



# O'Neill Sea Odyssey

## *2006-2007 Survey Results*

December 2007



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# Executive Summary

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## Demographics

- Between 2006-07, 153 groups participated in the O'Neill Sea Odyssey (OSO) program, representing 3,969 children. The average group size was 26.
- Most of the groups (95%) came from the Santa Cruz, Santa Clara, and Monterey Counties.
- The majority of groups (97%) were comprised of children in the 4th through 6th grades.
- Approximately 10% percent of students were repeat visitors.
- Based on population estimates, 49% of the children were Hispanic or Latino, 33% were White, 11% were Asian, Filipino, or Pacific Islander, 3% were African American, and less than 1% were American Indian or Alaska Native.
- Approximately 45% of students did not have English as their primary language.
- Half of the students (50%) were receiving free or reduced-price lunches.
- Approximately 38% of participating groups came from "lower income" communities.

## Website use

- A large majority of teachers/group leaders (91%) had visited the OSO website before their trip.
- More than two-thirds (68%) of teachers/group leaders had used the teaching materials provided on the website before their trip, and 89% intended to use them in the classroom after the trip.
- Ninety-eight percent (98%) of teachers/group leaders indicated that the teaching materials had enhanced the children's learning of the topics.

## Program ratings

- In every topic area, the vast majority of teachers/group leaders (from 93% to 99%) indicated that the children had "Learned a lot."
  - Of the three boat topics, 97% of teachers/group leaders thought that children had "Learned a lot" in the "Sailing and Navigation Station," closely followed by the "Ecology Station" (96%) and the "Marine Science Station" (93%).
  - Of the four classroom topics, 99% of teachers/group leaders said that children had "Learned a lot" in the "Ecology Station," closely followed by the "Marine Science Station" (98%), the "Follow-up and discussion" (98%), and the "Sailing and Navigation Station" (94%).
- Virtually all of the teachers/group leaders (99%) reported that their students had "Learned a lot" from the "Overall learning experience," and that the presentations were presented at an age-appropriate level.

## Student Environmental Awareness

- The new Student Survey showed that the OSO program was effective in promoting significant increases in students' environmental awareness. An average of 80% of students agreed with the survey questions regarding environmental knowledge and responsible behavior *before* participating in the program, compared to 97% *after* attending the program.
- When students were divided into "lower income" and "higher income" groups, results indicated that although both groups of students significantly increased their environmental knowledge after attending the program, the "lower income" students showed a significantly greater amount of change and *caught up* with the "higher income" students by the end, with virtually all of the students agreeing with the survey questions (96% and 97%, respectively).

## About O'Neill Sea Odyssey

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O'Neill Sea Odyssey (OSO) was incorporated in 1996 by wetsuit innovator and surfer Jack O'Neill as a nonprofit organization to provide unique ecology, navigation, and marine sciences learning experiences to regional students in grades 4 through 6. Since this time, more than 30,000 students have participated in the three-hour, hands-on, learning event aboard the program's 65-foot catamaran in the Monterey Bay National Marine Sanctuary, with follow-up lessons in the Education Center at the Santa Cruz Harbor. After participating in the program, students are required to perform a community service project.

The primary purpose of the program is to foster awareness of environmental stewardship and personal responsibility among program participants. This is done by delivering an interactive curriculum that emphasizes the connections between land and sea through a multi-disciplinary approach including ecology, biology, and mathematics.

The OSO website (<http://www.oneillseaodyssey.org/>) provides extensive curriculum and learning materials that are designed to introduce students to the topics they will be learning in the program. Teachers and group leaders are encouraged to use these materials with their students before attending the program, and afterwards as follow-up activities.



*"O'Neill Sea Odyssey provides a hands-on educational experience to encourage the protection and preservation of the living sea and communities."*

During the 2006-07 program cycle, two surveys were administered to the groups participating in the program. Teachers and group leaders were asked to fill out a survey after participating in the program, to get their feedback on the organization and effectiveness of the program, program materials, and the OSO website. A second survey was read aloud to the students that asked them (by a show of hands) about their knowledge of, and attitudes toward, the environment. This survey was administered to the students before and after the program, and thereby measures the amount of change in their environmental awareness.

OSO has undertaken the analyses of these two 2006-07 surveys and other program data for use in evaluating the program, further planning, and developing funds for program expansion or replication.

Student groups are required to complete a community service project to earn an OSO program. A community service project encompasses a broad range of activities such as native plant restoration, beach or creek cleanup, homeless garden projects, community environmental awareness projects, school recycling programs, and letter-writing campaigns for environmental causes. Teachers and group leaders are required to submit proof of completion of a community service project, which can be done via the OSO website.

# Research Methodology

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## *Survey Design and Methodology*

In previous years, separate surveys were designed to be distributed to different groups of program participants: group leaders, teachers and parents, students, and the OSO crew. For this program cycle (July 2006 – June 2007), two surveys were utilized: one was distributed to the teachers/group leaders, and another was administered to the students. Each of these surveys are described below, and copies are provided in Appendix II: Survey Instruments.

### *Teacher/Group Leader Survey*

Teachers and group leaders were asked to fill out a short survey after attending the Sea Odyssey program. Earlier versions of the Teacher/Group Leader Survey were administered in previous years and were refined to reflect the significant topics of interest. The most recent version (used in spring 2006) was used again during this 2006-07 program cycle.

In this survey, teachers/group leaders were asked to evaluate the program based on how much they thought the children learned from each of the program areas, including three topics taught on the boat portion of the program, four topics covered in the classroom portion, and one question asking them to rate the children's overall learning experience. Teachers/Group leaders rated these program areas using a scale ranging from "Learned a lot," "Learned somewhat," to "Did not learn at all." In a Yes/No question, they were then asked if the presentations were presented at an age-appropriate level.

In a combination of Yes/No and open-ended questions, teachers/group leaders were then asked several questions about the OSO website and program materials available from it. They answered whether they had visited the Sea Odyssey website before the trip, if they had used the teaching materials provided there before taking the trip, how they used the website Learning Center or Teacher Packet materials in the classroom *before* the trip, which teaching materials were most helpful in the classroom, and whether they intended to use any of the online Learning Center or Teacher Packet materials in the classroom *after* the trip.

They were asked if the teaching materials enhanced the children's learning of the topics, and if they had any suggestions for improving these teaching materials. Finally, they were asked if they had any additional comments.

### *Student Survey*

The Student Survey was developed and used for the first time during this program cycle. This survey was designed to be read aloud to the students, and was administered to them before *and* after attending the program. Students were asked to raise their hands if they agreed with the questions, and the number of raised hands for each question were tallied.

The Student Survey included six "Yes/No" questions. Two questions asked about their general knowledge: if the students knew a lot about plants and animals in the ocean, and if they knew a

lot about things that are bad for rivers, oceans, and the environment. Four questions asked about their future behavior: will they not pour oil and dangerous chemicals down storm drains or on the ground, will they not throw garbage on the ground, will they recycle, and will they share their knowledge.

## ***Demographic Data Collection***

In addition to filling out the survey, Teachers/Group leaders were asked to provide the name of their school or group, the number of students in the group, and the grade level(s) of students. To determine the number of repeat participants, when students first arrived they were asked by a show of hands if they had previously participated in the OSO program.

## ***Data Analysis***

In this report, most of the data in the analyses came from the OSO Teacher/Group Leader and Student Surveys. However, student ethnicity, level of English fluency, and participation in free and reduced-cost federal lunch programs were estimated using percentages obtained from the DataQuest database of the California Basic Educational Data System (CBEDS). Using DataQuest, OSO obtained the percentages of each of these demographics for each school participating in this program, which are reported in these results.

Some of the questions in the Teacher/Group Leader Survey were open-ended. Participants were asked to provide comments, suggestions, and to describe their experiences with the OSO website educational materials. Although these open-ended questions are not evaluated in this report, all of the responses are provided in Appendix I: Open-Ended Survey Responses.

For the Student Survey, analyses were conducted on the amount of change between the pre- and post-program survey results. The levels of change were measured using the Chi-Square statistical test, using a probability of 5% as the level of significance.

