



## Midwest Landbird Migration Monitoring Network

"Implementing Collaborative Migratory Landbird Research in the Midwest"

October 5-7, 2016

### WORKSHOP OVERVIEW

*The Midwest Landbird Migration Monitoring Network (MLMMN) invites anyone interested in landbird monitoring and research to join us to discuss implementation of the Network's research goals over the next two years. The focus of the workshop will be development of research projects involving scientists, conservation groups and agencies, bird observatories, citizen science programs, and anyone else with an interest in collecting, analyzing, and synthesizing data toward understanding migratory habitat connectivity, movement patterns, and demographic/fitness characteristics of migrating landbirds.*

#### Workshop Objectives

- 1) Develop research project groups around key topics and methods
- 2) Identify projects, protocols, and data management needs by spring 2017

#### Research Questions

The MLMMN Steering Committee prioritized the most important research needs that can be met by the Network. These questions, ranked from most important to least important following a recent prioritization exercise, are:

1. Which habitat, sites, and airspace are the highest priorities for conservation action?
2. Within species, are there distinct populations with different connectivity and thus different possible contributors to declines?
3. How does survival during migration vary by sex, age, species, and year?
4. How does stopover habitat quality affect fitness and survival during migration?
5. How does winter habitat quality affect survival during migration (i.e. carry-over effects)?
6. When do landbirds migrate and how does this vary annually and under different climate change scenarios?
7. How does body condition (fitness) affect survival during migration?
8. What is the recruitment of juveniles into winter populations? (This can be refined to include recruitment variation by population source.)

### BREAK-OUT GROUPS FOR TWO-YEAR FOCAL PROJECTS

We are proposing four groups of projects that share underlying data collection methodologies. These projects are to be initiated in the next two years.

1. Banding and Ground Survey Team (sampling migrants during stopover)
  - Questions Addressed: 2, 4, 7, 8

- Methodology: Banding stations and ground surveys
  - a. Age/sex ratios
  - b. Energetic condition, food resource availability, and stopover length (i.e. stopover site function)
  - c. Migration timing
  - d. Feather collection/stable isotopes (connectivity of different source populations)
  - e. Other characteristics of stopover habitats and habitat associations?
  - f. Point counts and similar methods
  
- 2. Radar/Acoustics Team (sampling the mass movements of migrants)
  - Questions Addressed: 1, 6
  - Methodology: Radar, thermal imaging, and acoustic monitoring
    - a. Airspace use, flight behavior, and migration traffic rates of all species aloft
    - b. Stopover distributions via Weather Surveillance Radars (all species)
    - c. Quantification of landbird risk for collision with infrastructure in migratory airspace
    - d. Influence of weather patterns on migration flights, keeping in mind coming changes due to climate change
    - e. Integration with other teams (e.g., WSR + ground surveys = relative stopover length)
  
- 3. Telemetry Team (mapping the movement of individual migrants)
  - Questions Addressed: 2, 3, 6, 7
  - Methodology: Tagged individuals (e.g., nanotags, geolocators, and satellite tags) (focal species)
    - a. Track landscape and continental movements of individuals
    - b. Examine mortality patterns where technology permits
    - c. Expand MOTUS towers to fill gaps in a strategic way (i.e., create fences, other patterns)
    - d. Use multiple devices to track movements for larger species to refine migratory routes
    - e. Deploy geolocators on territorial individuals during stationary periods
    - f. Deploy nanotags during either stationary or migratory period depending on species
    - g. Evaluate the potential of Icarus
  
- 4. Data Synthesis/Modeling Team (putting it all together)
  - Questions Addressed: 1
  - Methodology: Data review and synthesis
    - a. Dynamic prioritization of airspace and stopover sites
    - b. Create a team to evaluate data gaps and how new information can plug these gaps
    - c. Update a spatial model to prioritize airspace and stopover sites (inland and coastal, i.e., region-wide) with new info as it becomes available

#### **Required Pre-workshop Preparation for Participants**

1. Become familiar with the MLMMN Strategic Action Plan at:  
<http://midwestbirdmonitoring.ning.com/group/mwlandbirdmigration/page/mlmmn-strategic-action-plan>
2. Select your break-out group for the workshop. You will self-assign yourself to a break-out group for the duration of the workshop.

## **AGENDA**

### **WEDNESDAY OCTOBER 5**

#### **Session 1 (1 hr 30 min): Setting the Stage for Collaborative Research in the Midwest**

- 30min *Welcome and Overview of the Midwest Landbird Migration Monitoring Network*  
(Amber Roth, Assistant Professor and MLMMN Coordinator, University of Maine)
- 40min *Importance of Research and Monitoring Contributions to Landbird Conservation* (TBD)
- 10min Individual introductions
- 10min Instructions to break-out teams
- 10min Break

#### **Session 2 (1 hr 50 min): Refinement of research projects**

Break out teams:

- What is (are) the question(s) to be answered?
- Audience: Who will receive results?
- Outline your overall experimental and sampling design, including geographic scope and collaborators.

### **THURSDAY OCTOBER 6**

#### **Session 3 (2 hrs) Research methods and protocols**

10 min Assignment overview for the break-out teams

1hr 45min Break-out groups

- Which methods and protocols will be employed? At a minimum, what are some options to be considered and discussed after the workshop?

#### **Session 4: Team function**

10min Assignment overview for the break-out teams

50 min Continue and wrap-up morning discussion

2 hrs Logistics of how teams will function:

- Who will be involved (including people not at the workshop)? In other words, who is the core team, PI, and Co-PIs on proposals?
- Where do you anticipate seeking funding?
- How will the group communicate?
- 10min break
- When will group meet next, how will meeting take place, and what will be on the agenda?
- Complete group research cooperative agreement form.

10min Break

1 hr Regroup and report development for symposium summary period

### **FRIDAY OCTOBER 7**

Progress report to Symposium during Plenary Session