

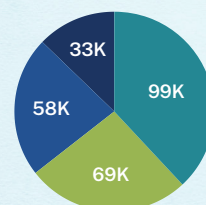
Wild Bird Surveillance: Influenza Movement on Flyways

The CEIRR Network performs routine surveillance on wild birds as a part of their mission of pandemic preparedness & response. Wild birds are surveilled for both early detection of highly pathogenic avian influenza (HPAI) & to further our understanding of influenza diversity, transmission, & the role of wildlife movement in avian influenza A viruses (IAVs).

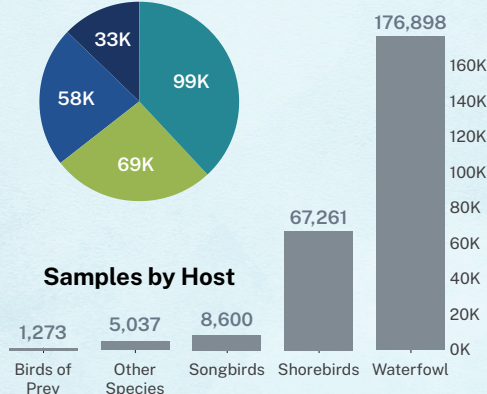
What are Flyways?

Migratory birds travel north & south on flight routes, called flyways. The North American continent is divided into four flyways, the **Pacific**, **Central**, **Mississippi**, & **Atlantic**. Monitoring these routes enables early detection & tracking of avian influenza, providing an early warning system for potential outbreaks.

Samples by Flyway



Samples by Host



Pacific Flyway: Bald Eagle

PMID 36105667

This study is the first report of introduction of H5 HPAI viruses into North America via the Pacific & Atlantic flyways.

RESEARCH IMPACT

Demonstrating how wild bird surveillance helps elucidate links between avian influenza spread & long-distance wild bird migration patterns

Atlantic Flyway: Ruddy Turnstone

PMID 33105913

This study provides insight into a potential source of IAVs being introduced to Delaware Bay from ruddy turnstones migrating from wintering grounds.

RESEARCH IMPACT

Revealing the value of sampling multiple locations along migratory flyways to improve our understanding of IAV movement in & out of 'hotspots'

Central Flyway: Snow Goose

PMID 27309076

This study suggests IAV infection rates in snow geese may be much higher than reported.

RESEARCH IMPACT

Highlighting complex infection & immune dynamics that make capturing accurate infection prevalence in some species difficult & emphasizing a need for increased surveillance efforts

Mississippi Flyway: Mallard

PMID 31131568

This study profiles antibodies against three viral proteins in naturally infected mallards during early migration to characterize the extent of population immunity.

RESEARCH IMPACT

Indicating a need for continued wild bird surveillance to unravel the complexities of influenza immune longevity & specificity in wild birds



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