit Analysis

When analyzing the minimum cost per student (Table 6.5), it is clear that as long as students receive any one single attribute of OGS program, the benefits will exceed per student costs. It becomes less clear when considering the maximum cost per student. The largest amount, $333.33 per student, occurs at a school that involves 12 students in the OGS program and does not result in benefits being greater than costs. However, at all other annual cost amounts, it is possible to still have a net gain based on the design and mix of attributes offered by the OGS program.

Comparing Table 6.4 to 6.5, if a student receives habitat restoration only or either restoration or energy in combination with a high level of involvement from outside their grade level than benefits exceed costs. There are several other combinations in which the monetary value of OGS exceeds the maximum potential cost of the program per student.

Other Benefits Not Analyzed

It is important to note that OGS has several measurable market impacts (i.e., spending and the associated impacts on output/sales, value-added, income and jobs) through the hands on education and experiences that the program offers students. Examples include; invasive species removal, removal of marine debris, gardens, habitat, planting native species and reducing energy usage. These impacts are not included in the monetary value of the program estimated in the research. In all likelihood, the monetary benefits exceed the estimates presented here in this paper.

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A. Teacher Webinar

Ocean Guardian Survey

What are parents willing to pay?

What do parent's prefer?

Research Goals

- Better understand the preferences parents have for environmental education programs
- Identify behavioral changes from an education program
- To estimate the willingness to pay of parents for a hands on Ocean Conservation Program

Why we are excited!

- We are PIONEERS!
  - Looking at behavioral changes
  - Looking at parent's attitude towards this program
  - Looking at the value of this type of program and its specific characteristics
- We get to work with you!

Why this is valuable to you

- You participating in the forefront of new research
- You will have a better understanding of the effectiveness of your programs
- You will have a better understanding of the monetary value of these programs
  - You can use this information to continue the program or to leverage other funding sources/partnerships

Yes, we know the cost of this program

- Schools apply for a grant
- Grant can last for up to 5 years
- Up to $4,000
- Since 2010
  - 71 Schools
  - $450,000 awarded

Yes, we know the quantitative benefits of this program

Ocean Guardian School MEASURABLE DATA	2014-2015	2010-2015
Grant amounts	$102,727.00	$544,315.00
# of participating schools	33	71
# of students directly participated in projects	7,865	30,043
Pounds of trash removed from school and/or community sites	3,653	119,032
# of recycling bins installed on school campus	138	648
# of compost bins installed on school campus	37	340
Pounds of compost created from school food waste	-	1,387
Pounds of reused clam and oyster shells	-	6,000
Pounds of e-waste recycled	-	5,131
# of reusable bags distributed or purchased to replace single use bags	1,796	7,695
# of reusable bottles distributed or purchased to replace single-use bottles	2,168	8,312
# of single use plastic bottles not used due to sue of reusables at hydration station	24,250	58,053
Square feet of non-natives removed from school or community sites	13,685	157,542
Square feet of turf removed from school or community sites	4,099	8,296
Linear feet of bank stabilization on school or community sites	510	770
# of native or fruit trees planted at school or community sites	760	2,227
# of native perennials planted at school or community sites	7,215	24,491
# of rain barrels installed on school campus	5	34
Gallons of water reclaimed on school grounds from use of water catchment system	60	3,610
# of storm drains labeled in community locations	-	63
# of wildlife structures installed on school or community locations	35	79
# of nurdles removed from coastal areas	-	9,767
Energy Reduction kwh	125	186,368
Energy smart power strips installed in classrooms	30	30
# of official bike to school days	12	12

But, we don't know if there are behavioral changes

Why is knowing about behavioral changes important?

- Are we meeting our goals for education and conservation?
  - Are we seeing changes in behavior of the students?
- Understanding how our programs are impacting behavioral change
  - Do we see parents changing behavior too?
    - Additional indirect benefits of this program

Nor do we know the monetary value

Why is knowing the value important?

- Budgets are tight
- Education budgets often get cut when reducing spending
  - Money talks and economic benefits can be used to justify this type of program
- By estimating the monetary worth of this program to parents we can determine if benefits exceed costs

Why money matters….

- If we know the monetary benefits of this type of program we can compare it to costs
- Further, if we know the characteristics of the program people are willing to pay more for we can incorporate this into the design of the program to increase its value

Sample Design

Total Population	Sample Size from Schools with 120 or less (9	Sample Size from schools with more than 120 students (18 schools)	Total Sample	Expected Response Rate
7,887	783	1,800	2,583	50-60%

Approach

- Design survey for original data collection
  - Winter 2015 – Spring 2016
- Work with teachers to survey parents
  - May – June 2016
- Analyze results
  - Summer 2016

Preferences of Parents

Preferences

- Towards environmental topics/concepts
- Towards various activities a child can participate in or learn about to reduce their footprint
- Towards various classes/subjects relative to environmental education

Behavioral Changes

Behavioral Changes

- Collect baseline data for parents and for students
- Then ask how behavior has changed over the past year
- Behavior questions tied directly to goals of Ocean Guardian Program

Behavioral Questions

Please answer yes or no to the following questions. Prior to the start of the school year did your child?

Recycle? _____*Yes* _____*No*

Minimize water use? _____*Yes* _____*No*

Minimize use of single-use plastics (water bottles, plastic bags, etc.)? _____*Yes* _____*No*

Encourage others (friends/ family) to make more eco-friendly decisions (shorter showers, recycling, etc.)? _____*Yes* _____*No*

Talk to others about ways they can improve the environment? _____*Yes* _____*No*

Estimate Willingness to Pay of Parents

Attribute Approach

- Types of hands on projects
- Level of interaction with others
  - Students/teachers in their grade
  - Students/teachers outside their grade
  - Community Members

What does the Ocean Guardian Program do?

- ✓ Refuse/Reduce/Reuse/Recycle/Rot
- ✓ Schoolyard Habitat/Garden
- ✓ Watershed Restoration
- ✓ Marine Debris
- ✓ Energy Use & Ocean Health

Refuse/Reduce/Reuse/Recycle/Rot

Schoolyard Habitat/Garden

Watershed Restoration

Marine Debris

Energy Use and Ocean Health

	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: - Watershed Restoration - Schoolyard Habitat/Garden - Energy Use and Ocean Health In this version, your child would NOT participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris	In this option, your child would participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris In this version, your child would NOT participate in the following types of projects: - Watershed Restoration - Schoolyard Habitat/Garden - Energy Use and Ocean Health
Your child would interact with students and teachers in their grade, as they normally do.	In addition to interacting with students and teachers in their grade. Your student would also interact with students and teachers in other grades.	In addition to interacting with students and teachers in their grade and other grades. Your student would also interact with local community members, such as small businesses, non-profits or local government officials.
This program would cost you $0	This program would cost you $70	This program would cost you $40
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

How will the results be used?

Ocean Guardian Program

- Do parents have preferences for specific types of programs?
- Are they willing to pay more for different hands on experiences?
- Are parents aware their child is receiving this type of education?

Management Implications

- Should we expand these programs?
- Do these programs provide net economic benefits?
  - If so, should we increase funding and budgets
  - Can we use this information to create educational partnerships?

What are we asking of you

Timeline

Date	Information	Action
Monday, May 9th	Initial contact letter to parent	E-mail and/or letter sent home to parents
Thursday May 12th	Initial survey letter to parents	E-mail letter and/or send home to parents (there will be 5 different e-mail lists)
Monday May 23th	Reminder survey letter to parents	E-mail letter and/or send home to parents (there will be 5 different e-mail lists)
Tuesday May 31st	Thank you letter sent to parents	E-mail and/or letter sent home to ALL parents

Specific Request

- Select the sample
  - Let's look at Excel


National Marine Sanctuaries
National Oceanic and Atmospheric Administration
NATIONAL MARINE SANCTUARIES
NOAA
NATIONAL MARINE SANCTUARIES
http://sanctuaries.noaa.gov

B. Correspondence

Initial Contact Letter to Teachers

April 1, 2016

VERY EXCITING NEWS! NOAA's Office of National Marine Sanctuaries is embarking on a new initiative to explore the economic value of the OceanGuardian School program. To this end, the Office of National Marine Sanctuaries has created a voluntary survey for the parents/guardians of yourOcean Guardian students.

YOUR INVOLVEMENT: We are reaching out to all current Ocean Guardian Lead Teachers to coordinate the dissemination of this survey to the parents of the Ocean Guardian School students in this year's participating schools. You will be provided with the specific emails and/or hard-copy surveys to distribute to your select group of parents. For those schools with more than 100 participating students, you will receive clear instructions on how to randomly select 100 students whose parents will receive the survey. We understand with the school year coming to a close you are extremely busy and we would like to offer you a small stipend, of $100, as a token of our appreciation for your valuable time and energy in helping us to collect this important data.

STEP 1: For more information about the survey and your involvement in this initiative, we are asking every Lead Teacher to participate in a webinar either on **April 26 or April 29 from 4 – 5 pm PT**. Please let me know if you are unable to attend either one of these two webinars, and we will schedule another call with you at your convenience.

Please register for either webinar on the following link:

https://attendee.gotowebinar.com/rt/4128148665123264514

Seaberry and I are very grateful to you for your critical support with this special undertaking. Needless to say, we are very excited that the OceanGuardian School program is the focus of this federal initiative, and we look forward to learning more about how we can create an even stronger OceanGuardian School program.

As always, please let me know if you have any questions.

Initial Paper Survey Letter to Parents

Dear Parent,

As we near the end of the school year, I would like to inform you about an exciting study in which our school has been asked to participate. As you may know, this year **NAME of SCHOOL** participated in the Ocean Guardian School program. This means the school received funding from NOAA's Office of the National Marine Sanctuaries to support our ocean stewardship activities.

The Ocean Guardian School program awards grants to K-12 public, private and charter schools to carry out hands-on projects that help protect the health of our watersheds and ocean. For more information about this program, please go to: http://sanctuaries.noaa.gov/education/ocean_guardian/.

During the year, your child may have received extra lessons related to environmental conservation and stewardship and/or participated in class projects such as recycling, removing invasive species, removing marine debris or planting native vegetation. Studies have shown that hands-on, experiential learning techniques have been shown to increase interest in Science, Technology, Engineering and Math (STEM), help reinforce an ethic of responsible citizenship and promote academic achievement.

In the next week or so, I will be sending home another letter with your student asking you to go online and complete a short survey about you and your child's experience (no matter how great or small) with the Ocean Guardian School program. I will also provide a paper version of the survey.

Although your participation and completion of the survey is completely voluntary, please know that your input is extremely valuable to the research team. Your information will help to improve your child's Ocean Guardian experience and make similar experiences available to students across the county

If you have any questions, please contact **Danielle Schwarzmann at** Danielle.schwarzmann@noaa.gov**.**

Thank you in advance for your cooperation.

Sincerely,
Teacher's Name

Initial E-mail Survey Letter to Parents

Dear Parent,

As we near the end of the school year, I would like to inform you about an exciting study in which our school has been asked to participate. As you may know, this year **NAME OF SCHOOL** participated in the Ocean Guardian School program. This means the school received funding from NOAA's Office of the National Marine Sanctuaries to support our ocean stewardship activities.

The Ocean Guardian School program awards grants to K-12 public, private and charter schools to carry out hands-on projects that help protect the health of our watersheds and ocean. For more information about this program, please go to: http://sanctuaries.noaa.gov/education/ocean_guardian/.

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Although your participation and completion of the survey is completely voluntary, please know that your input is extremely valuable to the research team. Your information will help to improve your child's Ocean Guardian experience and make similar experiences available to students across the county

If you have any questions, please contact **Danielle Schwarzmann at** Danielle.schwarzmann@noaa.gov**.**

Thank you in advance for your cooperation.

Sincerely,

Teacher's Name

First Paper Survey Letter to Parents

Dear Parent,

Last week I sent a letter home with your child letting you know that we would be sending home another note with a link to a short, online survey about you and your child's experiences (no matter how great or small) with the Ocean Guardian School program.
Please either complete the paper survey version attached or go to this link to complete the survey by May 27, 2016:

Link = https://www.surveymonkey.com/r/BGSKB5M
Password = Thanks

As you may recall, this year our school received funding from NOAA's Ocean Guardian School program to support our ocean stewardship activities. The Ocean Guardian School program awards grants to K-12 public, private and charter schools to carry out hands-on projects that help protect the health of our watersheds and ocean. For more detailed information about the program, please go to: http://sanctuaries.noaa.gov/education/ocean_guardian/.

As I previously mentioned, although this survey is completely voluntary, your input is extremely valuable to the research team. Your information will help to improve your child's Ocean Guardian experience and make similar experiences available to students across the county
If you have any questions, please contact **Danielle Schwarzmann** at Danielle.schwarzmann@noaa.gov.

Thank you in advance for your cooperation.

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Please go to this link to complete the survey by May 27, 2016:

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As I previously mentioned, although this survey is completely voluntary, your input is extremely valuable to the research team. Your information will help to improve your child's Ocean Guardian experience and make similar experiences available to students across the county
If you have any questions, please contact **Danielle Schwarzmann** at Danielle.schwarzmann@noaa.gov.

Thank you in advance for your cooperation.
Sincerely,

Teacher's Name

Reminder Paper Survey Letter to Parents

Dear Parent,

Last week I sent a letter home with a survey about you and your child's experience with the Ocean Guardian School program. If you have already completed the survey, thank you for your time and effort and please disregard this letter. If you have not yet had a chance to complete this survey, please either complete the attached paper version and return it or go to the link below to complete the survey by May 31, 2016.

Link = https://www.surveymonkey.com/r/BGSKB5M
Password = Thanks

As mentioned previously, this survey is completely voluntary. However, your information will help to improve your child's Ocean Guardian experience at school and make similar experiences available to students across the country.

If you have any questions, please contact **Danielle Schwarzmann**
Danielle.schwarzmann@noaa.gov**.**

Thank you very much for your cooperation.

Reminder E-mail Survey Letter to Parents

Dear Parent,

Last week I sent a letter home with a link to a short, online survey about you and your child's experience with the Ocean Guardian School program. If you have already completed the survey, thank you for your time and effort and please disregard this letter. If you have not yet had a chance to complete this survey, please go to the link below to complete the survey. If you would like to receive a paper copy of the survey, please return this letter requesting a paper copy.

Please go online to complete the survey by May 31, 2016.

Link = https://www.surveymonkey.com/r/BGSKB5M
Password = Thanks

As mentioned previously, this survey is completely voluntary. However, your information will help to improve your child's Ocean Guardian experience at school and make similar experiences available to students across the country.

If you have any questions, please contact **Danielle Schwarzmann**
Danielle.schwarzmann@noaa.gov**.**

Thank you very much for your cooperation.