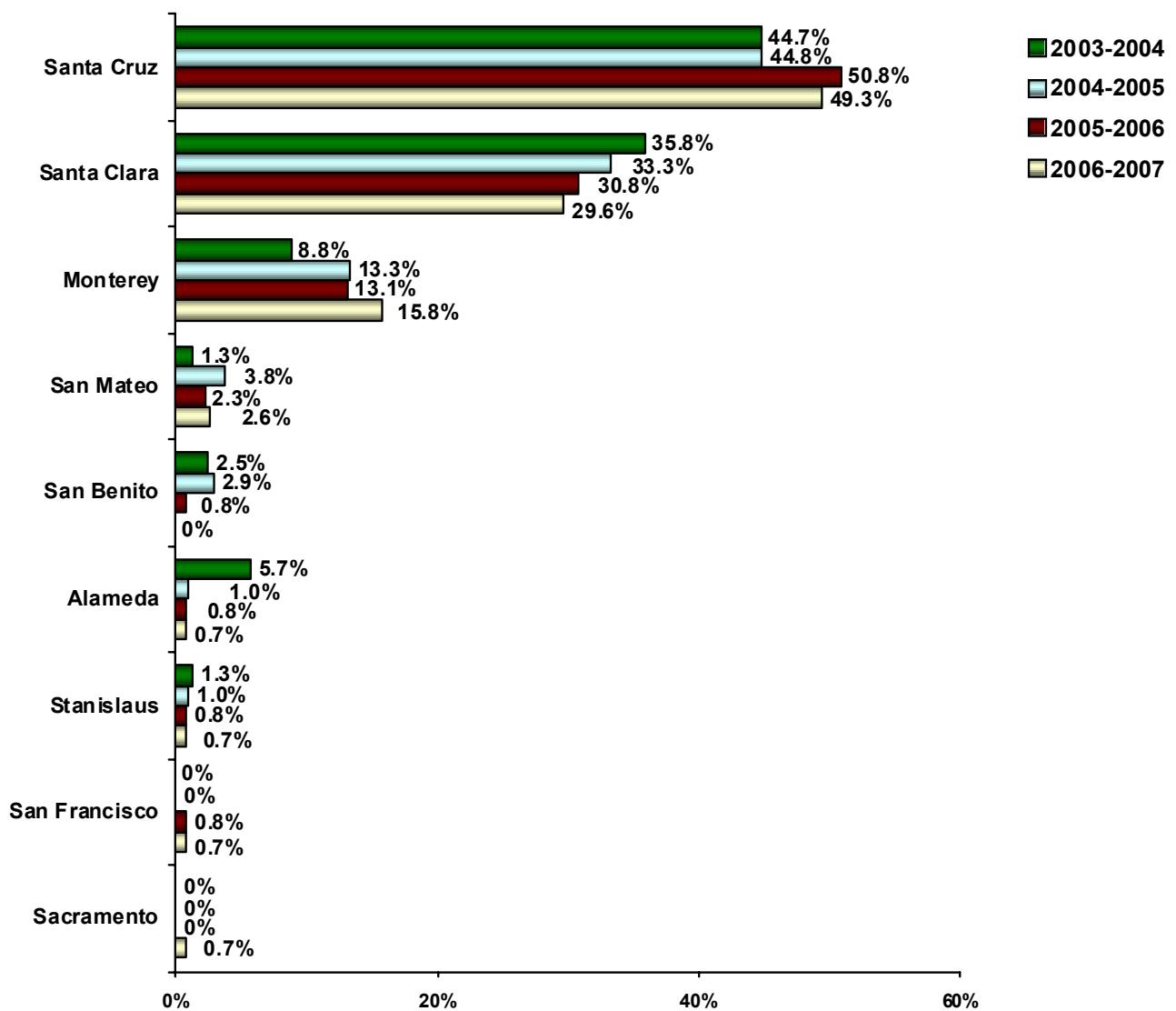
Note that for some groups, not all of demographic data were able to be collected. In addition, not every group completed the surveys. For this reason the number of groups or students reported in the analyses may differ from the total number of groups and students that participated.

# Results

## Student Participation and Demographics

Between July 2006 and June 2007, 153 groups participated in the O'Neill Sea Odyssey program, representing 3,969 students. Group sizes ranged from 8 to 37, with an average group size of 26. Some groups came from as far away as Sacramento County, but most came from Santa Cruz County (49%), Santa Clara County (30%), and Monterey County (16%). Between 2003-04 and 2006-07, a larger percentage of groups came from Santa Cruz and Monterey Counties, with decreases in the percentage of groups attending from Santa Clara County.

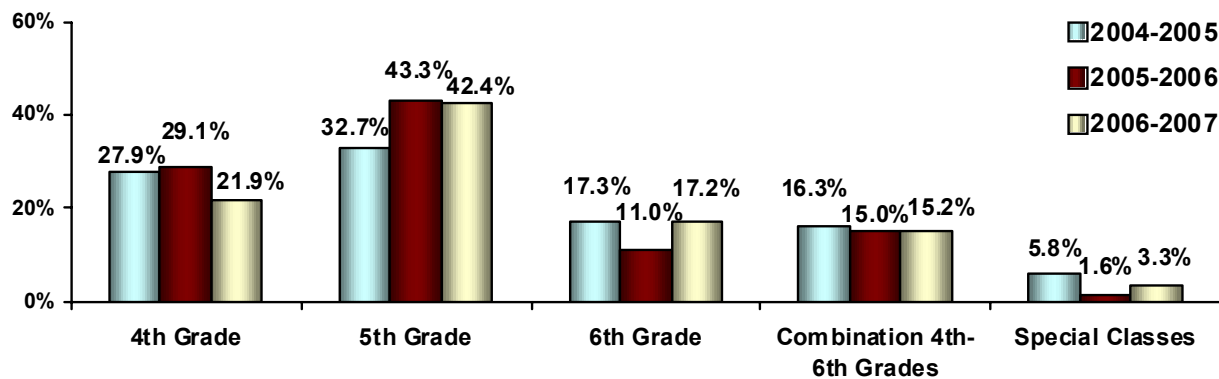
**Figure 1: Group Counties of Origin, by Year**



Source: 2003-04, Crew Recap Surveys (N = 160 groups). 2004-05, Teacher/Group Leader Surveys (N = 105 groups). 2005-06, Teacher/Group Leader Surveys (N = 130 groups). 2006-07, Data provided by O'Neill Sea Odyssey, 2007 (N=152 groups).

OSO's target population is children in the 4<sup>th</sup> through 6<sup>th</sup> grades, and in 2006-07, the vast majority of groups were in this grade range (97%). Most groups of students participated through schools, although a few came from family resource centers and children's organizations such as camps and the Boys and Girls Club. Between 2004-05 and 2006-07, there was an increase in the percentage of 5<sup>th</sup> grade students who attended (from 33% to 42%), a slight decrease in the percentage of 4<sup>th</sup> grade students (from 28% to 22%), and little change in the percentages of students from the other grades.

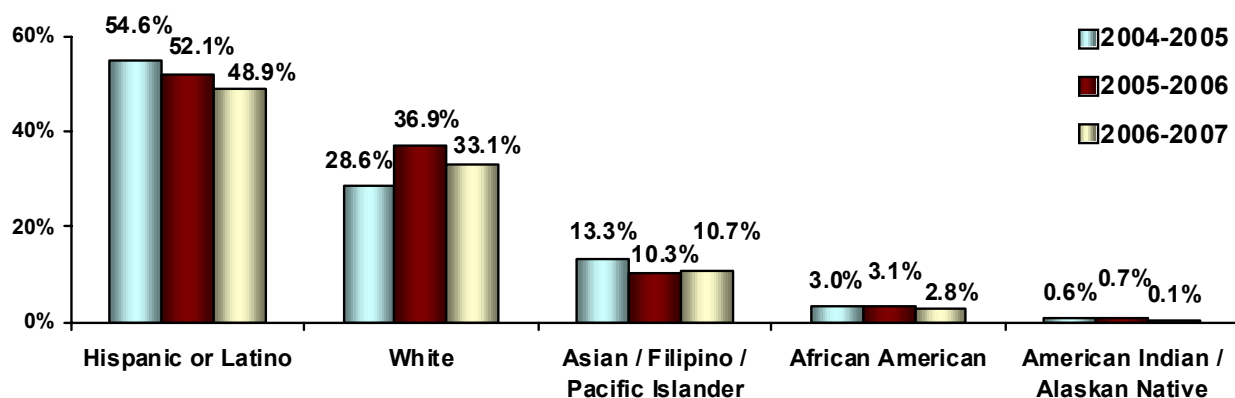
**Figure 2: Grade Levels of Groups, by Year**



Source: 2004-05, Teacher/Group Leader Surveys (N = 104 groups). 2005-06, Teacher/Group Leader Surveys (N = 127 groups). 2006-07, Data provided by O'Neill Sea Odyssey, 2007 (N=151 groups).

The race/ethnicity of participants was estimated using percentages obtained using the DataQuest database of the California Basic Educational Data System (CBEDS), based on the year, school locations, and grade levels of the students. In 2006-07, it was estimated that 49% of the students were Hispanic or Latino, 33% were White, 11% were Asian, Filipino, or Pacific Islander, 3% were African American, and less than 1% were American Indian or Alaska Native. Compared to 2004-05, there was a small increase in the percentage of White students attending, a small decrease in the percentage of Hispanic/Latino students, and little change in the percentages of students of other races/ethnicities.

**Figure 3: Race/Ethnicity of Students, by Year**



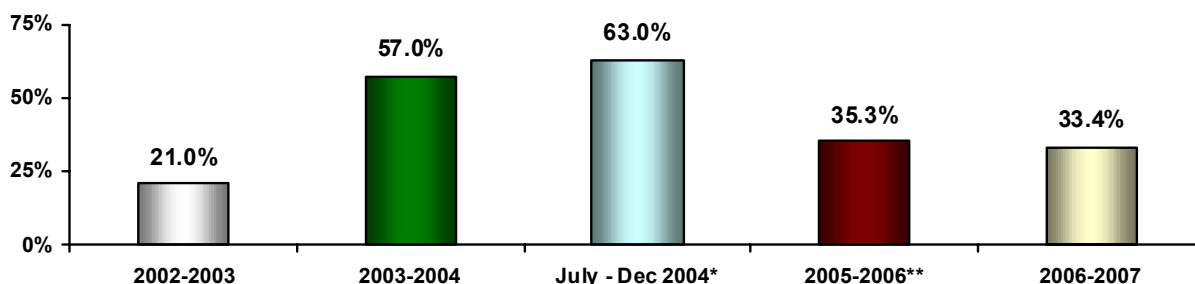
Source: Data provided by O'Neill Sea Odyssey, collected from State of California Department of Education, California Basic Education Data System, DataQuest database, 2005-2007 (2004-05 N=3,612 students. 2005-06 N=2,838 students. 2006-07 N=3,586 students).

Note: The "Multiple or No Response" category is not shown in this figure.

Two categories of English proficiency were examined using percentages obtained from the DataQuest database. One category was English Learner (EL), which describes students whose primary language is not English, and who have been determined to lack the English language skills necessary to succeed in the school's regular instructional programs. The other category was Fluent-English-Proficient (FEP), which describes students whose primary language is not English, but who have met the district criteria for determining proficiency in English.

