Quick Review – North American Breeding Bird Survey

The North American Breeding Bird Survey is available via on-line modules at: <https://www.pwrc.usgs.gov/bbs>. Below are links to the content within the BBS website that meet the eight fundamental elements of a protocol described in *How to Develop a Survey Protocol: A Handbook*. The BBS website includes instructions in two formats; see <https://www.pwrc.usgs.gov/bbs/participate/training/> and <https://www.pwrc.usgs.gov/bbs/participate/instructions.html>

1. Introduction
* Background and Objectives

 <https://www.pwrc.usgs.gov/bbs/about/>

<https://www.pwrc.usgs.gov/bbs/bbsnews/Pubs/Birding-Article.pdf>

1. Sampling Design
* Sample design, sampling units, sample frame, target universe, sample selection and size:

<https://www.pwrc.usgs.gov/bbs/participate/instructions.html>

<https://www.pwrc.usgs.gov/bbs/participate/training/>

<http://www.pwrc.usgs.gov/point/index.cfm?fa=pointcount.whatIsAPointCount>

* Survey timing and schedule

<https://www.pwrc.usgs.gov/bbs/participate/training/8.html>

Within the When to Run Routes section of: <https://www.pwrc.usgs.gov/bbs/participate/instructions.html>

* Sources of error

Within the Record Keeping section of: <https://www.pwrc.usgs.gov/bbs/participate/instructions.html>

Also see literature on Point Count Methods listed here:

<http://www.pwrc.usgs.gov/point/index.cfm?fa=pointcount.whatIsAPointCount>

1. Field Methods and Sample Processing
* Pre-survey logistics and preparation

Requirements for participation:

<https://www.pwrc.usgs.gov/bbs/participate/>

Within the Scouting section of: <https://www.pwrc.usgs.gov/bbs/participate/instructions.html>

Equipment needed:

<https://www.pwrc.usgs.gov/bbs/participate/training/6.html>

* Establishing sampling units

Routes are established by BBS and maps are provided if qualifications are met. See

<https://www.pwrc.usgs.gov/bbs/participate/training/24.html>

To find routes see:

<https://www.pwrc.usgs.gov/bbs/RouteMap/Map.cfm>

* Data collection procedures (field, lab)

<https://www.pwrc.usgs.gov/bbs/participate/instructions.html>

* Processing of collected materials

N/A

* End-of-season procedures

<https://www.pwrc.usgs.gov/bbs/participate/instructions.html>

1. Data Management and Analysis
* Data entry, verification, and editing

Instructions for data entry can be found at:

<https://www.pwrc.usgs.gov/bbs/participate/training/30.html>

and

<https://www.pwrc.usgs.gov/bbs/participate/instructions.html>

Data entry is completed online at:

<https://www.pwrc.usgs.gov/bbs/dataentry/>

* Metadata

<http://www.mbr-pwrc.usgs.gov/bbs/BBS_Results_and_Analysis_2013.html>

* Data security and archiving

<http://www.mbr-pwrc.usgs.gov/bbs/bbs.html>

* Analysis methods and Software:

See section Papers Describing Technical Aspects of BBS Analysis here:

<http://www.mbr-pwrc.usgs.gov/bbs/helpind11.html>

1. Reporting
* Report content recommendations, Reporting schedule, and Report Distribution.

See sections 17 through 20 of Instructions at:

<https://www.pwrc.usgs.gov/bbs/participate/instructions.html>

This is a national database in which data is summarized through a number of modules.

<http://www.mbr-pwrc.usgs.gov/bbs/bbs.html>

Raw data can be retrieved at:

<https://www.pwrc.usgs.gov/bbs/RawData/>

A State of the Birds report was written in 2009:

<https://www.pwrc.usgs.gov/bbs/State_of_the_Birds_2009.pdf>

1. Personnel Requirements and Training
* Roles and responsibilities:

<https://www.pwrc.usgs.gov/bbs/participate/>

* Qualifications:

<https://www.pwrc.usgs.gov/bbs/participate/>

* Training:

<https://www.pwrc.usgs.gov/bbs/learning/> and <https://www.pwrc.usgs.gov/bbs/participate/training/>

1. Operational Requirements
* Budget

I did not find any information regarding costs associated with this survey.

* Staff time

Routes contain 50, 3 minute point counts. Therefore, it will take approximately 2.5 hours to complete one route.

<https://www.pwrc.usgs.gov/bbs/participate/instructions.html>

* Schedule

Routes are sampled once per year during the height of breeding season:

<https://www.pwrc.usgs.gov/bbs/participate/training/8.html>

* Coordination

Each state, province, or territory has a coordinator. Coordinator information can be found at: <https://www.pwrc.usgs.gov/bbs/contactus/>

1. References

There is a searchable citation database available which contains 578 citations. See “A Bibliography for the North American Breeding Bird Survey” at:

<http://www.pwrc.usgs.gov/library/bibs.cfm>

Published Reviews of BBS Survey Methods

Bart, J., J. B. Buchanan, and B. O. B. Altman. 2005. Improving the Breeding Bird Survey. Pages 771-776 in C. John Ralph and Terrell D. Rich. Bird conservation implementation and integration in the Americas : Proceedings of the third International Partners in Flight Conference, March 20-24, 2002, Asilomar, California. General Technical Report PSW-GTR-191. U. S. Forest Service, Pacific Southwest Research Station, Albany, California.

Faanes, C. A. and D. Bystrak. 1981. The role of observer bias in the North American Breeding Bird Survey. Pages 353-359 in C. John Ralph and J. Michael Scott. Estimating Numbers of Terrestrial Birds. Studies in Avian Biology 6.

Hanowski, J. M. and G. J. Niemi. 1995. A comparison of on-and off-road bird counts: do you need to go off road to count birds accurately? Journal of Field Ornithology 66(4):469-483.

Hutto, R. L., S. J. Hejl, J. F. Kelly, and S. M. Pletschet. 1995. A comparison of bird detection rates derived from on-road vs. off-road point counts in northern Montana. Pages 103-110 in C. J. Ralph, J. R. Sauer, and S. Droege. Monitoring bird populations by point counts. General Technical Report PSW-149. U.S. Forest Service, Albany, CA.

Jobin, B., J.-L. DesGranges, and C. Boutin. 1995. Comparison of BBS and intensive surveys at selected BBS stops. Bird Populations 3:14-25.

Keller, C. M. E. and J. T. Scallan. 1999. Potential roadside biases due to habitat changes along Breeding Bird Survey routes. Condor 101(1):50-57.

Kendall, W. L., B. G. Peterjohn, and J. R. Sauer. 1996. First-time observer effects in the North American Breeding Bird Survey. Auk 113(4):823-829.

Lawler, J. J. and R. J. O'Connor. 2004. How well do consistently monitored breeding bird survey routes represent the environments of the conterminous United States? Condor 106(4):801-814.

Sauer, J. R., W. A. Link, J. D. Nichols, and J. A. Royle. 2005. Using the North American Breeding Bird Survey as a tool for conservation: A critique of BART et al. (2004). Journal of Wildlife Management 69(4):1321-1326.