Initial Paper Survey Letter to Parents (Spanish)

Estimado(a) Padre/Madre/Tutor:

Como nos acercamos al final del año escolar, me gustaría informarle sobre un estudio muy interesante, en el cual nos han solicitado la participación de nuestra escuela. Como probablemente usted ya sabe, este año la **Escuela–nombre-** participó en el programa "Ocean Guardian School" (*Escuelas Protectoras del Océano*), lo que significa que la escuela recibió financiamiento de la Oficina Nacional para los Santuarios Marinos de NOAA para respaldar nuestras actividades para proteger el océano.
El programa "Ocean Guardian School" otorga financiamiento escuelas K-12 de tipo pública, privada, o chárter para que lleven a cabo proyectos prácticos que puedan ayudar a proteger el medioambiente de nuestras cuencas y océanos. Para obtener información adicional sobre este programa, visite el siguiente sitio (sólo en inglés):
http://sanctuaries.noaa.gov/education/ocean_guardian/.
Durante este año, su hijo/hija pudo haber recibido clases adicionales sobre conservación y cuidado del medioambiente y/o haber participado en proyectos académicos como reciclaje, remoción de especies invasoras, limpieza de basura marina, o plantar vegetación nativa. Las investigaciones han demostrado que las técnicas de aprendizaje experimentales y prácticas incrementan el interés por la Ciencia, Tecnología, Ingeniería y Matemática (STEM, por las iniciales en inglés), y ayudan promover educación cívica ética y responsable, así como a mejorar los logros académicos.
En una semana más aproximadamente, a través de su hijo/hija, le haré llegar otra carta solicitándole que complete en línea un cuestionario breve sobre la experiencia de su hijo/hija con el programa "Ocean Guardian School" (no importa la cantidad de tiempo que él/ella participó en el programa). Tambien, copias en papal estarán disponibles si usted necesita una.
Aunque su participación desarrollando este cuestionario es absolutamente voluntaria, le solicitamos que participe en esta encuesta ya que la información que usted pueda entregar es muy valiosa para los investigadores de este programa. Su información ayudará a mejorar la experiencia de los niños en el programa "Ocean Guardian" y a replicar esta experiencia con otros estudiantes a través del país.
Si tiene alguna pregunta sobre este programa, por favor contacte vía correo electrónico a: **Danielle Schwarzmann** (Danielle.schwarzmann@noaa.gov)**.**

Gracias de antemano por su cooperación.
Sinceramente,

NOMBRE del/de la Profesor(a)

Initial E-mail Survey Letter to Parents (Spanish)

Estimado(a) Padre/Madre/Tutor:

Como nos acercamos al final del año escolar, me gustaría informarle sobre un estudio muy interesante, en el cual nos han solicitado la participación de nuestra escuela. Como probablemente usted ya sabe, este año la **Escuela–nombre-** participó en el programa "Ocean Guardian School" (*Escuelas Protectoras del Océano*), lo que significa que la escuela recibió financiamiento de la Oficina Nacional para los Santuarios Marinos de NOAA para respaldar nuestras actividades para proteger el océano.

El programa "Ocean Guardian School" otorga financiamiento escuelas K-12 de tipo pública, privada, o chárter para que lleven a cabo proyectos prácticos que puedan ayudar a proteger el medioambiente de nuestras cuencas y océanos. Para obtener información adicional sobre este programa, visite el siguiente sitio (sólo en inglés): http://sanctuaries.noaa.gov/education/ocean_guardian/.

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Si tiene alguna pregunta sobre este programa, por favor contacte vía correo electrónico a: **Danielle Schwarzmann** (Danielle.schwarzmann@noaa.gov)**.**

Gracias de antemano por su cooperación.
Sinceramente,

NOMBRE del/de la Profesor(a)

First Paper Survey Letter to Parents (Spanish)

Estimado(a) Padre/Madre/Tutor:

La semana pasada le hice llegar una nota con su hijo/hija informándole que le enviaríamos a su casa otra carta con un enlace para que pueda acceder a un breve cuestionario en línea sobre la experiencia de su hijo/hija en el programa "Ocean Guardian School" (sin importa la cantidad de tiempo que él/ella participó en el programa).

Por favor complete la versión en papel (adjuntado) o visite el siguiente enlace para acceder al cuestionario antes del 27 de mayo 2016.

Enlace a la web = https://www.surveymonkey.com/r/XXHNN6R
La contraseña = Gracias

Como usted recordará, este año nuestra escuela recibió financiamiento del programa "Ocean Guardian School" de NOAA para respaldar nuestras actividades para la protección del océano.

El programa "Ocean Guardian School" otorga financiamiento escuelas K-12 de tipo pública, privada, o chárter para que lleven a cabo proyectos prácticos que puedan ayudar a proteger el medioambiente de nuestras cuencas y océanos. Para obtener información adicional sobre este programa, visite el siguiente sitio (sólo en inglés): http://sanctuaries.noaa.gov/education/ocean_guardian/.

Como le informé anteriormente, completar este cuestionario es una actividad absolutamente voluntaria, sin embargo la información que usted pueda entregar es de gran valor para los investigadores. La información que usted proporcione ayudará a mejorar la experiencia de los niños en el programa "Ocean Guardian" y a replicar esta experiencia con otros estudiantes a través del país.

Si tiene alguna pregunta sobre este programa, por favor contacte vía correo electrónico a: **Danielle Schwarzmann** (Danielle.schwarzmann@noaa.gov)**.**

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First E-mail Survey Letter to Parents (Spanish)

Estimado(a) Padre/Madre/Tutor:

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Por favor, visite el siguiente enlace para acceder al cuestionario por 27 de mayo 2016:

Enlace a la web = https://www.surveymonkey.com/r/XXHNN6R
La contraseña = Gracias

Como usted recordará, este año nuestra escuela recibió financiamiento del programa "Ocean Guardian School" de NOAA para respaldar nuestras actividades para la protección del océano.

El programa "Ocean Guardian School" otorga financiamiento escuelas K-12 de tipo pública, privada, o chárter para que lleven a cabo proyectos prácticos que puedan ayudar a proteger el medioambiente de nuestras cuencas y océanos. Para obtener información adicional sobre este programa, visite el siguiente sitio (sólo en inglés): http://sanctuaries.noaa.gov/education/ocean_guardian/.

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Si tiene alguna pregunta sobre este programa, por favor contacte vía correo electrónico a: **Danielle Schwarzmann** (Danielle.schwarzmann@noaa.gov)**.**

Gracias de antemano por su cooperación.
Sinceramente,

NOMBRE del/de la Profesor(a)

Reminder Paper Survey Letter to Parents (Spanish)

Estimado(a) Padre/Madre/Tutor:

La semana pasada le hice llegar una nota con su hijo/hija informándole que le enviaríamos a su casa otra carta con un enlace para que pueda acceder a un breve cuestionario en línea sobre la experiencia de su hijo/hija en el programa "Ocean Guardian School" (sin importa la cantidad de tiempo que él/ella participó en el programa).

Por favor complete la versión en papel (adjuntado) o visite el siguiente enlace para acceder al cuestionario antes del 27 de mayo 2016.

Enlace a la web = https://www.surveymonkey.com/r/XXHNN6R
La contraseña = Gracias

Como le informé anteriormente, completar este cuestionario es una actividad absolutamente voluntaria, sin embargo la información que usted pueda entregar es de gran valor para los investigadores. La información que usted proporcione ayudará a mejorar la experiencia de los niños en el programa "Ocean Guardian" y a replicar esta experiencia con otros estudiantes a través del país.

Si tiene alguna pregunta sobre este programa, por favor contacte vía correo electrónico a: **Danielle Schwarzmann** (Danielle.schwarzmann@noaa.gov)**.**

Gracias de antemano por su cooperación.

Reminder E-mail Survey Letter to Parents (Spanish)

Estimado(a) Padre/Madre/Tutor:

La semana pasada le hice llegar una carta con un enlace para que pueda acceder a un breve cuestionario en línea sobre la experiencia de su hijo/hija en el programa "Ocean Guardian School" (sin importa la cantidad de tiempo que él/ella participó en el programa). Si usted ya completó el cuestionario, por favor ignore el resto de esta nota y le agradezco mucho su tiempo y esfuerzo. Si usted no ha tenido aún la oportunidad de completar el cuestionario, por favor visite el siguiente enlace para hacerlo:

Por favor visite el siguiente enlace para acceder al cuestionario antes del 31 de mayo 2016.

Enlace a la web = https://www.surveymonkey.com/r/XXHNN6R
La contraseña = Gracias

Como le hice saber anteriormente, completar este cuestionario es una actividad absolutamente voluntaria. Sin embargo, la información que usted pueda entregar ayudará a mejorar la experiencia de los niños en el programa "Ocean Guardian" y a replicar esta experiencia con otros estudiantes a través del país. Si usted prefiere recibir una copia en papel de este cuestionario para que lo pueda completar, por favor responda esta carta solicitando una copia impresa del cuestionario.

Si tiene alguna pregunta, por favor contacte vía correo electrónico a: **Danielle Schwarzmann** (Danielle.schwarzmann@noaa.gov)**.**

Muchas gracias por su cooperación.

C. Survey

Version A Choice Questions

Parent Survey

Your participation in this interview is voluntary. There are no penalties for not answering some or all of the questions, but since each interviewed person will represent many others not interviewed, your cooperation is extremely important. This study is being conducted by the Monterey Bay National Marine Sanctuary and National Oceanic and Atmospheric Administration's Office of National Marine Sanctuary. Uses of the information include better understanding what parents prefer or do not prefer in an environmental education program. At the end of the study any materials identifying you as an individual will be destroyed. We will not ask for your name, address, e-mail address, or phone number.

Public reporting burden for this collection of information is estimated to average 20 minutes including time for reviewing instructions and completing the survey. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Danielle Schwarzmann NOAA/NOS/Office of National Marine Sanctuaries 1305 East West Hwy., SSMC4, 11th floor. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subject to penalty for failure to comply with, a collection of information subject to requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

General Information

1. What is the name of the school your child attends?
_____

2. Do you support your child participating in this type of program?

_____Yes _____No ____Not Sure

3. Please select the benefits and skills your child acquired through participation in the Ocean Guardian School Project: (Check all that apply)

___ Increased sense of community
___ Work experience (resume, future applications for scholarships, high school, etc.)
___ Development of self-esteem & self-confidence
___ Experience working with peers as a part of a team
___ Sense of accomplishment (seeing a project through start to finish
___ Appreciation for volunteering/ increased likelihood to volunteer in the future
___ Positive environmental change
___ Increased understanding of how people interact with the environment
___ Increased responsibility towards the environment
___ Increased commitment to environmental protection
____None of the above
____Not sure

4. Please answer yes or no to the following questions. Prior to the start of the school year did your child?

A. Recycle? _____Yes _____No
B. Minimize water use? _____Yes _____No
C. Minimize use of single-use plastics (water bottles, plastic bags, etc.)? _____Yes _____No
D. Encourage others (friends/ family) to make more eco-friendly decisions (shorter showers, recycling, etc.)? _____Yes _____No
E. Talk to others about ways they can Improve the environment? _____Yes _____No

5. Please answer yes or no to the following questions. Since your child began participating in the Ocean Guardian Program:

A. Is your child recycling more? _____Yes _____No
B. Is your child trying to use less water? _____Yes _____No
C. Is your child less inclined to use single-use plastics (water bottles, plastic bags, etc.)? _____Yes _____No
D. Is your child encouraging others (friends/ family) to make more eco-friendly decisions (shorter showers, recycling, etc.)? _____Yes _____No
E. Is your child talking to others about ways they can improve the environment _____Yes _____No
If yes, please identify the relationship of the person(s) your students are talking to (i.e. friends, siblings, your friends, etc.)_____

6. Please answer yes or no to the following questions. Prior to the start of the school year did you

A. Recycle? _____Yes _____No
B. Minimize water use? _____Yes _____No
C. Minimize your use of single-use plastics (water bottles, plastic bags, etc.)? _____Yes _____No
D. Encourage others (friends/ family) to make eco-friendly decisions (shorter showers, recycling, etc.)? _____Yes _____No

7. Please answer yes or no to the following questions. Since your child started working with the Ocean Guardian Program, are you;

A. Recycling more? _____Yes _____No
B. Trying to use less water? _____Yes _____No
C. Less inclined to use single-use plastics (water bottles, plastic bags, etc.)? _____Yes _____No
D. Encouraging others (friends/ family) to make eco-friendly decisions (shorter showers, recycling, etc.)? _____Yes _____No

8. If you perceive any other noticeable shifts in your child's behavior/ attitude resulting from the program, please explain them below:

_____
_____
_____

9. In your opinion, do you think the Ocean Guardian School Program positively influenced your child's perception of watersheds, ocean ecosystems and our natural world?

strongly disagree			neutral			strongly agree
1	2	3	4	5	6	7

10. In your opinion, do you think the Ocean Guardian School Program positively influenced your personal perception of watersheds, ocean ecosystems and our natural world?

strongly disagree			neutral			strongly agree
1	2	3	4	5	6	7

11. Please rate the level of environmental impact resulting from your child's Ocean Guardian School project:

Very Negative				Neutral		Very Positive
1	2	3	4	5	6	7

Value of the Program

The Ocean Guardian School program awards federally-funded grants to selected schools for hands-on, ocean stewardship related projects. Any K-12 school may apply for an Ocean Guardian School grant. Schools may receive up to 5 years of funding for a single project.

As you answer the questions below, please consider the following: If an Ocean Guardian grant was NOT available, would you be willing to pay for Ocean Guardian school related activities at your school? You would pay for this program through increased school supply and field trip costs to have your student receive similar benefits of the Ocean Guardian Program next year, if federal funding is not available.

For the next set of questions please evaluate each set of choices;

- Status Quo presents an option without the Ocean Guardian Program in your child's school.

- Options A and B present additional opportunities to your student for hands on activities and increased opportunity to work with additional grade levels and/or faculty, staff and community members.

Think about the options as similar to when you purchase any good or service that has different features. A car, for example, has many features (e.g. car company, model, color, type of interior, automatic transmission, size of engine, miles per gallon, radio, CD player, etc.). Similarly, the Ocean Guardian Program has many features and you may value having different features.

You will always have the option of choosing the Status Quo and it will cost you nothing ($0).

Remember, when making your choice, you have other competing uses for your income and if you choose to spend more on the Ocean Guardian Program you will have less to spend on other goods and services.

The options may seem similar but please evaluate each individually.

Ocean Guardian provides students with various opportunities for hands on experiences, such as learning about refuse and recycling, marine debris, watershed restoration, schoolyard habitat and energy use/ocean health. For each of the next choices please use the following definitions when selecting your answer.

Ocean Guardian Program	Definition
Refuse/reduce/reuse/recycle/compost	Learning how to reduce waste and implement programs to reduce their waste within the school
Marine Debris	Learning how to reduce one-time use plastics (such as plastic water bottles) and participating in projects to reduce trash entering the ocean
Watershed Restoration	Learning about local watersheds and participating in projects to improve the local watershed; such as removing invasive species, planting native species or improving fish habitat
Schoolyard Habitat/ Garden	Learning about ocean-friendly gardens and habitats and participating in projects to create/ improve school gardens and yards with eco-friendly practices and methods such as planting native species, reducing run-off, installing rain barrels
Energy Use and Ocean Health	Learning about how fossil fuel-based energy use impacts the ocean; participating in projects to reduce energy use and/or implementing renewable energy projects such as wind or solar

Choice Question 1:

Please review the following options and select either the Option A (Status Quo), Option B or Option C.

Option A Status Quo	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: - Watershed Restoration - Schoolyard Habitat/Garden - Energy Use and Ocean Health	In this option, your child would participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris
	In this version, your child would **NOT** participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris	In this version, your child would **NOT** participate in the following types of projects: - Watershed Restoration - Schoolyard Habitat/Garden - Energy Use and Ocean Health
Your child would interact with students and teachers in their grade, as they normally do.	In addition to interacting with students and teachers in their grade, your student would also interact with <u>students and teachers in other grades.</u>	In addition to interacting with students and teachers in their grade and other grades, your student would also interact with <u>local community members</u>, such as small businesses, non-profits or local government officials.
This program would cost you **$0**	This program would cost you **$70**	This program would cost you **$40**
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 1a. Which option do you prefer? _____ A _____B ____ C

Choice 1b. Please provide a brief comment that helps us understand why you chose the option as your most preferred. _____

Choice 1c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)

____not sure at all ___slightly sure ___moderately sure ___very sure ___extremely sure

Choice Question 2:
Please review the following options and select either the Version A (Status Quo), Version B or Version C.

