USGS – UNFAO Partnership:

Understanding migratory birds and their role in highly pathogenic avian influenza transmission

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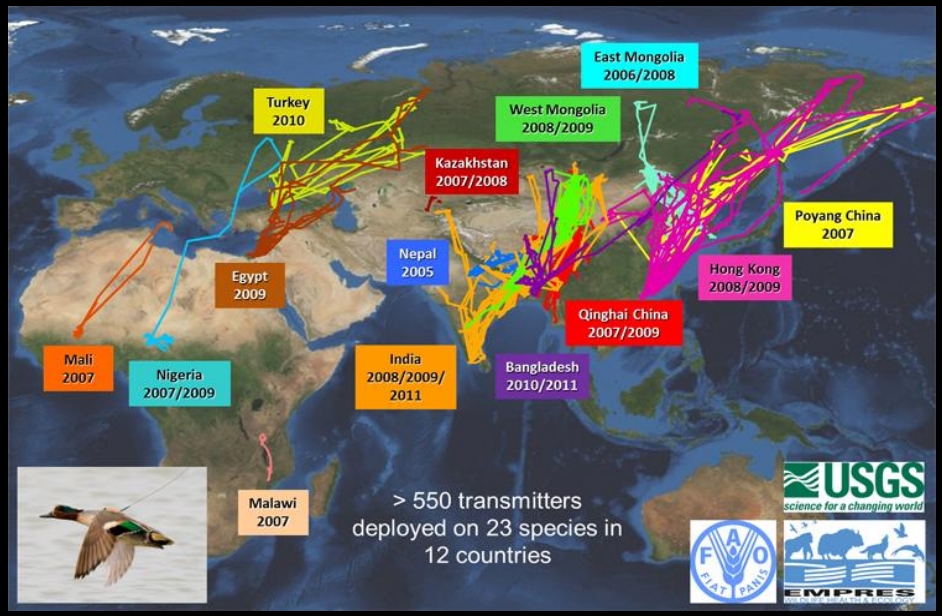
Background:

In 2007, USGS Patuxent Wildlife Research Center (PWRC) and Western Ecological Research Center (WERC) developed a Wild Bird Avian Influenza Program to improve the scientific understanding of the intensely debated topic regarding wild birds and highly pathogenic avian influenza (HPAI) circulation. Our work began in China, the epicenter of H5N1, and under partnership with the United Nations Food and Agriculture Organization, has since expanded to focal areas of infection across 4 major flyways in Eurasia (see below). Together our agencies work with international partners to study wild bird host ecology in relation to HPAI disease risk factors.

4 major flyways in Eurasia (left to right: Black Sea - Mediterranean, East African – West Asian, Central Asian, and East Asian flyways).



The Science:

By tracking the movement patterns of wild birds from infection zones, we aim to identify the mechanisms by which virus is transmitted between poultry and wild bird populations, and subsequently into new geographic areas. In addition, this work provides much needed information on the migratory patterns of individual species throughout Asia and improves our understanding of their ecology. By studying the ecological and epidemiological relationships where the disease currently exists we will increase our understanding of how to frame a response when and if the disease disperses to North America and we will begin to understand the role of various wild bird species in the year to year perpetuation of the most entrenched HPAI virus yet experienced in modern times. USGS is uniquely positioned to provide expertise on bird capture and marking, analysis of telemetry data, and disease risk modeling in this effort.

More Info:

USGS telemetry page

UNFAO intro

FAO Avian influenza surveillance manual

Avian influenza H5N1 fact sheet

USGS avian influenza news page