Standing Water vs. Beetles

Introduction:

For our research project we want to figure out what the relationship is between the population of beetles and the centimeters of standing water. Our group is curious as to how standing water is related to the amount of beetles we find and if there is any correlation between the two and Great Blue Herons.

Methods:

Standing water:

We:

1. Went to the first site location, flag number 1 UL, and used a meter stick to measure the depth of the water that surrounded the flag.
2. Measured the deepest part and marked the point on the meter stick where the top of the water ended.
3. Measured the depth of water every so often to see if it changes, and if that affected the population of beetles.

Pitfall Traps- Beetles (Coleoptera):

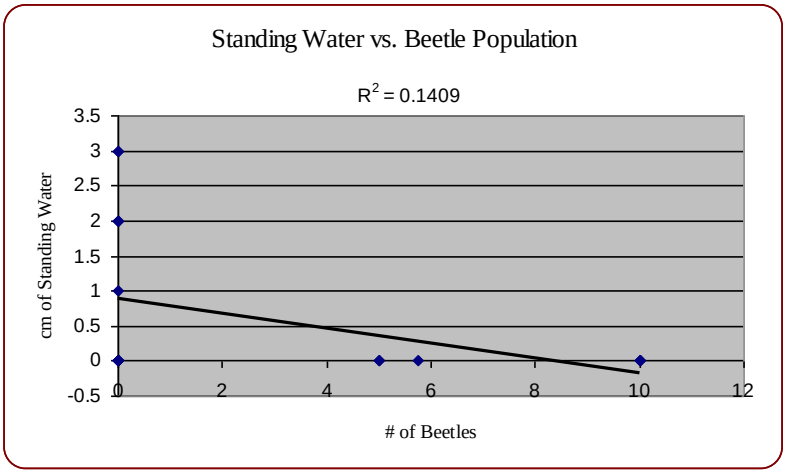
We:

1. Got two plastic cups and cut the bottom off one of them to create a funnel.
2. Dug a hole in the ground that was the size of the cup and placed the cup in the ground and placed the funnel in the cup so it was easy for the insects to fall inside.
3. Placed bait at the bottom of the cup (molasses) to attract the beetles.
4. Got a piece of board and placed it over the trap so that it would keep out large animals and rain.
5. Repeated this method 3 times and placed the traps all around our site.

Results:

Site #	Standing Water (cm)	Beetles #
1UL	5	0
1LR	10	0
2	10	0
3	10	0
4	0	0
1UL	6	0
1LR	5	0
2	0	2
3	0	3
4	0	0

Discussion:



The correlation on our graph between the cm of standing water and number of beetles is negative. Because the relationship between them is 0.1409, it means that our correlation is weak. The graph displays that when the amount of standing water is higher then there are fewer beetles.

It is possible that the amount of water could be the cause of the departure in beetles. There is a possibility that the beetles fear being drowned in the rain, so when it is very wet they go to higher ground were it is safe and dry. Even though we put molasses in the traps to attract them, it is possible that they did not find the attraction strong enough to leave the safety of the higher ground.

It is also possible that the lack of beetles is not affected by the water, but by birds and other predators. If the beetles do not like the high water levels, then it is possible that so do the birds. Supposing the beetles are on the higher ground and so are the birds, and thus the beetles could be easier to catch and eaten by the birds. The water levels may cause the decrease or increase of beetle population because of its affect on the migration of the beetles.