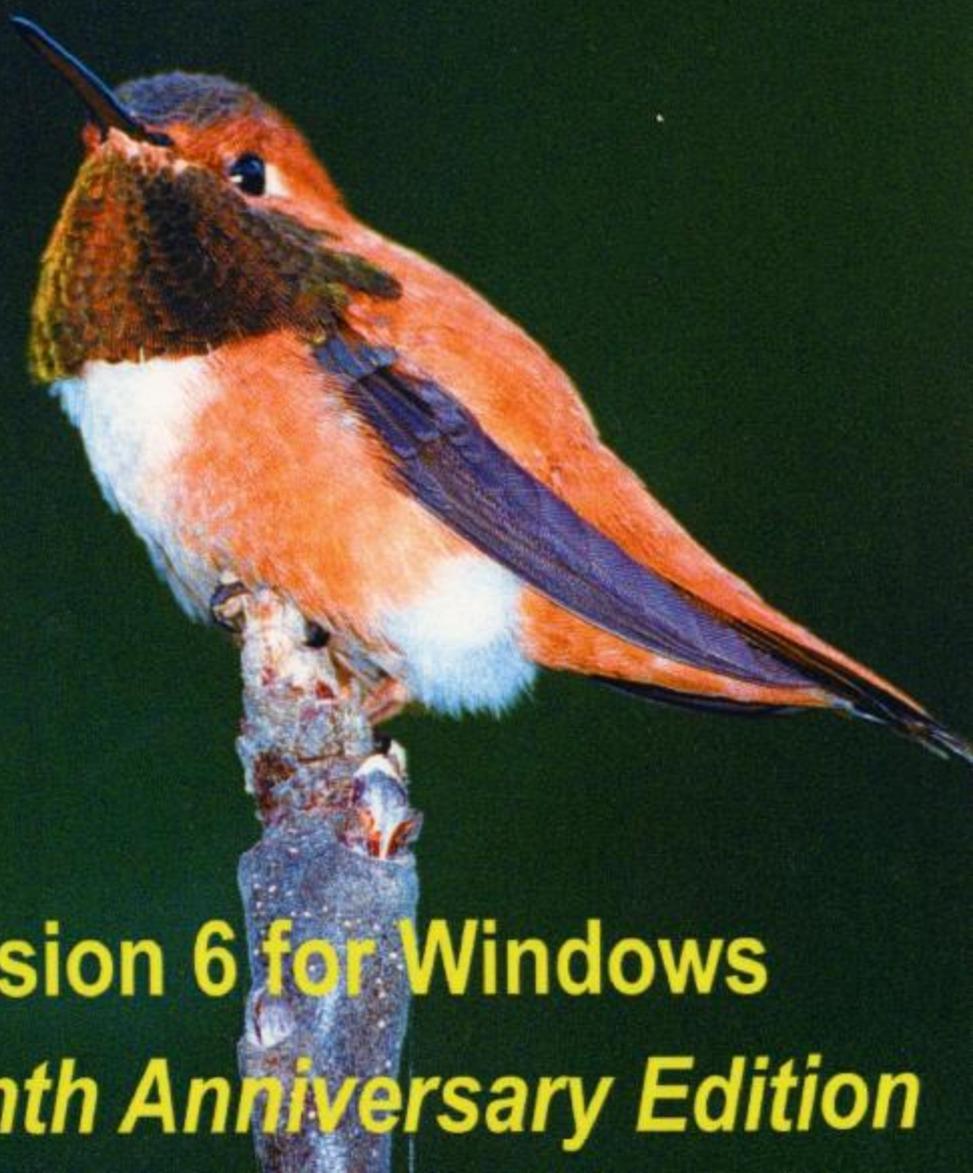


AviSysTM

Birding Software Guide



Version 6 for Windows
Fifteenth Anniversary Edition

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C H A P T E R 1

The Fundamentals

Installation

AviSys is supplied with an installation program which decompresses the files from CD and creates a Windows 95/98/Me/NT/2000/XP/Vista Start | (All) Programs menu item. The installer also creates a shortcut to AviSys on your desktop. This version installs in C:\AVI6 unless you change it.

During installation you will be asked to provide a name for the AviSys data folder. While the installer suggests the name DATA, it would be a good idea to **change it to your name** or some other meaningful title. As you use the program, you can add up to 15 additional data sets and name them appropriately. **If you are upgrading from Version 4.x or 5.x**, see the README file, presented during installation, for instructions on transferring and converting your data.

Write the AviSys Serial Number/Password on the title page of this guide.

Computer Requirements

AviSys will run on any computer running Windows 95 or later. **AviSys 6 requires a screen resolution of 1024x768 or higher.** You can change your resolution at Start | Settings | Control Panel | Display. If your computer must run at a lower resolution (not likely), contact us to get a copy of Version 5.

Windows 95/98/Me/NT/2000/XP/Vista Installation

Place the CD in your CD drive. If Windows does not auto-start it, click Start | Run | D:\SETUP.EXE, where D is your CD drive letter. *AviSys installs files only in its own folders and adds its own program group if necessary. AviSys does not install or change any DLLs or add any other files or programs to your system. No changes are made to the Registry, which protects AviSys from Registry corruption.* AviSys is provided with an uninstall program, UNAVI.EXE.

Starting AviSys

You start AviSys by clicking the appropriate icon or shortcut - typically in the Windows Start | (All) Programs menu or the Windows desktop.

Installing Add-Ons

If you have purchased the Nation Checklist Add-On (see Chapter 2) or Palm Support, follow the installation instructions provided.

There is Safety in Backups

AviSys is fundamentally a database program. It stores your birding data in one or more **data sets**. Each data set consists of a **group** of files that are inextricably tied to each other in a relational manner. If one of those files is destroyed, they are all effectively destroyed. AviSys goes to great lengths to protect you from such a catastrophe. It senses if files were not closed properly during the last run (e.g. from a power failure), and will automatically rebuild your data indexes. It leaves files open only as long as necessary to perform their functions, and updates files immediately when appropriate. Internal backups are maintained.

Nevertheless, **damage can happen to data** through power, hardware, or media failures. Your only protection is in making frequent backups, and **you are responsible for that protection**.

Select three new, empty, name-brand diskettes or CDs. Put empty labels on them. Each time you perform a backup, date the backup media, crossing out the prior date. When you select a medium for the next backup, select the one with the oldest date. By alternating through three media you protect yourself against media failure or inadvertently backing up defective data.

To do a backup, select **Utilities** from the main menu and then select **Backup Data**. The data from the data set you select will be compressed in PKZIP format and backed up to a medium. You can also back up to media types such as a ZIP, a properly formatted and supported DVD or a hard or flash drive. **You can also copy the entire AVI6 folder, including the data set folders, to any medium.**

If, when running AviSys, you experience serious problems or errors due to power or hardware failures, **do not do a backup to a good backup medium**—you could overwrite it with bad data. Instead, use a fresh medium.

See Chapter 7, Utilities, Backup Data, and Restore Data for instructions.

WARNING: If you elect to use other backup processes, always backup all the files in a data set together, and if you ever need to restore, restore them all together. **Data files of different vintages or sources must not be mixed.**

How often should you do a backup? The only answer is “How valuable is your birding data?” Or, looking at it a different way, do a backup when the thought of re-entering all the data since your last backup curls (or straightens) your hair. You might want to consider keeping one copy of the backup at work or some other off-site location. And be sure to back up **each** data set.

Emergency Startup

If a computer malfunction or power failure so seriously damages your data that AviSys won't continue after the initial screen, try clicking the **“Emergency”** button below the progress gauge while the gauge is updating. (Actually, you can click **once** on the hummingbird.)

DIVE IN!

Now we will take a short tour through AviSys. We will touch on all the major portions of the program, and when we are done you will know how to use about 80% of everything AviSys can do. The remaining gems are explained in the later, more detailed, chapters.

As we go through this introduction to AviSys you will be introduced to a few of the more arcane features, such as Hot Keys and Attributes. If these things interfere with your enjoyment of the tutorial, or add more detail than you feel like dealing with at the moment, then just ignore them. You can use AviSys perfectly well without those features—come back and study them at some later time to see if they are helpful to you. **Do not, however, skip Band Codes, the easiest and most powerful tool for data entry.**

Have No Fear

As you go through this tour, try to stay close to the instructions given here—but relax. You can't hurt AviSys, at least not without malice aforethought. Before making any changes to files, AviSys will always ask you to confirm your intentions with a question like: **"OK to delete Elegant Trogon?"** Clicking **No** corrects your indiscretion; clicking **Yes** is malice.

During the tour, you will be asked to create sighting entries and "Places." If you are asked to do 12, don't worry if you feel like doing 20. You will always be able to delete them later when you are ready to get down to serious business. However, before doing really serious entries read *Chapter 2, Power and Strategy* and *Chapter 6, The Places Tables*. There is some very valuable information there that will make your use of AviSys much more efficient and productive.

The Most Important Clicks in AviSys

The **Cancel** and **Quit** buttons in various windows, and **Esc**, the Escape key, are very important. They are used to Quit or Cancel the current operation or function you are in. So if you ever feel lost, or concerned about what you are doing, in virtually all cases those buttons or **Esc** will close the current window or dialog and take you back to where you were before you started. The Cancel and Quit buttons are uniquely identified by a big red "X" mark.

Likewise, all windows and dialogs have an **OK**, **Select**, **Run** or **Return** button, uniquely identified by a big green check mark. These buttons represent a positive, accepting, or action-initiating response to a dialog.

Here's a very important rule: Always terminate AviSys by selecting **File** and **Exit** from the main menu, or by selecting the title bar close button. **Never power off while the program is running.** (That's true for all programs you use.)

If you will be using two computers, read *Chapter 2, Power and Strategy - Don't Play the Shell Game*.

Mouse vs. Keyboard

AviSys has been designed to be friendly to touch typists and keyboard mavens. AviSys maintains full keyboard support so that if you type a lot of comments in your records you can perform all your data entry without having to reach for the mouse. The various functions that are normally accessed by clicking a button can also be performed by pressing the underscored letter in the caption. For example, to perform the function of the button captioned **Next**, you tap the **X** key. (The Windows standard for these “shortcut” keys is to press **Alt** plus the key. In AviSys, the **Alt** key is needed only for the main menu items.)

What Does “Select” Mean?

“**Select**” means **double-click** an item, or, with the key board cursor keys, highlight it and then press **Enter**, or if there is a **Select** or **Accept** button you can also highlight the item with one click and click the button.

Technical Support

If you are having a problem running AviSys, first consult the manual index to ensure you have studied all the passages relevant to the problem you are having. Consult Chapter 7 and run **Utilities-Rebuild Sighting File Indexes**. If that doesn't help, run **Utilities - Certify Data Set Quality**. See Chapter 7, *Utilities*, for more assistance. If you are still having trouble, send us an **Email** or call.

**The primary and MOST EFFECTIVE means of support is EMAIL:
support@avisys.net**

AviSys Technical Support 1-800-354-7755

Use the above toll-free number during the first 120 days you use AviSys.

After that period, you can call us at 1-505-867-6255

Check our web site regularly for version updates: www.avisys.net

Important: AviSys Terminology

In birding circles, the terms “list,” “checklist,” and “life list” have multiple meanings depending on the user and context. In AviSys, the following meanings will be **strictly** adhered to:

Checklist: A list of the species that **can** be seen in a geographic area, such as “The Checklist of North American Birds,” or the folding card “The Birds of North Dakota.” A checklist is specifically **not** a list of the species you **have** seen.

List: A list of the species you **have** seen, usually within a geography, and/or within a range of dates, e.g. your “Ohio list,” or your “1992 King County list.” (In AviSys, the typical way to do this is a “Species Seen” report.)

