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Ecology

### Project Summary: Moths in Decline

Many people have heard of the countless dangers that will threaten humanity if our massive magnitude of carbon emissions is not reduced in the near future. People seem very wary of the possibility that their air will be harder to breathe, or cropland will be less suitable for producing food, but as the immediate effects of global warming do not directly affect them, far too many citizens simply turn a blind eye to the problem. The truth is, there are species in nature whose populations are already in serious decline because of carbon induced climate change. By shedding some light onto the plague of dwindling British moths, I hope to persuade humans to recognize that planet earth is home to more life forms than our own, and that our actions threaten to destroy them.

Global warming causes warmer winters. Warmer winters increase precipitation. Abnormal amounts of precipitation overly moistens the areas in which moths lay their eggs, causing them to develop less easily, and sometimes not at all (2). Climate change also accelerates the budding of plants in the spring, effectually dooming moth caterpillars that depend on their foliage for food when they hatch (2). If the caterpillars cannot biologically account for weather induced change in their food source, they will starve before ever developing into moths.

Out of several species of moths in decline, three in particular are dramatically disappearing from their native Southern United Kingdom ecosystems; the Garden Tiger, the Pink -Striped Blood Vein, and the Magpie (1). Since 1968, these moths' species have respectively lowered by a shocking 89 %, 79%, and 69% (1). Loss of these beautiful creatures not only dampens the appearance of English front yards and gardens, but also negates the food source for animals that prey upon them, such as bats. When bat populations subsequently decrease, there are fewer predators to wipeout pests such as mosquitos and gnats, which will annoyingly increase (3)!

I illustrated this cycle of decline in my final project by showcasing moths in a way that mimics the appearance of pinned specimens, to parallel the human induced harm on the species. Hopefully by viewing these fascinating insects and realizing that scores of them are dying because of our actions, humans will at least consider their carbon emissions more, if not completely changing their environmentally destructive behavior. Besides, after viewing the imagery of dead bat species in the background and impending rise in the scarily rendered blood sucking mosquito population, humans will have even more of an incentive to preserve moths. The symbolism of cradling hands ultimately delivers the piece's message; humans have the power to save moth species and the earth as a whole, they simply lack the responsibility. Hopefully viewing my project will help people change this tragedy, if ever so slightly.

## Bibliography

1. *Butterfly Conservation*, Heritage Lottery Fund, Manor Yard, England  
<http://www.mothscount.org>

This source provided specific facts about the decline in British Moths, including scientific names of species and data in the form of yearly percentages that moths have declined.

2. *Uk Moths in Serious Decline*, Helen Briggs, BBC News,  
<http://news.bbc.co.uk/2/hi/science/nature/4720864.stm>

This source explains how climate change is linked with the decline of moths in England, by explaining the ecological toll the rise in global temperatures induces. It outlines the habits and needs of caterpillars so the reader has an understanding of the species and what it requires to live to adulthood.

3. *Tiger Moth in Decline but Blair Takes a Bow*, Roger Highfield, Telegraph Media Group Ltd., 2012.  
<http://www.telegraph.co.uk/science>

This source explains the “larger picture” ecosystem problems that result from the loss of moth biodiversity. It also focuses on the fact that it will ultimately be the actions of the human public that decide the species fate, and exemplifies this by discussing leaders such as Prime Minister Blair becoming involved with the plight of the moths.

Overall and detail photos of my finished final project!





