

## AVIAN INFLUENZA PREVALENCE AND VIRAL SHEDDING ROUTES IN MINNESOTA RING-BILLED GULLS (*LARUS DELAWARENSIS*)<sup>1</sup>

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### ABSTRACT

Birds within the orders Charadriiformes (shorebirds; gulls) and Anseriformes (waterfowl) are reservoir hosts for avian influenza (AI) viruses, but their role in the transmission dynamics of AI viruses is unclear. To date, waterfowl have been the predominant focal species for most surveillance and epidemiological studies, yet gulls, in particular, have been shown to harbor reassortant AI viruses of both North American and Eurasian lineages and are underrepresented in North American surveillance efforts. To address this gap in surveillance, 1346 ring-billed gulls (*Larus delawarensis*) were sampled during spring and fall migrations and at three breeding sites in 2017 across Minnesota. Results indicate noticeable age-cohort dynamics in AI virus apparent prevalence within ring-billed gulls in Minnesota. Immunologically naïve juveniles represented the cohort with the highest prevalence rate (57.8%). Regardless of age, more gulls had AI virus detected in oropharyngeal (OP) swabs than in cloacal (CL) swabs. The high AI virus prevalence within ring-billed gulls, particularly in immunologically naïve birds, warrant further targeted surveillance efforts of ring-billed gulls and other closely related species.

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