Life list: A list of **all** the species you have seen anywhere, in your lifetime. (Again, typically done with a “Species Seen” report.)

Lifer: The very first sighting of a particular species, anywhere, in your lifetime.

The Size of Things

As AviSys is delivered, it starts in full screen mode at 1024x768 resolution. To enlarge the basic AviSys windows, click the “**Scale**” **button** (vertical arrows) at the bottom of the main screen.

AviSys is not a typical resizable program—that is, it cannot be resized by dragging the window edges. You need **every** item in **every** AviSys window, and it is simply not rational to resize the windows smaller to cover items, only to have to scroll to uncover them. Thus, AviSys is not like your word processor or general purpose database program where you can reduce the size of your document or data display and use scroll bars to uncover hidden data—AviSys can’t have hidden data.

Please, please . . .

. . . **DO NOT USE ALL CAPITALS** when using AviSys—that crowds edits and grids to the point of overflow, and is much harder to read.

HELP!!

AviSys has a standard Windows help facility, accessed with the **Help** main menu item. Also, most windows and dialogs have context sensitive help by pressing **F1**.

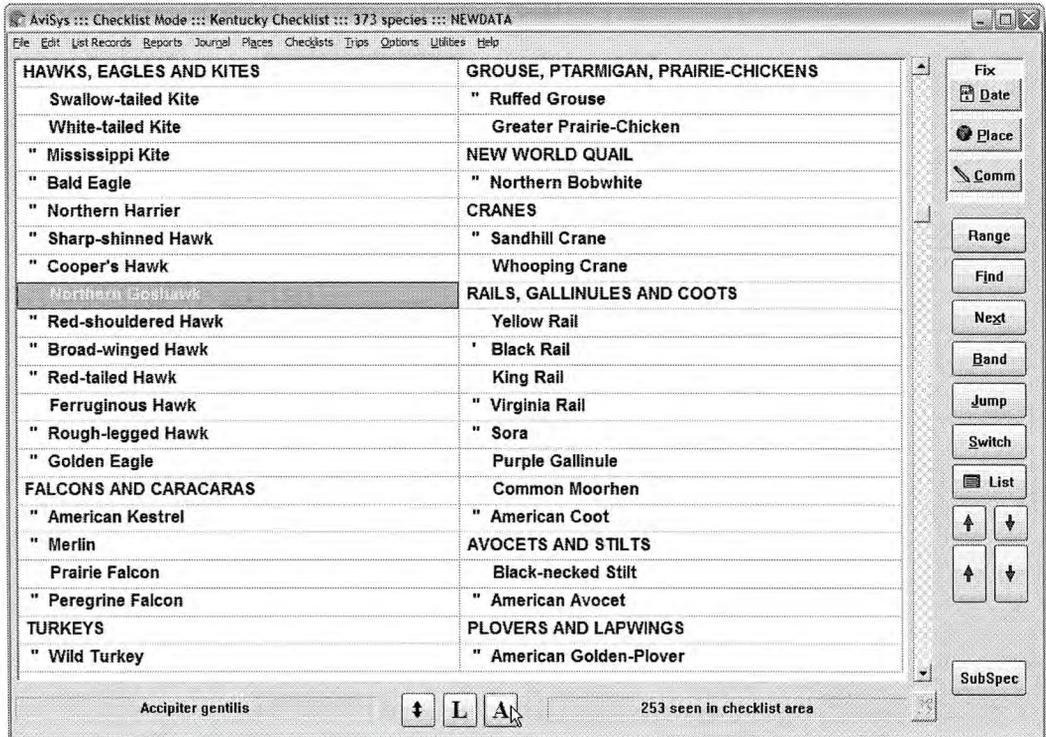
INSTALLED ON A LAPTOP?

To run reports and listings in AviSys **you must have a printer driver installed**. That’s because AviSys uses the printer metrics to format the report. If you are installing AviSys on a laptop that does not have a printer physically installed, install a driver: **Start | Settings | Control Panel | Printers | Add Printer**. Select the printer you use on your desktop computer, or select any rational printer, such as HP Laserjet III. Let Windows make it the “default” printer. It doesn’t matter that a printer is not physically installed unless, of course, you choose *Printer* as the report destination.

Consider this: In 2005, human beings produced more transistors (and at a lower cost) than they did grains of rice. (Remember, a gigabyte is 8,000,000,000 [8 billion] transistors)

Navigating the Master Checklist

Start AviSys, as described in the installation section. You are presented the main screen, which is the Master Checklist of the Clements' Checklist of the Birds of the World (*although the illustration is in Checklist Mode for Kentucky*).



Now, pay attention here. Use the keyboard cursor-up and cursor-down arrow keys, or the small red arrow buttons, to move the cursor through the list. Note that when the cursor gets to the bottom right of the current page, the whole page scrolls upward, *one species at a time*. Thus, the list "**snakes**" from the bottom right up to the top right, then jumps down to the bottom left and up to the top left like an "S" on its side. The reverse happens when you are at the top of the list and move the cursor upward, provided you are not at the first record in the list. Play with it—you'll get the idea. Keyboard **PgUp** and **PgDn**, or the large red arrow buttons, move you a full page at a time. Keyboard **Ctrl-Home** and **Ctrl-End** take you to the beginning and end of the list. The cursor-left-right keyboard keys move the cursor horizontally. **Home/End** highlight the first/last birds on the page. " indicates you have seen the bird in the current checklist area, Kentucky, ' indicates you have seen it, but somewhere else (ex: Black Rail).

Click on the **Switch** button, or press the **S** key. Note that the list **switches** (rotates) between the World list and the ABA North America list and any invoked checklist such as Idaho. The world list, of course, also contains the North America birds. Also, check **Options / Start in North America Mode**.

Highlight the family name "**SHEARWATERS and PETRELS,**" or any family that's not already at the top of the list, and press **Enter**, or double-click the name. That family, and all its members, are placed at the top left of the list. This allows you to easily see an entire family at the same time.

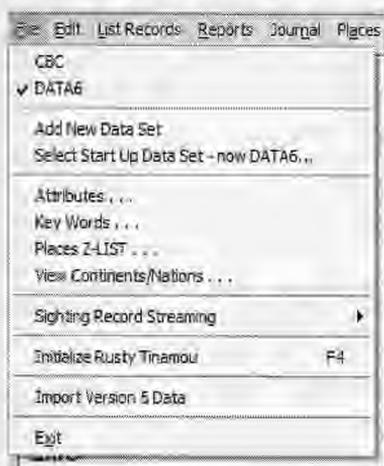
The Master Checklist also has a standard Windows scroll bar that performs the same functions as the red arrow buttons and the keyboard cursor keys. While many people are familiar with scroll bars, and like using them, other people find them hard to hit. That's why we added the buttons. It's your choice.

Pressing **Enter**, or **double-clicking**, on a species starts a sighting record entry,

The information in the title bar shows the number of species currently displayed in the Master Checklist, and the bottom frame of the species list shows the number of those species you have seen in the current checklist geography. The data set and invoked checklist you are using are also shown in the title bar.

The panel at the bottom left shows the Latin name (*Genus, species*) of the species that is highlighted, or the Latin name (*Order, Family*) of the highlighted "Family." Note that "Family" names have been chosen for usefulness in navigating, not taxonomic accuracy. The **SubSpec** button displays a list of the subspecies of the currently highlighted bird. Try the "**A**" button, that rotates through the available fonts for the list, the "**L**" button that alternates Latin and English names in the list, and the **double arrow** button that scales the window.

Adding Data Sets - for your spouse, maybe?



Click on **File** on the main menu bar. Note that the data set you named during installation is on the menu. It's checked, which means it's the data set currently in use. You can add up to 15 data sets, which are complete new sets of AviSys data, as if you had installed AviSys 15 times. In the illustration, the user has added a CBC data set for Christmas Bird Count data. You switch to a data set by clicking it. You click **Select Start Up Data Set** to choose the data set to be automatically loaded each time you start AviSys.

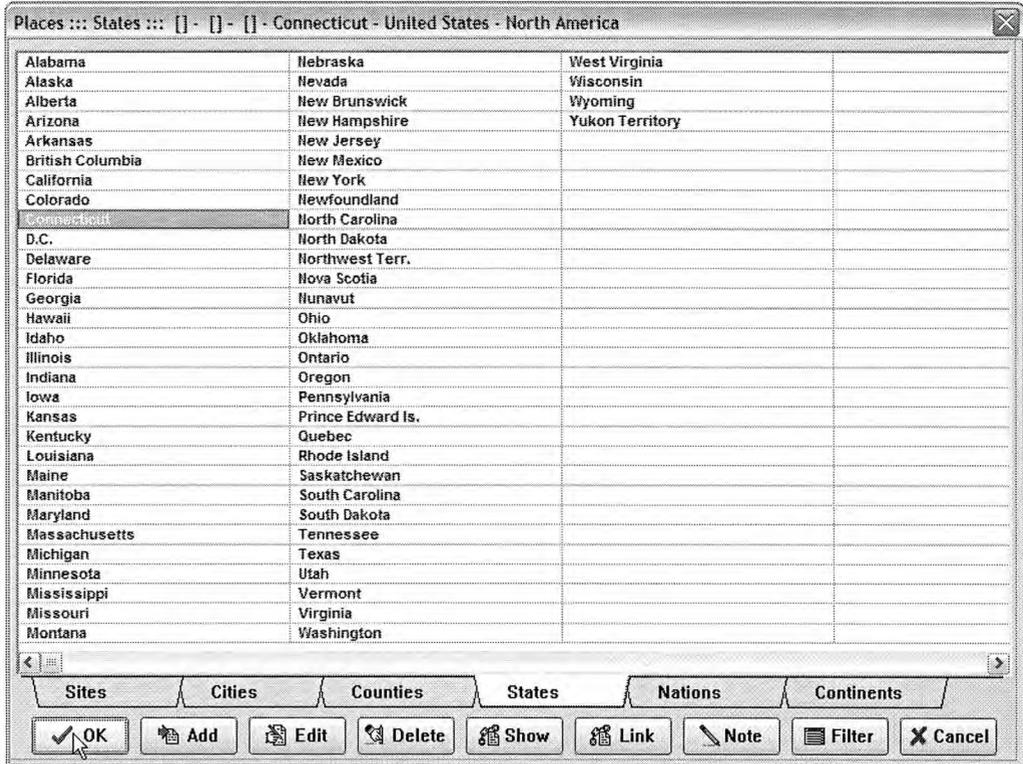
When you select **Add New Data Set**, a new set of data files is extracted from the current data set, and copied into a new folder which you name (8 characters, A..Z). The first time you load the data

set, AviSys offers to "clear" the Sites, Cities, and Counties Places. The program then creates a new, **empty** Sighting File. To delete a data set, use Windows Explorer or My Computer to (carefully) delete the data set folder and all its files.

See the AviSys web site, www.avisys.net, for **AviSys Partners**, a free add-on providing comparative reporting for birding partners.

Creating Places

Click the **Places** main menu item or press **Alt-A**. You get this window:



This is the Places window, and its structure tells you a lot about the tables. There are six pages of Places, titled as shown on the **page tabs**. They are arranged in hierarchical order from **Sites**—the smallest, or most granular, entities—to **Continents**, the largest and most encompassing.

The scheme works like this: You will create Places, and “**link**” those Places to other Places **higher** in the hierarchy. Thus, the Place United States, in the Nations table, is “linked” to (encompassed by) North America, in the Continents table. Minnesota, in the States table is “linked” to United States and, by extension, to North America. The linkage is displayed in the window title bar.