Option A Status Quo	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris - Schoolyard Habitat/Garden - Energy Use and Ocean Health	In this option, your child would participate in the following types of projects: - Watershed Restoration
	In this version, your child would **NOT** participate in the following types of projects: - Watershed Restoration	In this version, your child would **NOT** participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris - Schoolyard Habitat/Garden - Energy Use and Ocean Health
Your child would interact with students and teachers in their grade, as they normally do.	In addition to interacting with students and teachers in their grade, your student would also interact with <u>students and teachers in other grades.</u>	As part of their projects, your child would interact with <u>students and teachers in their grade</u>.
This program would cost you **$0**	This program would cost you **$175**	This program would cost you **$110**
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 2a. Which option do you prefer? _____ A _____B ____ C

Choice 2b. Please provide a brief comment that helps us understand why you chose the option as your most preferred. _____

Choice 2c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)
____not sure at all ___slightly sure ___moderately sure ___very sure ___extremely sure

Choice Question 3:
Please review the following options and select either the Version A (Status Quo), Version B or Version C.

<table>
<tr><th>Option A
Status Quo</th><th>Option B</th><th>Option C</th></tr>
<tr><td rowspan="2">In this option, your child would not participate in any Ocean Guardian School projects.</td><td>In this option, your child would participate in the following types of projects:

- Marine Debris
- Watershed Restoration
- Schoolyard Habitat/Garden
- Energy Use and Ocean Health</td><td>In this option, your child would participate in the following types of projects:

- Refuse/Reduce/Reuse/ Recycle/Compost</td></tr>
<tr><td>In this version, your child would NOT participate in the following types of projects:

- Refuse/Reduce/Reuse/ Recycle/Compost</td><td>In this version, your child would NOT participate in the following types of projects:

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<tr><td>This program would cost you $0</td><td>This program would cost you $110</td><td>This program would cost you $175</td></tr>
<tr><td></td><td>This amount would be paid by you through additional school supply and field trip costs next school year.</td><td>This amount would be paid by you through additional school supply and field trip costs next school year.</td></tr>
</table>

Choice 3a. Which option do you prefer? _____ A _____B ____ C

Choice 3b. Please provide a brief comment that helps us understand why you chose the option as your most preferred. _____

Choice 3c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)

____not sure at all ___slightly sure ___moderately sure ___very sure ___extremely sure

Choice Question 4:

Please review the following options and select either the Version A (Status Quo), Version B or Version C.

Option A Status Quo	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: - Marine Debris - Watershed Restoration - Energy Use and Ocean Health	In this option, your child would participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Schoolyard Habitat/Garden
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Your child would interact with students and teachers in their grade, as they normally do.	As part of their projects, your child would interact with <u>students and teachers in their grade</u>.	In addition to interacting with students and teachers in their grade, your student would also interact with <u>students and teachers in other grades.</u>
This program would cost you **$0**	This program would cost you **$175**	This program would cost you **$110**
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 4a. Which option do you prefer? _____ A _____B ____ C

Choice 4b. Please provide a brief comment that helps us understand why you chose the option as your most preferred. _____

Choice 4c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)

____not sure at all ___slightly sure ___moderately sure ___very sure ___extremely sure

Choice Question 5:
Please review the following options and select either the Version A (Status Quo), Version B or Version C.

Option A Status Quo	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris - Watershed Restoration - Energy Use and Ocean Health	In this option, your child would participate in the following types of projects: - Schoolyard Habitat/Garden
	In this version, your child would **NOT** participate in the following types of projects: - Schoolyard Habitat/Garden	In this version, your child would **NOT** participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris - Watershed Restoration - Energy Use and Ocean Health
Your child would interact with students and teachers in their grade, as they normally do.	In addition to interacting with students and teachers in their grade, your student would also interact with <u>students and teachers in other grades.</u>	In addition to interacting with students and teachers in their grade and other grades, your student would also interact with <u>local community members</u>, such as small businesses, non-profits or local government officials.
This program would cost you **$0**	This program would cost you **$40**	This program would cost you **$70**
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 5a. Which option do you prefer? _____ A _____B _____ C

Choice 5b. Please provide a brief comment that helps us understand why you chose the option as your most preferred. _____

Choice 5c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)
____not sure at all ___slightly sure ___moderately sure ___very sure ___extremely sure

If you selected the status quo for one or more of the past 5 questions please answer the next question. If not skip to Q2.

1. Please select how strongly you disagree or agree with the following statements

	strongly disagree			*neutral*			*strongly agree*
a. I should not have to pay for my child's education	*1*	*2*	*3*	*4*	*5*	*6*	*7*
b. Costs should not be a factor in a child's education	*1*	*2*	*3*	*4*	*5*	*6*	*7*
c. I do not believe these scenarios accurately reflect the education my child could receive	*1*	*2*	*3*	*4*	*5*	*6*	*7*
d. The school system should not be responsible for teaching my child about conservation	*1*	*2*	*3*	*4*	*5*	*6*	*7*
e. I cannot afford to pay for the other options	*1*	*2*	*3*	*4*	*5*	*6*	*7*
f. I should not have to pay any additional monies for my child to participate in this program	*1*	*2*	*3*	*4*	*5*	*6*	*7*

2. Please rate how strongly you agree or disagree with each of the following statements:

	strongly disagree			*neutral*			*strongly agree*
a. It is important for my child to interact with other grade levels	*1*	*2*	*3*	*4*	*5*	*6*	*7*
b. It is important for my child to interact with community members	*1*	*2*	*3*	*4*	*5*	*6*	*7*
c. It is important for my child to learn about recycling	*1*	*2*	*3*	*4*	*5*	*6*	*7*
d. It is important for my child to learn about marine debris and its impacts	*1*	*2*	*3*	*4*	*5*	*6*	*7*
e. It is important for my child to learn about watershed restoration	*1*	*2*	*3*	*4*	*5*	*6*	*7*
f. It is important for my child to learn about local species, habitats and gardens	*1*	*2*	*3*	*4*	*5*	*6*	*7*
g. It is important for my child to learn about energy use	*1*	*2*	*3*	*4*	*5*	*6*	*7*
h. It is important for my child to learn about ocean health	*1*	*2*	*3*	*4*	*5*	*6*	*7*

3. From the list of statements below please select you think your child should learn about in school. (check all that apply).

a. _____ The importance of protecting wildlife and ocean habitat
b. _____ The importance of protecting endangered species
c. _____ Humans can impact the natural world to the point that it is difficult to restore
d. _____ The importance of protecting rare plants and species to maintain genetic diversity.

4. Please rate your level of support for the following types of educational programs in schools

		Do Not Support			Neutral			Highly Support
a.	Environmental education	1	2	3	4	5	6	7
b.	Outdoor education	1	2	3	4	5	6	7
c.	Art	1	2	3	4	5	6	7
d.	Music education	1	2	3	4	5	6	7
e.	Mathematics	1	2	3	4	5	6	7
f.	Sciences	1	2	3	4	5	6	7
g.	Natural Resource Conservation	1	2	3	4	5	6	7

5. What do you like most about the Ocean Guardian School Program?

_____

_____

6. What would you change about the Ocean Guardian School Program?

_____

_____

7. Please include any other comments about the program:

_____

_____

8. What is your child's age? _____

9. Is your child Hispanic or Latino?
___YES ___NO

10. What is your child's race? (Mark all that apply)
__ White __ Black or African American __ American Indian or Alaska Native
__ Asian __ Native Hawaiian or Other Pacific Islander
__ Other:_____

11. What is your child's gender?
___ Male ___ Female

12. What is your child's first language?
_____English _____Spanish _____Other (please write-in)

13. How many days of school has your child missed this past school year? _____

14. Please answer yes or no to the following questions:

a.	Do you volunteer at your student's school	_____Yes	_____No
b.	Do you help your child with their math homework	_____Yes	_____No
c.	Do you help your child with their science homework	_____Yes	_____No
d.	Do you help your child with Ocean Guardian homework	_____Yes	_____No
e.	Have you participated in an Ocean Guardian activity	_____Yes	_____No
f.	Have you had contact (written or verbal) with your child's Ocean Guardian Teacher	_____Yes	_____No

Questions 15-20 are regarding the parent.

15. Which of the following includes your age?
___18-30 ___31-40 ___41-50 ___51-60 ___over 60

16. Are you Hispanic or Latino?
___YES ___NO

17. What is your race? (Mark all that apply)
__ White __ Black or African American __ American Indian or Alaska Native
__ Asian __ Native Hawaiian or Other Pacific Islander
__ Other:_____

18. What is your gender?
___ Male ___ Female ___Decline to state

19. Employment Status:

___ Full-time
___ Part-time
___ Unemployed
___ Stay at-home parent
___ Student
___ Other:

20. What is the highest level of education completed?

___ High School/ GED
___ AA
___ Bachelor's
___ Graduate
___ Other:

21. How many people are in your household? _____

22. How many adults 18+ are in your household? _____

23. How many children under the age of 18 are in your household? _____

24. Income (Household): (Check one)

___ $0 - $10,000
___ $10,001- $20,000
___ $20,000 - $30,000
___ $30,000 - $40,000
___ $40,000 - $50,000
___ $50,000 - $75,000
___ $75,000 - $100,000
___ $100,000+

Thank you for your participation in the survey!

Version B Choice Questions

Choice Question 1:

Please review the following options and select either the Option A (Status Quo), Option B or Option C.

Option A Status Quo	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Energy Use and Ocean Health	In this option, your child would participate in the following types of projects: - Marine Debris - Watershed Restoration - Schoolyard Habitat/Garden
	In this version, your child would **NOT** participate in the following types of projects: - Marine Debris - Watershed Restoration - Schoolyard Habitat/Garden	In this version, your child would **NOT** participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Energy Use and Ocean Health
Your child would interact with students and teachers in their grade, as they normally do.	As part of their projects, your child would interact with <u>students and teachers in their grade</u>.	In addition to interacting with students and teachers in their grade and other grades, your student would also interact with <u>local community members</u>, such as small businesses, non-profits or local government officials.
This program would cost you **$0**	This program would cost you **$70**	This program would cost you **$40**
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 1a. Which option do you prefer? _____ A _____B ____ C

Choice 1b. Please provide a brief comment that helps us understand why you chose the option as your most preferred.

_____

Choice 1c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)

____not sure at all ___slightly sure ___moderately sure ___very sure ___extremely sure

Choice Question 2:

Please review the following options and select either the Version A (Status Quo), Version B or Version C.

<table>
<tr><th>Option A
Status Quo</th><th>Option B</th><th>Option C</th></tr>
<tr><td rowspan="2">In this option, your child would not participate in any Ocean Guardian School projects.</td><td>In this option, your child would participate in the following types of projects:

- Marine Debris
- Watershed Restoration
- Schoolyard Habitat/Garden</td><td>In this option, your child would participate in the following types of projects:

-Refuse/Reduce/Reuse/ Recycle/Compost
- Energy Use and Ocean Health</td></tr>
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-Refuse/Reduce/Reuse/ Recycle/Compost
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<tr><td>This program would cost you $0</td><td>This program would cost you $40</td><td>This program would cost you $70</td></tr>
<tr><td></td><td>This amount would be paid by you through additional school supply and field trip costs next school year.</td><td>This amount would be paid by you through additional school supply and field trip costs next school year.</td></tr>
</table>

Choice 2a. Which option do you prefer? _____ A _____B ____ C

Choice 2b. Please provide a brief comment that helps us understand why you chose the option as your most preferred.

_____

Choice 2c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)

____not sure at all ___slightly sure ___moderately sure ___very sure ___extremely sure

Choice Question 3:
Please review the following options and select either the Version A (Status Quo), Version B or Version C.

Option A Status Quo	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: - Watershed Restoration - Energy Use and Ocean Health	In this option, your child would participate in the following types of projects: - Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris - Schoolyard Habitat/Garden
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Your child would interact with students and teachers in their grade, as they normally do.	In addition to interacting with students and teachers in their grade, your student would also interact with students and teachers in other grades.	In addition to interacting with students and teachers in their grade and other grades, your student would also interact with local community members, such as small businesses, non-profits or local government officials.
This program would cost you **$0**	This program would cost you **$110**	This program would cost you **$70**
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 3a. Which option do you prefer? _____ A _____B ____ C

Choice 3b. Please provide a brief comment that helps us understand why you chose the option as your most preferred.

_____

Choice 3c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)
____not sure at all ___slightly sure ___moderately sure ___very sure
___extremely sure

Choice Question 4:

Please review the following options and select either the Version A (Status Quo), Version B or Version C.

Option A Status Quo	Option B	Option C
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	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 4a. Which option do you prefer? _____ A _____B ____ C

Choice 4b. Please provide a brief comment that helps us understand why you chose the option as your most preferred.

_____

Choice 4c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)

____not sure at all ___slightly sure ___moderately sure ___very sure ___extremely sure

Choice Question 5:
Please review the following options and select either the Version A (Status Quo), Version B or Version C.

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- Marine Debris
- Schoolyard Habitat/Garden
- Energy Use and Ocean Health</td><td>In this option, your child would participate in the following types of projects:

-Refuse/Reduce/Reuse/ Recycle/Compost
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</table>

Choice 5a. Which option do you prefer? _____ A _____B _____ C

Choice 5b. Please provide a brief comment that helps us understand why you chose the option as your most preferred.

_____

Choice 5c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)

____not sure at all ___slightly sure ___moderately sure ___very sure ___extremely sure

Version C Choice Questions

Choice Question 1:
Please review the following options and select either the Option A (Status Quo), Option B or Option C.

Option A Status Quo	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Watershed Restoration - Schoolyard Habitat/Garden - Energy Use and Ocean Health	In this option, your child would participate in the following types of projects: - Marine Debris
	In this version, your child would **NOT** participate in the following types of projects: - Marine Debris	In this version, your child would **NOT** participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Watershed Restoration - Schoolyard Habitat/Garden - Energy Use and Ocean Health
Your child would interact with students and teachers in their grade, as they normally do.	In addition to interacting with students and teachers in their grade and other grades, your student would also interact with <u>local community members</u>, such as small businesses, non-profits or local government officials.	In addition to interacting with students and teachers in their grade, your student would also interact with <u>students and teachers in other grades.</u>
This program would cost you **$0**	This program would cost you **$110**	This program would cost you **$70**
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 1a. Which option do you prefer? _____ A _____B ____ C

Choice 1b. Please provide a brief comment that helps us understand why you chose the option as your most preferred.

_____

Choice 1c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)
____not sure at all ___slightly sure ___moderately sure ___very sure
___extremely sure

Choice Question 2:
Please review the following options and select either the Version A (Status Quo), Version B or Version C.

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$0</td><td>This program would cost you
$40</td><td>This program would cost you
$70</td></tr>
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Choice 2a. Which option do you prefer? _____ A _____B ____ C

Choice 2b. Please provide a brief comment that helps us understand why you chose the option as your most preferred._____

Choice 2c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)
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Choice Question 3:
Please review the following options and select either the Version A (Status Quo), Version B or Version C.

