How birds have raised the cost of your college tuition

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Abstract

In this paper, I will attempt to put a number on the total cost of birds that has been added to your tuition each year. Universities have to cover a lot of costs. Each institution faces its own unique challenges that cost money. The biggest cost are the most obvious and usually widespread. Electricity, salaries, food, those are easy costs to calculate. Dollars per Kilowatt-hour, yearly salary plus a bonus and retirement plan, dollars per bushel. So I challenged myself to think of the most unique costs at my school and try to quantify it. As I thought this, I look out the window and see a hawk flying by. That landed me on the total cost of birds to the university each year.

Contents

1. Costs

Here is the start of many assumptions and simplifications to make our calculations feasible. We are going to create an average bird. Instead of attempting to find the costs and the problems presented by each species of bird, let's assume all the problems come from an average bird.

Eagles and Hawks are much larger and need to eat a lot, but aren't as common. On the other hand, something like a swallow is much smaller, doesn't hunt, eats less, and is very common. Assuming that the costs of each species of bird falls on a bell curve, that means all species cost about the same (a swallow may be more common than an eagle, but many eagles are protected making them more expensive to deal with). Then, at the peak of the curve must lay a perfectly average costing bird and assuming all birds are that species won't shift the average.

By finding the costs of an average bird per year, then multiplying it by the total number of birds, regardless of species, should yield the same result. The cost of an average bird should be fairly representative.

1.1. Cleaning

Birds, like a lot of animals, cause a big mess. If a bird makes a nest, gets injured, or dies on campus, the university must move them.

Removals are usually contracted out to other companies. This can cost anywhere from 100$–300$ per removal of a nest [2].

Cleaning up all the bird droppings is another large problem. The average bird produces around 0.0014 pounds of fecal matter per day [4].

1.2. Damage to Building

Every time a bird hits a window or poops on a roof top, it causes a small bit of damage on that building. This slightly accelerates the timeline on when maintenance is needed and when replacements are bought.

1.3. Bird proofing

After seeing all the different ways birds are costing UConn money, they might decide to try and reduce the number of birds on campus. The university can try to reduce the number of birds through a couple methods.

A common technique to remove an infestation is with a poisoned food supply. This is not realistic because UConn would have to essentially poison all the birds in Mansfield and the surrounding towns. The negative ecological effects of using poison would massive and the school would face major repercussions.

Introducing predators, such as bird eating tarantulas or bird eating cats, faces a similar issue. To have any meaning full effect, they would have to seriously disturb the local ecosystem.

Although, there is one option that could work, bird spikes. Spikes would reduce the places birds have to perch throughout campus discouraging them from entering because they have fewer places hide from predators. Let's say UConn only wants the edges of four buildings to have spikes. I picked Gampel, the rec center, Wilbur Cross, and Babbige Library. This is a total of 4616 ft of bird spikes. At $20-$35 per 10 feet [2] this would cost between $9239-$16156 to install.

2. Limitations

Oh boy, are there a lot!

3. Conclusion

Let's review!

4. Sources

[1] = https://academic.oup.com/condor/article/116/1/8/5153098 We provide quantitative evidence of the large amount of bird mortality caused by building collisions in the U.S. Our estimates represent roughly 2–9% of all North American birds based on a rough estimate of 10–20 billion total birds in North America (U.S. Fish and Wildlife Service 2002).

[2] = https://www.angi.com/articles/what-cost-animal-removal.htm Wild life removal costs $100-$300 for birds, from the table Installing spikes can cost between $20-$35 per 10 feet.

[3] = https://www.ctbirding.org/publications/ct-bird-count-data/ https://www.ctbirding.org/wp-content/uploads/CBC-2024-2025-PDF.pdf?x43136

At Storrs (ST) there are 9279 birds. At least, that is the number of birds spotted during their surveying.

[4] = https://meridianbirdremoval.com/how-many-droppings-can-birds-leave-in-a-day/ On average, a single bird defecates 48 times daily. Smaller birds defecate more often and bigger birds defecate less. A pigeon produces around 25 pounds of fecal matter per year and poops around 48 times a day.

[5] = https://www.google.com/maps/@41.8066999,-72.2533408,17.75z?entry=ttu&g_ep=EgoyMDI1MTAyNi4wIKXMDSoASAFQAw%3D%3D Perimeter of: Babbige: 1076 ft Gampel: 1427 ft Rec center: 1135 ft Wilbur cross: 978 ft

[6] = https://www.motherjones.com/kevin-drum/2011/03/how-many-birds/ 10-20 billion birds in the U.S.

[7] = https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0306362#sec015 1.092 billion birds every year die from collisions with buildings in the U.S.

[8] = https://nestwatch.org/learn/general-bird-nest-info/nesting-cycle/ most birds only nest once per year

[9] = https://chptap.ornl.gov/profile/247/UConn-Project_Profile.pdf 3,100 acres in Storrs