TOOLS OF THE TRADE

World Listing Software: An Abundance of Riches

Part 2: In The Cloud

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The second in a two-part series on the proliferation of resources for managing your personal birding records

s noted in Part 1 of this series, AviSys and BirdBase have flown the coop. And without these two long-time listing software packages, thousands of birders are searching for a new home for their life lists and travel notes. In the August issue of *Birding* (pp. 62–66; tinyurl.com/Doyle-Aug-16), I looked at six "standalone" choices: Birder's Diary, SWIFT, Wildlife Recorder, Scythebill, Bird Brain, and Wings. This review explores six "web-based" options.

With web-based software, your data are stored on a computer server elsewhere, often referred to as "The Cloud." Increasingly,

there is the option to "sync" your Cloud-based list to your computer or smart device. In contrast, standalone software stores your life list and sightings on your personal computer. Webbased software is increasingly popular because it usually works with any standard web browser. All you need is an internet connection and a web portal, such as Google Chrome, Firefox, Safari, or Internet Explorer.

In Part 1, I talked about best fits for standalone vs. web-based list-keeping. You are a good candidate for a web-based solution if you have access to fast internet and want to view or manipulate your data from anywhere or on multiple devices. If you're sloppy with archiving, a web-based database has you covered with automatic scheduled backups. And web-based software, while sacrificing some privacy, taps into a larger com-



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munity with access to forums and photo-sharing.

Let's take a look at six choices for keeping your world bird list in The Cloud: Avibase, Bird Journal, BUBO Listing, eBird, HBW Alive, and iGoTerra.

Avibase

Avibase, hosted by Bird Studies Canada, is primarily an online encyclopedia of birds. Yet within this reference site is software to manage your checklists, called myAvibase, available for free by registering. You can explore a demo checklist at tinyurl.com/avibase-demo.

With 16 built-in taxonomic lists—plus auto-comparison of different lists and species names—myAvibase is a great choice for taxonomy geeks.

One of myAvibase's strengths is leveraging your world or regional life list into planning tools. The target reports are impressive: visual maps, species distributions with sighting probabilities based on eBird reports, and customized printable PDF checklists with pre-highlighted target species. If you already use eBird, myAvibase imports your eBird life list seamlessly with a couple of mouse-clicks, ready to serve as the baseline for your planning.

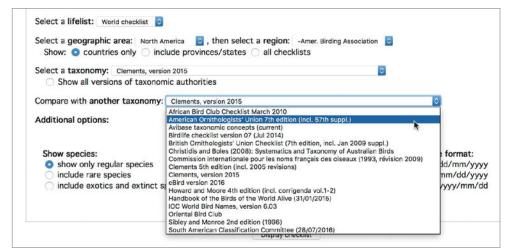
Because myAvibase stores limited detail on your sightings, mostly the what-where-when rather than elaborate notes or embedded media, its reporting tends to be oriented toward planning. Other packages focus more on blow-by-blow reporting of your birding statistics.

myAvibase doesn't have its own mobile app for in-field entry, but you can access the myAvibase web page from your smartphone—albeit with a small-screen view. Alternatively, you can use eBird as an intermediary, entering your sightings into the eBird Mobile app, then periodically uploading your updated life list to myAvibase.

Finally, as with many free software applications, don't expect any technical help. At least no user's manual is needed because myAvibase is very easy to use.

Bird Journal

Most world listing software packages do not yet have dedicated apps for smartphone in-field data entry, so Bird Journal (and eBird, discussed below) sets itself apart on this metric. With a companion mobile app (for iOS, Android, and Windows), Bird Journal lets you enter your data—and access your list—from



With a couple of pull-down choices, myAvibase displays the details on how your life list changes depending on the taxonomic authority.

a desktop computer or from a customized mobile version on your smartphone.

Having a mobile app is a big advantage, but Bird Journal's interface for entering sightings is a bit cumbersome. It uses letter scroll, which you may remember if you owned a Palm OS. Mercifully, it also has keyboard search. If you intend to rely on the app for all your sightings, you'll need to add some human smarts, such as pre-setting location filters and becoming fluent in the letter-search-by-species process—or you'll decide computer entry is faster after all.

On your computer, Bird Journal is a full-featured listing package, with detailed record-keeping of birds and other wild-life, customizable records, and full bird-statistics reporting, including maps and graphs. But be aware that its visual reports are not available on the app, which is intended primarily for mobile data entry.

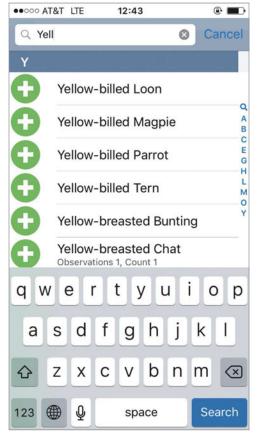
In these days of free web software, a downside of Bird Journal is the commitment to an annual \$49.95 subscription. However, young birders (under 25) can register for half price, and all birders can download a free one-country version (birdjournal. com/#intro). If you opt to discontinue your subscription, your data are not forfeited and can be reclaimed with an export.

