

Re-wilding urban environments: The environmental context and ecological consequences of returning avian predators



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Animal Predators in an Urbanized World

Public perception of predators

Persecution + pesticides

Trophic downgrading

Predator recovery

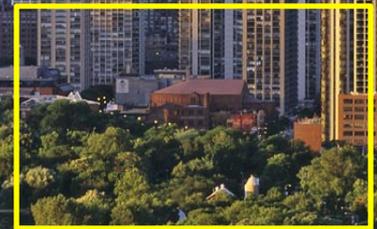
Maturing city landscapes

Backyard battles



Dynamics of accipiter hawk colonization and urban characteristics associated with colonization and settlement

Assess antipredator behavior in birds that can be mass-deployed to citizen scientists



Citizen Science: Project FeederWatch



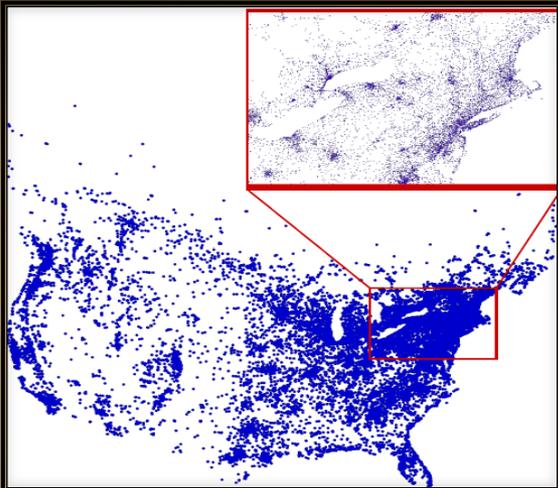
1987-present (> 70,000 people)
Repeated counts through winter

In 2016...

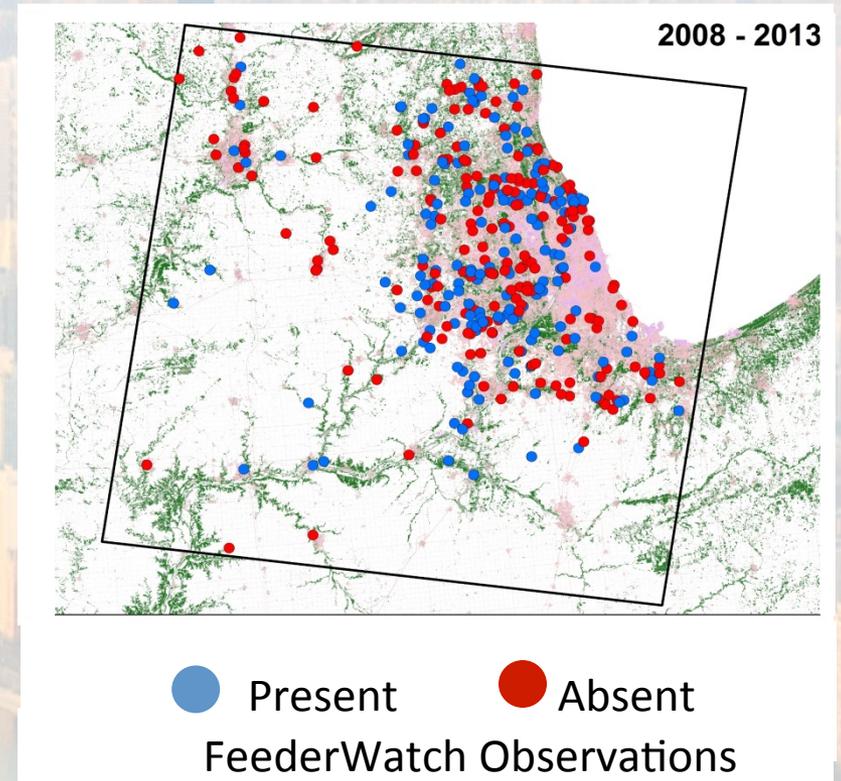
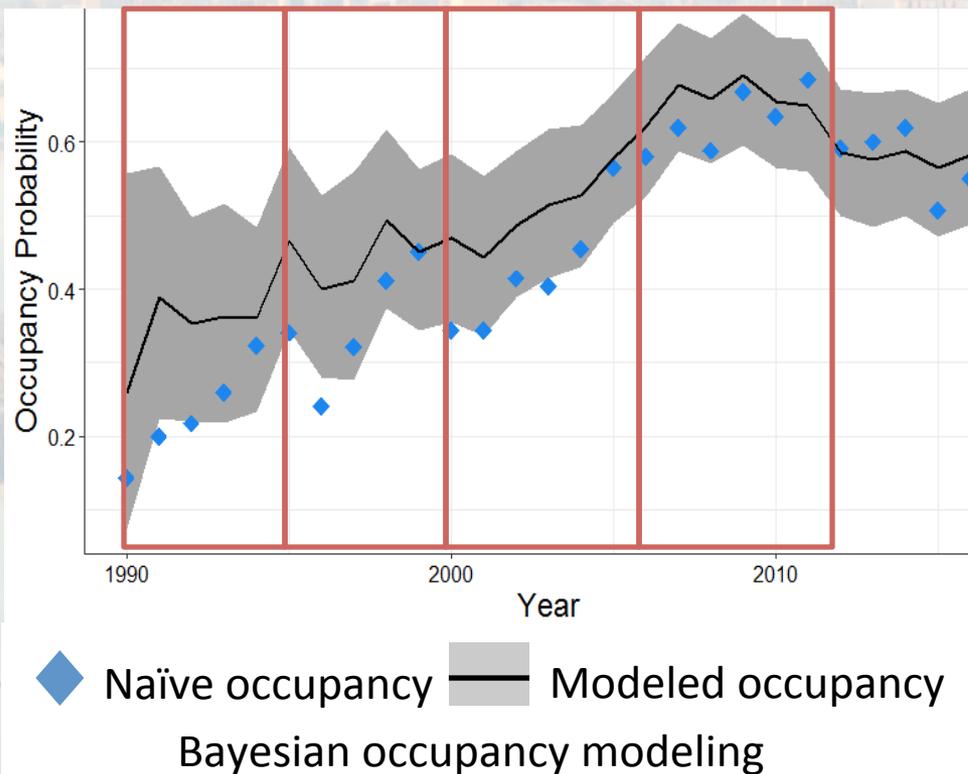
22,082 participants