In 2006-07, it was estimated that one-third of the students (33%) were English Learners (EL). This percentage of English Learners is similar to what it was last year (35%), after falling from 63% in July-December 2004. In 2006-07, it was estimated that 12% of student participants were Fluent-English-Proficient (FEP), the same as last year. When these two groups were combined (EL + FEP), the result showed that in 2006-07, 45% of the students attending the OSO program did not have English as their primary language, similar to the previous year (47%).

**Figure 4: Percentage of English Learner (EL)<sup>1</sup> Students, by Year**



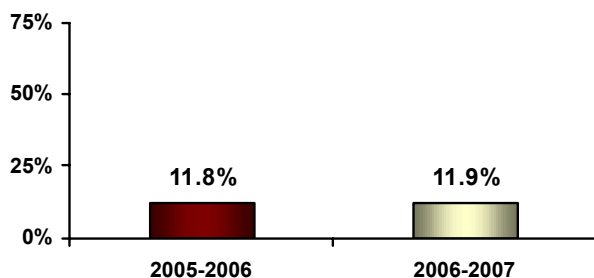
Source: 2002-04 data: Applied Survey Research, *O'Neill Sea Odyssey: 2003-2004 Program Data*, February, 2005 (2003-04 N = 1,605 students). July-Dec. 2004 data: July – December 2004 Teacher/Group Leader Surveys (N = 27 groups). 2005–06 and 2006-2007 data: Data provided by O'Neill Sea Odyssey, collected from State of California Department of Education, California Basic Education Data System, DataQuest database, 2006-2007 (2005-06 N=2,838 students, 2006-07 N=3,239 students).

<sup>1</sup> "English Learner" includes students for whom there is a report of a primary language other than English on the state-approved Home Language Survey and who, on the basis of the state approved oral language (grades K-12) assessment procedures and including literacy (grades 3-12 only), have been determined to lack the clearly defined English language skills of listening comprehension, speaking, reading, and writing necessary to succeed in the school's regular instructional programs.

\* Due to differences in reporting, in July – December 2004, the unit of analysis is the group, and the data indicate the percentage of groups that include EL students. For all other years, the unit of analysis is the student, and the data indicate the percentage EL students. Data for January-June 2005 are not available.

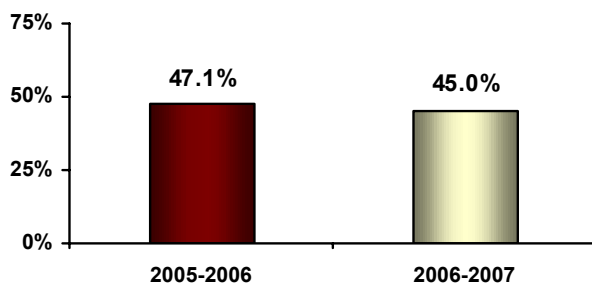
\*\* Beginning in the 2005-06 program year, OSO changed their data collection methods for this demographic and began using percentages obtained from the DataQuest database of the State of California Department of Education's California Basic Educational Data System (CBEDS) to estimate the percentage of EL students.

**Figure 5: Percentage of Fluent-English-Proficient (FEP)<sup>1</sup> Students, by Year**



Source: Data provided by O'Neill Sea Odyssey, collected from State of California Department of Education, California Basic Education Data System, DataQuest database, 2006-2007 (2005-06 N=2,838 students, 2006-07 N=3,156 students).

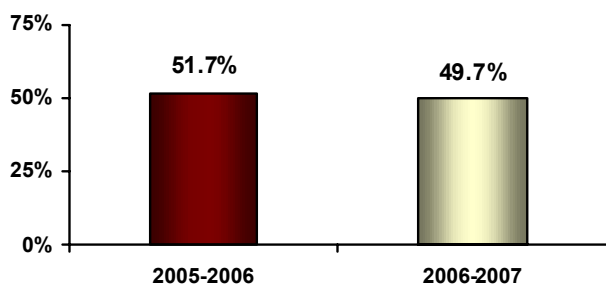
<sup>1</sup> "Fluent-English-Proficient" includes students whose primary language is other than English and who have met the district criteria for determining proficiency in English (i.e., those students who were identified as FEP on initial identification, and students re-designated from Limited-English-Proficiency (LEP) or English Learner (EL) to FEP).

**Figure 6: Percentage of Students Whose Primary Language is Not English, by Year**

Source: Data provided by O'Neill Sea Odyssey, collected from State of California Department of Education, California Basic Education Data System, DataQuest database, 2006-2007 (2005-06 N=2,838 students, 2006-07 N=3,239 students).

Note: This analysis combines both English Learner (EL) and Fluent-English-Proficient (FEP) students.

Participation in the federal programs that offer free and reduced-cost meals to children most in need was used to estimate the percentage of students whose families meet the income eligibility guidelines for these programs. Based on the percentages obtained using the DataQuest database, in 2006-07, half of the students (50%) attending the OSO program were receiving free or reduced-price lunches, which is similar to the previous year (52%).

**Figure 7: Percentage of Students Receiving Free or Reduced-Price Lunches, by Year**

Source: Data provided by O'Neill Sea Odyssey, collected from State of California Department of Education, California Basic Education Data System, DataQuest database, 2006-2007 (2006-07 N=2,838 students, 2006-07 N=3,583 students).

The OSO program aims to provide their learning experience to children from all economic backgrounds. The economic levels of the communities from which participating groups came were estimated using the percentage of students receiving free or reduced-price lunches as a rough measure.<sup>1</sup> Groups with fewer than 1/3 of their students receiving this benefit were considered “higher income,” and groups with more than 2/3 of their students receiving this benefit were considered “lower income.” Groups that fell between these extremes were considered “middle income.”

Approximately 38% of participating groups (51 groups) came from “lower income” communities, 33% came from “higher income” communities (44 groups), and 30% came from “middle income” communities (40 groups).

<sup>1</sup> Only groups that had data regarding the percentage of students receiving free or reduced-price lunches were included in this analysis.

**Figure 8: Number of Groups Participating, by Income Level<sup>1</sup>**



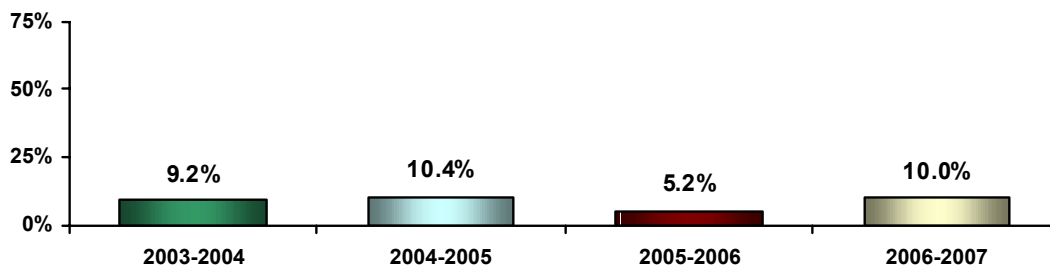
Source: Data provided by O'Neill Sea Odyssey, collected from State of California Department of Education, California Basic Education Data System, DataQuest database, 2006-2007 (N = 135 groups).

Note: Only groups that had data regarding the percentage of students receiving free or reduced-price lunches were included in this analysis.

<sup>1</sup> Income levels of the groups were estimated using the percentage of students receiving free or reduced-price lunches in each group: In Higher income groups, fewer than 33% of their students received this benefit; Middle income groups had between 1/3 and 2/3 of their students receiving this benefit, and Lower income groups had more than 2/3 of their students receiving this benefit.

In 2006-07, 10% of students had previously participated in the OSO program. This percentage has stayed relatively level since 2003-04, with a slight decrease in 2005-06.

**Figure 9: Percentage of Students Repeating the Program, by Year**



Source: 2003-04 data: Crew Recap data provided by O'Neill Sea Odyssey, 2004 (N = 3,939 students). 2004-05 data: Crew Recap data provided by O'Neill Sea Odyssey, 2005 (N = 4,267 students). 2005-06 data: Data provided by O'Neill Sea Odyssey, 2006 (N = 3,519 students). 2006-07 data: Data provided by O'Neill Sea Odyssey, 2007 (N = 3,969 students).

## Website and Teaching Materials Use

In 2002, OSO launched an extensive website to inform potential visitors about the program, cultivate volunteers, and encourage sponsorships. Once a trip is planned, teachers can log in to the website to get pre-trip information and documents such as a program overview, discussion of learning goals, and a teacher packet. The 52-page teacher packet includes information and activities to help prepare students for the trip, including topics on marine biology, ecology, and navigation. The “View Data from Past Trips” function on the site allows teachers and students to see, and learn, what other classes have done for their community service project.

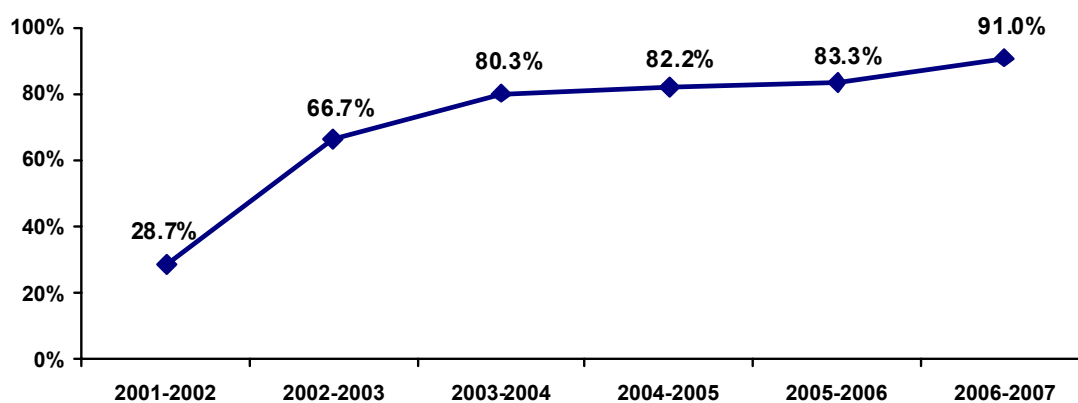
In their program material, OSO states that:

*“...students who have been given an overview of their subjects before participating in the program benefit from a more in-depth educational experience.”*

OSO therefore encourages teachers and group leaders to use the materials provided through the website with their students before participating in the program.