A perfect example of this scheme would be a birder’s yard. Let’s say she lives in Minneapolis. She would create **181 Grove Street** on the **Sites** page, **Minneapolis** on the **Cities** page, and **Hennepin** on the **Counties** page. (*The States, Nations and Continents are already there.*)

Then, she would: “link” **181 Grove Street** to **Minneapolis**; “link” **Minneapolis** to **Hennepin**; and “link” **Hennepin** to **Minnesota**. (*The States are already linked to United States, which is linked to North America.*) **None of those Places will**

ever have to be "linked" again; if our birder creates the Site "Lake of the Isles," she will simply link it to Minneapolis.

Once this Places preparation work is done, whenever our birder records a sighting at 181 Grove Street, her Minneapolis, Hennepin, Minnesota, United States, North America, ABA, Lower 48, and Life lists are also automatically updated—**all nine lists with one click!**

With the AviSys Places Tables, she can have as many as 2,350 Places, 450 on each page, all linked together. And if she runs a report for the United States, for example, her sightings at 181 Grove Street will be included. Reports can be run for any of those 2,350 Places. Bird sightings can be recorded at any Place in any category—**Sites** through **Nations**, with some restrictions..

These Places will represent your **most frequently** birded locations, those that you will use for reports the most frequently. As you will see later, you can also record and report sightings for an **unlimited number of locations** using Key Words.

Assuming you haven't jumped far ahead, click the **States** page tab. You now see a full screen of the states and Canadian provinces. Note that in addition to clicking page tabs, you can use the **PgUp** and **PgDn** keys to move between pages and **right-clicking** the mouse will cycle you through the pages.

Click once on your state and click the **Show** button. The window shows that your state is linked to United States, which is linked to North America, just as you would expect. Click **OK** or press **Esc** to clear the Linkage window.

Adding Places

Click the **Sites** tab. That page should be empty. Click the **Add** button. You are presented a text entry window. Type the name of your home, such as **1854 Hearst Drive** (up to 30 characters) and press **Enter**. By the way, **NEVER USE ALL CAPITALS** for Place names—capitals take up too much physical space in the table, and they are hard to read.

Click the **Cities** tab and use **Add** again to add your city. Do the same on the **Counties** page to add your county.

Linking Places

Click the **Sites** tab again. Click once on your home to highlight it. Click the **Link** button. Note that you can now select *only* tables *higher* in the hierarchy than where you are; i.e. Cities...Continents. You must link *upward*. You have been taken automatically to the **Cities** page.

Double-click your city. Your home is now linked to your city. A window shows you that linkage, and also shows that your city is not yet linked.

See **Filter** in Chapter 6 to see how to highlight only Places linked to another Place.

Each linkage is a three step process:

- 1. Highlight the Place you want to link;**
- 2. Click the Link button to start the linkage;**
- 3. Double-click the target Place you want to link to;**

Click once to highlight your city, and click the **Link** button. You are now set up to link your city to your county, so go ahead and do it. Repeat the process to link your county to your state. *Note that the linkage window looks back only as far as the Place you are currently linking, It doesn't know which linkage you did before, so it won't show your home.*

Now, go back to **Sites**, highlight your home, and click the **Show** button. You will see the complete linkage from your home to North America. These linkages are now complete, and **you will never have to do them again**. The more linkages you do, the fewer you will have to do in the future because the "matrix" grows.

From this time forward, when you record a bird in your yard, AviSys will also automatically update your City, County, State, Nation, and Life lists.

By the way, a Place doesn't have to be linked to the next higher table—a **Site for example, can be linked directly to a State or County**.

Keyboard users: the Places Tables have "**Alpha Jump**." Pressing **C** takes you to California, then **O** takes you to **CO**lorado, **N** takes you to **CON**necticut...

NOTE: This Section Is Very Important

Before you get carried away adding and linking Places, please read *Chapter 2, Power and Strategy*. There is some good advice there about putting such locations as National Parks and wildlife refuges in the Cities or Counties category.

Now, let's discuss how your Places should really be used. **A Place is only one of the ways you can assign the location of a sighting**. As you will find out later, **you can just as easily assign a sighting to a location by using a Key Word** in the comment. And you can run reports and listings using that Key Word location as a criterion.

Because there are 450 entries on each page, if you are an extremely busy birder and might use more than 450 Sites, **your Sites table should be reserved for your favorite, smaller, birding locations—locations you will bird very frequently and for which you will frequently run reports**. If you created a new Site every month, you could bird for 38 years before filling the page.

A bird sighting in a location of no special interest, such as at a farm in rural Ohio, should be recorded in the State category, under Ohio, or possibly under the proper county *if that county is of special interest to you*. It makes no sense to create a Site for a location you will rarely bird. You can always put more specific location data in the comment and use it later as a Key Word to run reports.

In summary, AviSys Places are geographic entities that encompass other Places. When you say *Alaska* to AviSys, it gathers up *Anchorage, Mount McKinley, The*

North Slope, Attu—even John Coffey's yard in Homer. You tell AviSys where you saw a bird, and it will make sure that record shows up in all the right listings.

The other functions available in the Places tables are covered in *Chapter 6, The Places Tables*. Now, press **Esc**, or click the **Cancel** button, to get back to the Master Checklist.

Making Sighting Entries

It's time to enter some sighting data. These will be bogus sightings, but it will be easy to delete them later. **To start a sighting, you double-click a bird.**

Switch to North America mode. Double-click **Least Grebe** (or highlight it and press Enter).

Enter Sighting Date						
Month	6	↑	↓	June	06	2006
Day	2	↑	↓		05	
Year	06	↑	↓	1	2	3
				4	5	6
				7	8	9
				10	11	12
				13	14	15
				16	17	18
				19	20	21
				22	23	24
				25	26	27
				28	29	30

You are now presented the AviSys date entry dialog. It is already set to today.

Don't Let the GeeGaws Get You!

This looks complicated and busy, but you should view it as simply two ways to enter dates. The left panel of the dialog is a simple date entry dialog—three **Enters** will accept today's date. To select another date, you can type the month, and press either **Enter**, **Tab**, or the cursor down arrow. Do the same for the day and year. Note that you can use the up and down cursor keys to move between the entry areas and make corrections. However, **Enter** at the **Year** entry completes the date entry and closes the dialog. (Note: in the Options menu, there is an option to have Enter accept the date and close the dialog. You may prefer it.)

As you move through the three date "edits," note that they become highlighted, which means **you don't need to delete the old number**—simply typing the first character of the new number deletes the old one.

You can also use the "spin up" and "spin down" elements to change the month, day, and year, and click **OK** when you are done. (Use the red **X** to cancel.)

Note that the year range is 1930 to 2029 (AviSys has never had a “Year 2000” problem). AviSys will admonish you if you enter dates that violate calendar conventions, such as; 2/29/97, 6/31/97, or 13/28/97.

Now, let’s discuss the other half of that date entry dialog. It looks like, and is, a calendar. The two sides of the dialog are synchronized—if you changed the date in the left area, you noticed that the calendar changed to match what you had done. Likewise, when you change the calendar, the left side changes to match it.

You change the calendar by clicking the month button, 1..12, (or spinning the month up and down), clicking once to highlight the day, and selecting the year—either by selecting this year or last year with a button, or by spinning it up or down. When the calendar is set, click **OK** to accept the date.

The pair of year buttons will always display the current year and the prior year, the two most frequently used. Note that, as you change the months, if you had a day such as 31 highlighted and you selected a month with fewer days, the calendar highlights the new “last” day of the month, and reminds you with a message that it had done so—just in case you were trying to enter February 31.

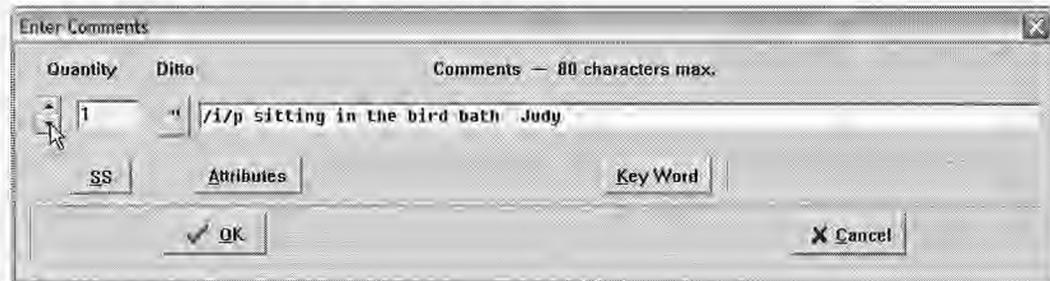
Incidentally, if the month and year are set properly, you can simply double-click the day to accept the date and close the dialog all in one action.

So, the date entry dialog offers you two methods to enter a date. Take your choice—or use both, depending on the circumstances.

(Note: If you make a mistake at any point during a sighting entry, you can press **Esc**, or click a red **X** button, to cancel the entire sighting entry and start over.)

When the date is complete, you are presented the familiar Places table selection window. Select **Sites**. At the **Sites** page, **double-click your home**. (Yes, you saw a Least Grebe in your back yard. This is a very hot sighting - call the hot line.)

Now, you are presented the comment dialog.



The screenshot shows a dialog box titled "Enter Comments". At the top, it says "Comments - 80 characters max.". There are three main input areas: a "Quantity" field with a spinner set to "1", a "Ditto" field with a quote icon, and a "Comments" text area containing the text "/i/p sitting in the bird bath July". Below these are three buttons: "SS", "Attributes", and "Key Word". At the bottom of the dialog are "OK" and "Cancel" buttons.

This dialog can be used to simply enter a comment (or nothing), or to enter a quantity, sighting Attributes, and/or Key Words. The comment can hold up to 80 characters. (We’ll talk about Field Notes later—there you can write up to 5,000 characters of information.)

The comment shown above has “Attributes” entered along with the text. The added **/i/p** makes the comment read “13 immatures, photographed, sitting in the bird bath.” That 80 character comment is a lot more powerful than it looks. Also, Judy is not a birder, but I like to keep track of what she’s seen. So I put her name in the comment when she has seen the bird, too. That way, I can print her Life List any time I want, using “Judy” as a Key Word. In fact, I could list the immature birds Judy has seen. You will learn about Attributes in *Chapter 2, Power and Strategy*. We cover Key Words here because they are used so frequently. *You may perceive that there are a lot of powerful ways to use AviSys data. You are right! But if you want to keep things simple, you can do that, too.*

After you have entered one record, clicking the “ (Ditto) button, or pressing **Ctrl-P**, places the entire comment from the **p**rior record in the current one. **Ctrl-** does the same thing. You can also use the standard Windows **Ctrl-C** (Copy) and **Ctrl-V** (Paste) commands to move text via the clipboard. Later, you will see how part or all of a comment can be automatically carried over into subsequent records (as well as repeating the Place and Date).

Subspecies

When entering a comment, if you click the **SS** button, a list of the subspecies for the current species is displayed. Select one to have it placed in the comment.

Counts/Quantities in Sighting Entries

The quantity can be as large as 65,534. **With no quantity recorded, the sighting is treated as a quantity of 1.** The quantity field is used by the Census spreadsheet reports, particularly useful if you are active in a Christmas Bird Count, Breeding Bird Survey, Feeder Watch, or an ornithology study. The quantity is also exported as a numeric field if you export records to other programs, such as Excel or Access. You can type the quantity, or “spin” it in.

Lifers

AviSys knows how to keep track of “lifers.” However, **if you record the same life species more than once with the same sighting date.** AviSys has no way to know which of those sightings was the “real” life sighting record—we don’t record the time of day. In that case, if you want to be sure AviSys always presents the “correct” life records when you ask to see them, or when you ask “Which of the birds on that trip to Texas last week were lifers?” enter a **/?** Attribute into the records of the same life bird that were **not** the “real” life records. **Remember this is necessary only when you record the same life species more than once with the same date,** and is not necessary at all if you don’t care about “exact” life records. You’ll learn how to use Attributes later.