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- Refuse/Reduce/Reuse/ Recycle/Compost
- Marine Debris
- Watershed Restoration</td><td>In this option, your child would participate in the following types of projects:

- Schoolyard Habitat/Garden
- Energy Use and Ocean Health</td></tr>
<tr><td>In this version, your child would NOT participate in the following types of projects:

- Schoolyard Habitat/Garden
- Energy Use and Ocean Health</td><td>In this version, your child would NOT participate in the following types of projects:

- Refuse/Reduce/Reuse/ Recycle/Compost
- Marine Debris
- Watershed Restoration</td></tr>
<tr><td>Your child would interact with students and teachers in their grade, as they normally do.</td><td>In addition to interacting with students and teachers in their grade, your student would also interact with <u>students and teachers in other grades.</u></td><td>In addition to interacting with students and teachers in their grade and other grades, your student would also interact with <u>local community members</u>, such as small businesses, non-profits or local government officials.</td></tr>
<tr><td>This program would cost you $0</td><td>This program would cost you $110</td><td>This program would cost you $175</td></tr>
<tr><td></td><td>This amount would be paid by you through additional school supply and field trip costs next school year.</td><td>This amount would be paid by you through additional school supply and field trip costs next school year.</td></tr>
</table>

Choice 3a. Which option do you prefer? _____ A _____B ____ C

Choice 3b. Please provide a brief comment that helps us understand why you chose the option as your most preferred.

_____

Choice 3c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)
____not sure at all ___slightly sure ___moderately sure ___very sure
___extremely sure

Choice Question 4:
Please review the following options and select either the Version A (Status Quo), Version B or Version C.

Option A Status Quo	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Schoolyard Habitat/Garden - Watershed Restoration - Energy Use and Ocean Health	In this option, your child would participate in the following types of projects: - Marine Debris
	In this version, your child would **NOT** participate in the following types of projects: - Marine Debris	In this version, your child would **NOT** participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Schoolyard Habitat/Garden - Watershed Restoration - Energy Use and Ocean Health
Your child would interact with students and teachers in their grade, as they normally do.	In addition to interacting with students and teachers in their grade and other grades, your student would also interact with <u>local community members</u>, such as small businesses, non-profits or local government officials.	As part of their projects, your child would interact with <u>students and teachers in their grade</u>.
This program would cost you **$0**	This program would cost you **$40**	This program would cost you **$70**
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 4a. Which option do you prefer? _____ A _____B ____ C

Choice 4b. Please provide a brief comment that helps us understand why you chose the option as your most preferred._____

Choice 4c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)
____not sure at all ___slightly sure ___moderately sure ___very sure
___extremely sure

Choice Question 5:
Please review the following options and select either the Version A (Status Quo), Version B or Version C.

Option A Status Quo	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: - Watershed Restoration - Energy Use and Ocean Health	In this option, your child would participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris - Schoolyard Habitat/Garden
	In this version, your child would **NOT** participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris - Schoolyard Habitat/Garden	In this version, your child would **NOT** participate in the following types of projects: - Watershed Restoration - Energy Use and Ocean Health
Your child would interact with students and teachers in their grade, as they normally do.	In addition to interacting with students and teachers in their grade and other grades, your student would also interact with <u>local community members</u>, such as small businesses, non-profits or local government officials.	In addition to interacting with students and teachers in their grade, your student would also interact with <u>students and teachers in other grades.</u>
This program would cost you **$0**	This program would cost you **$40**	This program would cost you **$20**
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 5a. Which option do you prefer? _____ A _____B _____ C

Choice 5b. Please provide a brief comment that helps us understand why you chose the option as your most preferred.

_____

Choice 5c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)
____not sure at all ___slightly sure ___moderately sure ___very sure
___extremely sure

Version D Choice Questions

Choice Question 1:

Please review the following options and select either the Option A (Status Quo), Option B or Option C.

<table>
<tr><th>Option A
Status Quo</th><th>Option B</th><th>Option C</th></tr>
<tr><td rowspan="2">In this option, your child would not participate in any Ocean Guardian School projects.</td><td>In this option, your child would participate in the following types of projects:

-Refuse/Reduce/Reuse/ Recycle/Compost
- Watershed Restoration
- Schoolyard Habitat/Garden
- Energy Use and Ocean Health</td><td>In this option, your child would participate in the following types of projects:

- Marine Debris</td></tr>
<tr><td>In this version, your child would NOT participate in the following types of projects:

- Marine Debris</td><td>In this version, your child would NOT participate in the following types of projects:

-Refuse/Reduce/Reuse/ Recycle/Compost
- Watershed Restoration
- Schoolyard Habitat/Garden
- Energy Use and Ocean Health</td></tr>
<tr><td>Your child would interact with students and teachers in their grade, as they normally do.</td><td>In addition to interacting with students and teachers in their grade, your student would also interact with <u>students and teachers in other grades.</u></td><td>As part of their projects, your child would interact with <u>students and teachers in their grade</u>.</td></tr>
<tr><td>This program would cost you $0</td><td>This program would cost you $20</td><td>This program would cost you $40</td></tr>
<tr><td></td><td>This amount would be paid by you through additional school supply and field trip costs next school year.</td><td>This amount would be paid by you through additional school supply and field trip costs next school year.</td></tr>
</table>

Choice 1a. Which option do you prefer? _____ A _____B ____ C

Choice 1b. Please provide a brief comment that helps us understand why you chose the option as your most preferred. _____

Choice 1c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)
____not sure at all ___slightly sure ___moderately sure ___very sure
___extremely sure

Choice Question 2:
Please review the following options and select either the Version A (Status Quo), Version B or Version C.

Option A Status Quo	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: - Watershed Restoration	In this option, your child would participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris - Schoolyard Habitat/Garden - Energy Use and Ocean Health
	In this version, your child would **NOT** participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris - Schoolyard Habitat/Garden - Energy Use and Ocean Health	In this version, your child would **NOT** participate in the following types of projects: - Watershed Restoration
Your child would interact with students and teachers in their grade, as they normally do.	In addition to interacting with students and teachers in their grade, your student would also interact with <u>students and teachers in other grades.</u>	As part of their projects, your child would interact with <u>students and teachers in their grade</u>.
This program would cost you **$0**	This program would cost you **$175**	This program would cost you **$110**
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 2a. Which option do you prefer? _____ A _____B ____ C

Choice 2b. Please provide a brief comment that helps us understand why you chose the option as your most preferred.

_____

Choice 2c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)
____not sure at all ___slightly sure ___moderately sure ___very sure
___extremely sure

Choice Question 3:
Please review the following options and select either the Version A (Status Quo), Version B or Version C.

Option A Status Quo	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: - Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris - Energy Use and Ocean Health	In this option, your child would participate in the following types of projects: - Watershed Restoration - Schoolyard Habitat/Garden
	In this version, your child would **NOT** participate in the following types of projects: - Watershed Restoration - Schoolyard Habitat/Garden	In this version, your child would **NOT** participate in the following types of projects: - Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris - Energy Use and Ocean Health
Your child would interact with students and teachers in their grade, as they normally do.	In addition to interacting with students and teachers in their grade, your student would also interact with students and teachers in other grades.	As part of their projects, your child would interact with students and teachers in their grade.
This program would cost you **$0**	This program would cost you **$110**	This program would cost you **$70**
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 3a. Which option do you prefer? _____ A _____B ____ C

Choice 3b. Please provide a brief comment that helps us understand why you chose the option as your most preferred.

_____

Choice 3c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)

____not sure at all ___slightly sure ___moderately sure ___very sure ___extremely sure

Choice Question 4:

Please review the following options and select either the Version A (Status Quo), Version B or Version C.

Option A Status Quo	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: - Marine Debris - Watershed Restoration - Schoolyard Habitat/Garden	In this option, your child would participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Energy Use and Ocean Health
	In this version, your child would **NOT** participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Energy Use and Ocean Health	In this version, your child would **NOT** participate in the following types of projects: - Marine Debris - Watershed Restoration - Schoolyard Habitat/Garden
Your child would interact with students and teachers in their grade, as they normally do.	As part of their projects, your child would interact with <u>students and teachers in their grade</u>.	In addition to interacting with students and teachers in their grade and other grades, your student would also interact with <u>local community members</u>, such as small businesses, non-profits or local government officials.
This program would cost you **$0**	This program would cost you **$175**	This program would cost you **$110**
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 4a. Which option do you prefer? _____ A _____B ____ C

Choice 4b. Please provide a brief comment that helps us understand why you chose the option as your most preferred.

_____

Choice 4c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)

____not sure at all ___slightly sure ___moderately sure ___very sure ___extremely sure

Choice Question 5:
Please review the following options and select either the Version A (Status Quo), Version B or Version C.

<table>
<tr><th>Option A
Status Quo</th><th>Option B</th><th>Option C</th></tr>
<tr><td rowspan="2">In this option, your child would not participate in any Ocean Guardian School projects.</td><td>In this option, your child would participate in the following types of projects:</td><td>In this option, your child would participate in the following types of projects:

-Refuse/Reduce/Reuse/ Recycle/Compost
- Watershed Restoration
- Marine Debris
- Schoolyard Habitat/Garden
- Energy Use and Ocean Health</td></tr>
<tr><td>In this version, your child would NOT participate in the following types of projects:

-Refuse/Reduce/Reuse/ Recycle/Compost
- Watershed Restoration
- Marine Debris
- Schoolyard Habitat/Garden
- Energy Use and Ocean Health</td><td>In this version, your child would NOT participate in the following types of projects:</td></tr>
<tr><td>Your child would interact with students and teachers in their grade, as they normally do.</td><td>In addition to interacting with students and teachers in their grade and other grades, your student would also interact with <u>local community members</u>, such as small businesses, non-profits or local government officials.</td><td>As part of their projects, your child would interact with <u>students and teachers in their grade</u>.</td></tr>
<tr><td>This program would cost you $0</td><td>This program would cost you
$110</td><td>This program would cost you
$175</td></tr>
<tr><td></td><td>This amount would be paid by you through additional school supply and field trip costs next school year.</td><td>This amount would be paid by you through additional school supply and field trip costs next school year.</td></tr>
</table>

Choice 5a. Which option do you prefer? _____ A _____B _____ C
Choice 5b. Please provide a brief comment that helps us understand why you chose the option as your most preferred.

_____

Choice 5c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)
____not sure at all ___slightly sure ___moderately sure ___very sure
___extremely sure

Version E Choice Questions

Choice Question 1:
Please review the following options and select either the Option A (Status Quo), Option B or Option C.

Option A Status Quo	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris - Watershed Restoration - Schoolyard Habitat/Garden	In this option, your child would participate in the following types of projects: - Energy Use and Ocean Health
	In this version, your child would **NOT** participate in the following types of projects: - Energy Use and Ocean Health	In this version, your child would **NOT** participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris - Watershed Restoration - Schoolyard Habitat/Garden
Your child would interact with students and teachers in their grade, as they normally do.	In addition to interacting with students and teachers in their grade and other grades, your student would also interact with <u>local community members</u>, such as small businesses, non-profits or local government officials.	As part of their projects, your child would interact with <u>students and teachers in their grade</u>.
This program would cost you **$0**	This program would cost you **$70**	This program would cost you **$40**
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 1a. Which option do you prefer? _____ A _____B ____ C

Choice 1b. Please provide a brief comment that helps us understand why you chose the option as your most preferred. _____

Choice 1c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one) ____not sure at all ___slightly sure ___moderately sure ___very sure ___extremely sure

Choice Question 2:
Please review the following options and select either the Version A (Status Quo), Version B or Version C.

Option A Status Quo	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: - Schoolyard Habitat/Garden - Energy Use and Ocean Health	In this option, your child would participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris - Watershed Restoration
	In this version, your child would **NOT** participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Marine Debris - Watershed Restoration	In this version, your child would **NOT** participate in the following types of projects: - Schoolyard Habitat/Garden - Energy Use and Ocean Health
Your child would interact with students and teachers in their grade, as they normally do.	In addition to interacting with students and teachers in their grade, your student would also interact with students and teachers in other grades.	In addition to interacting with students and teachers in their grade and other grades, your student would also interact with local community members, such as small businesses, non-profits or local government officials.
This program would cost you **$0**	This program would cost you **$20**	This program would cost you **$40**
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 2a. Which option do you prefer? _____ A _____B ____ C

Choice 2b. Please provide a brief comment that helps us understand why you chose the option as your most preferred.

_____

Choice 2c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)

____not sure at all ___slightly sure ___moderately sure ___very sure ___extremely sure

Choice Question 3:
Please review the following options and select either the Version A (Status Quo), Version B or Version C.

Option A Status Quo	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: - Refuse/Reduce/Reuse/ Recycle/Compost - Watershed Restoration - Schoolyard Habitat/Garden	In this option, your child would participate in the following types of projects: - Marine Debris - Energy Use and Ocean Health
	In this version, your child would **NOT** participate in the following types of projects: - Marine Debris - Energy Use and Ocean Health	In this version, your child would **NOT** participate in the following types of projects: - Refuse/Reduce/Reuse/ Recycle/Compost - Watershed Restoration - Schoolyard Habitat/Garden
Your child would interact with students and teachers in their grade, as they normally do.	As part of their projects, your child would interact with students and teachers in their grade.	In addition to interacting with students and teachers in their grade and other grades, your student would also interact with local community members, such as small businesses, non-profits or local government officials.
This program would cost you **$0**	This program would cost you **$110**	This program would cost you **$70**
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 3a. Which option do you prefer? _____ A _____B ____ C

Choice 3b. Please provide a brief comment that helps us understand why you chose the option as your most preferred. _____

Choice 3c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)

____not sure at all ___slightly sure ___moderately sure ___very sure ___extremely sure

Choice Question 4:
Please review the following options and select either the Version A (Status Quo), Version B or Version C.

<table>
<tr><th>Option A
Status Quo</th><th>Option B</th><th>Option C</th></tr>
<tr><td rowspan="2">In this option, your child would not participate in any Ocean Guardian School projects.</td><td>In this option, your child would participate in the following types of projects:

- Schoolyard Habitat/Garden</td><td>In this option, your child would participate in the following types of projects:

-Refuse/Reduce/Reuse/ Recycle/Compost
- Marine Debris
- Watershed Restoration
- Energy Use and Ocean Health</td></tr>
<tr><td>In this version, your child would NOT participate in the following types of projects:

-Refuse/Reduce/Reuse/ Recycle/Compost
- Marine Debris
- Watershed Restoration
- Energy Use and Ocean Health</td><td>In this version, your child would NOT participate in the following types of projects:

- Schoolyard Habitat/Garden</td></tr>
<tr><td>Your child would interact with students and teachers in their grade, as they normally do.</td><td>In addition to interacting with students and teachers in their grade, your student would also interact with <u>students and teachers in other grades.</u></td><td>As part of their projects, your child would interact with <u>students and teachers in their grade</u>.</td></tr>
<tr><td>This program would cost you $0</td><td>This program would cost you $175</td><td>This program would cost you $110</td></tr>
<tr><td></td><td>This amount would be paid by you through additional school supply and field trip costs next school year.</td><td>This amount would be paid by you through additional school supply and field trip costs next school year.</td></tr>
</table>

Choice 4a. Which option do you prefer? _____ A _____B ____ C

Choice 4b. Please provide a brief comment that helps us understand why you chose the option as your most preferred. _____

Choice 4c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)
____not sure at all ___slightly sure ___moderately sure ___very sure
___extremely sure

Choice Question 5:
Please review the following options and select either the Version A (Status Quo), Version B or Version C.

