Chasing Fireflies: Creating a Firefly Sanctuary to Increase the Firefly Population

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What would a summer night be without fireflies? Unfortunately, they are now at risk of becoming an endangered species. Habitat loss, light pollution, and the use of pesticides have dramatically reduced their numbers putting them at risk for becoming endangered. It was hypothesized that establishing a habitat abundant in native plants with little light pollution and no pesticide use would increase the number of fireflies in an area. To test this hypothesis two fields were selected in the same area with identical characteristics. The locations were chosen based on geographic position and similarities. The control area was left undisturbed. The experimental area was designed to be the ideal habitat for fireflies. Native wildflowers and trees were planted. The project began in May, and ended in late August, 2020. Observations consisted of volunteers observing fireflies to document their flash color, shape, number (pattern), and synchrony, as well as the number of fireflies caught and released. Research found that providing a habitat rich in native vegetation with little light pollution and no pesticide use significantly increased the number and species of fireflies in an area. Observations found 1,906 fireflies in the experimental habitat, whereas only 694 fireflies were caught in the control field. Of the fireflies caught there were a greater number of species found in the experimental field. The results of this research support the hypothesis that providing a habitat with native vegetation, low light pollution, and no pesticides will increase the number and diversity of fireflies in the area.

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