You will note that the Key Word window has **Add**, **Edit**, and **Delete** buttons. With those you can maintain your own list of 100 Key Words, adding and deleting Key Words at will. (You can also get to the table from the File menu.)

Deleting a Key Word does nothing to your records—having it in the Key Word table is just a convenience, and you can still run reports by using the Key Word manually in report criteria. And that's what the **Manual** button is for—inserting an informal Key Word manually in report criteria, which we will cover later.

You select a Key Word by either double-clicking it, by highlighting it and pressing Enter, or by highlighting it and clicking the **Select** button.

Using **Add**, enter *Rainy* into the Key Word table. Then double-click *Rainy*. It is inserted into your comment before your comments.

Now click the **OK** button in the Comment dialog.

Confirming a Record Entry

The screenshot shows a 'Record Confirmation' dialog box with the following fields and values:

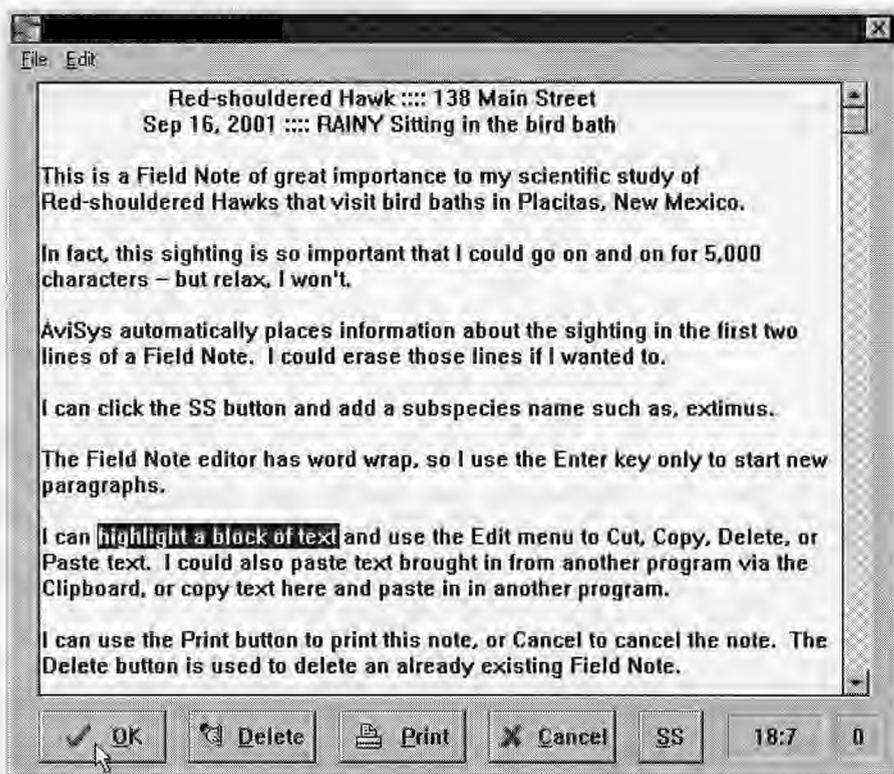
Least Grebe		
Date	June 2, 2006	
Place	Site :	131 Main Street
	City :	Silverdale
	County :	Kitsap
	State :	Washington
	Nation :	United States
	Continent :	North America
Quantity	1	
ABA Area	USA Lower 48 North America	
Comment	//p rainy sitting in the bird bath Judy	
OK	Field Note	Cancel

This is the record confirmation dialog. It shows everything about the record you just entered, including some things you didn't realize. The record you entered has updated your Yard, City, County, State, Nation, Continent, ABA Area, USA (maybe), Lower 48 (maybe), North America, and Life lists. **Wow! Eleven lists, just because you selected your yard from the Places Tables! Oh,! I forgot! It also updated your "Judy," "bird bath," "immature," and "photographed" lists, because of those Key Words and Attributes! 15 lists!**

Note the buttons where you can edit mistakes in the Comment, Quantity Place, or Date.

Now, click **Field Note...**

Field Notes in Sighting Entries



You can attach a Field Note of up to a nominal 5,000 characters to the sighting record. Information about the Field Note editor is in the above illustration. *In addition to a size limit of 5,000 characters, there is a line count limit of 60 lines.* Practice entering information into the Field Note. When you are done, click **OK**.

Click **OK** again to confirm the sighting record.

The Sighted Markers

Notice that a " (sighting marker) has appeared next to the Least Grebe in the Master Checklist. A single mark ' indicates that a species has been seen, any Place, any time. In NA mode, a double mark '' indicates it has been seen in the ABA N.A. Area. Thus, your Life List and ABA list are always displayed on the screen. Also, the species seen count at the bottom of the window is updated.

Now here's an important point to remember: a sighted marker next to a species in the Master Checklist is only a *reflection* of the existence of one or more sighting records of that species. If you ever have a marker next to a species you haven't seen, that means you somehow recorded a sighting of that species. The *only* way to get rid of that marker is to delete the sighting record(s) of that species in List Records. You will find out how to delete records a little later.

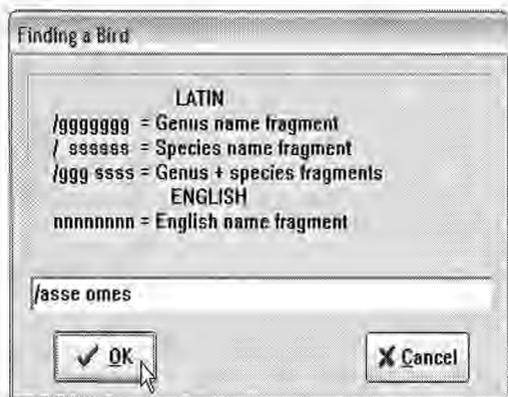
Let's stop for a bit and reflect on what you've done so far. It seems like you've done a lot of work to record one little sighting. That's because we've studied each and every feature of the process as you've been proceeding. But think about this: Now that you have your yard in the Places Tables, you can quickly enter sightings for your yard, city, county, state, nation and continent. Just double-click the bird, accept or modify the date, click on the Place of your choice, enter or bypass a comment, and accept the record.

And a little later, we'll show you how to enter a bunch of records with as few as two clicks each!

But first, let's do some more sightings, without Field Notes.

How about recording a Black-capped Chickadee sighting. **Wait a minute!** That means paging down the list, looking for the Chickadees. Well, if you aren't familiar with the taxonomy sequence, that might take a couple seconds.

Finding Species



From the main screen, and assuming we are in North America display mode, click the **Find** button, type **adee** in the dialog, and press **Enter**.

Whoops, that took us to a Kiskadee. Click **Next** and you'll move to the chickadees. The **Find** function looks for the **first** species in the Master Checklist that contains, *anywhere in its name*, the text string you entered for the search. As you saw, the **Next** function continues the search after a "hit" and finds the **next** instance of the search argument.

Typing a **meaningful fragment** of a species name is usually a better strategy than trying to spell the whole name, even if you have to use **Next**. In this case, a click on **Next** was quicker than initially typing the whole name "chickadee."

A search for a family name, such as **pelican**, will take you to a group of species. The Find search always starts at the beginning of the Master Checklist, so you don't have to worry about where the target is in relation to where you happen to be in the list. The search is case insensitive; **aDeE** would have worked just as well to find "Chickadee."

Performance: If, in World mode, any of these operations takes more than 1 second to search through the 10,000 names, you should consider the amount of memory (RAM) your machine has, or how many other programs are running. Windows may be paging the Master Checklist from memory to hard drive.

Looking at the illustration, a really obvious thing is the importance of the "/" (slash) character leading Latin name arguments. That signifies to the search engine that you want a search on **Latin** names.

The second really important argument format feature is the **space** before a Latin **species** name argument, which tells the search engine, "I want to look for this name fragment in Latin **species** names." Without a leading space, the search engine looks for name fragments in Latin **genus** names.

Let's use some examples to clarify this whole thing. Click **Switch** to switch to **World display mode**. Click **Find** and enter search arguments as follows: (note the Latin bird names at the bottom left of the main screen)

/todir which finds *Todirhamphus nigrocyaneus*, Blue-black Kingfisher, the first of a group of Kingfishers. (With no space, genus names are searched.) Tap **F-12**, then again. The screen alternates between Latin and English.

/todir iop which finds, more specifically, *Todirhamphus diops*, Blue-and-white Kingfisher. (Note: the space identifies the start of the species fragment.)

/ iops (note the space before the fragment) which also finds *Todirhamphus diops*, all by itself. This demonstrates the power of the species name in finding birds. Using **Next** to continue this search finds only five additional birds that have **iops** anywhere in their species names.

/asse omes causes the search engine to find the first entry in the Master Checklist that contains *both asse* in its Latin genus name *and omes* in its Latin species name. Guess what this argument finds: *Passer domesticus*, our beloved House Sparrow.

You may not need Latin searches very often, but when you return from that birding trip in Kenya you'll be glad that the guide who used a local English name for a bird also gave you the Latin name. With this facility, you'll discover that what he called a Little Tyrant was really a Yellow Flycatcher.

Note: while a space separates two distinct fragments of a *Latin* search, a space is simply an integral part of a single *English* name search fragment.

Thus, **gil ood** will never find "Gila Woodpecker", but **ila woo** will.

Switch back to **North America mode**. Find the Chickadees again, and do the Black-capped Chickadee sighting, today's date, with your home as the Place, and with a quantity of 6.

You Haven't Forgotten, Have You?

Each time I say "click," you can also tap the underlined letter on the button. So when I say "click **F**ind," you can also tap the **I** key. Use **X** for **Next**.

Did you notice?

Very often, an “edit”, such as a date entry or a Find argument, is presented to you with the old text from the prior operation highlighted. If you type any character, all the old text is deleted. If you move the insertion point, with the cursor keys or mouse, the old text is retained and you can edit it for the new operation. This behavior gives you maximum flexibility while minimizing typing.

Hot Keys To Find Families

Another easy way to get close to the species you want is to use a set of 20 Hot Keys which take you to major bird groups or families. The following keystrokes take you instantly to the families they describe (hold down the **Ctrl** key and press the indicated alpha key):

Ctrl-A	Auks, alcids	Ctrl-J	Jays
Ctrl-B	Blackbirds	Ctrl-P	Pigeons, doves
Ctrl-C	Chickadees, tits	Ctrl-O	Owls
Ctrl-D	Ducks, geese	Ctrl-S	Shorebirds (roughly)
Ctrl-F	Flycatchers	Ctrl-T	Thrushes
Ctrl-G	Gulls, terns	Ctrl-V	Vireos
Ctrl-H	Hawks, falcons, eagles	Ctrl-W	Warblers

Ctrl-I	finches	Ctrl-N	wreNs
Ctrl-K	woodpecKers	Ctrl-R	spaRRows
Ctrl-L	swaLLows	Ctrl-U	hUmmbirds

Some users find Hot Keys very easy to remember and use. Others prefer the Bandcode/Find facilities. Try Hot Keys for a while, at least for the major species groups, and see how you like them.

The Hot Keys for woodpeckers, swallows, wrens, finches, sparrows, and hummingbirds are not exactly mnemonic, but represent a decent compromise. (Sparrows are near the bottom of the checklist and can be reached just as easily with Ctrl-End and a couple Pg-Up's. The ancient birds, taxonomically, such as Grebes, are at the top of the checklist and can be reached with Ctrl-Home.)