140,034 checklists

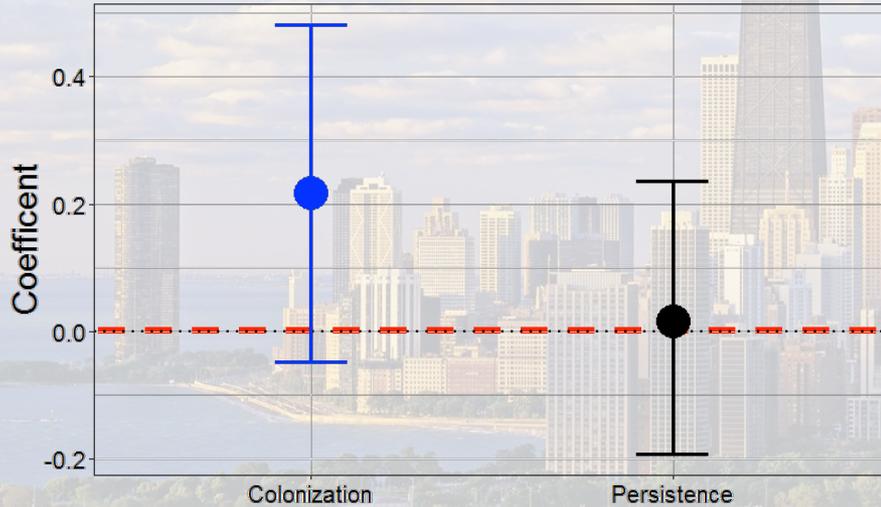
6.8 million birds



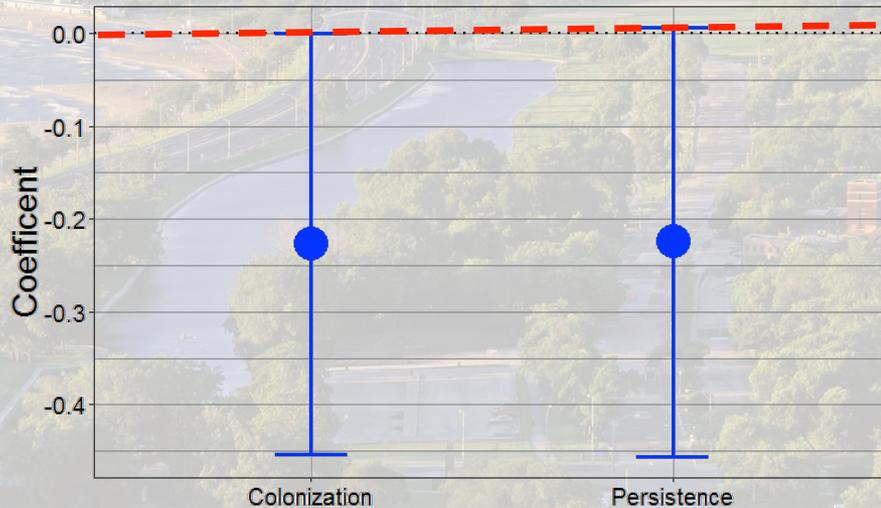
Colonization Dynamics



Urban Environments



Colonization more likely in landscapes with a higher proportion of tree cover

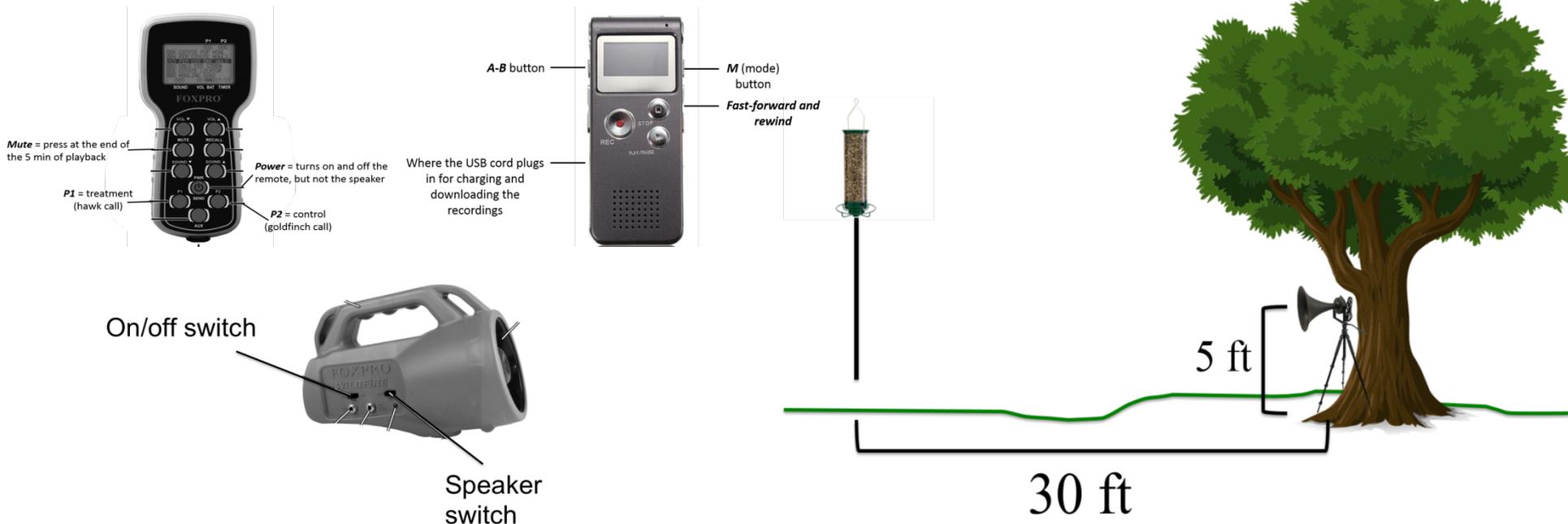


Colonization and persistence less likely in landscapes with more impervious surface

