

## WHAT IS THE TITLE OF YOUR IDEA Lady Bug Marathon

### WHAT CAN I DO, INVENT OR CREATE TO BETTER CARE FOR THE ENVIRONMENT ON THE KENAI PENINSULA, OR TO IMPROVE THE AREA'S PREPAREDNESS FOR A NATURAL DISASTER?

**Introduction**  
Have you ever looked at a tree and said, "How is that tree still standing, it looks dead?" But the tree might not be dead at all; that tree might have been a victim of the Spruce Aphid. This pest is a rising problem in the Kenia because of mild winters there have been outbreaks in the Kenia these past winters. Just last year there was 18,000 acres infected by the Spruce Aphid on the Kenia Peninsula (Shephard, 2017).

#### Problem

A problem in the Kenia is Spruce Aphid, *Elatobium Abietinum*. An Aphid is a bug that sucks the sap out of tree. This bug is a rising problem in the Kenia. Spruce Aphid was always a issue, but that was when it was in small or moderate numbers. Now, there are larger numbers of this insect than in average years and it is affecting spruce trees on the Kenia. The Aphid bug has more than 4,000 species and the spruce aphid is the problem, affecting 18,000 acres of land on the Kenia Peninsula (Shephard, 2017). Usually there are out breaks of this bug every year, but because of these past mild winters, Aphids reproduced even more than normal. Even though this winter is a normal winter with 186 days below 32 degrees (US Cities, 2017) there will be mild winters in the future.

Homer has been in a bit of a panic since the spruce beetle outbreak says Elizabeth Graham an entomologist in the U.S Forest service (Gullefsen, 2016). The Spruce Aphid feed on foliage that are still growing, after they are done the growth is slowed and those trees look dead. This winter is a normal winter with 186 days below 32 degrees (US Cities, 2017).

#### Solution

Lady bugs are, by the most part, important. An adult ladybug can eat 50 or more Aphids in one day (Flint, 2014). Since lady bugs need care to be cared for or they will deteriorate rapidly, so an infestation of lady bugs isn't going to be a problem. Lady bugs need to be hydrated so the after a rain storm would be an ideal time to release them. As the Aphids run low on a tree most of the lady bugs naturally fly away to another location. As they work their way through the forest, the lady bugs will lay eggs and reproduce, making even more lady bugs to treat the Spruce Aphid predicament.

First I will organize a marathon. The marathon will start at above the cemetery at the end of Voznesenka road and end at End of Spit Rest Stop. The distance is exactly 26 miles. At every 5 miles there will be a checkpoint. This checkpoint will have a cup of water for each runner. The fee to precipitate will be \$50. This race will have a reward of \$500 for first, \$250 for second, and \$100 for third. This marathon will be promoted through Homer News website and paper. I will make fliers and post them all over Homer, AK. Then, with remainder of money will be used as a fund for to raising or capturing Ladybugs, Coccinellidae, to release inside of forests in the Kenia. Since Ladybugs feed on Spruce Aphids they should be mostly eradicated. Later, if and when I need more money I will post a request for money on youcaring.com. This website will show how many people care about the forests of Kenia Peninsula and want to help. My goal will be \$5,000, which will cover roughly 36.8 acres. If this solution helps I will search for grants from organizations looking for a solution to the Spruce Aphids.

### Cost Benefit

The cost is \$135.99 for one acre, a quantity of 75,000 ladybugs. With 18,000 acres it will cost \$2,447,820. The benefit is healthy trees on the Kenia and the eradication of the Spruce Aphid, therefore saving trees.

### Conclusion

To conclude, Spruce Aphids are a rising problem in the Kenia. As the winters get milder the problem only gets larger. An outbreak of Spruce Aphids and an increase of Spruce Bark Beetles can lead to an increase of mortality, since Spruce Bark Beetles attack weakened trees and Spruce Aphids weaken trees (Graham, 2016). Last year there was 18,000 acres of forests that were affected by the Spruce Aphids in the Kenia Peninsula.

*DO NOT PASTE into the box below. You must manually type in the information. Then format it.*

### CITATIONS AND REFERENCE INFORMATION IN APA FORMAT

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"U.S. Cities - Average Days Below 32 Degrees." U.S. Cities - Average Days Below 32 Degrees. N.p., n.d. Web. 23 Feb. 2017.