Using the Band Codes to Find Species

If you have not done so already, Select **Utilities** and **Create World Band Code Files**. Do this any time you change bird names or add birds to the master list. Using band codes is an excellent way to get to species. Initially, the codes look pretty arcane, but if you spend a minute studying the logic behind them you will discover it is easy for you to think of a species and divine the code for it immediately. **DO NOT SKIP THIS! It is much easier than it looks, and is the fastest and easiest way to get to birds -- faster by a wide margin than the methods used any other birding software.**

Switch to N.A. Screen Mode, Click **Band** or press / (slash). A text entry window opens, asking you to enter a four letter banding code. Type **eltr** and press **Enter**. You are taken to the **Elegant Trogon**. Try **blja**. You are taken to the **Blue Jay**.

Now that's really slick! **You don't need to learn the codes**—you just need to know how to extract the codes from bird names.

The codes are derived in a very logical and specific manner, using a very simple set of rules, described below. But there are a few exceptions to the rules because of conflicts between similar bird names (collisions). For example the codes for **Canyon Wren**, **Cactus Wren** and **Carolina Wren** are all the same, **cawr**. If you enter a code that results in such a collision, you will get a dialog from which you simply select the desired bird.

Band Code construction logic

If the bird name is a single word, the code consists of the first four letters of the word:

Merlin = merl
merl

If the bird name is two words, use the first two letters of the first word, followed by the first two letters of the second word:

Boreal Chickadee = boch
bo ch

If the bird name is three words, use the first letter of the first word, the first letter of the second word, and the first two letters of the third word:

Cape May Warbler = cmwa
c m wa

If the bird name is three words, and two of the words are a hyphenated pair, you use the first letters of each of the hyphenated words, and the first two letters of the unhyphenated word:

Red-shouldered Hawk = rsha
r s ha
Eastern Screech-Owl = easo
ea s o

How do you know if a name has hyphenated words? If there is an adjective describing a feature of a bird, there is invariably a hyphen joining those two words, such as: Yellow-bellied, Black-headed, Rough-legged, Fork-tailed. The second example, Eastern Screech-Owl, above, is restricted to those unusual species that have a hyphenated common genus name, such as: Night-Heron.

If the bird name is four words, use the first letter of each word:

Great Black-backed Gull = gbbg
g b b g

To find the code for a bird, highlight the bird and press \ (Backslash). If it's a collision bird, you will get the Banding Lab's specially derived code for it.

When you are in World Mode, or in Checklist Mode with a non-N.A. checklist, the separate World band code facility comes into play. It works exactly like the N.A. facility but uses a different set of files generated automatically by **Utils / Create World Band Code Files**. The only differences are that it can't find birds where the second character of the name is a ' (there are two such birds), and if the bird name has five words you ignore the fifth word. In World Mode, 57% of the time you will go directly to the bird, and the remaining 43% of the time, you will select the bird from a collision list of 2 to 13 birds (averaging 3). In NA mode, you get directly to the bird 80% of the time.

As powerful as the band code facility is, **Find** and **Next** will still become good friends. You can even play games, like "how many birds were named after Audubon?" or "how many birds were named in the possessive, like Brewer's?" (Find ') or "what is the most popular color in bird names?" (Find "blue", etc.)

The Jump Tables™

In programming parlance, a "jump table" is a table of data that serves as an index to a much larger data structure. To find an item in the larger structure, the jump table is consulted first to find an index to an item close to the desired item. The search in the large structure is then much shorter and faster. The index to a book serves a similar function.

The Jump Tables are indexes to the Master Checklist. **Switch** to North America mode and click the **right** mouse button. (You can also click **Jump** or press **J**.) One of the Jump Tables pops up for you.

The first table lists the 100 major "genus" names, such as "Finches," or "Gnatcatchers," listed in alphabetic sequence. Double-clicking (or pressing Enter on) one of those takes you directly to that group of birds. (*I don't know about you, but I can never find the Kinglets and Gnatcatchers in my field guide.*)

Accentors	Bowerbirds	Cuckoo-Shrikes	Frigatebirds	Hummingbirds
Albatrosses	Broadbills	Cuckoos; Ground-	Frogmouths	Ibids
Antbirds	Bulbuls	Cuckoos; N W	Furnarids	Jacamars
Antpittas	Buntlings	Cuckoos; O W	Gannets	Jacanas
Anthrushes	Bushshrikes	Curassows	Geese	Jaegers
Auks, Alcids	Bustards	Dippers	Gnatcatchers	Jays
Australo-Papuan	Buttonquail	Doves	Gnateaters	Kingfishers
Avocets	Caracaras	Drongos	Grackles	Kinglets
Babblers	Chachalacas	Ducks	Grebes	Kites
Barbets; African	Cisticolas, etc	Eagles	Ground-rollers	Lapwings
Barbets; American	Cockatoos	Egrets	Grouse	Larks
Barbets; Asian	Coots	Fairy-Bluebirds	Guans	Laughingthrushes
Barn-Owls	Cormorants	Fairywrens	Guineafowl	Leafbirds
Bee-eaters	Cotingas	Falcons	Gulls	Loons
Bellmagpies	Coucal	Finches	Hawks	Lories, Lorikeets
Berrypeckers	Coursers	Tinkerbird	Hérons	Manakins
Birds-of-Paradise	Cranes	Flowerpeckers	Honeycreepers	Megapodes
Bitterns	Creepers	Flycatchers; Mon	Honeyeaters	Mockingbirds
Blackbirds	Crossbills	Flycatchers; O W	Honeyguides	Motmots
Boobies	Crows	Flycatchers; Tyr	Hornbills	Mousebirds

World List Families, A..M :: Right button, or J, for M..Z

OK Cancel

The second table, which you invoke by pressing the **right** mouse button while still in the first table, lists the 50 major bird “family” groups, such as “Ducks, Swans, Geese” or “Tyrant Flycatchers,” listed in taxonomic sequence. Selecting one of these takes you directly to the selected family in the Master Checklist.

After your first use of the Jump Tables in a session, the table you last used “sticks” and becomes the first table to pop up when you press the right mouse button, honoring your preference. Try some “Jumps” for practice. Use both tables to see which you prefer.

Switch to World mode or Checklist Mode with a non-N.A. checklist. Now you notice that there are **two** Jump tables of genus names in alphabetic order (A..M and N..Z), covering nearly 200 bird groups.

Let's Do Some More Sighting Records

Switch to N.A. mode. Do the following sightings. You can use the **Jump Tables**, the **Find** facility or **Hot Keys**, as suggested by the hints. Also, remember that when a quantity of 1 is intended, you don't have to enter anything in the comment—no number in the comment implies a quantity of one. **Use today's date.**

Species	Place	Quantity	Hint
Eared Grebe	Montana	38	First page (Ctrl-PgUp)
Sooty Shearwater	your state	213	First page
Masked Booby	Nebraska	1	Find mask

Snowy Egret	California	21	Find egr
Gadwall	your county	3	Ctrl-D
Gray Hawk	your state	2	Band grha
Elf Owl	your home	12	Ctrl-O
Lucy's Warbler	your home	1	Ctrl-W

That was a little slow, so now I'll show you how to do entries **real fast**:

Putting the Fix On ~ Turbocharged Sightings From a Trip

The last date you entered was today's date. The last Place was your home. Assuming all the rest of your sightings will be quantities of 1, we're ready to go.



In the "Fix" panel on the main screen, click the **Date**, **Place** and **Comm** buttons. You have just "**fixed**" the Date, Place and Comments for this trip. Notice that those buttons are now lighted, and the text red, as a reminder that they are "fixed."

Pick a random species from the Master Checklist and double-click it. **Bang!** The whole sighting is done. You just click **OK** to confirm it. Continue down through the list, selecting species at random, until you have recorded about 12.

That's more like a trip—all on one date, at one Place, usually with no comments. To change the Place at any time, click **Place** again, select a new Place with the next sighting, and click **Place** to "fix" it again. You can do the same with the date.

You can have any combination of "fixes" on at any time, and toggle them on and off at will. In the next section, you will see that you have even more flexibility when fixing the comment.

AviSys is not a "trip oriented" program where you must first define a "trip" (Place and date), before you start entering sighting data. In AviSys, a "trip" is a Place and a date or range of dates; or a date or range of dates, with multiple Places, regardless of when you actually entered the sighting data in AviSys.

However, you can easily keep a **Trip Log**. See *Chapter 2, Power and Strategy - Creating a Trip Log* for a way to maintain a complete log of all your birding trips.

Note: If you edit a fixed record at record confirmation, for each of the elements you edit you are asked if you want the edit to also apply to the existing "Fix." For instance, suppose you had been recording sightings for Nisqually NWR, and had the Place fixed, and then entered a record you had actually seen at St. Martin's University. At the record confirmation, you would change the record's Place to St. Martin's. If this record represents the start of a new string of records, now at St. Martin's because you had changed birding locations, you would answer "Yes" to the prompt to change the "fixed" Place to St. Martin's. Otherwise, this would just be a stray record, and you could continue entering records for Nisqually.

Repeating Only Part of a Comment

The comment is one of the elements you can “Fix,” and you can arrange that just a part of the comment will be automatically repeated from record to record if the comment is “Fixed.”

A semicolon “;” is used to separate the repeated part of a comment from the variable part. For example, if for the first sighting record of an outing you include the comment...

/MR at Saint Elmo's Lake; these were all immatures /i/p

and you then “Fix” the comments, on the subsequent sighting records you will be automatically presented the following comment to accept, edit or add to:

/MR at Saint Elmo's Lake;

Note that the only portion of the comment retained is the portion before the semicolon. The cursor is placed at the end of the comment. **If there is no semicolon in a comment, the entire comment is repeated and you are not prompted with a comment entry window for subsequent sightings after it's fixed.**

If you want to Fix the comment, **but want to change the Quantity for each record**, use a semicolon at the end of the comment so that the comment window is presented for each record.

You will notice that in the prior example the **Key Word** “St. Elmo's Lake” will be automatically repeated from record to record as you enter sighting records from an outing. That's exactly how a **Key Word** is effectively used to assign the location of sightings when a Site is not used from the Places Tables. The Place used for these records was probably the state “Nebraska.”

The Journal Facility

When entering sighting data, you could be interrupted and forget which sightings you had entered; you could discover that you had made an error in a sighting; or you just might want to review the data you had entered.

Click the **Journal** main menu item. Now you see a screen listing of all the records you have entered since you started AviSys **for this session only**, in the order in which you entered them. You can page or scroll through the records and edit or delete any of them you wish. If you have the *Options* selection *Start Journal at Last Record*, the Journal is automatically paged to the last page and the last record you entered is highlighted. You will learn how to use all those features in the next section of this chapter and in *Chapter 4, Listing Records*.

At the end of an AviSys session, you can pull up the Journal and print it out. (In fact, if the Journal is not empty, AviSys will remind you of that when you attempt to quit the program.) Then you can keep a binder, for example, of your birding activity in chronological order. After all, that's what a “journal” is. Press Escape or click the Quit button to return to the main window.

Using Checklists

A checklist in AviSys is a **subset of the Master Checklist**, containing any, or all, of its species. It is a list of all the species that can be seen in a geographic entity, such as a state, county, nation, or NWR. **All checklists are related directly to AviSys Places** and exist in three forms, **all of which can be rolled in and out of the Checklist menu.**

- The 64 official Tony White state and province checklists, which are held in a special built-in state checklist cache, plus Canada and U.S.
- If you have the Worldwide Nation Checklist Add-On, the checklists of the 254 nations and important birding areas of the world, and the worldwide ABA Regions and Areas. (This add-on is available from us at 1-800-354-7755.)
- Custom checklists which you create by “marking” species. Those checklists are created in, and remain in, the Checklist menu. (See Chapter 3)

Creating a State Checklist



From the main screen, press **Alt-K** or click **Checklists** on the Main Menu. You are presented a menu of the current 15 checklists. (For new users, it is empty.)

