Data Analysis: Comparison of Oyster Shell Height

Reid Mandell and Ethan Lieman Science Research Course Frank McCourt High school 145 W 84th St, New York, NY 10024

INTRODUCTION

The New York/ New Jersey harbor has been the cleanest in the last century. This is thanks to the restoration of oysters in the last two decades. Oysters provide numerous environmental benefits.Our subtopic is the progression of the oyster shell height at the same location from 2 different time periods. We compared data from two locations that measured the height of oysters.

We used the provided data from the Billion Oyster Project. When the school collected the data they were following Billion Oyster Project protocol. The measurements were from the bill to the umbo.

Oysters provide numerous benefits for ecosystems and especially the NY harbor. This topic is relevant and important because the progress of the oysters growing will show us if we are getting closer to adding more oysters to the population.

CURRENT RESEARCH

We compared the data of oyster size form different testing sites. Specifically, the oysters from the site at East 111 Street collected by Central Park East II School. The data collection followed the Billion Oyster Project protocol using the Methods of Measurements: BOP Protocol. We used the data provided by the Billion Oyster Project to compare the data. Oyster sizes were compared from 10/19/2019 and 10/18/2017. Two formulae were used to find the median and average between the sizes of the oysters from each year. The main takeaways are the growth of the oysters and that they grew significantly.

Shell Heights of Oysters Collected at East 111th St 10/19/16
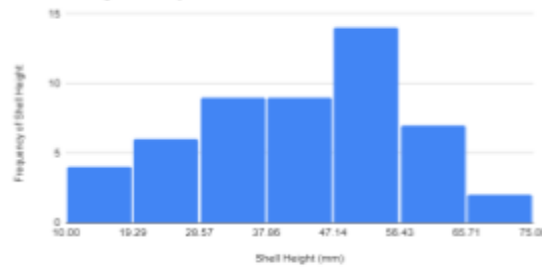
Shell Heights of Oysters Collected at East 11th st 10/18/17
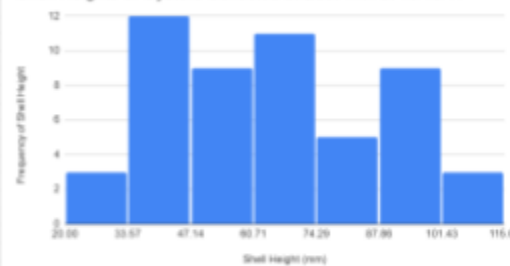
RESULTS: ANALYSIS AND IMPLICATIONS

First we had to choose which data set we wanted to use for the location we chose. We chose the data sets that were a year apart because they had a big enough difference. Then we made the graphs and averages on google sheets.

The data analysis can show us the progress of the oysters. We can see the growth over time and then from there you can decide what that means.

The data shows how the oysters are developing

RESULTS:

- The average shell height for 10/19/16 is 42.12mm

- The average shell height for 10/18/17 is 65.27 mm

- The mean shell height for 10/19/16 is 44 mm

- The means shell height for 10/18/17 is 62

Advisor's Name: Ms.Miklos

FUTURE DIRECTIONS

As the oysters continue to develop we can later bring in the factor of what they are actually doing to the water. We could then see how effective they are at cleaning the water as they get older. Exploring the effects of the oysters on the ecosystem and the water would be interesting to test over time. We already know that they are beneficial but we are curious about adding the factor of their age.

CONCLUSION

How did the shell height grow and how did they compare to one another over time? The goal of this project was to compare oyster growth over time, we saw growth in them. We could compare the shell growth and overall size to other locations to ours.

REFERENCES

https://docs.google.com/document/d/18lXj07-BAkUL RliUUtwQ5W2RccxFR3Xo0XWXmFF4aQg/edit?usp=sha ring

https://docs.google.com/spreadsheets/d/160UrF LQuvKjNphjmY2T6z6K64m3KtdVOHSAxIWlgm 5U/edit#gid=0

McCann, M. 2019. Restoring Oysters to Urban Waters: Lessons Learned and Future Opportunities in NY/NJ Harbor. The Nature Conservancy, New York, NY, USA.