Effects of Avian Influenza (H5N1) on Wild Bird Behavioral Patterns in Iowa

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This project aimed to investigate the impact of avian influenza (H5N1) on wild bird behavioral patterns in Iowa over the years 2022-2025. The hypothesis was “If wild birds are contaminated with the avian influenza (H5N1) virus, there will be a decrease in bird activity in a small region of land within 2 weeks. The virus weakens birds before mortality, resulting in lower overall bird activity.” Data was collected from reliable sources, including the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) for avian influenza detections, and eBird's database for volunteer-collected bird sightings. Data was applied to five Iowa counties and three avian species over the years 2022-2025. Results were visualized using timelines, scatter charts, line and column graphs, pie charts, and data tables of Iowa bird populations and avian influenza outbreaks, providing a framework for analyzing statistical trends and correlations. The analysis revealed minor correlations between avian influenza outbreaks and wild bird sightings across Iowa during the study period. The average time difference between avian influenza outbreaks and wild bird behavioral patterns was found to be 19.84 days. Indicating a correlation, but it was not strong enough to support the experiment's original hypothesis. Therefore, the hypothesis was not validated. These findings still provide valuable insights into ongoing research on avian influenza and represent a step forward in understanding the dynamics of the virus and its impact on wild bird populations. This knowledge can help better predict and prepare for future impacts of avian influenza.

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