In the Teacher/Group Leader Surveys, 91% of teachers/group leaders in 2006-07 reported that they had visited the Sea Odyssey website before their trip. Data from previous years' surveys show that there was a marked increase in this percentage between 2001-02 (29%) and 2003-04 (80%), and that it has increased at a slower rate between 2003-04 (80%) and 2006-07 (91%).

**Figure 10: “Did You Visit the Sea Odyssey Website Before this Trip?” (By Year, Respondents Who Answered “Yes”)**

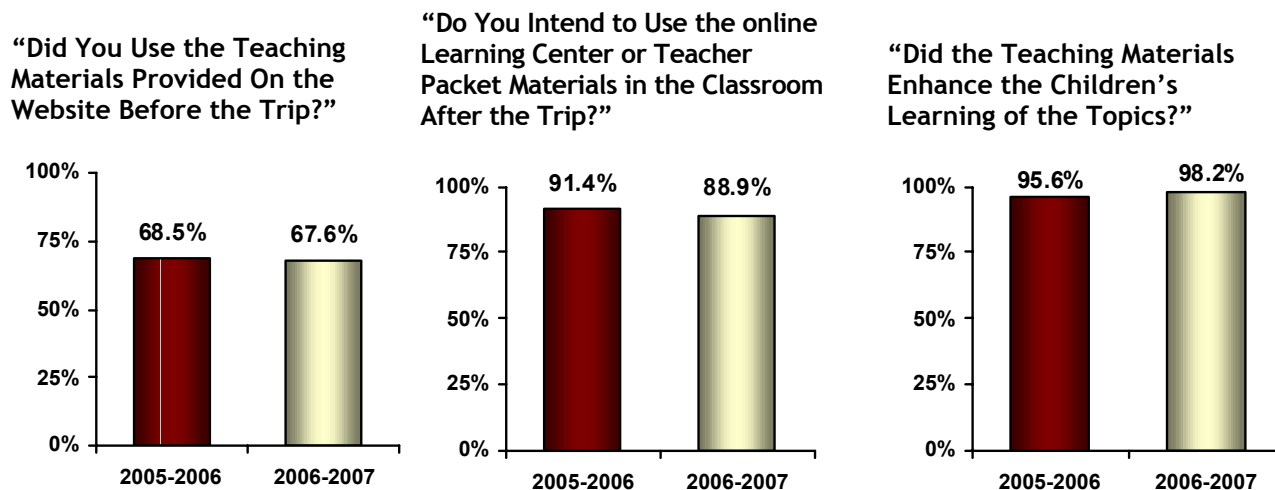


Source: 2001-04 data: Applied Survey Research, *O'Neill Sea Odyssey: 2003-2004 Program Data*, February, 2005 (2003-04 N = 132). 2004-05 data: Teacher/Group Leader Surveys (N = 101). 2005-06 data: Teacher/Group Leader Surveys (N = 108). 2006-07 data: Teacher/Group Leader Surveys (N = 144).

Teachers/Group leaders were asked additional questions about the teaching materials available on the website. In 2006-07, more than two-thirds of all teachers/group leaders (68%) reported that they had used the online teaching materials provided on the website *before* their trip. The overwhelming majority (89%) reported that they intended to use the online teaching materials in the classroom *after* the trip. Almost all teachers/group leaders (98%) felt that the teaching

materials enhanced the children's learning of the topics. These results are relatively unchanged from last year (2005-06).

**Figure 11: Use of Website Teaching Materials (By Year, Respondents Who Answered "Yes")**



Source: 2005-06 Teacher/Group Leader Surveys (N=108). 2006-07 Teacher/Group Leader Surveys (N=142).

Source: 2005-06 Teacher/Group Leader Surveys (N=105). 2006-07 Teacher/Group Leader Surveys (N=135).

Source: 2005-06 Teacher/Group Leader Surveys (N=91). 2006-07 Teacher/Group Leader Surveys (N=111).

## Program Ratings

In the Teacher/Group Leader Survey, teachers/group leaders were asked to give their feedback on the quality and effectiveness of several topics that were covered in the program.

Teachers/Group leaders were asked, "Thinking about the children in the group, and what was presented to them today, how much do you think the children learned from the following?" Respondents could answer "Learned a lot," "Learned somewhat," or "Did not learn at all."

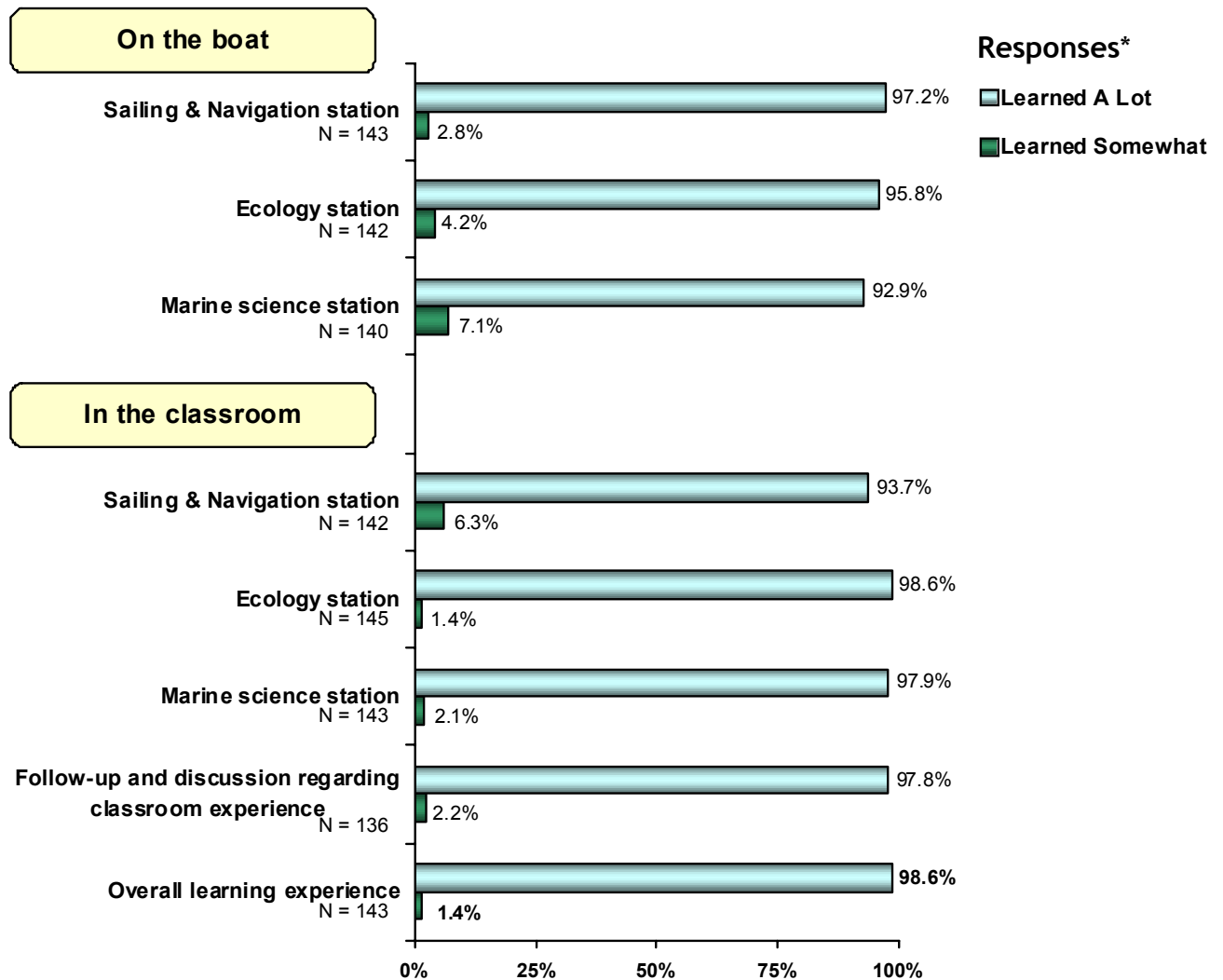
In every topic area, the vast majority of teachers/group leaders indicated that the children had "Learned a lot." The percentage of teachers/group leaders who responded this way ranged from 93% to 99% across all topics.

- Of the three topics learned on the boat, 97% of teachers/group leaders thought that children had "Learned a lot" in the "Sailing and Navigation Station," closely followed by the "Ecology Station" (96%) and the "Marine Science Station" (93%).
- Of the four topics learned in the classroom, 99% of teachers/group leaders said that children had "Learned a lot" in the "Ecology Station," closely followed by the "Marine Science Station" (98%), the "Follow-up and discussion" (98%), and the "Sailing and Navigation Station" (94%).

Virtually all of teachers/group leaders (99%) reported that their students had "Learned a lot" from the "Overall learning experience." In another survey question, virtually all (99%) agreed that the presentations were presented at an age-appropriate level.

