



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

Project # 08-390

## Background:

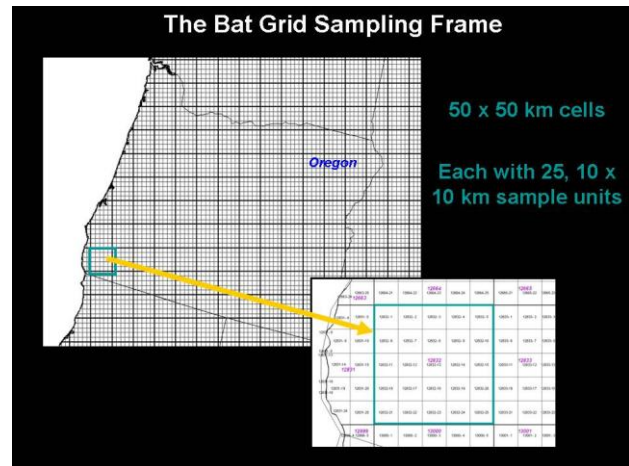
Species identification and distribution information are fundamental to effective conservation efforts. The need for baseline data on bat species in the Pacific Northwest (PNW) to further conservation efforts has been identified in State Wildlife Conservation Plans and Federal planning documents such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

In 2008 The Department of Defense (DoD) Legacy Program teamed-up 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 7 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.

## Objectives:

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 2 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.

**Accomplishments:**

In 2008, 4 DoD Biologists attended The Bat Grid training sessions, and 9 DoD Biologists received on-the-job-training for conducting bat surveys under The Bat Grid. Additionally, 14 partners, representing 8 agencies or organizations assisted with the surveys on DoD facilities. Approximately 67 of the 343 surveys (ca. 20%) conducted in the PNW were conducted on DoD lands (Figure 2). All surveys conducted will contribute to updated species distribution maps and baseline trend data across the PNW. A presentation on The Bat Grid was also provided at the 2008 National Military Fish and Wildlife Association annual meeting. Additionally, historical data associated with DoD facilities in the PNW have been collected for inclusion in the existing bat database.

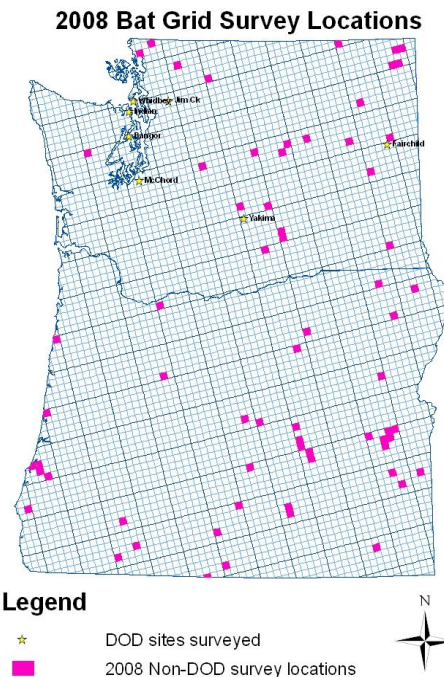


**Kurt Aluzas (USFS) and Cameron Bishop (USACE) prepare to get a call from a captured *Myotis* bat during a Bat Grid survey on Bangor NSB.**

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**Figure 2: Bat Grid survey locations for 343 surveys conducted in 2008. Twenty percent (67) of all surveys were conducted on DoD facilities.**