The Bat Grid Inventory and Monitoring Project: A Regional Approach to Inventorying and Monitoring Bat Populations

Project # 09-390

Background:

Species identification and distribution information are fundamental to effective conservation efforts. The need for baseline data on bat species in the Pacific Northwest (PNW) to further conservation efforts has been identified in State Wildlife Conservation Plans and Federal planning documents such as The Northwest Forest Plan.

In 2009 The Department of Defense (DoD) Legacy Program teamed-up for a second year with over 20 partners in the Pacific Northwest to expand and refine a systematic inventory and monitoring program to establish credible baseline data for 16 species of bats. Partners included the US Forest Service, Bureau of Land Management (BLM), National Park Service, Fish and Wildlife Service, the Confederated Tribes, State wildlife agencies, The Nature Conservancy, Bats Northwest, Portland State University, and Humboldt State University. Personnel from 9 DoD facilities participated in the survey project known as "The Bat Grid". The Bat Grid provides an interagency standardized approach for collecting acoustic, morphometric, and genetic data in Oregon and Washington during summer surveys. The data are housed in a centralized database and provide a baseline for species distributions, conservation assessments and species-presence monitoring.

Objective:

The specific objectives of The Bat Grid Project are:

- develop better field methods for confirming species identification and distribution,
- inventory bat species across the region and describe within and between species acoustic, morphometric, and genetic variability,
- assess change in species presence and distribution over time,
- collect, manage, and disseminate data to further species and habitat conservation,
- establish strong and meaningful partnerships invested in bat conservation.

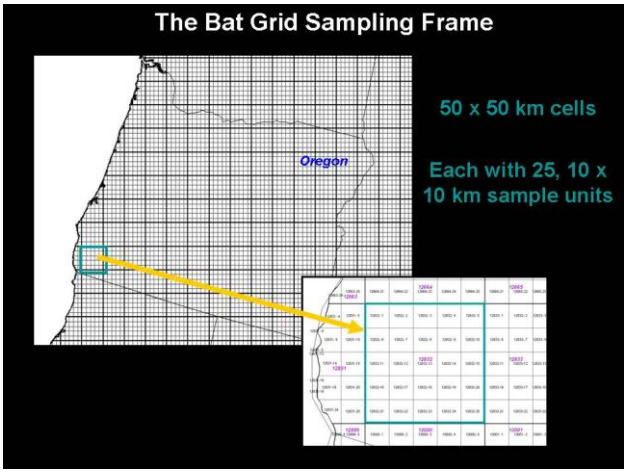

Figure 1: The Bat Grid sampling frame is a wall-to-wall GIS generated grid covering North America. Fifty x fifty km cells are used to distribute sample unit selection across the region. Each cell is comprised of 25 sample units. One to several 10 x 10 km sample units are selected from within each cell.

Summary of Approach:

Training – Two 4-day workshops were provided to Bat Grid participants. Basic bat handling and survey techniques applicable to The Bat Grid were taught. Additionally, on-the-job training occurred throughout the summer.

Surveys – Using a wall-to-wall sampling frame (Figure 1), 2 or more 10 x 10 km sample units were selected for surveying species presence. Surveys were conducted using a standardized protocol, data collection, and field forms. Capture and acoustic methods were applied for 3.5 hrs. per night by two or more surveyors.

Technical support – Technical support for The Bat Grid was provided as needed by Pat Ormsbee, Joe Szewczak, and Aimee Hart. Additionally, a 2-person crew, known as the "tiger team" traveled around the region during summer to assist with surveys and on-the-job training.

Data – Hard copy and electronic data were submitted monthly. Acoustic data is being analyzed using Sonobat software and monitoring data will be analyzed using Presence software.

Benefit:

DoD lands and personnel in the PNW are now incorporated into The Bat Grid, including collection of baseline data on species presence at DoD facilities and neighboring properties. For many DoD facilities and their partners, this is the first time bat data have been available to apply to their conservation efforts. Additionally, contributing to and receiving insight on the regional status of bat species expands and enhances the context of locally collected data. Many of the partnerships initiated through The Bat Grid evolve in to long-term collaborations.

Setting up the high net during Bat Grid training 2009.

Accomplishments:

In 2009, there were 36 Bat Grid training attendees including 2 DoD Biologists. Additionally, 9 DoD-associated individuals received on-the-job-training for conducting bat surveys under The Bat Grid. Fourteen partners, representing 8 agencies or organizations assisted with the surveys on DoD facilities. Approximately 63 of the 430 surveys (ca. 15%) conducted in the PNW were conducted on DoD lands. All surveys conducted will contribute to updated species distribution maps and baseline trend data across the PNW (Figure 2).

Reports on the 2008 and 2009 survey effort have been completed and include specific results for each DoD facility from The Bat Grid effort, as well as historic survey data.

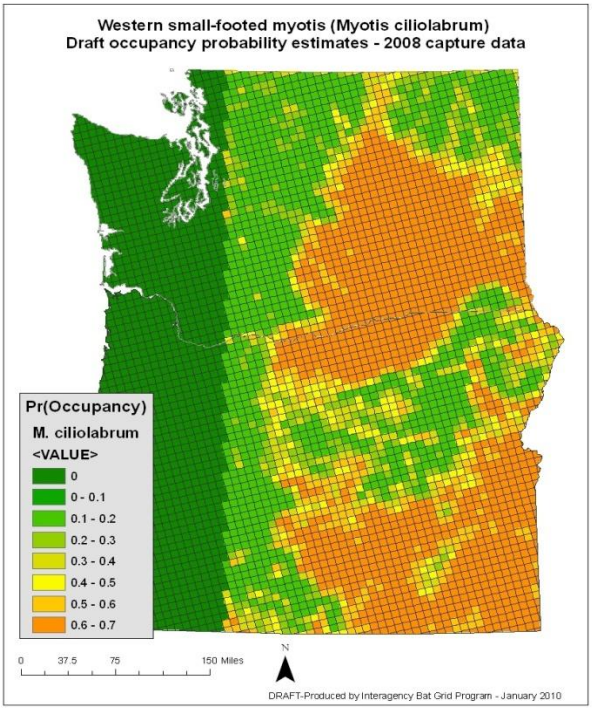

Figure 2: Draft distribution map for *Myotis ciliolabrum* in the PNW reported as probability of occupancy within each 10 km x 10 km sample unit.

Contact Information:

Pat Ormsbee R-6 USFS/BLM Bat Specialist
Willamette NF
3106 Pierce Parkway, Suite D
Springfield, OR 97477
541-954-0083
pormsbee@fs.fed.us

Matthew Hohmann, Ecologist
US Army ERDC-CERL
P.O. 9005
Champaign, IL 61826-9005
1(800) USA-CERL, ext. 5863
matthew.g.hohmann@us.army.mil