

Citizen science: Inter-organism relations

By

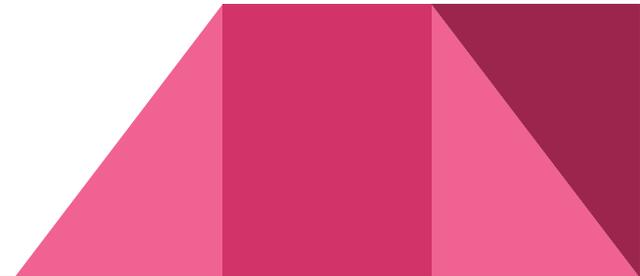
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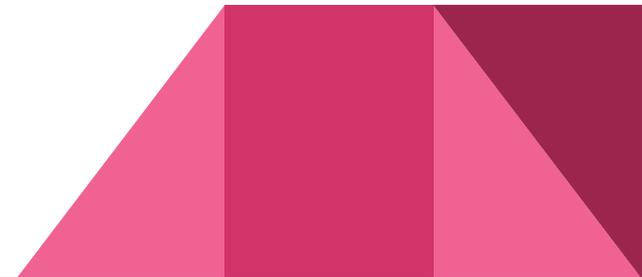
Testable question:

How does the population size of whelks in an area affect the population of hermit crabs in that same area



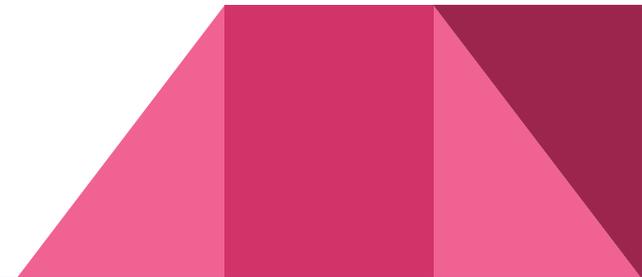
Hypothesis

We suspect that the the size of a hermit crab population density is directly proportional to the size of the whelk population because hermit crabs often utilize abandoned whelk shells for shelter.



Method:

We learned that whelk populations are most prominent right above the water line. we move along the shore parallel to the water. We randomize sections of beach every ten yards and drop a ten by ten box. We first record the number of whelks in the area, then we record the number of hermit crabs in that same portion of beach. We keep moving parallel to the beach careful to stay on the same latitude to maintain a controlled variable. When data is complete we were able to see if there was a correlation between whelk populations and hermit crab populations.



Variables

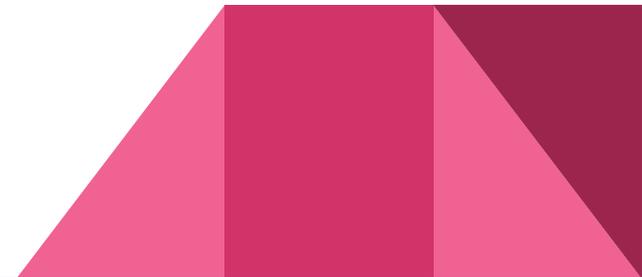
Dependant variable: hermit crab population size

Independent variable: whelk population size

Controlled variable(s): latitude (distance from shore)