Option A Status Quo	Option B	Option C
In this option, your child would not participate in any Ocean Guardian School projects.	In this option, your child would participate in the following types of projects: - Schoolyard Habitat/Garden - Energy Use and Ocean Health	In this option, your child would participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Watershed Restoration - Marine Debris
	In this version, your child would **NOT** participate in the following types of projects: -Refuse/Reduce/Reuse/ Recycle/Compost - Watershed Restoration - Marine Debris	In this version, your child would **NOT** participate in the following types of projects: - Schoolyard Habitat/Garden - Energy Use and Ocean Health
Your child would interact with students and teachers in their grade, as they normally do.	As part of their projects, your child would interact with <u>students and teachers in their grade</u>.	In addition to interacting with students and teachers in their grade, your student would also interact with <u>students and teachers in other grades.</u>
This program would cost you **$0**	This program would cost you **$20**	This program would cost you **$40**
	This amount would be paid by you through additional school supply and field trip costs next school year.	This amount would be paid by you through additional school supply and field trip costs next school year.

Choice 5a. Which option do you prefer? _____ A _____B _____ C

Choice 5b. Please provide a brief comment that helps us understand why you chose the option as your most preferred.

_____

Choice 5c. How sure are you that the option you chose as your most preferred among the three options is your most preferred? (check one)

____not sure at all ___slightly sure ___moderately sure ___very sure ___extremely sure

E. Frequency of Responses to Choice Questions

Each version has a set of five different choices, each with three different scenarios in each choice designed to test three variables: the types of programs (5 R's, Marine Debris, Watershed Restoration, Schoolyard Habitat/Garden, and Energy Use and Ocean Health) preferred, the level of involvement (have the student stay with only their grade and teachers, having the student interact with students in multiple grades other than their own, or having the student interact with local community members such as small businesses, non-profits, or local government officials); and the cost ($20, $40, $70, $110, or $175). Option A or "status quo" represents an option where there is no OGS program at the child's school. Options B and C include a combination on hands-on programs, levels of involvement, and costs associate with that choice. In each question parents were asked to choose which of the three scenarios (A, B, or C) they prefer, reasoning for their choice, and their level of confidence in the choice that they've chosen. The figures in this Appendix show the percentage of responses that chose each cost option. Each graph is broken up by survey version, and question number.