Click the **Add** button. You will be taken to the Places tables. You are creating a state checklist, so select a state, such as Texas, from the States table.

The checklist is added to the menu, and you are notified that it is loaded automatically because AviSys has the correct checklist data stored in the internal cache of the checklists of the US and Canada states and provinces.

Creating US, Lower 48 and Canada Checklists

If you Add **United States** to the menu, you get a checklist of the 49 continental states. If you add **[US]**, you get the 50 states (including Hawaii). With **[Lower 48]**, you get the lower 48 continental states. Adding **North America** gives you the ABA N.A. checklist, unless you have the Nation Checklist Add-on, in which case you get the AOU N.A. checklist, including Central America. **[ABA Area]** always gives you the ABA NA checklist. Add **Canada** to the menu to get a complete Canada checklist. These checklists (except AOU) are formed by the aggregates of the appropriate Tony White state/province checklists. If you need to add or delete birds from the US or Canada checklists, you do so by changing the state/province checklists, typically using the StateCL (or Range) button.

Since these state and nation checklists are auto-loaded, **you can add or delete them at any time as needed. The Checklist Menu is simply a holding place for the up to 15 checklists you are using at the moment.**

Invoking a checklist

Add your state's checklist to the menu and then invoke (select) it into the Master Checklist display by selecting it from the menu. You are immediately switched to **Checklist Display Mode**, and your state is shown at the top of the main screen. **Only the birds in your state's checklist are displayed on the screen.** When you are entering sightings from an outing in your state, this is the best screen mode to be in, since it reduces the number of birds you deal with to only those possible in your state. **See Options | Start with Current Checklist Invoked.**

Now repeatedly click the **Switch** button. Note that you cycle through World, North America, and Checklist modes. **For purposes of the next explanation, leave it in North America mode.**

Note that the species that *are* in the state checklist are in normal text ("marked"), and the species that *are not* in the checklist are dimmed. (If you have chosen a very unusual Windows color scheme, you may not be satisfied with the visibility of the dimmed species.)

The species seen count in the window at the bottom of the screen has changed, too. It now says something like "312 seen in Checklist area." The main title bar now reads something like, "N.A. Mode :: Texas Checklist :: 580 species..."

It means that there are 580 species in your Texas checklist and you have recorded sightings of 312 species in Texas or Places linked to Texas, such as Big Bend National Park, or 99 Cowpoke Street, Dallas. Your Texas "seen" count is 312.

The species in the Master Checklist now have different sighting markers. Here's an example of what you could see with a very imaginary Texas checklist invoked:

Gray Jay	not in Checklist, never seen
'Steller's Jay	not in Checklist, ' = seen, but not in Texas
''Blue Jay	not in Checklist, '' = accidental seen in Texas
Green Jay	in Checklist, never seen
'Brown Jay	in Checklist, ' = seen, but not seen in Texas
''Scrub Jay	in Checklist, '' = seen in Texas

You can immediately see your birding status as it relates to the geography of Texas—**your Texas list is marked with '' markers.** The term **accidental** is used only when a checklist is invoked and a bird is seen where it shouldn't be, based on the checklist.

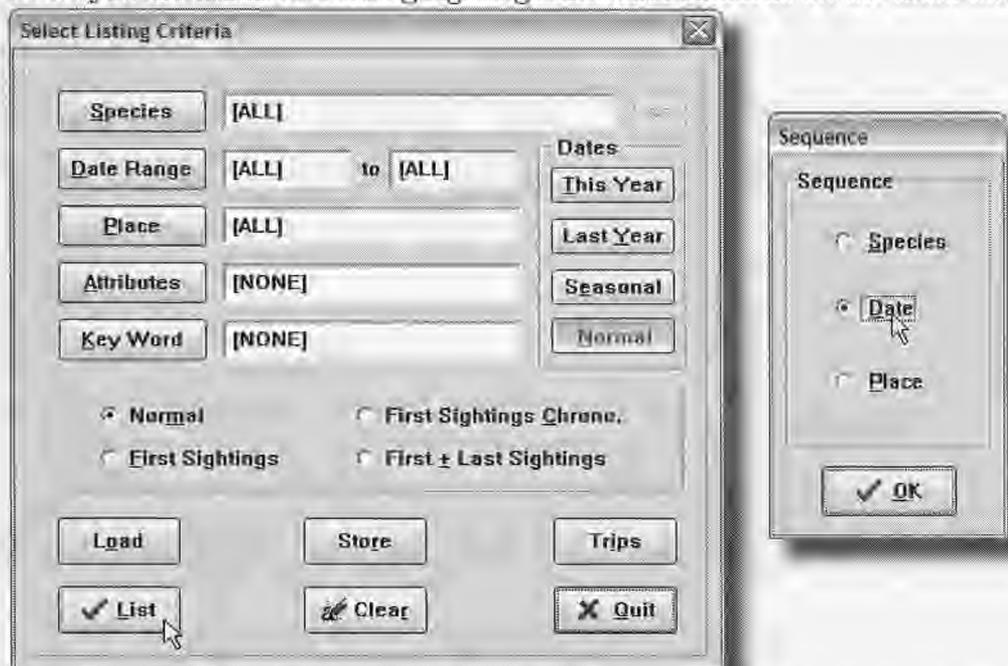
You can print an invoked checklist with **Reports | Checklist**, explained later.

Duplicate Entries

If, in a session, you enter two sightings with the same Species, Date and Place, AviSys issues a warning message—in case that's an unintended entry.

Listing Your Sighting Records

When you are finished entering sightings click **List Records** on the main menu.

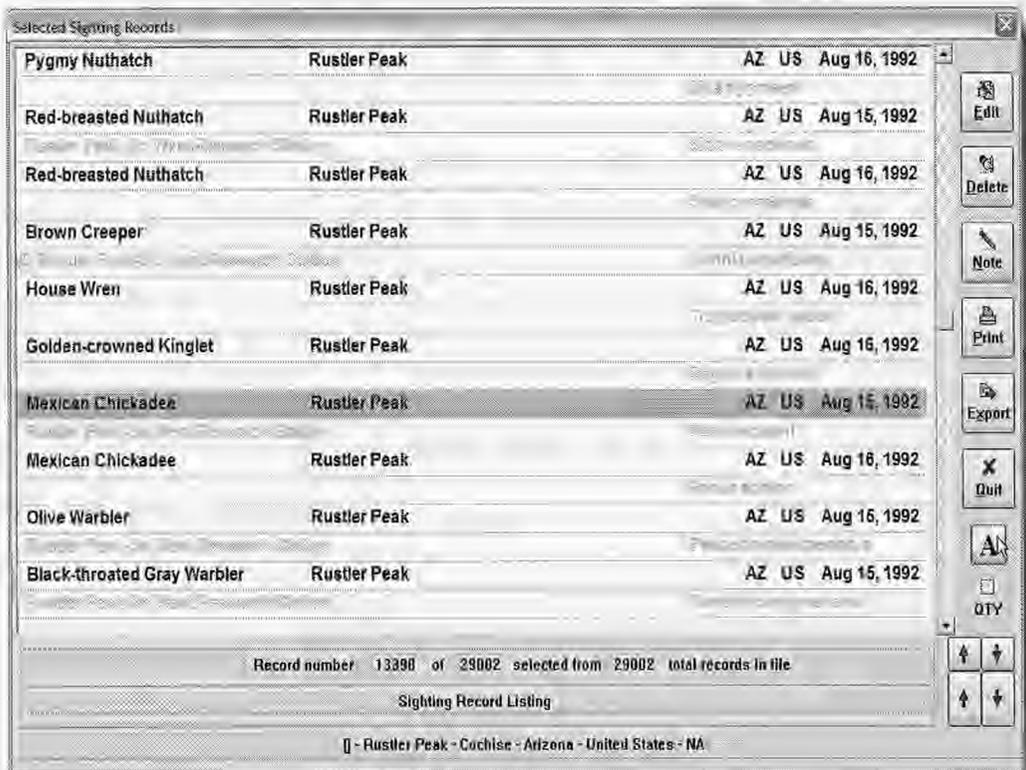


This is the dialog you use to enter the criteria for listing sighting records. In its initial state, it is set up to list on your screen all records in the sighting file, as indicated by the status of **All** for **Species**, **Date Range** and **Place**. The status is **None** for the other criteria. You will see all, not just selected, sightings.

Click **List** and you are presented a dialog from which to select the **Sequence** of the listing. Select **Species** sequence. AviSys then presents a listing of all the records in your sighting file, in species sequence. The comment lines are in gray, to visually separate them from the main lines. (If you have an unusual Windows color set, you may want to choose *Options/List Comments in Black/Navy.*)

If you had specified criteria for the listing, those criteria would be shown at the bottom of the window. A record count summary shows the record number of the highlighted record, the number of records selected for this particular listing, and the total number of records in your sighting file.

The **Load**, **Store** and **Trips** functions are covered in Chapter 2, *Power and Strategy*, and the **SS** button is covered in Chapter 4, *Listing Sighting Records*.



The “current” record is the highlighted record. The **Edit**, **Delete** and **Note** buttons operate on that record. Highlight one of the records, by clicking it once on either line, and then click **Delete**. After a confirmation, it is removed. When you get back to the Master Checklist, you will notice the sighting marker is gone if that was the only sighting record for that species.

You can scroll through the listing with the arrow buttons, the scroll bar, or the keyboard cursor keys. **Ctrl-Home** and **Ctrl-End** take you directly to the first and last selected records, respectively.

Where the sighting Place is, or is linked to, a state or province, the two letter abbreviation for the state is included in the listing. The Nation code is also listed. Note that an expanded Place hierarchy is displayed at the bottom of the dialog. **[]’s** in that hierarchy represent “levels” that were skipped in the linkage.

You placed a Field Note in at least one of your records. Records with Field Notes are indicated with an @ symbol at the left of the comments line. Highlight one of those records and click **Note**. Your note is displayed, and you have the opportunity to Edit, Delete, or Print it. Highlight a record without a @ and click **Note**. You can now attach a Field Note to that record. Type something in the note and click **OK**. The record now has an @.

Click the **QTY** checkbox to display the quantities for the records. The “**A**” button rotates through the available fonts in the list.

“Drilling Down” in Your Data

By simply filling in the criteria dialog, you can request records selected by any combination of species, date range and Place, as well as asking for “First Sightings” or “First + Last” sightings only, asking for a “First Sightings Chronology,” and/or choosing additional record selection by Attributes or Key Words in the comments. You will learn more about those features, and about editing existing records, in later chapters.

Here are a few examples of inquiries you could make:

“Show my sightings of Sandhill Cranes that occurred in New Mexico between June 23, 1967 and October 16, 1991” which would list only Sandhill sightings which occurred in that date range, and which were recorded in New Mexico, or any Place linked to New Mexico, such as Bosque del Apache. *(In the criteria dialog, select Species, select Sandhill Crane, select Date Range, enter the starting and ending dates, select Place, select New Mexico from the States table, click **List**.*

“Show my first sightings in New Jersey” which would display the first (by sighting date) recorded sighting for every species you recorded in New Jersey, or any Place linked to New Jersey, such as Cape May—your New Jersey list. *(In the criteria menu, select Place, select New Jersey from the States table, leave Date Range at All, and click First Sightings.)*

“When did I first see a Bachman’s Warbler anywhere?” This would be a one record display of your first ever recording of a Bachman’s. *(Select Species, select Bachman’s Warbler from the Master Checklist, select First Sightings.)*

Using the sightings you have recorded, request some listings, noting how sightings at your home, for example, are included in listings requested for your county or state (assuming you entered and correctly linked those Places earlier.)