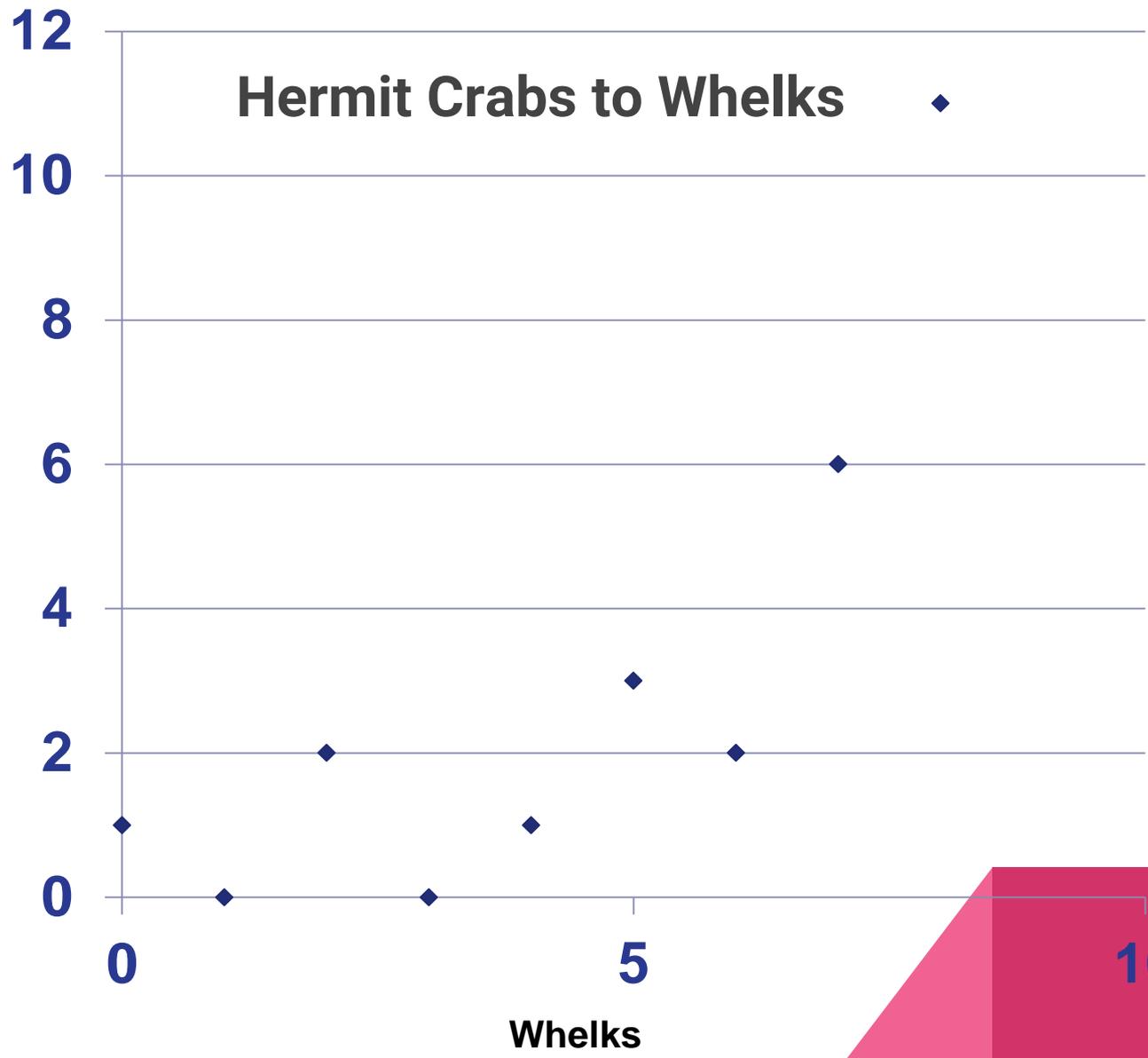
Weather conditions

Plot size



Data

Plot 1	3 whelks	0 hermit
Plot 2	2 whelks	0 hermit
Plot 3	6 whelks	2 hermits
Plot 4	3 whelks	0 hermit
Plot 5	7 whelks	6 hermits
Plot 6	2 whelks	2 hermits
Plot 7	8 whelks	11 hermits
Plot 8	0 whelks	1 hermit
Plot 9	4 whelks	1 hermit
Plot 10	5 whelks	3 hermits



Conclusion:

From our data it is apparent that hermit crab population, as we expected, is directly proportional to whelk populations.

In the plots with higher counts of whelk counts there was significantly more hermit crabs. For example the plot with the least amount of whelks had zero hermit crabs while the plot hosting 8 whelks also housed 11 hermit crabs.

This is because the hermit crabs seek whelks for their shells they are even known to be able to tell when whelks are close to death and they are known to stalk them until they die.

