

# ***O'Neill Sea Odyssey: Measuring outcomes for marine debris stewardship for lower income youth***





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



### O'Neill Sea Odyssey (OSO):

- Engages 4<sup>th</sup> – 6<sup>th</sup> grade students with an education program in navigation, ocean and watershed ecology, and marine science.
- Is free, each class completes a community service project.
- Uses a sailing catamaran & shore-side education center.
- Pays for bus transportation from the school to our site.
- Provides free in-class ocean science curriculum.



Tools for NPS Pollution & Marine Debris Education: decomposition chart, watershed model, ocean current chart, and lessons in classroom curriculum.



- Last year: 201 classes, 5,281 students. 96,500 served since 1996.
- Primarily Santa Clara, Santa Cruz, San Benito & Monterey counties.



- Most students had never been on the ocean.
- 69% were in USDA free/reduced price lunch program.

## *Short Term Measurement for Marine Debris, Non Point Source Pollution Outcomes*



- In 2013 Applied Survey Research revised our logic model,
- Student survey re-designed: six questions asked before, after program.
- Annual analysis based on survey results, economic/demographic data.

# *Short term impact:*



In 2016-17, Applied Survey Research student survey analysis found:

- student comprehension rose from 70% to 94%.
- intent to advocate rose from 45% to 84%.



## *Short term measurement based on field trip*

- For 2017, O'Neill Sea Odyssey posited the following outcomes: 1) 90% of students will have increased their awareness of and threats to watersheds and the ocean, 2) 90% of students are more likely to protect Monterey Bay and the ocean, and 3) 90% of students will advocate ocean and watershed stewardship.
- The six question survey measured outcomes: (1) average percentage response to questions 1, 2 and 3, (2) average percentage response to questions 4 and 5, and (3) response to question 6.
- The result: Outcome 1 was 78% before program, 97.33% after, Outcome 2 was 69.5% before program, 94% after, and Outcome 3 was 70% before program, 94% after.
- Report and survey available at <http://oneillseaodyssey.org> .

# ***Long term impact of Marine Debris and Non Point Source Pollution Messages***

- 2013 San Jose State University study found 75% retention of non-point source pollution and marine debris concepts among students 5-7 years after they participated in program.
- Sample = 261 students from 4 high schools in OSO area.
- Factored out other programs and influences.
- A single impression makes an impact for middle-grade students.
- Read study at [http://scholarworks.sjsu.edu/etd\\_theses/4276/](http://scholarworks.sjsu.edu/etd_theses/4276/) .

# *Conclusion:*



A Next Generation Science Standards-aligned hands on science program is effective in promoting Marine Debris and Non-Point Source pollution stewardship.

***Will serve our 100,000<sup>th</sup> student in July 2018:  
oneillseaodyssey.org; oso100k.org***