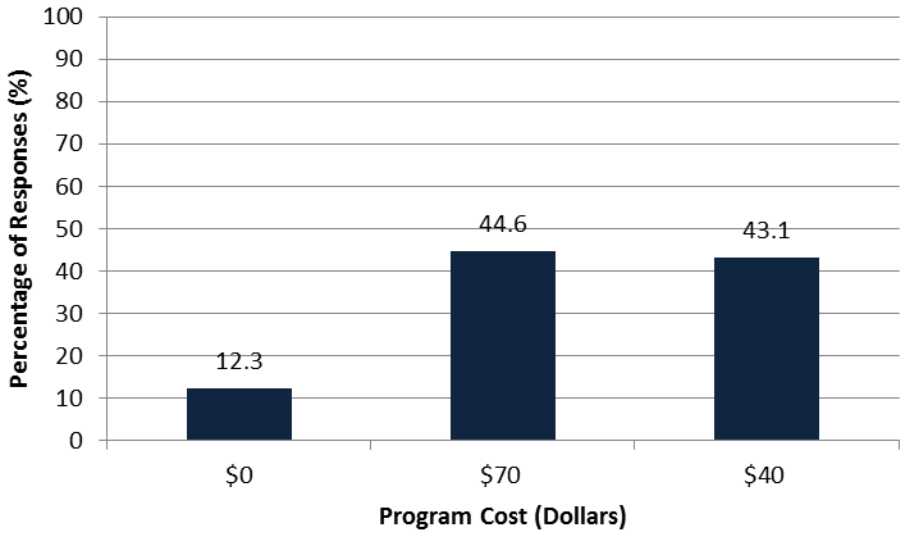

Figure E.1 Options Selected for Version A, Question 1

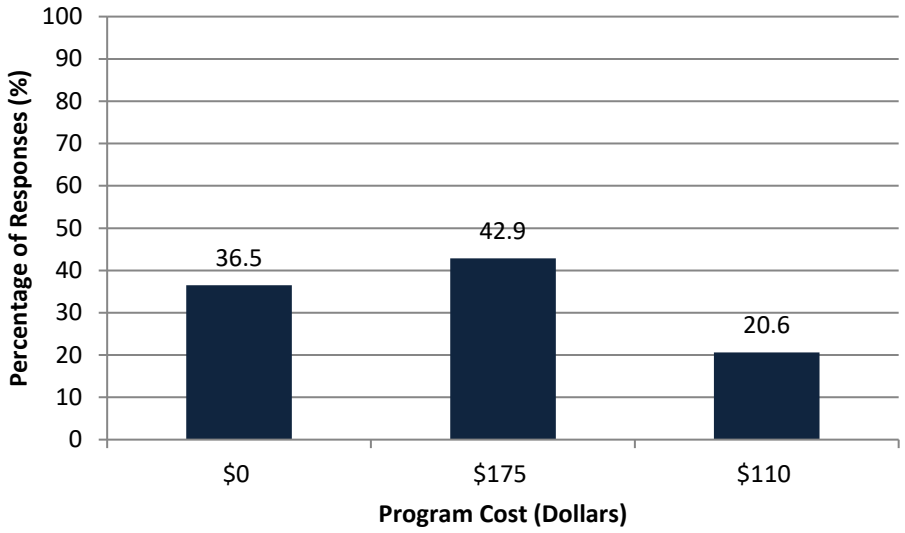

Figure E.2 Options Selected for Version A, Question 2

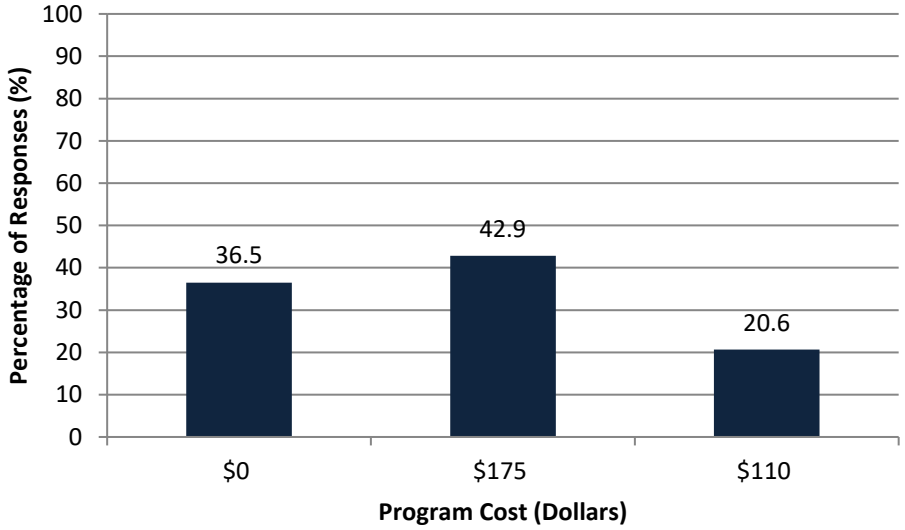

Figure E.3 Options Selected for Version A, Question 3

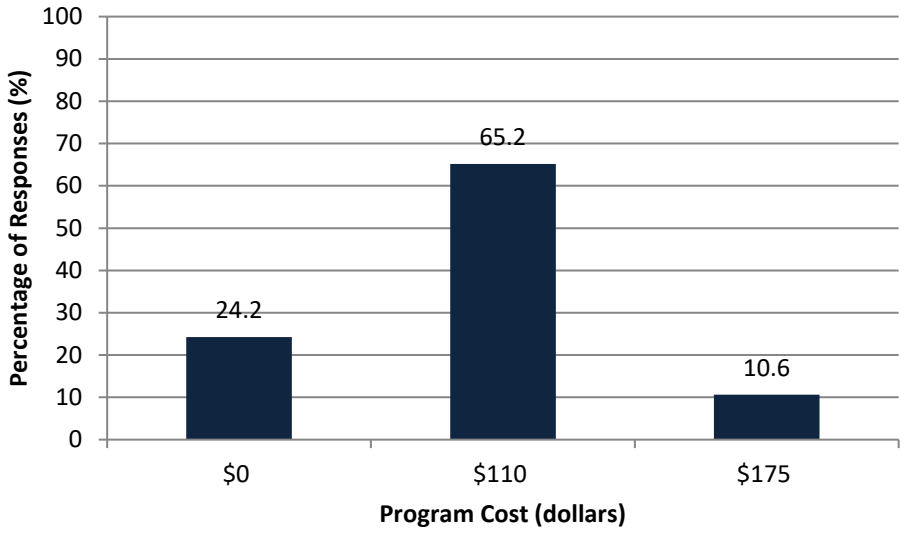

Figure E.4 Options Selected for Version A, Question 4

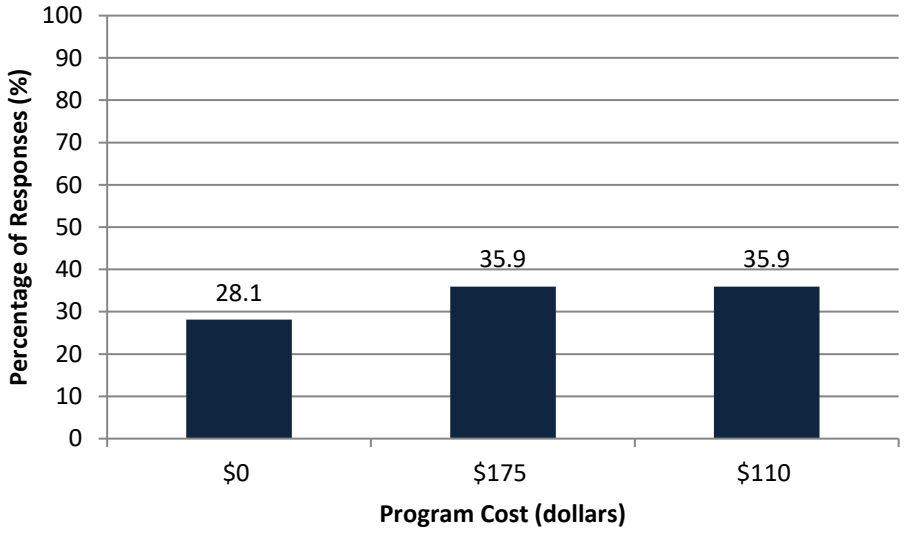

Figure E.5 Options Selected for Version A, Question 5

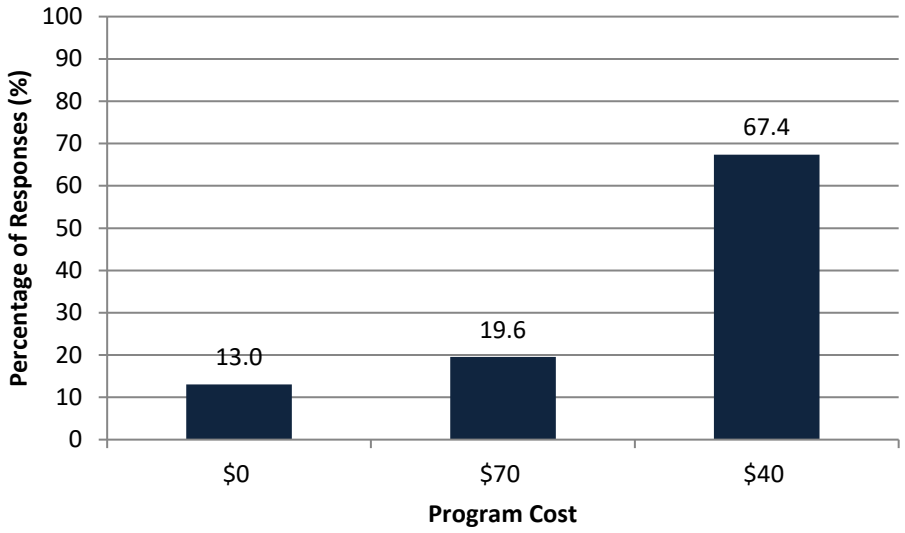

Figure E.6 Options Selected for Version B, Question 1

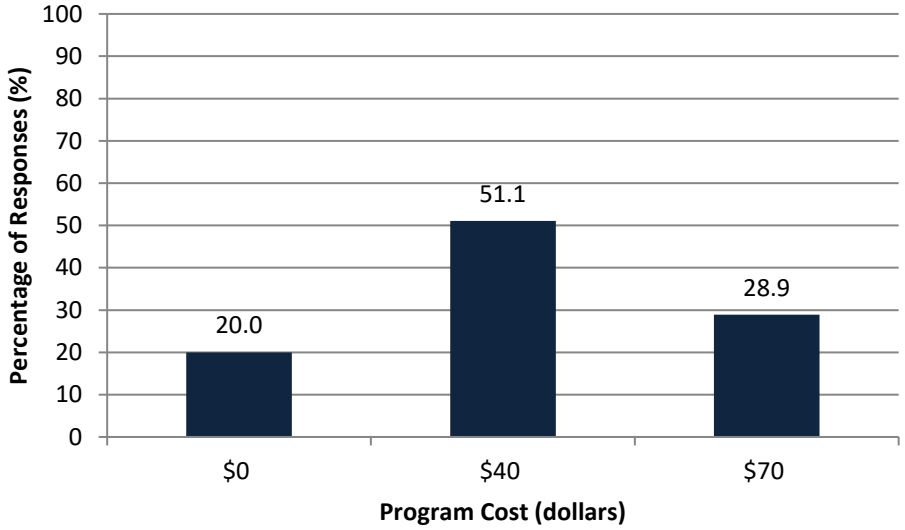

Figure E.7 Options Selected for Version B, Question 2

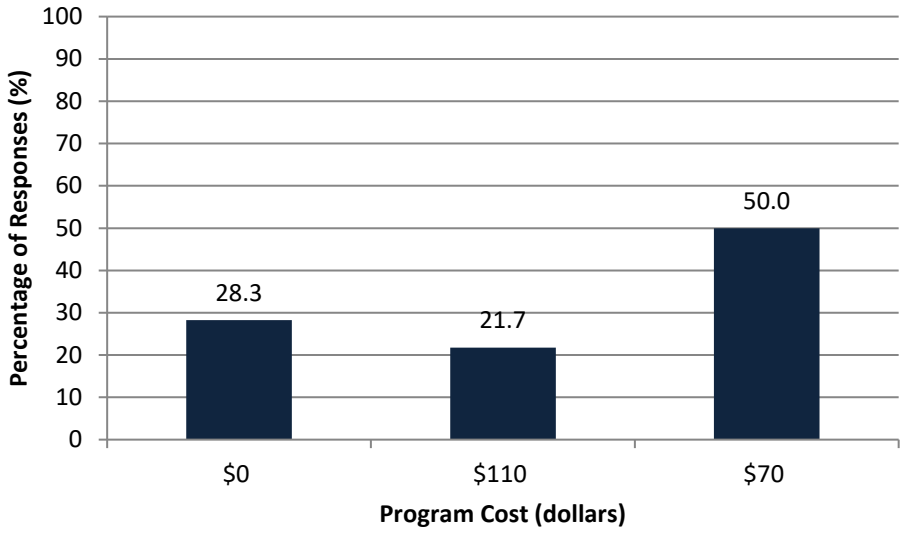

Figure E.8 Options Selected for Version B, Question 3

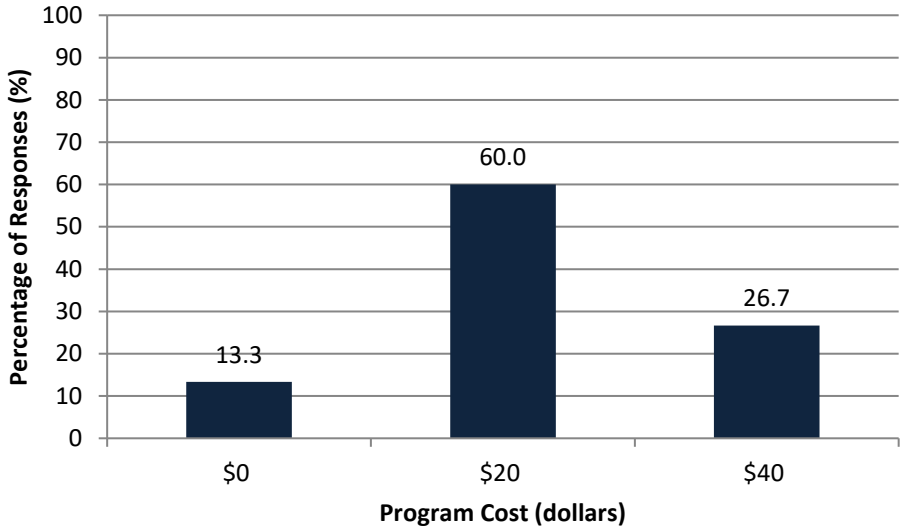

Figure E.9 Options Selected for Version B, Question 4

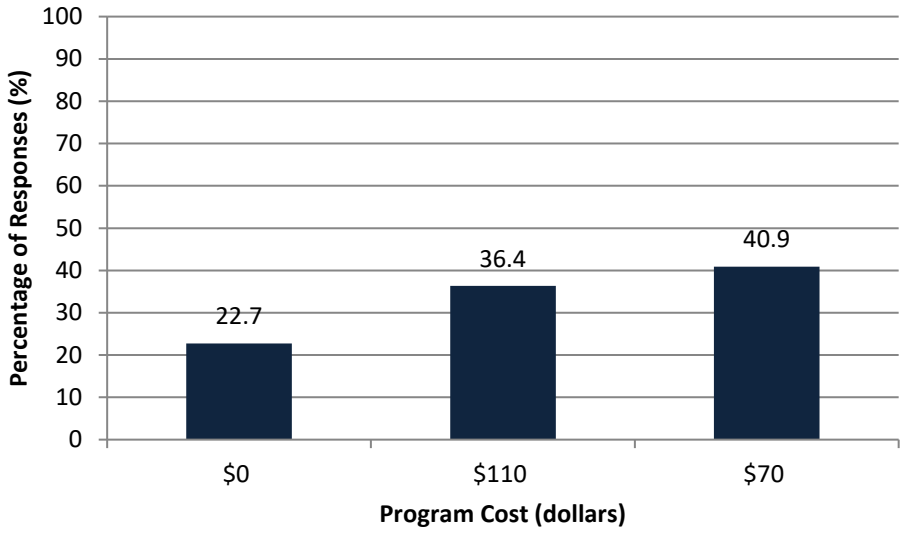

Figure E.10 Options Selected for Version B, Question 5

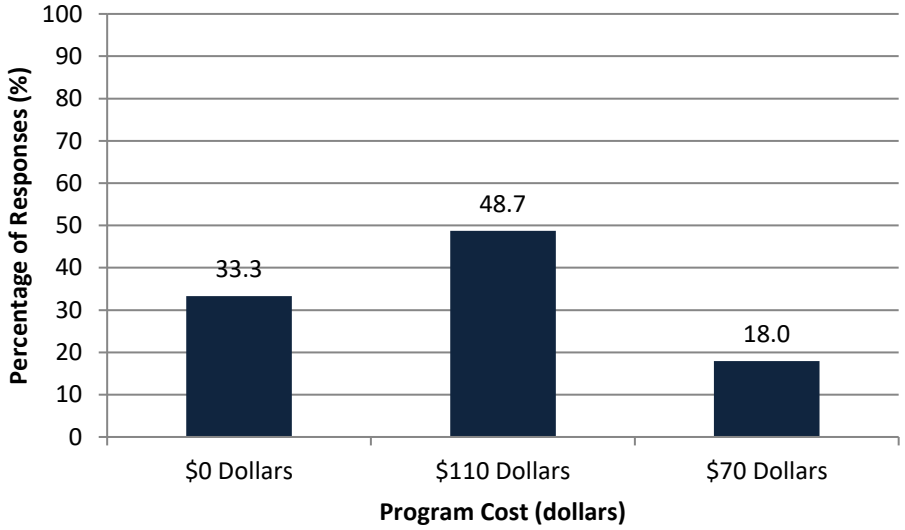

Figure E.11 Options Selected for Version C, Question 1

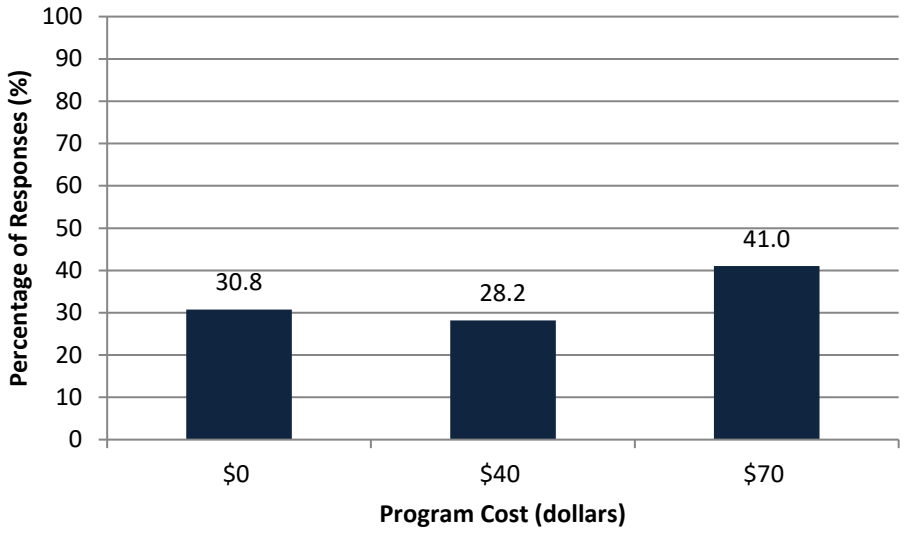

Figure E.12 Options Selected for Version C, Question 2

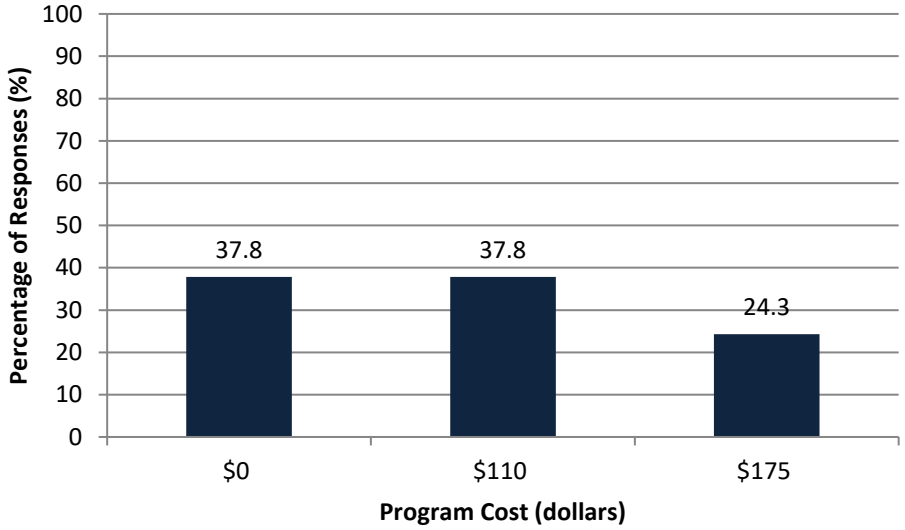

Figure E.13 Options Selected for Version C, Question 3

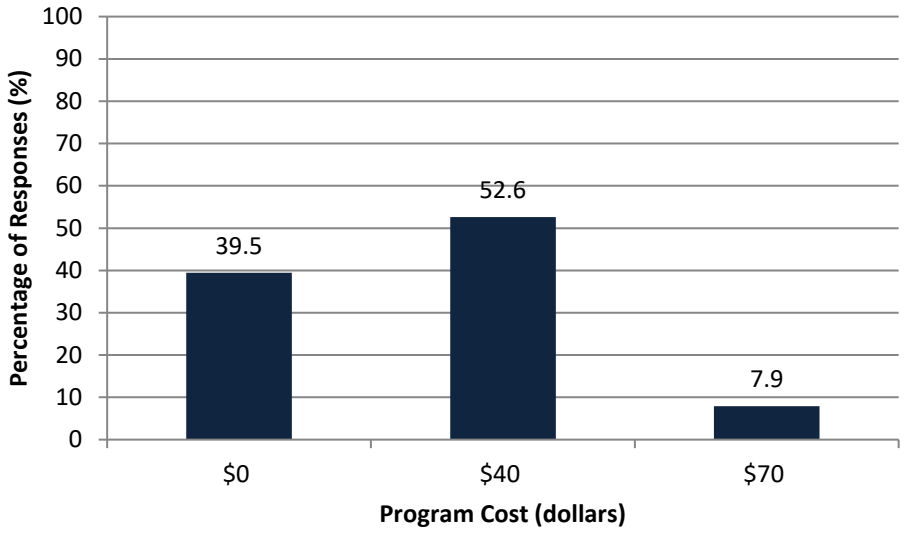

Figure E.14 Options Selected for Version C, Question 4

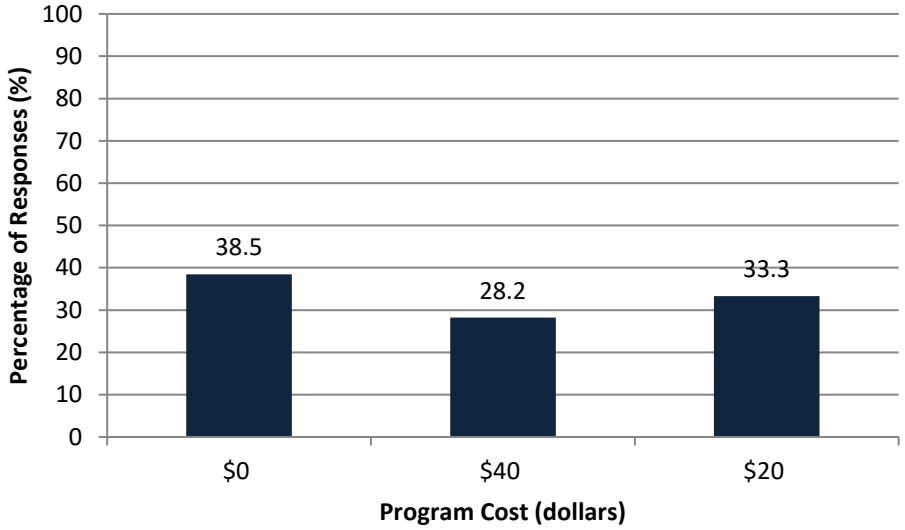

Figure E.15 Options Selected for Version C, Question 5

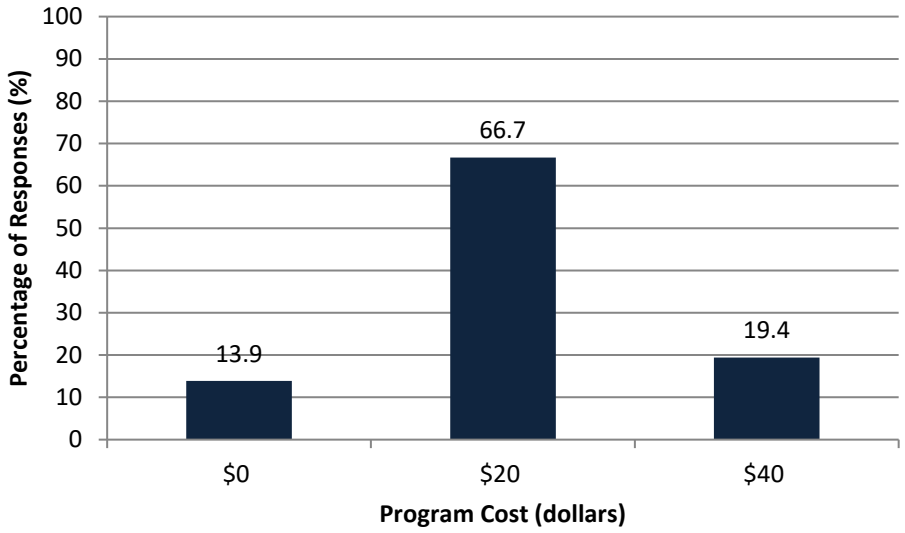

Figure E.16 Options Selected for Version D, Question 1

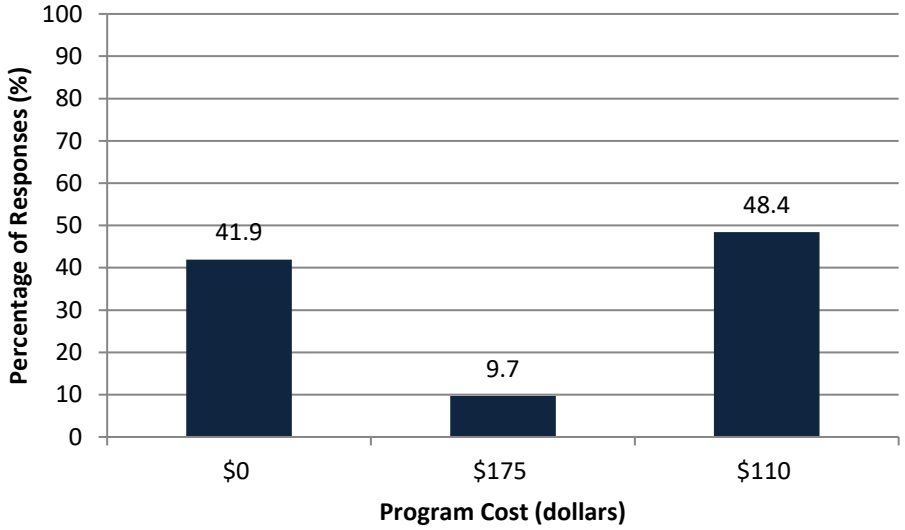

Figure E.17 Options Selected for Version D, Question 2

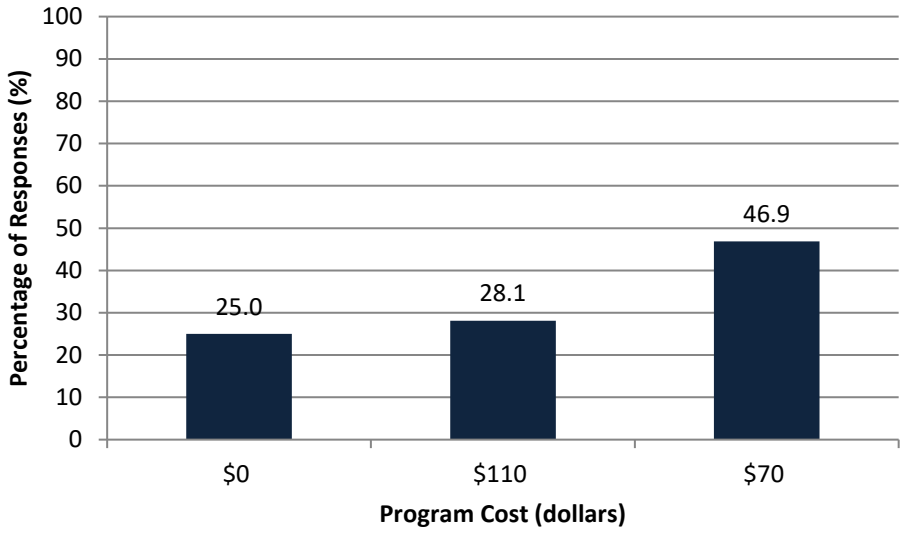

Figure E.18 Options Selected for Version D, Question 3

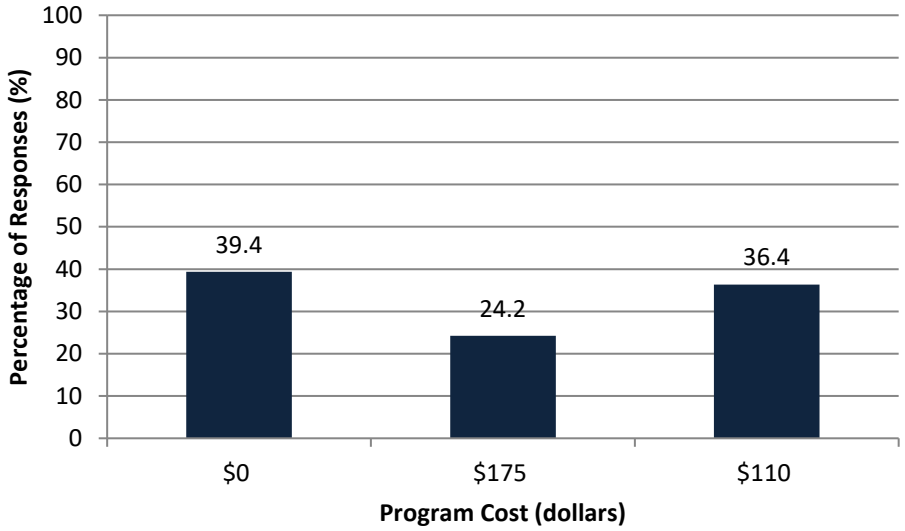

Figure E.19 Options Selected for Version D, Question 4

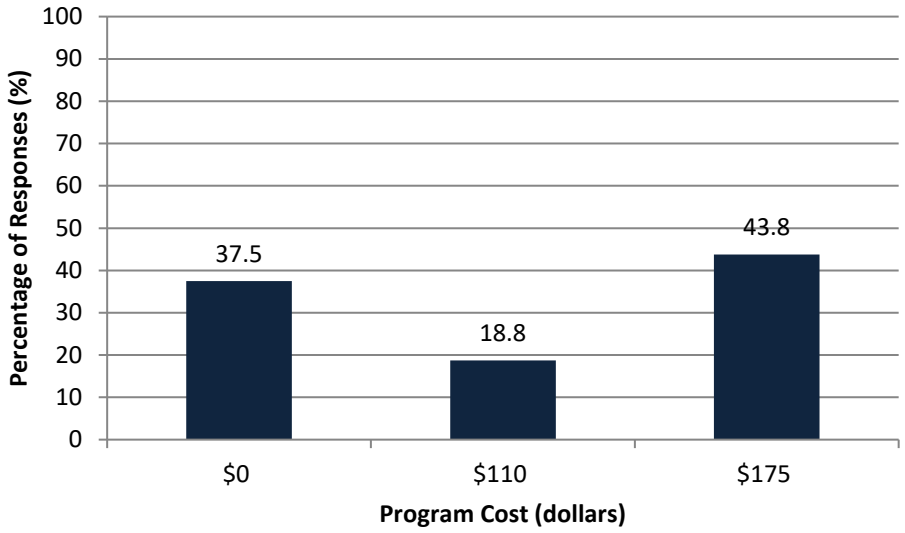

Figure E.20 Options Selected for Version D, Question 5

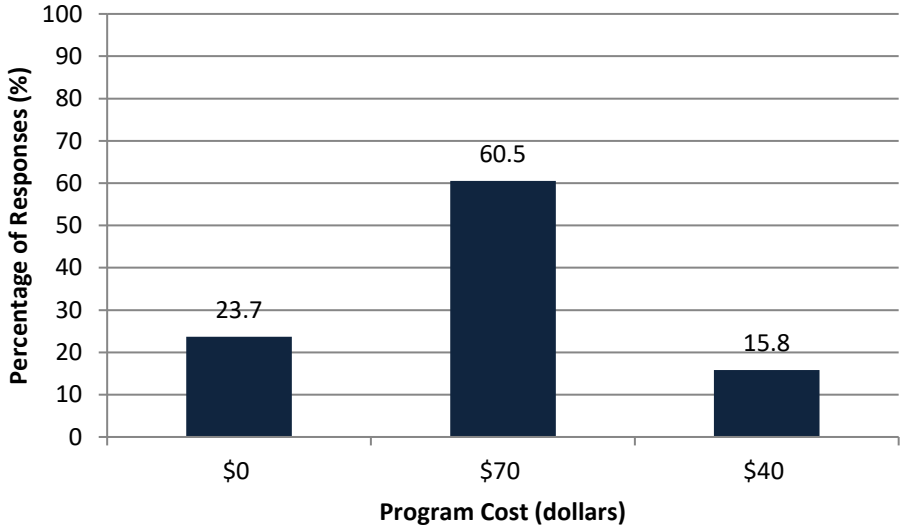

Figure E.21 Options Selected for Version E, Question 1

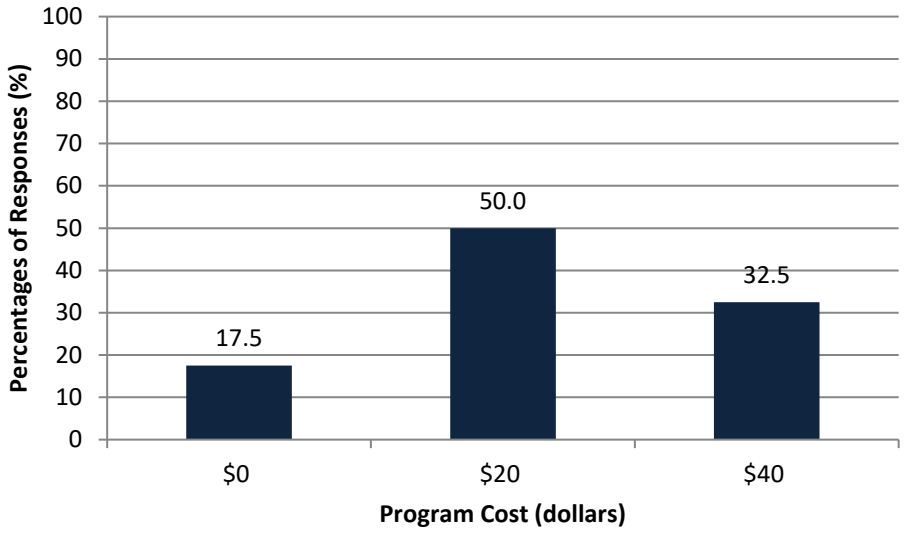

Figure E.22 Options Selected for Version E, Question 2

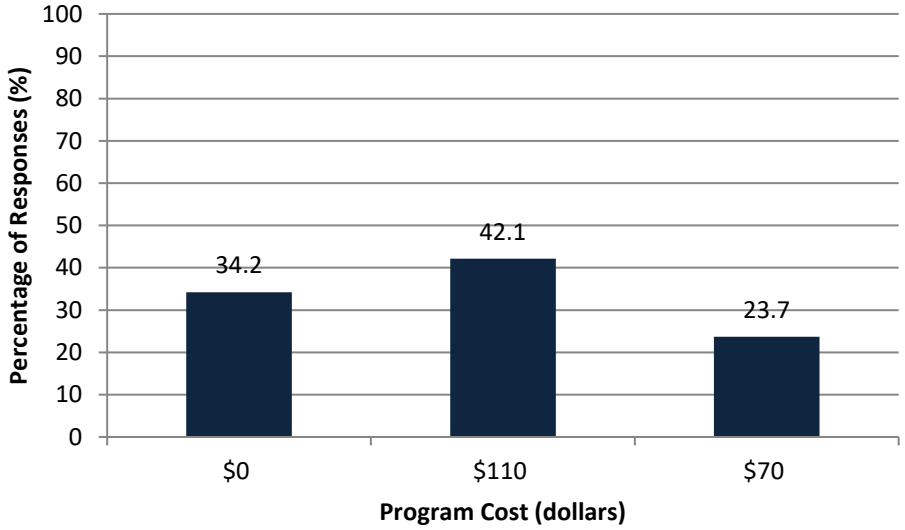

Figure E.23 Options Selected for Version E, Question 3

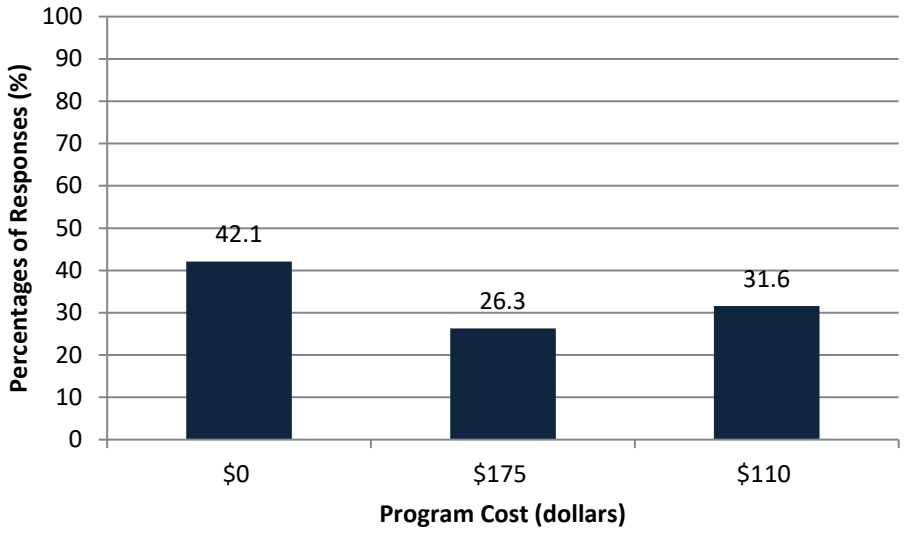

Figure E.24 Options Selected for Version E, Question 4

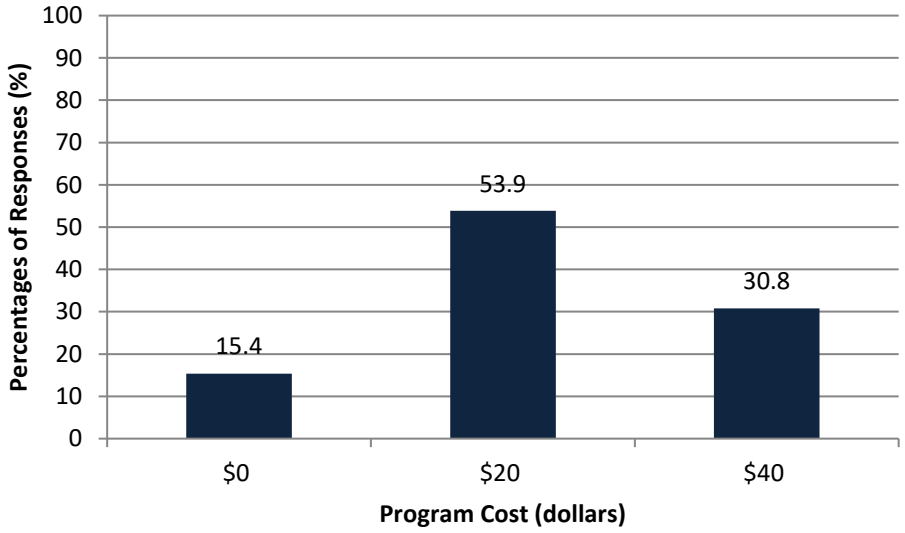

Figure E.25 Options Selected for Version E, Question 5

F. Alternative Model Specifications

Multinomial Logit Models (MLM)

Table F.1 MLM Choice Variables Only