Behavioral Experiment

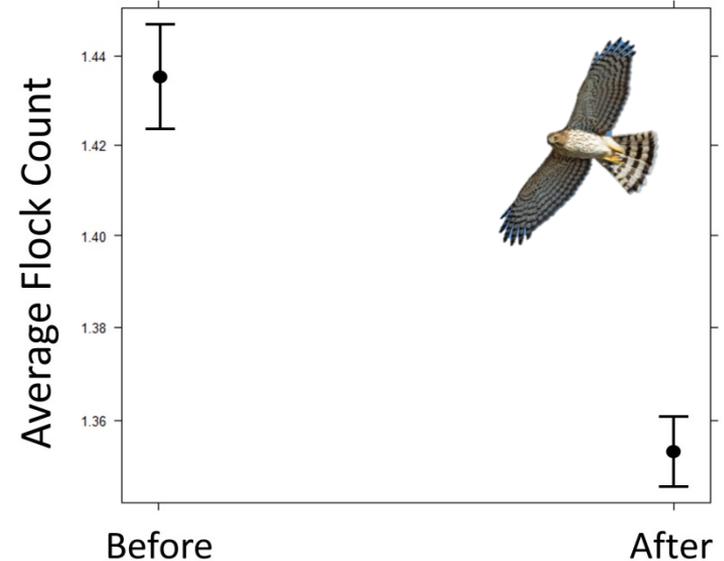
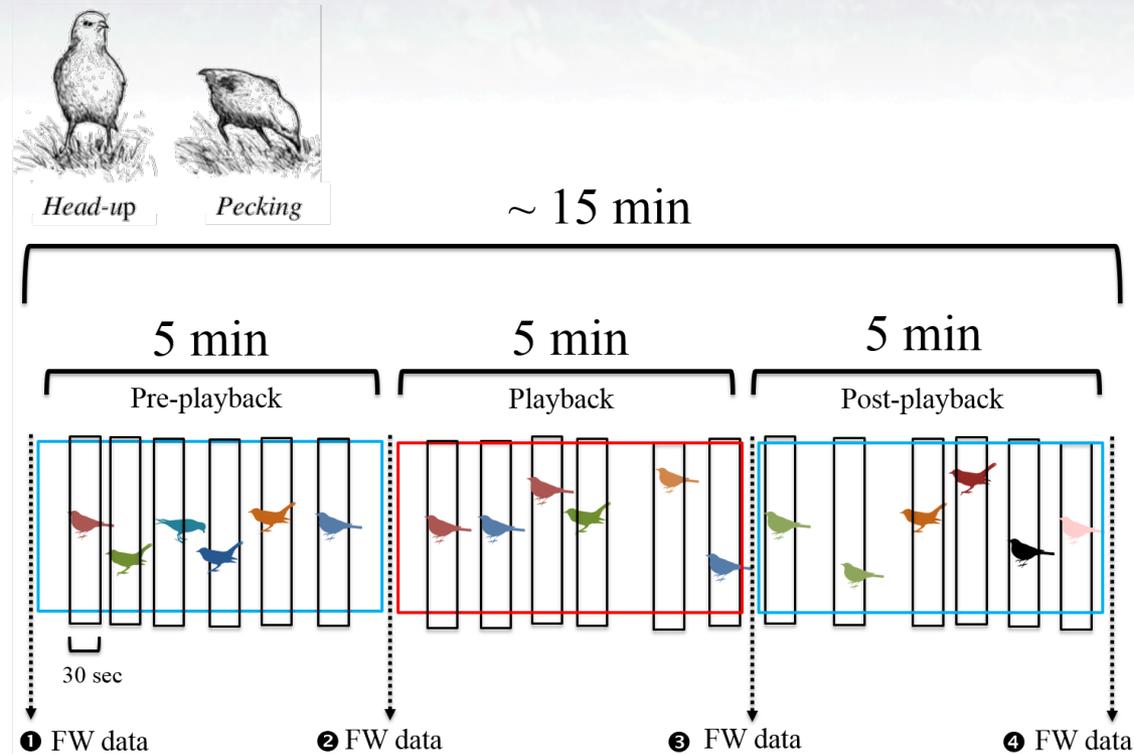
Playback experiment using “Hawk-Kits”

Antipredator behavior before and after a predator stimulus



Behavioral Experiment

842 records of behavior; 468 tally records
20 species



Next Steps

Changes in imperviousness, tree canopy cover, and temperature for 25 cities

Spatially-explicit occupancy model

Community-level consequences

Citizen science and behavioral ecology

