

Attack of the Flying Rats: The Pigeons are Coming

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Introduction

The rock pigeon, scientifically known as *Columba livia*, is an iconic symbol of New York City. The presence of these avian residents in all five boroughs emphasizes their importance to the city's ecological fabric. The COVID-19 Pandemic, wrought profound changes in societal dynamics. Following the imposition of lockdowns in 2020 and 2021, the interactions between pigeons and humans dwindled significantly. This study delves into the impact of the pandemic on the pigeon population, shedding light on the complex interplay between human societal shifts and avian ecosystems within urban sprawl.

History

In New York City, pigeons are and have been a staple of the culture and ecology for a long time. **The pigeon was eventually introduced to what would become New York City by European colonizers in the 17th century.** Before that, pigeons were found in coastal areas in Europe, Africa, and Asia, specifically parts with seaside cliffs. These cliffs are very similar to the buildings of New York in terms of their material makeup. The hard surface is ideal for a pigeon to nest and reproduce. These birds eat worms, insects and food dropped by humans. They were originally used as barnyard animals and killed for their meat. Later, many escaped and thrived in the urban environment around them. This makes the pigeon an invasive species that damaged the local ecosystem. Still, **a balance developed with, making them a normal part of local wildlife.**

Research Question

What was the effect of the human response to the COVID-19 Pandemic on the total New York City pigeon population?

Hypothesis

During initial COVID-19 lockdowns, pigeons experienced increased population growth because humans had less of a presence in their physical habitat.

Results & Analysis

According to the pigeon sighting data in the five boroughs of New York City over the course of 2019-2021, there has been an increase in pigeon population. This data was retrieved from **Cornell eBird**, which is **collected from birdwatchers and average people, and compared to curated checklists.** There was a total of 270,820 sightings reported in 2019. In 2020, sightings **increased by 37%** to 371,921 and **by 15%** to 427,657 from 2020 to 2021. **Evidently, more pigeons were spotted after lockdowns,** the main human response to the pandemic, began. From then on, the number of sightings grew with the beginning of 2021, outpacing 2020 and 2019. **This general pattern applies to all five boroughs, with slight variations in each.**

Three of these slight variations took place in Manhattan, Queens, and Brooklyn. **In Manhattan, the peak of sightings in 2020 was during May. This is likely due to the fact that this was around the time in which New York was under its initial lockdown in 2020. In Queens, there was a significant increase in sightings in September of 2021. This could be attributed to surges of infection in high risk Queens neighborhoods around that time. In Brooklyn, there was a sharp increase in sightings during 2021 versus the previous two years during December. This could be attributed to the surge of COVID cases related to the Omicron variant,** rendering residents, homebound. **With fewer motor vehicles and less obstruction of the natural environment by humans, pigeons were able to thrive, even with what would be assumed to be less of a food supply.**

It should be noted that when lockdowns began, less people were around to observe pigeons. Given this, it is likely **that even more unaccounted for pigeons were likely present.** This only strengthens the notion that the pandemic allowed the population to increase.

Conclusion

The increase in New York City's pigeon's presence amidst the pandemic provides us with a deeper understanding of the dynamics within the city's urban ecology. Typically, the absence of a keystone species causes detrimental effects to the other species of an ecosystem, but as observed in this study, the pigeons **were able to thrive and become more accustomed to their habitat when human presence was reduced.**

References

Coman, Ioana A., Caitlyn E. Cooper-Norris, Scott Longing, and Gad Perry. 2022. "It is a Wild World in the City: Urban Wildlife Conservation and Communication in the Age of COVID-19" *Diversity* 14, no. 7: 539. <https://doi.org/10.3390/d14070539>. Accessed 18 October 2023.

