| Predictor | Odds Ratio (95% CI) | | | | |
| --- | --- | --- | --- | --- | --- |
| Predictor | Lag 0 | Lag 1 | Lag 2 | Lag 3 | Lag 4 |
| Surface Runoff | **1.98 (1.36, 2.87)** | **1.64 (1.23, 2.19)** | **1.36 (1.09, 1.70)** | 1.13 (0.94, 1.37) | 0.94 (0.76, 1.17) |
| Snow Density | **0.62 (0.41, 0.92)** | **0.70 (0.54, 0.93)** | 0.80 (0.64, 1.02) | 0.92 (0.68, 1.25) | 1.05 (0.68, 1.63) |
| Soil Moisture | 1.24 (0.77, 1.98) | 1.32 (0.90, 1.94) | 1.41 (0.99, 2.01) | **1.51 (1.03, 2.21)** | **1.61 (1.01, 2.57)** |
| Temperature | 0.75 (0.48, 1.16) | 0.92 (0.71, 1.19) | 1.13 (0.90, 1.43) | 1.40 (0.93, 2.09) | 1.72 (0.92, 3.20) |
| Precipitation | **0.57 (0.39, 0.83)** | **0.64 (0.47, 0.87)** | **0.73 (0.57, 0.92)** | 0.82 (0.67, 1.01) | 0.93 (0.74, 1.17) |
| Wind Speed | 1.05 (0.85, 1.30) | 1.08 (0.89, 1.31) | 1.11 (0.92, 1.35) | 1.14 (0.93, 1.41) | 1.18 (0.93, 1.50) |
| Total Bird Abundance | **0.54 (0.36, 0.82)** | 0.88 (0.70, 1.12) | **1.45 (1.19, 1.76)** | **2.37 (1.67, 3.35)** | **3.88 (2.23, 6.74)** |

Table 1: Lag-Specific Odds Ratios for Case-Crossover Study on the Association between Environmental Conditions and Highly Pathogenic Avian Influenza Outbreaks in Minnesota, 2022. Estimates are per 0.5 standard deviation increase in each predictor. Statistically significant odds ratios are shown in bold.