The following figure illustrates how teachers/group leaders responded in each of the topic areas.

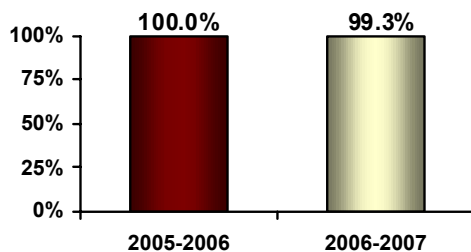
**Figure 12: “How Much Do You Think The Children Learned From the Following [Topic Areas]?” Percentage of Teachers/Group Leaders Who Gave These Responses**



Source: 2006-07 Teacher/Group Leader Surveys.

\* No respondents answered “Did not learn at all.”

**Figure 13: “Were the Presentations Presented at an Age-Appropriate Level?” (By Year, Respondents Who Answered “Yes”)**



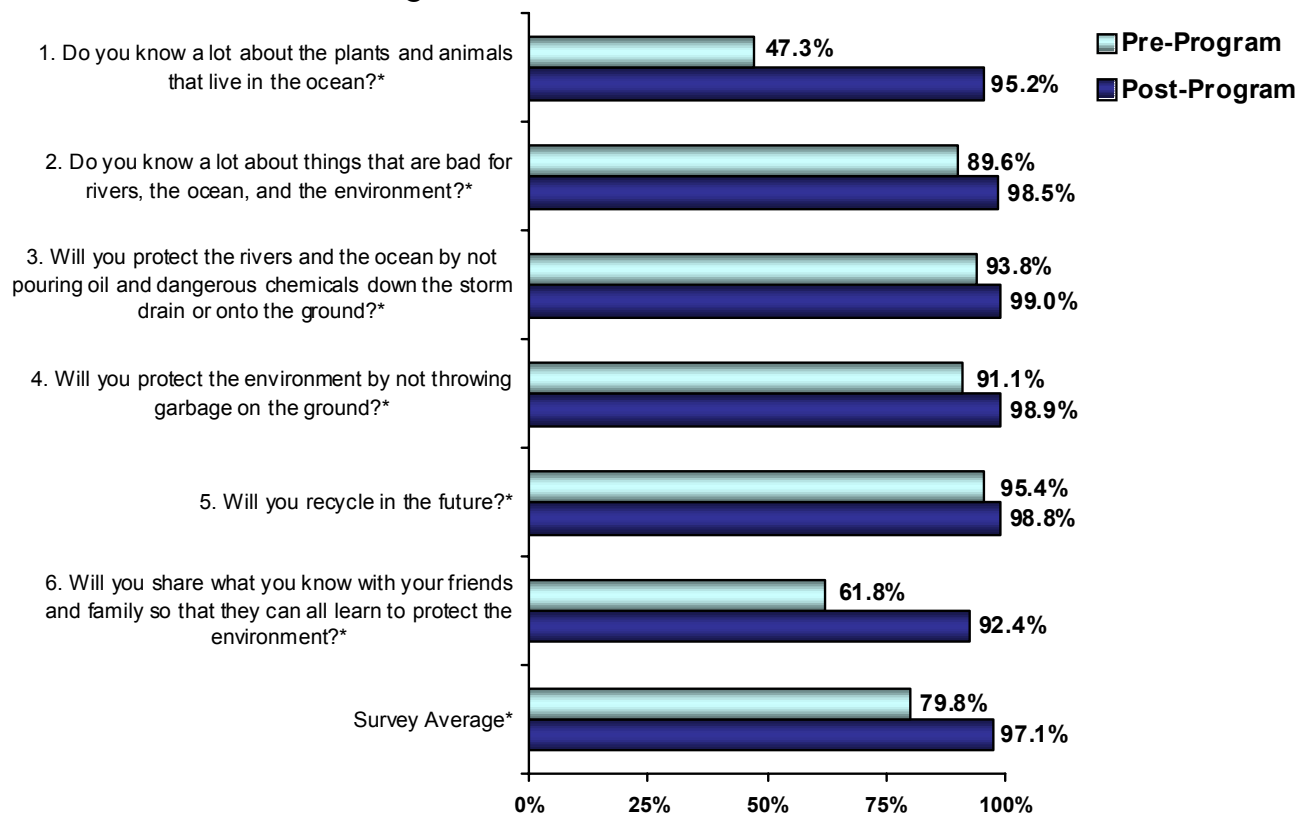
Source: 2005-06 Teacher/Group Leader Surveys (N=108). 2006-07 Teacher/Group Leader Surveys (N=144).

## Student Environmental Awareness

The Student Survey was read aloud to the students, and was administered to them before *and* after the program. The Student Survey included six “Yes/No” questions regarding their general knowledge about the ocean, and their future behavior regarding protection of the environment, recycling, and intention to share their knowledge about how to protect the environment with others. Students were asked to raise their hands if they agreed with the questions, and the number of raised hands for each question were tallied.

The results show that there were significant changes in students’ attitudes toward the environment after participating in the OSO program. Before participating in the OSO program, an average of 80% of students agreed with the survey questions. After attending the program, this percentage increased to 97%, which was a statistically significant increase. For each of the six survey questions, there was also a statistically significant increase in the percentage of students who agreed with them after participating in the program. The largest increases occurred with Question 1, “Do you know a lot about the plants and animals that live in the ocean?” (net increase of 48%), and Question 6, “Will you share what you know with your friends and family so that they can all learn to protect the environment?” (net increase of 31%).

**Figure 14: Percentage of All Students Who Agreed with Survey Questions, Pre- and Post-Program**



N=3,851 students

Source: Student Surveys, 2007.

\* For questions with an asterisk, the differences between the pre- and post-program percentages are statistically significant,  $p < .05$ .

## Effects of Economic Background

The Student Survey results were also analyzed to see whether the economic background of students had any effect on their environmental awareness, both before and after participating in the program.

The first step was to determine how to identify students' economic backgrounds. As only limited information was collected about the groups attending the program, it was decided to use the percentage of students receiving free or reduced-price lunches as a rough measure of the group's economic level. This percentage was then used to divide the groups into three "income categories." Groups with fewer than 1/3 of their students receiving free or reduced-price lunches were considered "higher income," and groups with more than 2/3 of their students receiving this benefit were considered "lower income." Groups that fell between these extremes were considered "middle income."

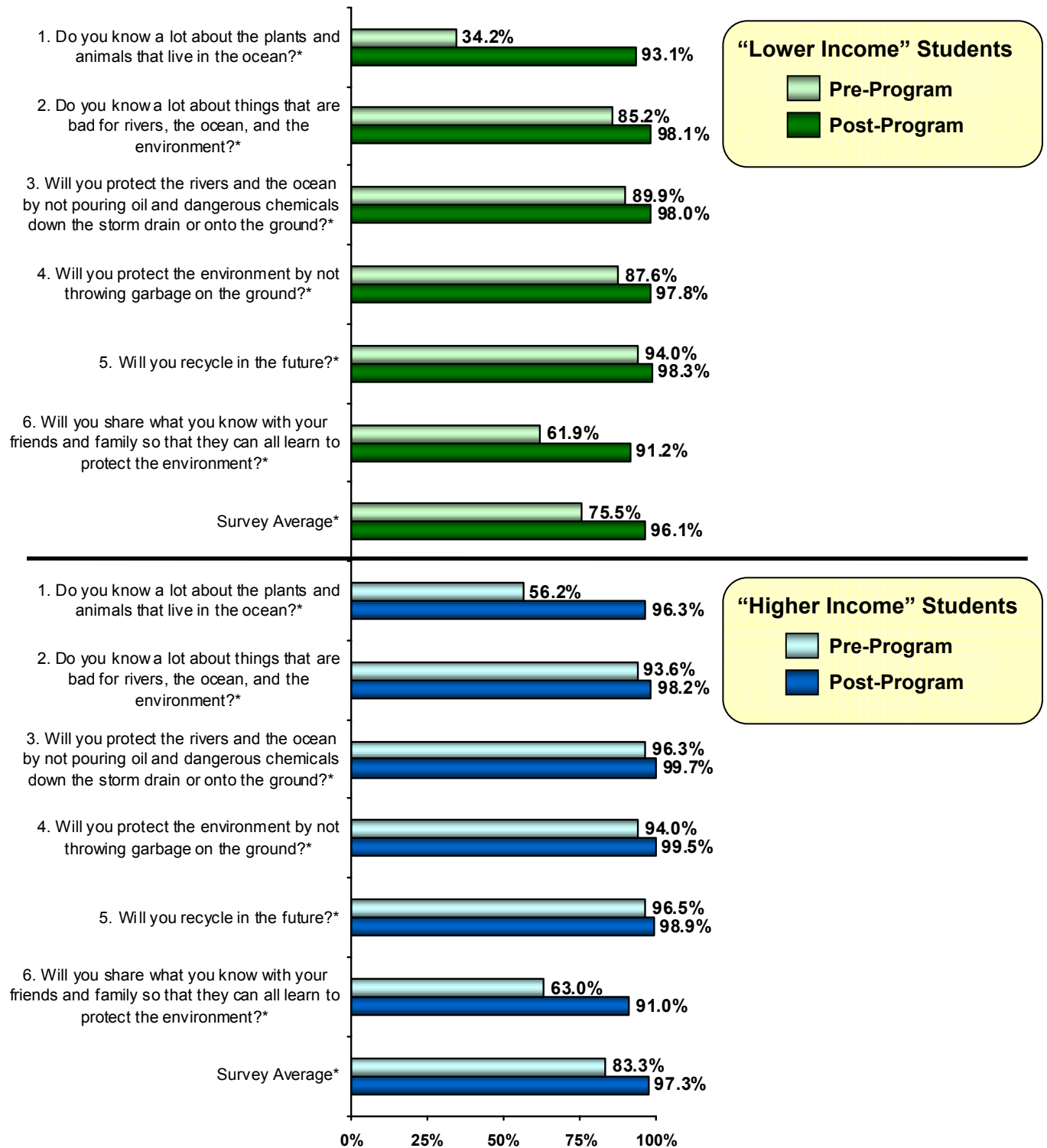
The following figure presents the survey results for the "lower" and "higher income" students. When these two "income categories" were analyzed separately, both groups continued to show a statistically significant increase in the percentage of students who agreed with the survey questions after participating in the program, similar to the previous analysis.

