

## BOOK REVIEW

**Oregon Breeding Bird Atlas.** P. R. Adamus, K. Larsen, G. Gillson, and C. R. Miller. 2001. Oregon Field Ornithologists, P. O. Box 10373, Eugene, OR 97440. CD-ROM (requirements: Macintosh or Windows PC; Netscape Navigator or Internet Explorer, version 4 or higher). \$25.00.

These days, most birders and ornithologists probably have a pretty good feel for what published breeding bird atlases should look like. After all, the first North American atlas projects were conducted more than a quarter-century ago, with most states and provinces having initiated or completed one or more atlases during the past decade or so. The protocol for North American breeding bird atlases is well established and widely agreed upon, and there are fairly uniform (although not formally codified) standards for publishing any atlas. The meat and potatoes of a published atlas, of course, are the species accounts: one for each breeding bird species, with about one page of text, a black-and-white illustration, a summary table, and a range map. Atlas range maps, in particular, tend to conform to a particular protocol: the familiar checkerboard pattern of little squares in different shades that correspond to possible, probable, and confirmed breeding records.

And, now, introducing the *Oregon Breeding Bird Atlas*—a radical departure from any preexisting standards or protocols for published breeding atlases. There is no text to speak of here, and there are no black-and-white illustrations. There are maps, but unlike any you have seen before: gone are the black-and-white squares, replaced with parti-colored hexagons. There isn't even a book! This atlas is available only as a compact disk.

Two obvious questions come to mind: What are the disadvantages of publishing an electronic atlas? What are the advantages of publishing an electronic atlas? And there is a third question, especially important but easy to lose sight of, given the novel medium for the *Oregon Breeding Bird Atlas*: What is the present status of the 253 species that were confirmed as breeders during the atlas years in Oregon? I shall devote the remainder of this review to answering these three questions.

What are the disadvantages of publishing an electronic atlas? For more than a year now, I have been aware of the plans to publish the *Oregon Breeding Bird Atlas* only in an electronic medium. And, for more than a year now, I have been discussing the Oregon plans with many people in the atlas community. Most of the concerns I have heard focus on two interrelated points: first, electronic publications are not accessible to many (most?) people; second, electronic publications are impermanent and therefore of little archival value.

The first concern may have been valid a decade ago. But it really isn't, these days. Every birder or ornithologist I know owns—and uses—a computer. The key word is “uses.” Birders and ornithologists rely on computers for everything from organizing their life lists to creating molecular phylogenies. The birder or ornithologist without a computer is a *rara avis*.

The second concern has greater merit, at first glance, at least. Books last forever, most people assume, whereas electronic files can be destroyed just by staring at them too hard. Ten years ago, when most electronic files were stored on floppy disks or computer hard drives (which are, in fact, quite susceptible to damage), the problem of permanence was significant. Compact disks, in contrast, are relatively resistant to damage, and they are now widely available and inexpensive.

Of course, the *perception* of inaccessibility and impermanence of the electronic medium remains. But is the perception sufficient to diminish the success of the *Oregon Breeding Bird Atlas*? That depends on whether libraries, professional scientists, and amateur researchers are willing to be open-minded about electronic publishing.

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What are the advantages of publishing an electronic atlas? The two biggest are interactivity and hypertext. When you pause to think about it, the print medium is awfully inflexible: a book doesn't really *do* anything. That's fine for a novel or some other essentially linear genre ("Once upon a time . . . and they all lived happily ever after"). But not so for most reference works, which are designed to be used by real people for real-world applications. User A may want a quick summary of the most common breeders in Harney County, user B may need to know whether there is a correlation between Hermit Warbler occurrence and local logging history, and user C may be seeking everything known about Fork-tailed Storm-Petrel occurrences in Oregon. It is possible that all of this information could be contained in a traditional atlas—but not all in one place. It would be the user's job, then, to cull through the text, summarize all the data, and perform the relevant analyses. Few users ever get this far with the print medium: the approach is too cumbersome, and the original data are typically summarized in a manner that is incompatible with follow-up analyses.

Another big advantage of electronic publishing is that you can get an awful lot of data on a single disk. The *Oregon Breeding Bird Atlas* is almost 400 megabytes, but it is only one centimeter thick—and most of that is taken up by the plastic casing for the disk. Because you can get so much onto a compact disk, the *Oregon Breeding Bird Atlas* presents a more detailed analysis of habitat data than I have seen in any other atlas. It contains an immense amount of data from the North American Breeding Bird Survey (BBS), and it even includes the complete results of an earlier atlas project (for Lane County). The wants and needs of our hypothetical users A, B, and C are just a click away.

