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Biological Control of an Unseen Killer: Dendroctonus rufipennis, the Spruce Beetle

The main focuses of this project is to see what size of trees the spruce beetle prefer to attack and to see how far the spruce beetle can migrate in one year. These results are going to be applied to later experiments. The experiment was conducted on the Grand Mesa. The width of the trees, GPS position, and the state of the tree data were collected. The trees collected were in three fifteen by thirty meter plots. The trees in the plots represented the minimum migration distances and were used in the patterns study. Bolts of an infected tree were taken for later research on the spruce beetle, form a tree in the plots. Using a migration map maximum flight distances were calculated. Sixty seven percent of the trees were infected and had a diameter greater than twelve inches, twenty two percent were dead and had diameters greater than twelve inches. Eleven percent of the trees had a diameter of less than twelve inches, eight percent were infected and three were not infected. The minimum flight distance calculated was thirty-five meters and the maximum migration distance was seven hundred meters. The minimum migration hypothesis was not supported; the maximum migration distance was not supported. The majority of the trees collected supported the attack preference hypothesis.