The interesting findings, though, were the *amount of change* and *effectiveness* of the OSO program in teaching and encouraging environmentally-conscious behavior, relative to the students' economic background. Before the program began, a significantly lower percentage of "lower income" students agreed with the survey questions (76%), compared to "higher income" students (83%). However, after participating in the program, these "lower income" students *caught up* with the "higher income" students, and in both groups virtually all of the students agreed with the survey questions (96% and 97%, respectively).

When specific survey questions were examined, the question that showed the largest significant difference related to economic background was Question 1, "Do you know a lot about the plants and animals that live in the ocean?" For this question, "lower income" students demonstrated a significantly greater amount of change between Pre- and Post-Program surveys (net change of 59%) than "higher income" students (net change of 40%).

These results indicate that both groups of students significantly increased their environmental knowledge after attending the program, with the "lower income" students showing the greatest amount of change. By the end of the program, virtually all of the students were reporting that they had knowledge about the ocean environment, that they would behave in ways to protect the environment, and they would share this knowledge.

**Figure 15: Percentage of Students Who Agreed with Survey Questions, by Level of Income, Pre- and Post-Program**



Lower income students: N=1,323 students. Higher income students: N=1,195 students. Middle income students are not displayed. Only groups that had data regarding the percentage of students receiving free or reduced-price lunches were included in this analysis. Source: Student Surveys, 2007.

\* For questions with an asterisk, the differences between the pre- and post-program percentages are statistically significant at  $p < .05$  for both lower and higher income students.

# Conclusions

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## ***Student Participation and Demographics***

Between 2006-07, 153 groups participated in the O'Neill Sea Odyssey (OSO) program, representing 3,969 children. The average group size was 26.

The demographics of the groups and students who participated in the O'Neill Sea Odyssey program have stayed relatively the same as previous years. The majority of groups came from Santa Cruz, Santa Clara, and Monterey Counties (95%), and the vast majority of groups (97%) were comprised of students in the 4<sup>th</sup> through 6<sup>th</sup> grades. Some students were repeat visitors, with approximately 10% of the students having been on the trip at least once before.

It was estimated that about half of the students were Hispanic or Latino (49%), 33% were White, and 18% were other races/ethnicities. The percentage of English Learners (EL) was 33%, and 12% of students were Fluent-English-Proficient (FEP). When these two groups were combined, the results show that 45% of the participating students did not have English as their primary language.

Overall, half of the students (50%) were receiving free or reduced-price lunches. By using the percentage of students receiving free or reduced-price lunches in each group as a rough measure of the group's economic level, it was calculated that approximately 38% of participating groups came from "lower income" communities.



## ***Website and Teaching Materials Use***

Teachers and group leaders indicated that they used the website materials with their students before participating in the program, and intended to continue using them back in the classroom. Ninety-one percent (91%) of teachers/group leaders had visited the Sea Odyssey website before the trip, and more than two-thirds of all teachers/group leaders (68%) reported that they had used the online teaching materials provided on the website *before* their trip. The majority of teachers/group leaders (89%) reported that they intended to use the online teaching materials in the classroom *after* the trip. Virtually all of the teachers/group leaders (98%) felt that the teaching materials enhanced the children's learning of the topics.

Open-ended questions in the survey asked how they used these online materials before the trip, which materials were most helpful in the classroom, any suggestions for improving the teaching materials, and additional comments. The responses to these questions are available in Appendix I: Open-Ended Survey Responses.

## ***Program Ratings***

Based on the Teacher/Group Leader Survey results, the O'Neill Sea Odyssey program was evaluated extremely positively. In every topic area, the majority of teachers/group leaders (93% to 99%) indicated that the children had "Learned a lot," and that the presentations were presented

at an age-appropriate level (99%). Virtually all of teachers/group leaders (99%) reported that their children had “Learned a lot” from the “Overall learning experience.”

### ***Student Environmental Awareness***

The new Student Survey showed that there were significant changes in students’ environmental knowledge and behavior after participating in the program. Before participating in the OSO program, an average of 80% of students agreed with the survey questions, which increased significantly to 97% after attending the program.

The Student Survey results were also analyzed to see whether economic background had any effect on students’ survey responses. Student groups were divided into three income levels (lower, middle, and higher) and the “lower income” and “higher income” groups’ survey responses were analyzed.

There was a significant difference between these two groups in the *amount* of change that occurred between Pre- and Post-Program surveys. Before the program began, a significantly lower percentage of “lower income” students agreed with the survey questions (76%), compared to “higher income” students (83%). However, after participating in the program, these “lower income” students *caught up* with the “higher income” students, and in both groups virtually all of the students agreed with the survey questions (96% and 97%, respectively).



These results indicate that both groups of students significantly increased their environmental knowledge after attending the program, with the “lower income” students showing a greater amount of change.

### ***Summary***

Overall, the program was well-attended by the target population of children, the program materials were frequently used, and the program was very highly regarded by teachers/group leaders. In addition, Student Survey results suggest that the OSO program succeeded in bringing all students to a high level of environmentally-conscious behavior and knowledge despite some factors (such as economic background) that may limit how much environmental awareness a student had before attending the program.

# Appendix I: Open-Ended Survey Responses

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## 12. How did you use the web site Learning Center or teacher packet materials in the classroom *before* the trip?

- As a class lesson or two to prepare.
- As homework pages to frontload experience.
- Assist the kids in Monterey Bay Sanctuary study - zones as well as individual animals studies - ecology and health of the ocean.
- Awesome of what boat looks like idea; what to anticipate.
- Background only - parents were given website for Gate class. Kids will be given website for review.
- Checked to prepare for the trip (what to wear, expect, etc.).
- Class work; discussion; activity pages.
- Classroom lessons and homework.
- Combined with our 6th science curriculum on ecosystems, etc.
- Didn't do it.
- Directions, quick skim.
- Downloaded the worksheets.
- Food chain activity cut and paste - literary response to chief Seattle quote - longitude and latitude.
- Food chain information and also to give students background information.
- For a week of preparation; education that was standards based.
- For background information in preparation for the trip.
- Found print about areas of study. Discussed, studied and researched them in groups.
- Frontloading, on what the students would learn on the boat and in the classroom.
- Gathered information to prepare students for the trip, i.e., what to expect and what they would do. I referred the website to parents.
- General overview of what to expect; vocabulary development.
- Guiding instruction and student materials.
- Highlighted vocabulary, how our practices effect our ocean environment.
- Home school program - we will be using the resources for follow up activities.
- Homework, class refresher discussion day before.
- I briefly looked at it, and was going to use it for follow-up after the fieldtrip.
- I chose some lessons and had the class break up in groups and teach others.
- I explained the purpose of the trip Re: environmental goals of the field trip.
- I gave the students packets with the 3 sections, marine biology, marine ecology, and navigation to try and pre-teach some of the material.

- I pulled out some of the activity sheets and made 2 "mini" packets. The students worked in groups to complete the packets.
- I stapled big packets focusing on the marine biology and navigation! We worked on this yesterday for 1.5 hrs.
- I took relevant trips.
- I used it as an orientation.
- I used the website to help get my students familiar with what they would be learning on the trip.
- I will use as a wrap-up.
- In the computer lab students viewed website and formulated questions about their visit.
- Individual packets. Some directed teaching.
- Information and self-guided tour.
- Looked at water cycle and food chain, assigned questions, diagrams that related to the books.
- Made a packet/sent it home over Easter break.
- Made overheads of materials and did class discussions.
- Made packets ecology, biology, navigation.
- Made student packets divided up by your 3 teaching sections. Great vocabulary and support activities. Good variety of worksheets.
- Mini lessons, next part of packet materials completed for homework.
- N/A. Use after trip.
- Not enough, but we have covered ecology this year.
- Only a small portion; we plan to use it after.
- Overhead transparencies and worksheets to familiarize students with academic vocabulary, information about the boat and plant life, ecology, ways to protect the ocean, etc.
- Overview.
- Packet use - review ecology concepts.
- Pre-lessons and spelling games.
- Preparation unit on Marine Biology, choosing an animal to study and write a report about.
- Pre-read and puzzle for ecology information.
- Presented/discussed vocabulary - described stations they'd see - showed specific vocabulary for each station.
- Pre-Teaching, vocabulary building, building up the trip.
- Preview and ... vocabulary.
- Primarily to support vocabulary and familiarize the students with the unique learning environment.
- Printed lesson, made packet.
- Printed out information, taught vocabulary.
- Ran off some activity pages. Set up reports and projects related to this field trip.
- Read through it.
- Refresh my memory about the program.

