

Bird Flu Research at the Center for Tropical Research
by John Pollinger, CTR Associate Director

Avian Flu Surveillance Sampling of Migratory Passerines in North America during the Spring/Summer of 2006

Project Coordinator: Dr. John Pollinger, CTR Associate Director

Recognizing the immediate need to determine the current distribution of influenza strains in North American migratory passerines (perching birds and most songbirds), the Center for Tropical Research (CTR) and the Institute for Bird Populations (IBP) received funding from the UCLA Office of the Vice Chancellor for Research to collect and test cloacal swab samples (samples from the common opening in birds through which the intestinal, urinary, and reproductive tracts empty) across the continental U.S. during the spring and summer of 2006. A key resource for the study was the volunteer-based bird banding station network, Monitoring of Avian Survivorship and Productivity (MAPS), which is coordinated by IBP. MAPS station operators were provided with testing kits and training information to safely collect cloacal swabs from small passerines for avian influenza testing, as well as tail feathers for genetic conductivity analyses. IBP created a web-posted training video to support safe handling and sampling practices for birds and operators.

One hundred and forty MAPS stations participated, representing 40 states, and collected more than 10,000 swab samples. Redwood Sciences Laboratory (U.S. Forest Service) also collaborated on the project by coordinating sampling at 35 of the volunteer Landbird Migration Monitoring Network of the Americas (LaMMNA) stations throughout the U.S., resulting in another 1,200 samples.



UCLA is currently conducting molecular genetic testing of the cloacal swab samples of migratory birds, such as the Hermit Thrush and the Yellow Warbler, for: 1) Influenza A presence/absence, 2) virus subtype identification for positive samples, and 3) virus strain identification of selected subtypes by deoxyribonucleic acid (DNA) sequencing. Optimized high-speed, high-volume characterization methods are being developed in collaboration with the Los Alamos National Laboratory (LANL), who are partners with UCLA in the High Speed, High Volume Laboratory Network for Infectious Diseases to be built at UCLA in 2007.

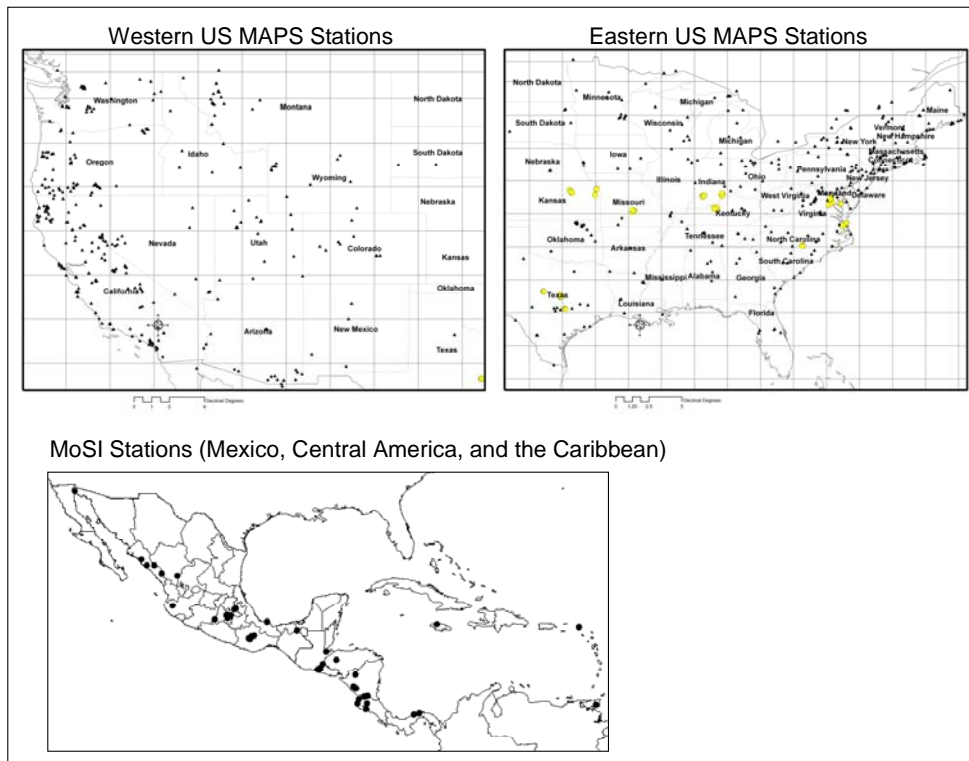
(Left: Hermit Thrush)

In addition, CTR is collaborating with Dr. Jeffery Taubenberger of the National Institutes of Health/National Institute of Allergy and Infectious Diseases (NIH/NIAID) Laboratory of Infectious Diseases to optimize characterization of avian influenza virus ribonucleic acid (RNA) samples. We expect to complete testing later this year and provide the first distribution map of avian influenza subtypes/strains by species and geographic location across the U.S.



Yellow Warbler

Current MAPS and MoSI bird banding stations in the U.S., Canada, Mexico, Central America, and the Caribbean



Landbird Migration Monitoring Network (LaMMNA) stations in North and Central America and the Caribbean

