***The clearing of rain forests results in forest fragmentation (the breakup of large forest tracts into small patches). Researchers predicted (hypothesized) that fragmentation would result in a decrease of animal populations, and also a decrease of tree biomass in the forest fragments. They did four (4) studies to test this prediction.***

**Study 1**

The researchers monitored the tree biomass of twenty-five 100meter × 100meter forest plots near areas that had recently been cleared of vegetation. The distance from the center of each plot to the nearest clearing was measured. ***Figure 1*** shows the average change per plot in tree biomass in metric tons per year (t/yr) over 17 years.

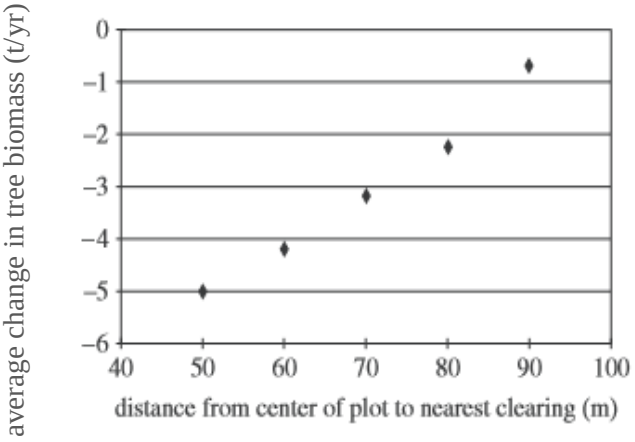


Figure 1

**Study 2**

Twenty-five 100meter × 100meter forest plots were monitored, just like in Study 1. The center of each of these plots was at least 500meters from the nearest clearing. The average change in tree biomass over 17 years for these 25 plots was 0 t/yr.

**Study 3**

Researchers monitored sixteen 100meter × 100meter forest plots near areas that had recently been cleared of vegetation. Each plot was bordered on one side by a clearing. ***Figure 2*** shows the average cumulative percent change in tree biomass at these plots following fragmentation.

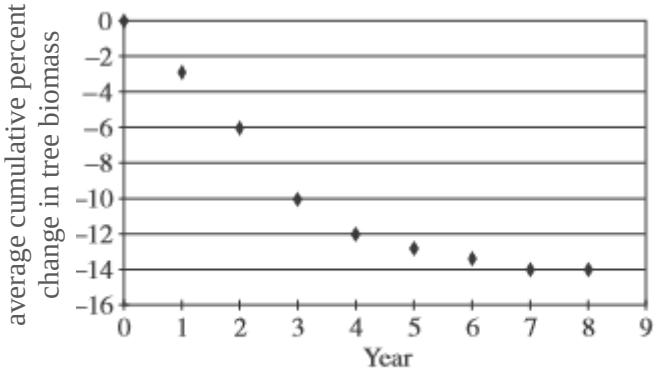


Figure 2

**Study 4**

Researchers trapped and released birds in ten forest fragments near areas that had recently been cleared of vegetation. Three types of birds were monitored: insect eaters, fruit eaters, and hummingbirds (nectar eaters). ***Figure 3*** shows the number of captures per 1,000 hours of trapping.

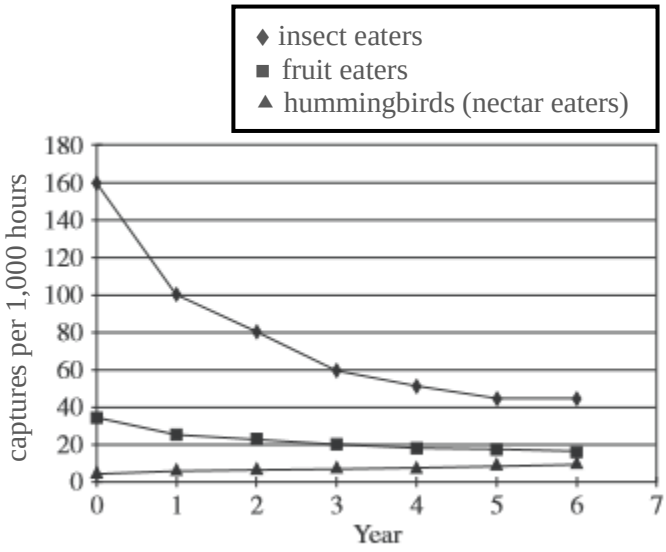


Figure 3

- ***Helpful Definitions***
  - ***Biomass - the weight or total quantity of living organisms of one animal or plant species (i.e., total weight of trees = tree biomass)***
  - ***Nectar - the sweet secretion of a plant, found in the plant's flower, which attracts pollinating insects and birds***