- Review of ecological system.
- Reviewed the materials and procedures.
- Set up “power knowledge” for students, vocabulary, environmental care lessons, etc.
- Small group, homework.
- Students groups were responsible for a certain subject. One group has to present about ecology, another marine life, etc.
- Students have science outside the classroom, so I was not able to use the materials before the trip. I do plan on using some of the materials to review when we get back.
- Study vocabulary words.
- Talked about ecosystems - terminology.
- The class reviewed nautical terms.
- The vocabulary terms and word puzzles. Made overhead transparencies of most pages to go over with students.
- To do a lab.
- To frontload vocabulary words and concepts so students will be able to apply them on the trip.
- To prepare for the trip.
- To preview materials for students.
- To teach about ecosystems and conservation.
- Trip specifics.
- Two week 1/2 hour lesson.
- Visited the site with projector, went through vocabulary.
- Vocabulary development.
- Vocabulary lessons.
- Vocabulary words, activities ideas for lesson plans.
- Vocabulary, to connect Sea Odyssey to curriculum.
- Vocabulary.
- Vocabulary. Introduction to three stations; fun.
- We did a vocabulary page and some word searches.
- We did many lessons prior to the trip and will use more for 2 weeks after.
- We did the longitude/latitude worksheet - the food chain pyramid.
- We discussed all of the vocabulary and the students did the activities from marine biology, marine ecology, and navigation.
- We discussed conservation, plankton, kelp and navigation, and sent home activities for homework.
- We examined photos of boat and discussed plankton, ecology of ocean.
- We had class discussions on what they know and what to expect.
- We incorporated main ideas into our school’s ocean week activities.
- We printed out terms and puzzles to acquaint them to what the program teaches.
- We printed the activities out for people to do.

- We reviewed vocabulary, circle degrees.
- We studied the mammals and plankton.
- We studied vocabulary and used the word search.
- We used the packet materials and looked up the vocabulary.
- We used the teacher packet during science. We worked in small groups, and whole class.
- We went over some information such as planktons, watershed, pollution, etc. We also did a few of the crossword and word search puzzles.
- We went through all the worksheets and vocabulary. I gave my students a test at the end on vocabulary, etc.
- We went through the packet as a part of science curriculum.
- Weather/puzzles/descriptions.
- Went over basic concepts - plankton.
- Word search, crossword, latitude/longitude lines sheet.

**13. Please describe which materials were the most helpful in the classroom:**

- Activities.
- Activity packets.
- Actually all of them.
- All are useful since we got our grant for the trip later in the year, we had already completed our science unit on Earth science.
- All helpful.
- All of above.
- All of it is helpful.
- ALL! Best: ecology station.
- All. Study plankton under microscope.
- All. Thank you.
- Boat picture, plankton with sheet ecology definitions.
- Both.
- Crossword puzzles.
- Definitions.
- Diagrams.
- Download activity pages and introducing some vocabulary were helpful.
- Driving directions - I must have overlooked these.
- Food chain information.
- Food chain, crossword puzzles, plastic and other pollution.
- Food pyramid, and fill-in-the-blank worksheets.
- Food web chart made over-head.
- Games/word searches, etc.

- Glossary, teacher information and support materials. Kids enjoyed word searches and crosswords.
- Handouts.
- Hands-on food chain activity, word searches.
- I liked all the worksheets - the picture of seaweed to identify the holdfast, ship, etc.
- I teach a lot about sea life, ecology, environmental issues, etc.
- Latitude/longitude paper.
- Liked the variety - all helpful!
- Maps and activities that were accessible for English language learners.
- Matching larvae with phyto/zooplankton. O'Neill catamaran drawing - most of the worksheets were great. We did not use the stations sheets.
- Microscope, chart and lecture also navigation and runoff stations.
- Packet of terms, Monterey Bay Sanctuary study guide, crossword puzzles.
- Packet.
- Packets and video on line.
- Pages on debris in the sea, how students can help, ecology terms and crosswords.
- Pictures.
- Plankton harvests for discussion.
- Plankton, food chain part of navigation.
- Printed materials.
- Puzzles, terms, and illustrations.
- Puzzles, word searches, overhead of boat.
- Student pages.
- Teacher packet - zooplankton and phytoplankton, the crosswords, and navigational.
- Teacher packet and website. I will now check reading materials.
- Teacher packet with marine biology ... vocabularies.
- Teacher Packet.
- Term sheets.
- Text material.
- The activity pages.
- The charts.
- The marine biology materials - we have covered ecosystems, food chains, watershed/cycles as part of our curriculum, but no instruction on marine work.
- The plankton samples! They were amazed by the amount of life!
- The teacher's [reproductions].
- The vocabulary key and word searches.
- The vocabulary sheets.
- The whole teacher packet is wonderful.
- The worksheets and puzzles are most appropriate at this age level, and the kids love them.

- They had a lot of fun. All the material in the packet was great!
- They were all great.
- Used video from website - used previous materials - science curriculum connected O'Neill.
- Video and bilingual information.
- Videos, virtual tours.
- Vocabulary - English/Spanish. Lots of teaching materials.
- Vocabulary activities.
- Vocabulary and word games.
- Vocabulary and worksheets combined well with our curriculum.
- Vocabulary building activities.
- Vocabulary building activities.
- Vocabulary lessons were terrific - glad we had the puzzles and word searches too.
- Vocabulary list, work fill-ins. Latitude/longitude. Handouts, crosswords.
- Vocabulary sheet.
- Vocabulary terms.
- Vocabulary words, materials in Spanish.
- Vocabulary.
- We did food chain, Glossary, word search and Navigation Terms. We studied habitats, deep ocean kelp forest, rocky shore. Your pages were very helpful to help students understand plankton and who eats what.
- Web information.
- Word find, vocabulary, summary of marine life.
- Word hunts, vocabulary lists, catamaran diagram.
- Word searches, charts, latitude/longitude.
- Work sheets explaining what we might see in trip.
- Worksheets for homework.
- Worksheets.

**16. Do you have any suggestions for improving the teaching materials?**

- 13 down in the crossword puzzle is missing the clue.
- Great already!
- Great job.
- Great Trip!
- Hands-on exploration is always excellent.
- Have more access to programs like these.
- Have students echo vocabulary.
- Have them be totally online so they can project on LCD - no paper used then!
- Have to check them out more.

- Having a DVD would help. I [have] a video tape, "The living sea." Students were able to learn more facts by the sea.
- I could use a chart showing how long trash lasts.
- I really like them all!
- I think if the kids could see the effects of the watershed it would have more of an impact on them.
- In Español?
- It couldn't be much better.
- It was all fantastic. Maybe some PDF coloring sheets and pollution posters.
- It would be great to have a website that students could access with their families at home to go into greater depth with this material.
- Make them bilingual.
- Maybe putting in homework this curriculum meets California standards if it doesn't already?.
- Maybe some pictures with the vocabulary.
- More circular activities?
- More examples of food chains/food webs - a coloring page?.
- More! More!
- No - thanks it is an excellent program.
- No!
- No, but next time we will come sooner in the year. Then we will be able to do more in advance.
- No, everything was wonderful!
- No, it's quite comprehensive.
- None - it was awesome!
- Not at this time.
- Not now!
- Not yet.
- Optional? Packet sent instead of printing out - I printed so many pages. On my home computer I ran out of ink.
- Perhaps during ecology add products that are biodegradable and recyclables.
- Perhaps make a kid-friendly video that kids could watch before the trip.
- Pretty good already.
- Readability - 2nd-3rd grade (since all of our students have reading disabilities).
- Shorter reading for kids with lower reading ability.
- Spanish content; bilingual presentation.
- Suggest videos so that we can show the kids the underwater world.
- Terrific!
- The effects of global warming on our local ocean habitat... but that's an entire subject unto itself.

- The students love online games. They take online math quizzes and just love the fact that they are on the computer. Maybe an online activity. This was fantastic!
- There was a wonderful compilation of support materials.
- They're awesome!
- This is a mini science camp! Staff (Erica Celia, Adam) were awesome with their knowledge and age! Appropriate. Lessons. Wonderful. I came in the early days of OSO; there have been so many improvements - of classroom area and refining of lessons.
- Too much materials to go over for class with not much time!
- Video related to ... equipment, navigation.
- Visual aids with key vocabulary is helpful for ELLs.
- You're doing fine!

#### 17. Do you have any additional comments?

- "Best field trip ever!" quoted from all.
- A great learning trip! We really appreciate this program. Keep up the great work.
- All three docents were outstanding. They engaged the students in all of the activities. Somehow they do a great job keeping enthusiastic and in asking engaging and thoughtful questions. Hopefully our students will take all the messages about helping the environment home with them. I also hope some of the students will see themselves as scientists and pursue that as a goal in life.
- Amazing learning experience! Great job!
- Another excellent trip. Thank you!
- Awesome instructors - great teachers. Thank you!
- Awesome learning experience and I (we) appreciate all your time and positive energy. Thank you so much for this special opportunity. You have helped create lifelong memories. Seven students have never been on a boat before.
- Best field trip ever!
- Ecology presentation on the boat was a bit advanced. Some language was over their level of understanding. The visuals were great! I suggest just focusing the information a bit more. "Less is more."
- Everything discussed was age-appropriate. The students were engaged and enjoyed the hands-on experience. Thank you!
- Excellent experience. Instructors were organized and clear with students. The instructors were informative and made the information meaningful and accessible.
- Excellent learning experience. The learning station and group leaders were fantastic. The [management] of the stations and manner with students way super. Thank you. Thank you!
- Excellent program!!! Every time I bring a new class, I learn something new. Thank you all!
- Fabulous Trip! We look forward to coming again! Thank you! Thank you!
- Great day.
- Great experiences! Thank you!
- Great instructors.