The **Clear** button clears all the criteria to **All** or **None**. To clear an individual criterion, simply select it and then click the **Cancel** button for whatever dialog is presented. In the case of a Species selection, a red **X** cancel button is enabled on the Master Checklist just for that purpose.

If you need a date range of **“This Year”** or **“Last Year,”** click the appropriate button to insert, for example, the date range 1/1/(this year)-12/31/(this year), assuming your computer’s clock-calendar has been set properly. This saves a lot of keystrokes when you are running year-to-date listings.

The **“Seasonal”** button completely changes the meaning of the date range. For example, a Seasonal date range of 6/13/89 through 8/21/92 actually means “Select the records that occurred between the dates June 13 and August 21 for each of the years 1989 through 1992. (To be sure we’ve been clear—a record on September 3, 1990 would **not** be included.) **In essence, you can define your own “seasons,” and run listings for them for any range of years.**

You can print all the selected records by clicking **Print**. Printing operations will be covered when we discuss Reports in this chapter. But note a unique print option available when you are printing a sighting record listing: the Print dialog option **No Comments** allows you to print only the Species, Place, Date, State code and Nation code, which produces only one line per record, doubling the number of records per printed page. Also, you can select **Include Field Notes**, which causes the Field Notes to print in-line with the records.

Other features available with these listings, including editing and deleting records, and exporting records to other programs, are covered in Chapter 4, *Listing Sighting Records*.

Lifers - a Unique Situation

Here is a subject that can't wait for Chapter 4. We have touched on the listing options of First Sightings and First Sightings Chrono, which produce only the first (earliest) records for each of the species seen on the described (Place and Date) trip—basically one record per species, the earliest. (The Chrono option presents the records in date sequence rather than species sequence.)

These options, when a Date and/or Place criterion is used, present a secondary prompt, **“Do you want ONLY LIFERS seen this trip?”** If you respond positively, the entire meaning of the “First” option changes—now it means **really first**, life sightings only. This is how you ask the question, **“Which of the sightings on that trip to Texas last week were lifers?”** (Remember, in AviSys a “Lifer” is the first sighting of a given species **any place, any time in your lifetime.**)

While doing a “First” listing without a Place and Date will produce your total Life sightings, we recommend you select a date range which covers all your records, such as 1/1/30-12/31/29, 1930 through 2029. The reason for doing that is that it becomes a “trip”, invoking “true lifers” and using the special “real lifers” facility described below.

Real Lifers

When “Only Lifers” are listed, as described above, if there is a **/?** Attribute in any of the records, those records will be automatically **ignored**. This provides a way for the user to identify records that were **multiple instances of the same life bird on the same day**. Because AviSys does not record time of day, it has no way of knowing which of multiple records of the same life species on the same day is the true life record. The record **without** the **/?** becomes the **“real lifer”** and is listed when “Only Lifers” is selected.

If you plan to use this feature, you should add **/? Not a Lifer** to your Attributes table. Remember, this is required **only** when you record a life species more than once on the same day, and **only** if you are particular about having the exact life record listed.

Running AviSys Reports

Return to the main screen and click the **Reports** menu item.



Species Seen A checklist format (columnar) report that lists the species you have seen under the circumstances you define in the Report Criteria menu ("My 2003 New Jersey List" or "My Life List" [no criteria]).

Species Not Seen The reverse of Species Seen, it shows the species not seen - a "hit list". (Idaho birds I have **not** seen in 2006)

Checklist Prints the Clements World Checklist, the ABA N.A. Checklist, or a state, nation, or custom invoked checklist. Columnar.

Census-12 Months by Month

Prints a spreadsheet of the quantities of **either sighting incidents or bird populations**, in the geography and 12 month date range you define. Quantities are listed by month, with a starting month of your choice.

Census-N Years by Month

The same as the above, except that you can define any number of years, and the months always start with January.

Census-10 Years by Year

Similar to the above; you select a ten year date range. Quantities are listed by year.

Census-N Days by Day

A really neat spreadsheet for multi-day birding trips and for birding guides. You select up to 12 consecutive days. Sighting incident or population counts are listed by day.

County Summary

Pick a state. It will give you a one page summary of species seen counts for each county in that state.

State Summary

Produces a one page summary of species seen counts and checklist counts for states, provinces, and regions, as well as total ticks for the larger regions. Optionally produces a listing of all species seen, with indicators for the states and provinces in which the species have been seen.

State Checklists

Produces a listing of all species in the North America Checklist showing, for each species, the states and provinces that include that species in their checklists.

World Summary

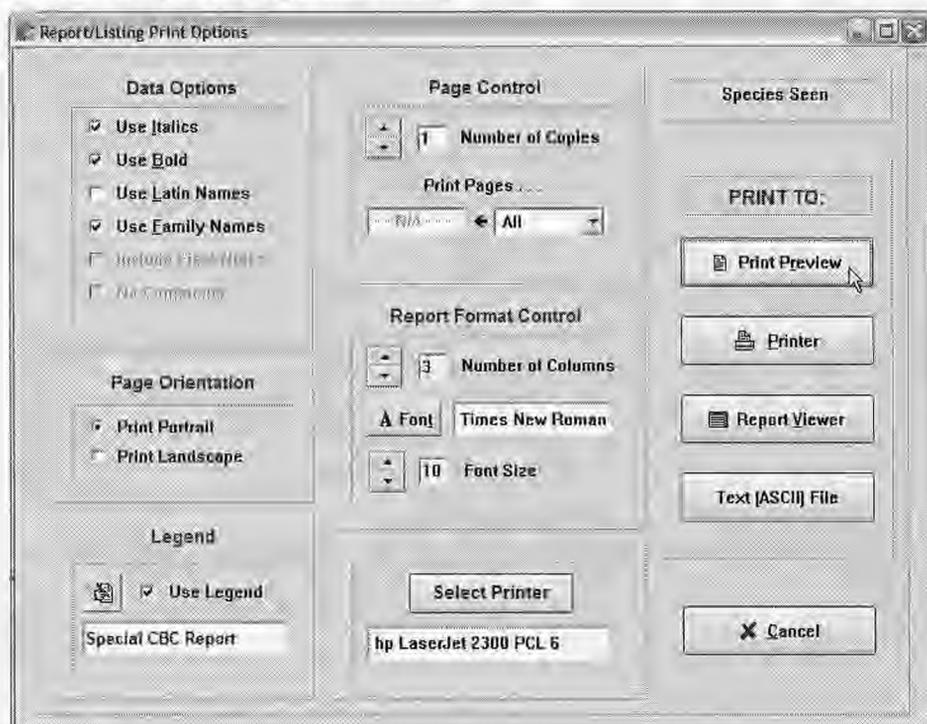
Produces a one-page summary of your species seen counts for all nations, continents, and ABA Regions/Areas.

Species Seen Reports

Select **Species Seen** from the **Report** menu



For now, leave all the criteria at **[ALL]** or **[NONE]**, and click the **Run** button. You see the following **Print Options** dialog:



The **Report and Listing Print Options** dialog gives you several options regarding the destination, style and appearance of the report output. The first part of the dialog you deal with is the group of destination buttons. **Note: 90% of the time you will deal only with the PRINT TO: buttons.**

Print Preview This button provides a graphical (WYSIWYG) image of the printed pages of your report. If you have a good monitor, this is the option you will use the most. It gives you a view of exactly what the printed page will look like, including fonts and font styles. If your monitor does not give you a satisfactory view to read your data, use **Report Viewer**.

Printer This button sends your report output to your printer.

Report Viewer **This is not really a Print operation.** In fact, it has nothing to do with your printer. This button, which you will use if you just want to read the results, invokes a special high speed **screen viewer** that is custom designed for the particular report you are running. *(When you list your sighting records, as you did earlier, they are already listed in a viewer. Thus, this button is not relevant for listing records and is disabled.)*

Text (ASCII) File This button sends your output to a text (ASCII) file on your hard drive. The precise format depends on the kind of report you are running. The details of the various formats are covered in *Chapter 5, Reports*. This is useful to send report data via an EMail message or to pour into a web page or document. **But see PDF, RTF (Microsoft Word), and HTML output, later, for much better solutions.**

See Chapter 5 Reports, for more information about report criteria and print options. There are many selections you can make regarding report format and typography. You can even add a **Legend** (report description) at the bottom of the report. The **Load, Store** and **Trips** functions in the Report Criteria menu are covered in Chapter 2, *Power and Strategy*.

For the current task, click Viewer to run the report.

The Columnar Report Viewer

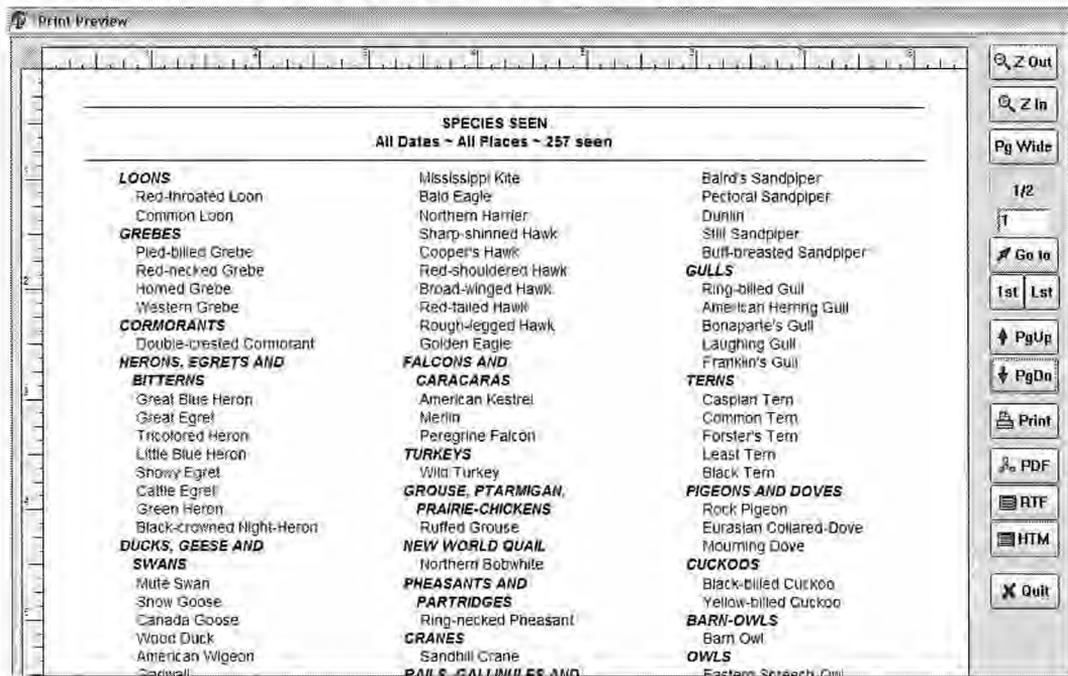
The Species Seen list is presented in a form identical to the main window displaying the N.A. or World checklist. The list “**snakes**” from the top left, to the bottom left, to the top right, to the bottom right. When you use the scroll buttons or the scroll bar buttons, it snakes. When you use the page buttons or the scroll bar paging area, it moves a page at a time. When you click on a bird name, the list is scrolled to place that bird at the top left.

Note that you can redirect the report to your printer with the Print button, and the printed output will be formatted as you had it set up in the Print Options dialog.



Try a couple more runs, selecting Places and/or date ranges consistent with the sighting records you have entered. Note how the species sighted can be selected by geography. Note that for date range entry you can use the **This Year** and **Last Year** buttons. This viewer is also used for Not Seen and Checklist reports.

Now try a Species Seen report directed to Print Preview.