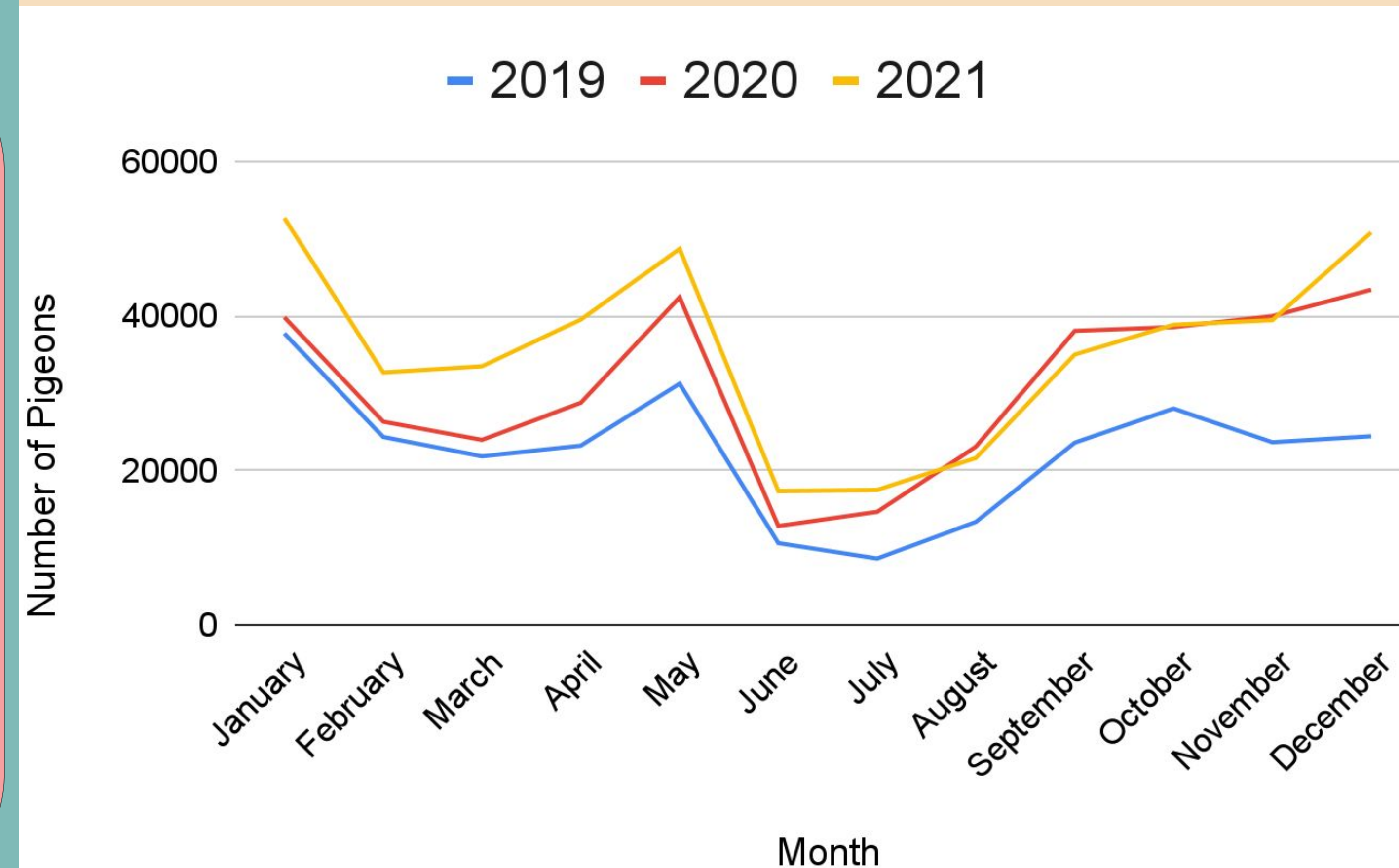
Diamant, E. S., MacGregor-Fors, I., Blumstein, D. T., & Yeh, P. J. *Proceedings Biological Sciences* 290 "Urban birds become less fearful following COVID-19 reopenings". 23 August 2023. 20231338. <https://doi.org/10.1098/rspb.2023.1338>. Accessed 18 October 2023.

Dunn, Robert R., et al. "The Pigeon Paradox: Dependence of Global Conservation on Urban Nature." *Conservation Biology*, vol. 20, no. 6, 2006, pp. 1814-16. JSTOR. <http://www.jstor.org/stable/4124710>. Accessed 20 Oct. 2023.

Kanchwala, Hussain. "City Dove: Why Do Pigeons Like To Live In Cities?" *Science ABC*, 3 December 2020. <https://www.scienceabc.com/nature/animals/why-do-cities-have-so-many-pigeons.html>. Accessed 18 October 2023.

The Cornell Lab. "Bar Charts - eBird." eBird - Discover a New World of Birding, The Cornell Lab of Ornithology. <http://ebird.org/barchart?r=US-NY-047,US-NY-061,US-NY-005,US-NY-085,US-NY-081&bmo=1&emo=12&byr=2019&eyr=2021&separateYears=true&pp=rocpig>. Accessed 14 Nov. 2023.

Total Monthly Pigeon Sightings Per Year



Total Pigeon Sightings Per Year