BUBO Listing

BUBO is a listing website geared toward "friendly comparison" with other birders. About 3,500 birders worldwide use BUBO, tallying everything from world life lists to ABA year lists. An interesting aspect of BUBO is that you can view everyone else's lists, poking around to find out where other birders are in their listing quests and gleaning tips on where to find coveted species.

Anyone can view all the lists without logging in, but if you want to use BUBO to keep your own lists, then you must regis-

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Bird Journal comes with a simple dedicated app that lets you enter sightings from your smartphone.

••ooo AT&T LTE 14:44 bubo.org Start typing species name to find a species: Yellow-breasted Chat Sighting date 12 June 2016 Sighting location Cypress Cove Mark record as sensitive Or select from target species list Kentucky Warbler (Oporornis formosus) Connecticut Warbler (Oporornis agilis) Mourning Warbler (Oporornis philadelphia) MacGillivray's Warbler (Oporornis tolmiei) Common Yellowthroat (Geothlypis trichas) Hooded Warbler (Wilsonia citrina) Wilson's Warbler (Wilsonia pusilla) Canada Warbler (Wilsonia canadensis) Painted Redstart (Myioborus pictus) Heard singing and seen Add to multiple lists? Add another species? Add Species

Because BUBO Listing is a website, you can enter your data from anywhere with internet, including your smartphone.

ter for a free account. BUBO is very easy to use. A list is created by choosing a region, then mousing through a checklist of species, dates, locations, and comments.

You can access BUBO from any computer using any web browser. There is no dedicated app, but one is not required because you can log in from any web browser on your smartphone.

BUBO is bare-bones record-keeping, simple and fast, but very mouse-intensive, which can be hard on the wrist. Yet the data it collects are minimal, mostly for comparative purposes. You aren't archiving searchable trait checkboxes, elaborate field notes, or embedded multimedia. BUBO also is not intended as a robust personal reporting software, because its emphasis is reporting vis-à-vis other birders. You can do a basic search, but you can't generate detailed personal statistics on your birding game.

eBird

eBird is a database managed by the Cornell Lab of Ornithology. It's not intended as a listing tool, but personal listing and

reporting features are integral, a benefit of contributing your sightings. Like BUBO Listing, eBird can display competitive comparisons, such as the "Top 100 eBirders" in a region. Use of eBird is free, only requiring registration.

The advantage of eBird, beyond doing your part for citizen science and conservation, is ease of data entry, both on the computer and in the field. Computer entry of sightings is extremely fast with shortcuts to keyboard type-and-tab through data entry without any mouseclick interruptions. In addition, eBird has long been integrated with mobile apps, from the early days with BirdLog to the new eBird Mobile. Many other independent apps, such as Birdwatcher's Diary, and nearly all other listing softwares, import and export to eBird.

As with a dedicated listing software package, eBird lets you display and sort your lists by geography or date range. It

also has targeting tools and planning displays, such as species abundance maps, created by tapping into real-time reports from other eBirders. You also can set target species alerts and do trip planning. But it's not quite as detailed and personalized as the long-time dedicated listing software packages. For example, myAvibase builds on eBird data to create color-coded target maps customized for your possible lifers, and plots "species accumulation curves" predicting the day-by-day increases to your list during the course of a visit to a park, state, or other region.

eBird, with institutional connections to Cornell University and National Audubon Society, is probably a safe bet for longevity. But eBird is not as flexible when it comes to entering your life list. Because eBird is first and foremost a scientific database, each record in eBird is intended to correspond to a specific sighting at a specific location and date. Most listing software packages tolerate a simple check in the box next to a species name, letting you opt for additional details such as date, time, location, field notes, and additional media. Sightings from be-

fore you started keeping detailed field notes—that Yellow Rail in Minnesota in the 1980s—are problematic. One workaround for these "list only" records is to assign a dummy date such as January 1, 1900. This less-than-ideal patch, permitted but not encouraged by eBird, highlights the distinction between eBird as a citizen science database vs. a dedicated personal listing software program.

HBW Alive

The Handbook of the Birds of the World (HBW) is an encyclopedic tome to all the planet's birds. Its online companion, HBW Alive, includes integrated listing software, called My Birding. HBW Alive and My Birding both require subscriptions, with a personal listing option adding €19/year to the species-only rate of €25.95/year. The basic, species-only version includes beautifully illustrated plates, details on bird families of the world, text accounts for each species, range maps, and multimedia. Given current exchange rates, the listing package adds about \$25 to the basic \$34 subscription—or less than a penny for every bird on Earth.