Variable	*Coefficient*[1]	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
restoration	0.46	0.09	5.11	0.00	0.28	0.64
habitat	0.55	0.09	6.38	0.00	0.38	0.71
energy	0.34	0.08	4.09	0.00	0.18	0.50
recycle	0.28	0.09	3.02	0.00	0.10	0.46
debris	0.24	0.08	2.84	0.01	0.07	0.40
involve[2]	0.19	0.05	3.57	0.00	0.08	0.29
cost	-0.01	0.00	-4.59	0.00	-0.01	0.00
observations	2,946					
clusters	206					
pseudo log likelihood (full)	-962.07					
pseudo Log likelihood (null)	-1029.3					
Chi-square (24)	121.51					
Chi-square Significance	0.00					
pseudo R^2	0.108					
Adj. pseudo R^2	0.059					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.
2. Involve was estimated as a numerical variable (status quo=0, medium involvement =1 and high involvement =2)

Table F.2 MLM Choice Variables (Involve Med & High), ASC

Variable[1]	*Coefficient*	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
asc	0.6649	0.2263	2.9400	0.0030	0.2213	1.1085
restoration	0.3727	0.0884	4.2200	0.0000	0.1995	0.5458
habitat	0.4910	0.0822	5.9700	0.0000	0.3299	0.6521
energy	0.3038	0.0825	3.6800	0.0000	0.1421	0.4656
recycle	0.2069	0.0886	2.3400	0.0200	0.0332	0.3806
debris	0.2023	0.0802	2.5200	0.0120	0.0450	0.3595
involve_med	0.1338	0.0930	1.4400	0.1500	-0.0485	0.3161
involve_high	0.2396	0.1009	2.3700	0.0180	0.0419	0.4373
cost	-0.0090	0.0017	-5.1700	0.0000	-0.0124	-0.0056
observations	2,901					
clusters	203					
pseudo log likelihood (full)	-932.15					
pseudo Log likelihood (null)	-1029.3					
Chi-square (24)	122.9					
Chi-square Significance	0.00					
pseudo R^2	0.123					
Adj. pseudo R^2	0.086					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.

Table F.3 MLM Choice Variables, ASC & Protect Wildlife

Variable[1]	*Coefficient*	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
asc	1.0096	0.4847	2.0800	0.0370	0.0597	1.9595
prt_wild_asc	-0.30088	0.4695	-0.6400	0.5220	-1.2211	0.6194
restoration	0.3747	0.0881	4.2500	0.0000	0.2019	0.5474
habitat	0.4967	0.0820	6.0600	0.0000	0.3361	0.6574
energy	0.3103	0.0820	3.7900	0.0000	0.1497	0.4710
recycle	0.2083	0.0880	2.3700	0.0180	0.0359	0.3807
debris	0.2129	0.0801	2.6600	0.0080	0.0560	0.3699
involve_high	0.162821	0.0888	1.8300	0.0670	-0.0112	0.3368
cost	-0.0092	0.0018	-5.2400	0.0000	-0.0127	-0.0058
observations	2,901					
clusters	203					
pseudo log likelihood (full)	-932.35					
pseudo Log likelihood (null)	-1029.30					
Chi-square (24)	120.94					
Chi-square Significance	0.00					
pseudo R^2	0.122					
Adj. pseudo R^2	0.084					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.