The third advantage to electronic publishing, as I see it, is sort of ironic. I refer to the advantage of permanence and accessibility. These days, when I need information on, say, range expansion in the Barred Owl, I go straight to the computer. I check out resources such as google.com, or on-line BBS data, or the *Oregon Breeding Bird Atlas*. Even if I could find my local library, I wouldn't necessarily know where to start looking for resources on range expansion in the Barred Owl. And even if I did, the book would probably be checked out or mis-shelved.

What is the present status of the 253 species that were confirmed as breeders during the atlas years in Oregon? Or, put another way, does the *Oregon Breeding Bird Atlas* succeed at summarizing patterns of occurrence, distribution, and abundance for each of the state's breeding bird species? In particular, does the *Oregon Breeding Bird Atlas* succeed as an electronic publication? To be fair, I realize that the preceding question was not necessarily the prime motivating factor for the *Oregon Breeding Bird Atlas*. But, like it or not, the most important influence of the *Oregon Breeding Bird Atlas* may well be the precedent that it establishes for electronic publishing of major ornithological reference works.

Using the *Oregon Breeding Bird Atlas* is as simple as inserting a compact disk into the correct drive. The front page simply appears on your computer screen, as soon as the disk drive is closed. What pops up in the first window is the table of contents, the introduction, and an abbreviated index. Like most atlas aficionados, I suspect, I bypassed the introduction and went straight to the species accounts. Right away, I got a list of the 275 species encountered during the atlas years. And I got something that I have never seen in any other atlas: the option to browse in phylogenetic order (as in most atlases), in alphabetical order (likely quite useful to non-ornithologist managers or biologists), or in order of confirmation rate (i. e., percentage of hexagons with confirmed breeders). It would have taken literally three times the number of pages in a printed atlas to accomplish what the Oregon atlas accomplishes with two clicks of the mouse.

Let's now check out an actual species account. We'll start with the Veery. The result: two maps (one emphasizing occurrence data, the other emphasizing possible breeding habitat), a figure showing the temporal distribution of confirmed breeding

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dates, a color photograph, and a very sparse text (81 words total, much of it subject headings and statistics; it is more like a figure or table, really, than main text). So far, so good. Next, things get a little more complicated. For example, the first map shows six records for confirmed breeding, while the accompanying figure shows only one. Clicking on “field observations” doesn’t help resolve the difference: there are six records of confirmed breeding, three of which have dates (1 July 1999, 8 July 1999, and 22 July 1999), three of which do not. I have to say, my exploration of the Veery account left me a little confused. There’s a silver lining in the cloud, though: all of the data appear to be summarized under “field observations.” If I really wanted to get to the bottom of things, I have all the data at my fingertips. This is a major advance for users of breeding bird atlases.

In addition to the species accounts, there is a large amount of introductory and ancillary material—quite a bit more than in any published atlas of which I’m aware. All of it was interesting, and most of it seemed quite useful (“interesting” and “useful” are not necessarily the same thing). Of particular interest and usefulness was an interactive overlay of all Oregon BBS routes on the atlas hexagon grid. It is conceivable that this sort of resource will encourage wildlife managers to start thinking integratively about avian monitoring. And if this comes to pass, it will be a *really* major advance for users of breeding bird atlases.

In the meantime, the *Oregon Breeding Bird Atlas* is at least as good as any of its predecessors. The status and distribution of the Veery are clearly depicted on high-quality maps. (It’s only when you start to dig deeper that things get messier.) Same thing with the Chestnut-backed Chickadee (like the Veery, found in the northeast; unlike the Veery, widespread in the west). The Black-billed Magpie and Hutton’s Vireo? Their ranges are basically photographic negatives of one another. Snowy Egret? The range is disjunct, with most occurrences in the southeastern deserts. And so on, and so on.

No question about it, the *Oregon Breeding Bird Atlas* succeeds at summarizing the occurrence and distribution of the state’s breeding avifauna. That alone is a breakthrough for a state with more habitats and more breeding bird species than almost anywhere else in North America. What is more exciting, though, is the truly new course that the *Oregon Breeding Bird Atlas* has charted for future breeding bird atlases.

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