



2nd Pennsylvania Breeding Bird Atlas (2004-2008): New initiatives and preliminary results

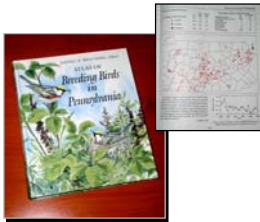
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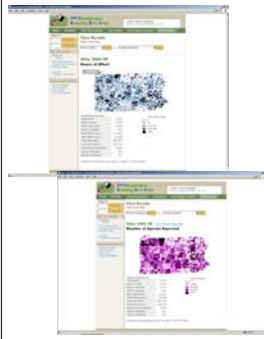
COVERAGE

The first Pennsylvania breeding bird atlas was conducted from 1984-1989. An unprecedented amount of information on the state's breeding birds was collected in every one of 4,930 atlas blocks in the state. Results of the project were published three years later.



Like the first PBBA, the goal for the 2nd PBBA is for accurate breeding bird data to be collected in all 4,937 10-sq. mi. survey blocks covering the state. In the 2nd PBBA, block completeness is being determined by a combination of effort (min. 25 hrs.) and results (detection of 75-90% of GIS bird-habitat model-predicted species).

Coverage gaps in the first PBBA related to the difficulty of surveying for and/or detecting some species are being explicitly addressed in the 2nd PBBA through the use of special surveys, which will have been conducted in at least one sixth of all atlas survey blocks by the end of the 2nd PBBA (see next panel).



SPECIAL SURVEYS

A lesson learned from the first PBBA was that many species (e.g., nocturnal, wetland and other habitat specialists) are comparatively very difficult to find. Because many of these same species are of very high conservation importance and/or concern in the state, the 2nd PBBA is employing a wide variety of special surveys and other approaches to insure that these species have a much greater chance of being detected by our volunteers.



In the case of both owl and marsh bird surveys, 2nd PBBA volunteers are being assisted by GIS-generated habitat models applied to the scale of every atlas block in the state.



In order to gain a much better understanding of the ecological and other factors affecting the distribution of selected species of conservation importance, volunteers are being asked to geo-reference confirmed breeding locations for species like Cerulean Warbler, Golden-winged Warbler, and even Scarlet Tanager, a species for which Pennsylvania has a very high regional conservation responsibility (17% or more of the world's population of SCTAs nests within PA—please see poster by G. Farnsworth et al.)



ABUNDANCE DATA

Virtually all "first generation" atlases collected only presence-absence data for breeding birds. While this usually led to the first comprehensive descriptions of distributions for these species, such data could not directly provide information about where within the distributional range a species is more, or less, common.

Deciding upon a system for deriving accurate estimates of the abundance of Pennsylvania's breeding bird species was a high priority for the 2nd PBBA from the start. The 2nd PBBA developed a unique point count protocol that is being applied by highly trained and skilled paid field workers in every block in the state. A total of more than 37,000 point counts will have been completed by the end of the project.



State of the art sampling design and protocols are enabling the 2nd Pennsylvania Breeding Bird Atlas to use sophisticated statistical modeling to estimate state-wide population sizes of its commoner territorial landbirds, like Scarlet Tanager.

Analyses supported by the data being collected include:

- 1) using a new model combining distance data with time-to-detection,
- 2) using a fixed radius time-to-detection model,
- 3) and using a mark-recapture model.

For more information, please see the poster by G. Farnsworth et al.

PARTICIPATION

A major goal of the 2nd Pennsylvania Breeding Bird Atlas has been to invite the participation, at any level and to whatever degree possible, of perhaps ten thousand or more people, drawn not only from among an estimated 2.7 million Pennsylvania "bird watchers," including target groups like "backyard bird watchers and farmers, but even from the ranks of friends, family, and neighbors who have not previously professed or demonstrated any interest in birds whatsoever!



Ready access to all of the information and forms needed for helping with the 2nd PBBA through websites developed by Cornell Lab of Ornithology and Carnegie Museum has increased the 2nd PBBA's ability to engage the public in the atlas effort.

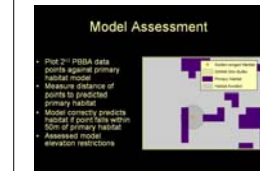
The 2nd PBBA is the first project of its kind to provide Web sites (www.pabirdatlas.org) for online access to information and materials, registration and data entry, and viewing of "real-time" results.



SOME RESULTS

The 2nd PBBA is more than halfway through its 5-year term, and it appears as though it will be successful, not only in collecting comparable data on the distributions of breeding birds in the state to the first atlas, but, by taking advantage of advances in technology since the first atlas, also in collecting much additional data that can be used to support even more effective and scientifically sound bird conservation efforts in the state over the next 20 years.

With two field seasons to go, the 2nd PBBA already has collected almost as many breeding bird records (>300,000) as the first atlas. Because a great many of these data are precisely geo-referenced, they can be used to evaluate and improve upon bird-habitat models used for conservation (see the poster by Trish Miller et al.).



Always exciting are the new and unexpected discoveries made during any atlas project. The 2nd PBBA already has seen two species confirmed nesting that were not detected at all during the first PBBA: Merlin and Sandhill Crane.