Table F.4 MLM Choice Variables, ASC & Project Impact

Variable[1]	*Coefficient*	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
asc	0.0856	0.7722	0.1100	0.9120	-1.4279	1.5990
prj_imt_asc	0.1093	0.1221	0.9000	0.3710	-0.1299	0.3485
restoration	0.3728	0.0882	4.2200	0.0000	0.1998	0.5457
habitat	0.4950	0.0820	6.0300	0.0000	0.3342	0.6558
energy	0.3122	0.0821	3.8000	0.0000	0.1514	0.4731
recycle	0.2107	0.0879	2.4000	0.0170	0.0384	0.3831
debris	0.2113	0.0801	2.6400	0.0080	0.0542	0.3683
involve_high	0.1586	0.0889	1.7800	0.0740	-0.0156	0.3329
cost	-0.0092	0.0018	-5.2300	0.0000	-0.0126	-0.0057
observations	2,898					
clusters	202					
pseudo log likelihood (full)	-931.50					
pseudo Log likelihood (null)	-1029.30					
Chi-square (24)	118.19					
Chi-square Significance	0.00					
pseudo R^2	0.122					
Adj. pseudo R^2	0.085					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.

Table F.5 MLM Choice Variables, ASC, Protect Wildlife & Project Impact

Variable[1]	*Coefficient*	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
asc	0.3529	0.8211	0.4300	0.6670	-1.2563	1.9622
prt_wild_asc	-0.3178	0.4798	-0.6600	0.5080	-1.2583	0.6226
prj_imt_asc	0.1128	0.1225	0.9200	0.3570	-0.1274	0.3530
restoration	0.3729	0.0883	4.2200	0.0000	0.1999	0.5459
habitat	0.4950	0.0820	6.0300	0.0000	0.3342	0.6557
energy	0.3121	0.0821	3.8000	0.0000	0.1512	0.4731
recycle	0.2108	0.0880	2.4000	0.0170	0.0384	0.3832
debris	0.2112	0.0802	2.6300	0.0080	0.0541	0.3683
involve_high	0.1601	0.0889	1.8000	0.0720	-0.0142	0.3344
cost	-0.0092	0.0018	-5.2500	0.0000	-0.0127	-0.0058
observations	2,898					
clusters	202					
pseudo log likelihood (full)	-930.86					
pseudo Log likelihood (null)	-1029.30					
Chi-square (24)	121.14					
Chi-square Significance	0.00					
pseudo R^2	0.123					
Adj. pseudo R^2	0.086					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.

Nested Multinomial Logit Models (NMLM)

Table F.6 NMLM Choice Variables Only

Variable	*Coefficient*[1]	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
restoration	0.54	0.13	4.21	0.00	0.29	0.79
habitat	0.69	0.14	5.10	0.00	0.43	0.96
energy	0.42	0.11	3.69	0.00	0.20	0.64
recycle	0.30	0.13	2.37	0.02	0.05	0.55
debris	0.30	0.11	2.63	0.01	0.08	0.52
involve[2]	0.16	0.07	2.41	0.02	0.03	0.30
cost	-0.01	0.00	-4.38	0.00	-0.02	-0.01
dissimilarity parameters						
/status_quo_tau	1.00					
/other_tau	1.46	0.21			1.04	1.88
observations	2,946					
clusters	206					
pseudo log likelihood (full)	-956.88					
Chi-square (22)	73.98					
Chi-square Significance	0					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.
2. Involve was estimated as a numerical variable (status quo=0, medium involvement =1 and high involvement =2)

Table F.7 MLM Choice Variables (Involve Med & High), ASC

Variable[1]	*Coefficient*	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
asc	0.1863	0.5173	0.3600	0.7190	-0.8275	1.2001
restoration	0.5154	0.1800	2.8600	0.0040	0.1625	0.8683
habitat	0.6670	0.2039	3.2700	0.0010	0.2674	1.0667
energy	0.4068	0.1443	2.8200	0.0050	0.1240	0.6896
recycle	0.2841	0.1429	1.9900	0.0470	0.0040	0.5641
debris	0.2841	0.1282	2.2200	0.0270	0.0328	0.5355
involve_med	0.2061	0.1593	1.2900	0.1960	-0.1060	0.5182
involve_high	0.3231	0.1675	1.9300	0.0540	-0.0053	0.6515
cost	-0.0107	0.0027	-3.9900	0.0000	-0.0160	-0.0055
dissimilarity parameters						
/status_quo_~u	1.0000					
/other_tau	1.4110	0.4214			0.5852	2.2369
observations	2,901					
clusters	203					
pseudo log likelihood (full)	-931.32					
Chi-square (22)	79.60					
Chi-square Significance	0.00					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.

Table F.8 MLM Choice Variables, ASC, & Protect Wild

Variable[1]	*Coefficient*	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
asc	0.6501	0.5893	1.1000	0.2700	-0.5050	1.8052
prt_wild_asc	-0.3138	0.4742	-0.6600	0.5080	-1.2432	0.6156
restoration	0.5010	0.1728	2.9000	0.0040	0.1623	0.8397
habitat	0.6509	0.1885	3.4500	0.0010	0.2813	1.0204
energy	0.4018	0.1365	2.9400	0.0030	0.1343	0.6693
recycle	0.2742	0.1358	2.0200	0.0440	0.0079	0.5404
debris	0.2868	0.1226	2.3400	0.0190	0.0464	0.5271
involve_high	0.2010	0.1224	1.6400	0.1010	-0.0389	0.4409
cost	-0.0109	0.0028	-3.9400	0.0000	-0.0163	-0.0055
dissimilarity parameters						
/status_quo_tau	1.0000					
/other_tau	1.3863	0.4035			0.5954	2.1772
observations	2,901					
clusters	203					
pseudo log likelihood (full)	-925.95					
Chi-square (22)	83.53					
Chi-square Significance	0.00					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.

Table F.9 NMLM Choice Variables, ASC & Project Impact

Variable[1]	*Coefficient*	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
asc	-0.3105	0.8240	-0.3800	0.7060	-1.9255	1.3046
prj_imt_asc	0.1128	0.1232	0.9200	0.3600	-0.1288	0.3543
restoration	0.5001	0.1732	2.8900	0.0040	0.1606	0.8397
habitat	0.6505	0.1895	3.4300	0.0010	0.2790	1.0220
energy	0.4058	0.1382	2.9400	0.0030	0.1349	0.6767
recycle	0.2786	0.1368	2.0400	0.0420	0.0104	0.5468
debris	0.2856	0.1229	2.3200	0.0200	0.0447	0.5265
involve_high	0.1952	0.1219	1.6000	0.1090	-0.0438	0.4341
cost	-0.0109	0.0028	-3.9500	0.0000	-0.0163	-0.0055
dissimilarity parameters						
/status_quo_~u	1					
/other_tau	1.3601	0.3822			0.6111	2.1091
observations	2,898					
clusters	202					
pseudo log likelihood (full)	-930.82					
Chi-square (22)	80.53					
Chi-square Significance	0.00					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.

Table F.10 NMLM Choice Variables, ASC, Protect Wildlife & Project Impact

Variable[1]	*Coefficient*	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
asc	-0.0461	0.8657	-0.0500	0.9570	-1.7429	1.6506
prt_wild_asc	-0.3330	0.4860	-0.6900	0.4930	-1.2855	0.6195
prj_imt_asc	0.1168	0.1239	0.9400	0.3460	-0.1260	0.3595
restoration	0.5052	0.1741	2.9000	0.0040	0.1639	0.8464
habitat	0.6561	0.1894	3.4600	0.0010	0.2848	1.0273
energy	0.4088	0.1383	2.9600	0.0030	0.1378	0.6798
recycle	0.2812	0.1379	2.0400	0.0410	0.0110	0.5515
debris	0.2883	0.1239	2.3300	0.0200	0.0454	0.5311
involve_high	0.1991	0.1233	1.6100	0.1060	-0.0426	0.4408
cost	-0.0110	0.0028	-3.9700	0.0000	-0.0164	-0.0056
dissimilarity parameters						
/status_quo_~u	1					
/other_tau	1.3742	0.3854			0.6187	2.1296
observations	2,898					
clusters	202					
pseudo log likelihood (full)	-930.13					
Chi-square (22)	81.20					
Chi-square Significance	0.00					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.

Random Parameters Models (RPM)

Table F.11 RPM Choice Variables Only

Variable	*Coefficient*[1]	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
Mean						
restoration	1.02	0.20	5.05	0.00	0.62	1.41
habitat	1.17	0.20	5.81	0.00	0.77	1.56
energy	0.58	0.16	3.54	0.00	0.26	0.90
recycle	0.77	0.20	3.89	0.00	0.38	1.16
debris	0.75	0.18	4.19	0.00	0.40	1.09
involve[2]	0.52	0.12	4.50	0.00	0.29	0.75
cost	-0.01	0.00	-4.27	0.00	-0.02	-0.01
SD						
restoration	2.22	0.33	6.66	0.00	1.57	2.87
habitat	-1.46	0.36	-4.11	0.00	-2.16	-0.77
energy	0.83	0.25	3.33	0.00	0.34	1.32
recycle	1.84	0.28	6.61	0.00	1.30	2.39
debris	0.93	0.27	3.47	0.00	0.40	1.46
involve	-0.72	0.27	-2.71	0.01	-1.24	-0.20
cost	0.03	0.00	8.67	0.00	0.03	0.04
observations	2,946					
pseudo log likelihood	-803.29					
Chi-square (22)	317.55					
Chi-Square Significance	0.00					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.
2. Involve was estimated as a numerical variable (status quo=0, medium involvement =1 and high involvement =2)

Table F.12 MLM Choice Variables (Involve Med & High) & ASC

Variable[1]	*Coefficient*	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
Mean						
asc	0.4946	0.3174	1.5600	0.1190	-0.1274	1.1166
restoration	0.7326	0.1939	3.7800	0.0000	0.3525	1.1127
habitat	0.9144	0.1890	4.8400	0.0000	0.5441	1.2847
energy	0.4718	0.1657	2.8500	0.0040	0.1471	0.7965
recycle	0.3889	0.1952	1.9900	0.0460	0.0063	0.7715
debris	0.4048	0.1781	2.2700	0.0230	0.0557	0.7539
involve_med	0.3123	0.1993	1.5700	0.1170	-0.0782	0.7029
involve_high	0.674423	0.2333	2.8900	0.0040	0.2172	1.1317
cost	-0.0158	0.0023	-6.9500	0.0000	-0.0202	-0.0113
SD						
restoration	1.7665	0.2629	6.7200	0.0000	1.2513	2.2817
habitat	1.8553	0.2455	7.5600	0.0000	1.3742	2.3365
energy	-0.9698	0.2328	-4.1700	0.0000	-1.4260	-0.5136
recycle	1.6743	0.2209	7.5800	0.0000	1.2414	2.1072
debris	1.4718	0.2582	5.7000	0.0000	0.9656	1.9779
involve_med	0.1596	0.3124	0.5100	0.6090	-0.4526	0.7718
involve_high	1.144094	0.2833	4.0400	0.0000	0.5888	1.6994
observations	2,901					
pseudo log likelihood	-835.58524					
Chi-square (22)	193.13					
Chi-Square Significance	0					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.

Table F.13 MLM Choice Variables, ASC & Protect Wild

Variable[1]	*Coefficient*	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
Mean						
asc	1.7635	0.5040	3.5000	0.0000	0.7758	2.7513
prt_wild_asc	-1.09087	0.4502	-2.4200	0.0150	-1.9732	-0.2086
restoration	0.7563	0.1954	3.8700	0.0000	0.3733	1.1393
habitat	1.0114	0.1872	5.4000	0.0000	0.6445	1.3782
energy	0.5511	0.1682	3.2800	0.0010	0.2215	0.8807
recycle	0.3141	0.1988	1.5800	0.1140	-0.0756	0.7038
debris	0.4548	0.1723	2.6400	0.0080	0.1171	0.7925
involve_high	0.5710	0.1758	3.2500	0.0010	0.2265	0.9155
cost	-0.0168	0.0023	-7.3200	0.0000	-0.0213	-0.0123
SD						
restoration	1.6878	0.2213	7.6300	0.0000	1.2541	2.1214
habitat	1.6294	0.2123	7.6800	0.0000	1.2134	2.0454
energy	1.1321	0.2408	4.7000	0.0000	0.6601	1.6041
recycle	1.7859	0.2507	7.1200	0.0000	1.2946	2.2772
debris	1.4211	0.2299	6.1800	0.0000	0.9704	1.8718
involve_high	0.576278	0.3987	1.4500	0.1480	-0.2052	1.3577
observations	2,901					
pseudo log likelihood	-834.98					
Chi-square (22)	194.75					
Chi-Square Significance	0.00					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.

Table F.14 RPM Choice Variables, ASC & Project Impact

Variable[1]	*Coefficient*	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
Mean						
asc	0.3254	0.8338	0.3900	0.6960	-1.3088	1.9596
prj_imt_asc	0.0881	0.1337	0.6600	0.5100	-0.1740	0.3503
restoration	0.8328	0.2034	4.0900	0.0000	0.4341	1.2314
habitat	1.0169	0.1866	5.4500	0.0000	0.6512	1.3827
energy	0.4886	0.1664	2.9400	0.0030	0.1625	0.8146
recycle	0.3597	0.1960	1.8300	0.0670	-0.0245	0.7439
debris	0.4070	0.1629	2.5000	0.0120	0.0878	0.7262
involve_high	0.5554	0.1887	2.9400	0.0030	0.1855	0.9253
cost	-0.0170	0.0023	-7.2600	0.0000	-0.0216	-0.0124
SD						
restoration	1.6859	0.2572	6.5500	0.0000	1.1817	2.1901
habitat	1.6357	0.2267	7.2100	0.0000	1.1913	2.0801
energy	1.2049	0.2322	5.1900	0.0000	0.7499	1.6599
recycle	1.7032	0.2251	7.5700	0.0000	1.2621	2.1443
debris	1.2575	0.2406	5.2300	0.0000	0.7859	1.7291
involve_high	1.0891	0.2740	3.9700	0.0000	0.5520	1.6262
observations	2,898					
pseudo log likelihood	-835.28					
Chi-square (22)	192.45					
Chi-Square Significance	0.00					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.

Table F.15 RPM Choice Variables, ASC, Protect Wildlife & Project Impact

Variable[1]	*Coefficient*	*Standard Error*	*z*	*P-Value*	*95% Confidence Interval*	
Mean						
asc	0.9951	0.9068	1.1000	0.2720	-0.7822	2.7724
prt_wild_asc	-0.9771	0.4614	-2.1200	0.0340	-1.8814	-0.0728
prj_imt_asc	0.1230	0.1349	0.9100	0.3620	-0.1414	0.3875
restoration	0.8374	0.2065	4.0600	0.0000	0.4327	1.2420
habitat	1.0293	0.1875	5.4900	0.0000	0.6619	1.3967
energy	0.4938	0.1683	2.9300	0.0030	0.1639	0.8238
recycle	0.3585	0.1982	1.8100	0.0700	-0.0299	0.7470
debris	0.4208	0.1639	2.5700	0.0100	0.0995	0.7421
involve_high	0.5579	0.1896	2.9400	0.0030	0.1863	0.9295
cost	-0.0174	0.0024	-7.3500	0.0000	-0.0220	-0.0127
SD						
restoration	1.7175	0.2616	6.5700	0.0000	1.2048	2.2301
habitat	1.6725	0.2256	7.4100	0.0000	1.2303	2.1147
energy	1.1992	0.2406	4.9800	0.0000	0.7277	1.6708
recycle	1.7416	0.2337	7.4500	0.0000	1.2836	2.1997
debris	1.2605	0.2423	5.2000	0.0000	0.7856	1.7353
involve_high	1.109871	0.2779	3.9900	0.0000	0.5652	1.6545
observations	2,898					
pseudo log likelihood	-833.03					
Chi-square (22)	195.68					
Chi-Square Significance	0.00					

1. Coefficients in bold are statistically significant at a 95% confidence level or higher.

Acknowledgements

We would like to thank those who volunteered their time to provide peer reviews of this research.

AMERICA'S UNDERWATER TREASURES