- Great preparation of staff to interact well with kids. We love the Sea Odyssey!
- Great program and learning experience. We all learned a lot! Thank you! We'll be back!
- Great program, as always.
- Great program. Thanks.
- Great program; wish we could have more time! Thank you!
- Great staff; good diversity of activities.
- Great stuff. Thanks.
- Great trip!
- Great!
- I am truly thankful that my class was able to participate in this program. Many of them have not been. Field trips always fantastic, organized and informative. It's exhilarating to see students learn and have fun. As always staff was fantastic; thanks again.
- I enjoyed the energy level for my 4/5 class. Thank you.
- I love the program! Great job by staff!
- I love this program! You all handle your jobs, positions and the students so incredibly. Well done!
- I loved the teaching materials. This was an amazing field trip. I loved the demonstration of run-off pollution!
- I would have a little less talking at students or make it more physical so they could move a little bit. My students got so restless that I'm afraid they weren't absorbing all of the wonderful information they could have.
- I would like to have the teacher packet materials.
- It is such an awesome experience. The material is perfect for this age group and the presenters are engaging and totally hold the children's interest.
- It was a wonderful experience for both kids and adults. Thank you for this opportunity.
- It was hard for kids to focus on the first whole class station when they hadn't been on the catamaran for very long. Very excited - first time boat ride for most. Thank you for this amazing opportunity!
- Just to say you offer an exceptional learning experience via extraordinarily dedicated staff. We are very appreciative. No doubt this is a life changing event that will impact their attitude toward the environment throughout their adulthood.
- Love this program! Thank you!
- Loved this trip!
- Nice program. Thanks!
- No.
- None. Thanks for your great assistance.
- Not really. Some low students would do better with an even more simplified packet. I have tried to do it this year. Will do better next year. Thank you so much.
- Outstanding field trip, opportunity for students to study marine life and learn more information about how to protect it! Thank you so much!
- Staff was very helpful and knowledgeable.

- Super trip!!!
- Teachers and information - Great!
- Thank you - students loved it!
- Thank you all so much. It was a fabulous day for all!
- Thank you for giving our children power to change the future!
- Thank you for giving Sherman Oaks from San Jose a chance to come, and thank you for keeping the kids focused.
- Thank you for letting us come experience this fantastic day! The kids loved this educational field trip, and so did the teacher! What an educational treat!!!
- Thank you for the fabulous experience. You manage to hit so many topics/vocabulary in so little time!
- Thank you for this wonderful experience. It enhances the many things I have been teaching my students.
- Thank you so much for your amazing program! It really enhanced our learning of the open ocean.
- Thank you so much. Great energy this year. We appreciate all of you. Outstanding!
- Thank you very much for a wonderful field trip! The kids and I loved it!!!
- Thank you very much!
- Thank you! Amazing!
- Thank you! Different colors for different food chains, food webs overlap.
- Thank you! Great mellow atmosphere on the boat and in the classrooms!
- Thank you! My students' learning is enhance by the standards-based hands-on learning. We appreciate all you do!
- Thank you! Thank you! Next year will be more prepared.
- Thank you! This is a fabulously fun educational experience for all of us!
- Thank you! This was wonderful.
- Thank you!! A great experience for everyone.
- Thank you, You're all incredible. Very patient, informative and age appropriate! Fantastic learning experience for children and adults!
- Thank you. In spite of not being able to go out on the catamaran - it was great! We learned a lot.
- Thank you. Once again, a great trip.
- Thank you. The program was modified due to poor weather. Great job getting all students on boat anyway. Overall, I think students learned a lot!
- Thank you. The students love the boat experience and the hands-on activities.
- Thank you. This is always a beautiful and extremely educational experience! One other thing that helped my students prepare was using rulers, compasses and protractors.
- Thank you. What a great experience for my students - and me!
- Thank you. You could talk about ways or direct kids on how the families can help your program.

- Thanks a lot! It was awesome as usual.
- Thanks! I really appreciate what you do.
- The children and adults all enjoyed every moment. Your team is fantastic! Thank you for doing this for us!
- The entire crew was awesome! You always do such a great job. Thank you.
- The instructors were patient and kind even when the students were challenging. They were also very informative and used appropriate language, vocabulary, etc.
- The kids loved it! Thank you very much!
- The only problem with our experience was that we were late. The staff did a great job accommodating our group. Thanks again!
- The staff is Superb!
- The station are very well planned out!!! Great Job!
- The trip is great. I would really like to be able to take the triangulation lesson and build on it in class.
- The trip was excellent, even though we couldn't go out. The instructors were very knowledgeable and the students were engaged with the topics presented.
- The trip was great and the leaders were very knowledgeable and informative. Kids had a great time!
- The trip was well-organized and fun! They learned a lot.
- The weather link was helpful! The entire class loved this experience and gained much knowledge.
- This experience far exceeded our expectations. The entire time was filled with learning. The staff was professional and friendly and I know this will be always remembered as the "best" trip!
- This is a great program and extremely relevant to anyone who lives by our bay.
- This is a great program. Well planned and executed.
- This is a wonderful program and a great opportunity for these students.
- This is a wonderful, glorious program. Thank you so much!
- This is the best field trip experience in Santa Cruz County. Your staff is exceptional and the children will return to school motivated and inspired.
- This opportunity would not have been possible without your help with transportation! Thank you!
- This trip is fabulous. Our school values the opportunity to give hands-on experiences to all students.
- This trip was fantastic the kids were super engaged.
- This was an amazing day that reinforced so much of our 4th grade science curriculum.
- This was an even better experience then previous years!
- This was fantastic - Thank you!!!
- This was great!
- Very professional and informative. Good student management! Thank you!

- We all loved it very much.
- We love the program; it help students think more global.
- We so appreciate the opportunity to participate in this program. Your staff is knowledgeable, gracious, and prompt. Thanks for everything.
- Well organized and presented!!! Great Job!!!
- We've participated in bio site. We will compare and contrast fresh water and ocean environments.
- What a awesome experience, not only for the kids but for the adults also - we all learned so much!
- What a wonderful, special learning opportunity you provide for children! Thank you.
- Wonderful crew. Kids were really engaged!
- Wonderful experience! Thank You!
- Wonderful experience. I loved the pollution demonstration.
- Wonderful organization and very efficient; loved the "whole class" survey!
- Wonderful, patient teachers.
- Wonderful.
- You are all amazing.
- You can't beat hands-on science and learning like this.
- You guys are doing a superb job. Thanks a million!
- You guys are great! I think you are the right group to introduce how global warming affects us (yes, I did hear a couple of references today).
- Your group was great!!
- Your team seems very motivated and energetic and imagine it's [tiring] day after day. So we appreciate all the enthusiasm.

# Appendix II: Survey Instruments

## Teacher/Group Leader Survey

Teachers and group leaders were asked to fill out a short survey after attending the Sea Odyssey program. Earlier versions of the Teacher/Group Leader Survey were administered in previous years and were refined to reflect the significant topics of interest. This most recent version (used in spring 2006) was used again during this 2006-07 program cycle.

### Teacher/Group Leader Survey – January 2006

School \_\_\_\_\_ Date: \_\_\_\_\_

**We would appreciate your comments on your Sea Odyssey experience. Please take a few minutes to complete this very important survey.**

Thinking about the children in the group, and what was presented to them today, how much do you think the children learned from the following?	Learned a lot	Learned somewhat	Did not learn at all
<b>On the boat:</b>			
1. Sailing & Navigation station: electronic technology and other tools for navigation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Ecology station: Sanctuary characteristics, marine life and habitats.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Marine science station: life cycles, food station, balance that helps maintain life in the sea.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>In the classroom:</b>			
4. Sailing & Navigation station: Latitude, longitude, and basic geometry as it relates to navigation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Ecology station: water cycle and watershed, ocean pollutants, solutions to pollution.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Marine science station: plankton identification food web information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Follow-up and discussion regarding classroom experience.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Overall learning experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please turn page over to complete the survey questions.

9. Were the presentations presented at an age-appropriate level?

(1) Yes       (2) No

10. Did you visit the Sea Odyssey website before this trip?

(1) Yes       (2) No

11. Did you use the teaching materials provided on the website before the trip?

(1) Yes       (2) No

12. How did you use the web site Learning Center or teacher packet materials in the classroom before the trip? \_\_\_\_\_

13. Please describe which materials were the most helpful in the classroom: \_\_\_\_\_

14. Do you intend to use the online Learning Center or Teacher Packet materials in the classroom after the trip?

(1) Yes       (2) No

15. Did the teaching materials enhance the children's learning of topics?

(1) Yes       (2) No

16. Do you have any suggestions for improving the teaching materials? \_\_\_\_\_

17. Do you have any additional comments? \_\_\_\_\_

**Thank you for taking the time to complete this important survey.**

## Student Survey

The Student Survey was newly developed and used for the first time during this program cycle. This survey was designed to be read aloud to the students, and was administered to them before *and* after the program. Students were asked to raise their hands if they agreed with the questions, and the number of raised hands for each question were tallied.

### O'NEILL SEA ODYSSEY Student Survey

Name \_\_\_\_\_ Date \_\_\_\_\_

1. Do you know a lot about the plants and animals that live in the ocean?

YES NO

2. Do you know a lot about things that are bad for rivers the ocean, and the environment?

YES NO

3. Will you protect the rivers and the ocean by not pouring oil and dangerous chemicals down the storm drain or onto the ground?

YES NO

4. Will you protect the environment by not throwing garbage on the ground?

YES NO

5. Will you recycle in the future?

YES NO

6. Will you share what you know with your friends and family so that they can all learn to protect the environment?

YES NO

# About the Researcher

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Applied Survey Research is a nonprofit social research firm dedicated to conducting and using community-based research to help people build better communities. For over 25 years, ASR has employed best practices for survey research, assessment, and evaluation in order to better serve public and private agencies, health and human service organizations, cities and county offices, school districts, institutions of higher learning, and charitable foundations.