HBW's My Birding is comparable to most other listing software packages. It keeps life lists, archives trip lists, creates target lists of birds, and creates reports with visual maps of your sightings. The data entry format is clean, involving a typical amount of clicking and typing, with pleasing thumbnail species illustrations throughout. A sightings record includes nice details for listers, including checkboxes for heard-only birds,

introduced species, and captive birds (for tagging photos taken



iGoTerra is a robust listing package that you won't outgrow, with options for many details on all your nature sightings—from birds to whales to fungi.

of birds not in the wild), along with the option to include or omit those records from your list. However, its features are not very transparent; it's up to you to discover them. It's well worth reading the manual (tinyurl.com/HBW-manual) to understand how to use My Birding.

My Birding's biggest shortcoming involves data imports. Former BirdBase users can import their data, but HBW currently doesn't support basic import formats such as Excel. However, their staff offers free personalized guidance on custom imports and are adding import capability from eBird and Excel—possibly available by the time you read this article.

iGoTerra

iGoTerra is another subscription option, with three levels of membership ranging from free (up to 400 species) to unlimited species and advanced options suitable for professional trip reporting and planning. This webbased software excels at documenting your complete field experience, with integrated listing of everything from whales to fungi, and of course the birds of the world. It's an immersive, ecological listing package, with features such as My Observation Diary, which displays a calendar and map timeline of your travels, subspecies accounting, and photo embedding. It also

	Price	Trial Version	Mobile App	Taxonomy	Non-Avian
Avibase avibase.bsc-eoc.org	Free (register)	Demo Checklist	No, but works via mobile browser	Clements/Cornell, IOC, AOU, BOU, and more	No
Bird Journal birdjournal.com	\$49.95/year	Free for One Country	Bird Journal (iOS, Android, Windows)	Clements/Cornell, IOC, and more, including customizable	Yes
BUBO Listing bubo.org	Free (register)	N/A	No, but works via mobile browser	Clements/Cornell, IOC, AOU, ABA, BOU, and more	No
eBird ebird.org	Free (register)	N/A	eBird Mobile, BirdLog, and other unaffiliated apps	Clements/Cornell	No
Handbook of Birds of the World Alive hbw.com	€44.95/year (~\$50)	No	No, but works via mobile browser	HBW/BirdLife Int'l	No
iGoTerra igoterra.com	\$32-\$78/year	Free 400-species Version	iGoTerra Pocket (iOS, Android)	Clements/Cornell, IOC	Yes

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connects to a community for photo sharing and help on identifying any flora or fauna you encounter while birding.

This is one of the few listing packages that has invested energy into a fully developed mobile app. iGoTerra Pocket (free, iOS or Android) lets you log your sightings in the field, either online or offline for later uploading (igoterra.com/pocket.asp). You can access overviews of your life lists from your smartphone, making this one of a very small set of true Cloud-based syncing apps for birding. The app is straightforward for data entry, but can have long lags refreshing the screen with each input, the downside of back-and-forth communication. This is not an app for the impatient screen-prodder. Its offline option may be preferred or in some cases be critical.

The biggest issue with iGoTerra, besides an annual subscription commitment, is its steep learning curve. With its clean and modern web interface, iGoTerra initially appears easy to use. But navigating the website, including uncovering your records, discovering its myriad features, and finding the help manuals, is convoluted. Expect some frustration as you become fluent with this robust application, an inevitable tradeoff with an advanced, multifaceted listing package.

Click It and Tick It

Despite the demise of AviSys and BirdBase, birders are left anywhere but high and dry when it comes to world listing software. As we've seen with these 12 worthy life list repositories, there is an abundance of riches.

But finding a replacement—or just getting started—is a huge commitment, and the first step is to ask yourself what matters most to you. Don't select a software package until you've run your personal marble drop. Where are you on standalone vs. webbased software? How much do you care about IOC vs. Clements/ Cornell? Are you looking for free, or a one-time fee, or a subscription plan? Is reporting more important to you than planning? Is a mobile app companion a drop-dead requirement? Do you want total privacy or do you want to see others' lists and share the experience?

That realistic assessment narrows the field to two or three alternatives that could truly fulfill your needs. Then it's time to test-drive that shorter, more manageable list of demo versions to find the perfect fit.

Although this process may seem daunting at first, the research, personal assessment, and trials can be an educational and rewarding part of the birding experience.

Corrigenda

Scythebill, reviewed in Part I, has added non-avian lists, and imports from unaffiliated eBird Mobile or BirdLasser apps. And some promising news for AviSys users: Kent Fiala has updated AviSys to the 2016 Clements taxonomy, available as a free download (avisys.faintlake.com/update), and has created a Facebook group to discuss the continuation of AviSys (tinyurl.com/FB-AviSys).



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