

## **LTER All-Scientists Meeting Working Group, 23 September 2006, Estes Park, CO**

**Working Group Report:** Toward a synthesis of LTER studies of small mammal populations and communities in arid and semiarid ecosystems

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### **Agenda:**

9:30-9:40 Opening comments – Workshop Goals

9:40-10:00 Paul Stapp/Mark Lindquist (SGS) “Long-term studies of small mammal communities on the Shortgrass Steppe LTER”

10:00-10:20 Mike Friggens/Bob Parmenter (SEV) “Sevilleta LTER Small Mammal Dataset Review”

### *Break*

11:00-11:20 Andrea Campanella /Brandon Bestelmeyer (JRN) “Landscape ecology of a desert rodent community in relation to grassland-shrubland ecotones”

11:20-11:40 Dave Lightfoot (JRN/SEV) “The Chihuahuan Desert Small Mammal Exclosure Study”

11:40-12:00 Lucina Hernandez (Mapimi ILTER) “Long Term Ecological Mammal study in the Chihuahua Desert, Mapimí, Mexico”

### *Lunch*

2:00-2:20 Ana Davidson (SEV) “Keystone Engineers In Chihuahuan Desert Grasslands”

2:20-3:30 Discussion - led by Brandon Bestelmeyer (JRN)

**Activities:** The goal of the Working Group was to bring together researchers working on long-term population studies of small mammals (rodents and rabbits) associated with LTER sites in arid and semiarid ecosystems to provide an update on the status of their site-specific results; discuss problems and future plans for data collection; and to discuss opportunities for synthesis products (manuscripts, presentations) and future cross-site research. Many of these studies were initiated within 2-3 years of each other in the early-mid 1990s and used similar methodology to facilitate cross-site comparisons. With 10-18 years of data now available and new projects underway or being completed at these sites, we recognized that this meeting would be a great opportunity to work on synthesis and discuss how we might expand our research to include more cross-site studies.

Researchers associated with four LTER sites presented 15-min summaries of their ongoing and/or completed research. These presentations included results from long-term monitoring programs on the four sites, as well as two presentations (Campanella, Davidson) on new graduate student and postdoctoral research projects. Overall, presenters were invited to present whatever results they thought would be most interesting to the group, but, to maintain some consistency, they were also asked to:

- give an overview of what data have been and are being collected, including ancillary data sets, with project initiation/ending dates and status if possible, a description of approaches and methods, and an update on availability of data electronically;
- describe the major drivers of the system and any important changes that have occurred in those patterns or processes during the period over which you have been sampling;
- summarize key results to date and, if appropriate, how they fit into the LTER goals at the site;
- discuss any problems or issues with sampling or analysis, including major changes in methodology planned;
- present plans for the future for these or other related projects at the site, or cross-site activities.

Each presentation was followed by a considerable amount of time for questions and discussion. This pushed us off our schedule somewhat, but was extremely productive. Following all the presentations, we had a lively discussion about common patterns across sites, sampling and analysis issues, and plans for cross-site analysis. We also discussed how we might develop new research projects to better integrate animal studies, including those on other vertebrate and invertebrate groups, within the framework and goals of other LTER research and the Planning Grant.

Participants included the six researchers who presented results and 11 other scientists, mostly those associated with LTER sites where small mammal monitoring studies are underway (see list on next page). Small sub-groups also met informally throughout the LTER-ASM meeting to brainstorm ideas for new research.

**Action items:**

1) Stapp will distribute, electronically, to all participants who provided email addresses, a pdf copy of the agenda and Powerpoint presentations.

2) All agreed that it was time to take advantage of the common sampling schemes across sites to look for common patterns across sites in rodent and rabbit populations over the past decade. We agreed that the core group would meet again in late winter or early spring 2007, probably at Sevilleta LTER, to bring together all the existing data sets, brainstorm about resulting patterns and to begin working on a synthesis manuscript. We also wanted to use this meeting to begin discussion of new cross-site research, which will result in a NSF proposal to be submitted in 2007 or early 2008. Stapp will submit a follow-up proposal to the LTER Network Office by 1 November 2006 to support participation in the next meeting.

**We anticipate at least two products from this second meeting:**

- a presentation of results of cross-site patterns at a special Symposium on long-term studies of small mammals in arid and semiarid systems at the American Society of Mammalogists in Albuquerque in June 2007, to be presented by Stapp

- a synthesis manuscript to be submitted to *Bioscience* or *Frontiers in Ecology and the Environment*, in 2007 or early 2008

## LIST OF PARTICIPANTS

Working Group Title: Toward a synthesis of LTER studies of small mammal populations and communities in arid and semiarid ecosystems

Working Group Organizer: Paul Stapp and Brandon Bestelmeyer

Date of Working Group: 23 September 2006 (3 sessions)

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