The quality of **Print Preview** depends on your monitor, the resolution you use, the fonts you have selected for the report, and your objectives. When displayed in "Page Wide" mode, as it first comes up, you can clearly see the top and side margins and how the report will appear on the printed page. With a high resolution monitor, or by scrolling down, you can see the footer, legend, and bottom margin. By Zooming in and out, using the "Z" buttons, you can see how such things as italic Latin names and checklist markers (in Checklist reports) are laid out. Arial has been selected here as the font for clarity in printing, and the screen image has been truncated. Note that you can page up and down, select individual page numbers, and go to the first and last pages. Note the **Print**, **PDF**, **HTM**, and **RTF** buttons which will send the report to the printer, to an **Adobe Acrobat** PDF file, to **Web pages** (including *Next* and *Prior* buttons), or to an RTF file for **Microsoft Word**. (See *PDFOps.PDF* in the *AVI6* folder.) An Adobe Acrobat PDF file is the best way to **attach a report to an EMail message**.

Census Reports

Census reports create spreadsheets, like the example below which is a very fictitious Census - 12 Months by Month report. The Place Garrett Mountain was selected and a starting month of January in 1997 was entered for the date range. Bird Population was selected in this case; actual bird counts are shown. *You could also select Sighting Incidents, which would show the number of occasions when a species was seen, regardless of bird count.* There is more information on Census reports in *Chapter 5, Reports*.

Census, Bird Population - 12 Months, starting January, 1997
Garrett Mountain... No Checklist selected

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
NEW WORLD WARBLERS													
Blue-winged Warbler	0	0	0	6	81	16	3	0	0	0	0	0	106
Orange-crowned Warbler	0	0	0	1	0	3	1	0	0	0	0	0	5
Nashville Warbler	0	0	0	3	72	18	6	0	0	0	0	0	99
Northern Parula	0	0	0	2	92	21	17	0	0	0	0	0	132
Yellow Warbler	0	0	0	6	151	139	294	0	0	0	0	0	590
Black-throated Blue Warbler	0	0	0	3	47	1	4	0	0	0	0	0	55
Yellow-rumped Warbler	0	0	0	21	274	205	272	0	0	0	0	0	772
Black-throated Grey Warbler	0	0	0	1	6	2	0	0	0	0	0	0	9
Totals	0	0	0	43	723	405	597	0	0	0	0	0	1768

You don't have much data to work with at this point, but go ahead and try a few Census reports if you wish. Since these reports print only species you have sightings of, the spreadsheets will be very short. Be sure to select Places and Date Ranges that cover the few sightings you have. Otherwise, you will get a blank report. Note that date entry for Census reports is much different from that for other listings and reports. It prompts you for specific month and year information. Also note the species count totals at the bottom of the report.

Species Group Census

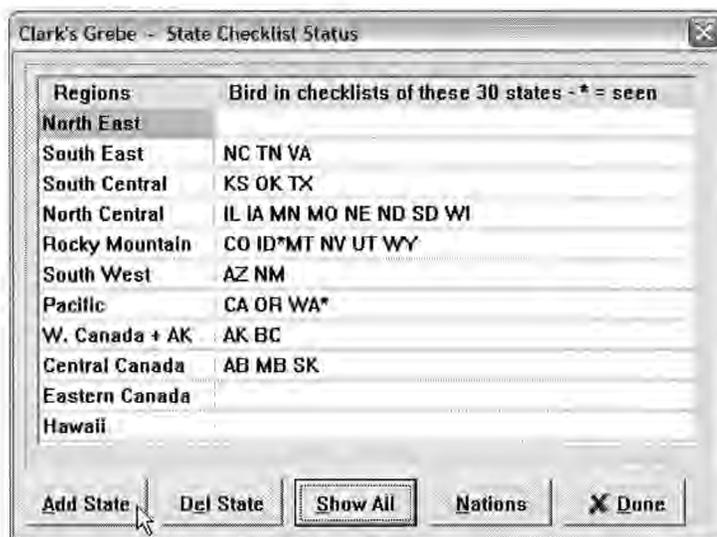
Using a special application of the Custom Checklist facility, which you will learn about later, you can select a group of any selection of species for Census reports. These are very useful tools for studying migration habits, the impact of development, weather effects on population distribution, cyclical irruptions, population declines over the years (and hopefully some increases), or for easily determining which species should be around in which months. You can even tell when to put out your thistle feeder (or what happens when you do). See *Chapter 3, The Master Checklist - Custom Checklists*.

State Summary, County Summary, State Checklists, World Summary

You can run any of these if you like. You will find detailed information about them in *Chapter 5*. The World Summary is the most immediately rewarding.

Viewing State Checklist Status

Highlight Clark's Grebe in the Master Checklist (first page in NA mode). Click the **State CL** button. (It's **Range** if you have the Nation Checklist Add-On.)



You now see the abbreviations of the states that include Clark's Grebe in their official checklists. The states where you have seen the species are highlighted and marked with an *, WA and ID in this case.

While still viewing the state checklist window, click **Show All**. The states that do **not** include the target species are included in *lower case*. (Later, you'll learn how to

edit state checklists using Add State and Delete State.

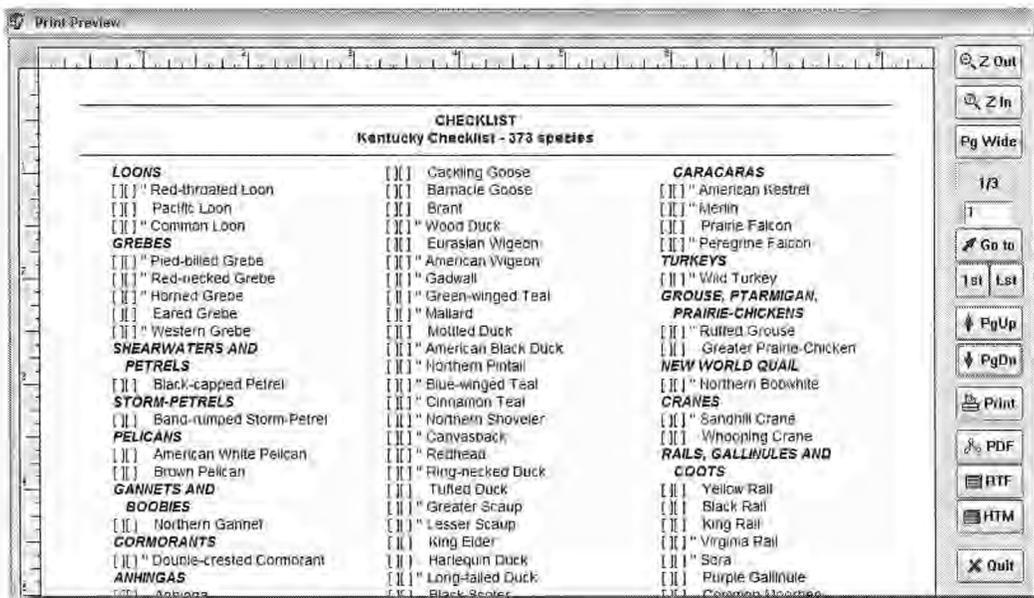
Printing a State or Nation Checklist

From the main screen click the **Checklists** main menu legend. At the Checklist dialog, click **Add** and then select your state from the Places tables. The checklist is added to the Checklist menu. Either double-click it, highlight it and click **Invoke**, or press Enter. You are now in **Checklist Display Mode**, and only the species for the invoked checklist are shown on screen. Click **Switch** repeatedly,

rotating through World, N.A., and Checklist modes. Note the changes in the window title, the bird list, and the seen information at the bottom of the screen.

Now click the **Reports** menu item and select **Checklist**. Note that the invoked checklist has been placed in the menu. Select it.

If your destination will be **Printer** or **Print Preview**, choose an appropriate font for your printer. The default *Times New Roman True Type* font is always a good choice if you have a laser or ink jet printer. *Arial* is less demanding of quality. Now click the destination button you desire.



If your destination is **Screen**, **Print Preview**, or **Printer**, you can have sighting markers: ' if you have seen the bird anywhere, and " if you have seen the bird in your state. Select **Print Preview** or **Printer**, and you can also have check off boxes at each species name, with a choice of []] or _____ forms.

I Have Some Secrets



On the **main screen**, highlight a bird for which you have sightings and click the **List** button. It will list all the sighting records for that species, in date sequence. Pressing <shift> ? will do the same thing.

- . (period) starts a **Find** operation.
- , (comma) starts a **Next** operation.
- / (slash) starts a **Band Code** operation.

And if you've already been wondering if you can run reports and listings for **multiple Places**, beyond the normal Place linkage, look for **The Places Z-LIST** in *Chapter 5, Reports* and in **HELP**.

The World Master Checklist

The Master Checklist is the latest world checklist published and copyrighted by Dr. James F. Clements in his book *Birds of the World ~ A Checklist ~ Fifth Edition 2000*, annually updated to the most current date. It is the world checklist officially accepted by the American Birding Association. We are grateful to Dr. Clements for allowing us to use his checklist.

North America and Checklist Display Modes

When you are entering sightings, it is much easier to deal with just the birds for the geography you are working with. In NA Mode, you deal with the ~934 ABA North America (North of Mexico) birds instead of 9,900+ world birds. In Checklist Mode, after invoking a checklist from the menu, you can work with just the birds of a state or nation, even the birds of a NWR if you have created a checklist for it. With the **Switch** button, you can cycle through the two or three modes at any time. In any mode, your species seen count for the geography is displayed at the bottom of the screen, the species you have seen anywhere are marked with a single ' and the species you have seen in the geography are marked with a " **See Options | Start with Current Checklist Invoked.**

The only effect of selecting NA or Checklist mode is what you see on the screen—~934 or fewer birds instead of 9,900+ birds—and you get the appropriate sighted marks. In all other respects, AviSys acts as if all 9,900+ world birds are available to it, except that you can modify the Master Checklist, i.e., edit, add, delete species, with **Edit | Add | Edit | Delete** only in World mode.

If you are in North America or Checklist Display Mode, when you perform Reports or Sighting File Listings, AviSys does not know or care that you are in that mode. It operates just as if you were in World mode; that is, if you ask for a report that includes non-North American species, they will be included in the report even though they are not currently shown on the screen. (*If you are beginning to think North America mode is a bit of legerdemain, you are right.*)

Note that, in either mode, the sequence of families and species in AviSys is somewhat different from the sequence in your field guide, and even different from the sequence in the current ABA Checklist. AviSys uses the sequence of the Clements world checklist, the ABA accepted world checklist. However, you will not find the differences to be radical, and the two lists will soon move much closer together as a result of imminent changes.

As of 2005, the **AOU** has made some radical changes in their sequence of the ~2,000 AOU Area (North and Central America, + Hawaii, Bermuda, Bahamas, etc.) birds. The list is so subject to immediate and radical continuous change, per the AOU, and so disconnected from the remaining 7,900 birds of the world, that we do not attempt to follow that "moving target" sequence at this time.

Marking Birds as ABA North America Birds

When you add an ABA North America bird to the Master Checklist, or when a previously non-North America bird has graced our shores, you need to add the bird to a state checklist using the **State CL** or **Range** button. **When a bird is added to any continental state or province checklist, that bird is then automatically marked as an ABA NA bird and it will begin showing up on screen in North America display mode after two restarts of AviSys.**

How Places Are Handled for World Sightings

This is really important:

As you will see, AviSys can report your sightings for a very wide variety of geographic areas and regions, including the ABA reporting Areas and Regions. Because the ABA does not coordinate those reporting geographies in a manner that makes sense structurally, AviSys jumps through a few hoops to get the job done for you. To provide this reporting capability, however, AviSys enforces some structure in how you record sightings.

Every Sighting Will Have a Nation or State/Province

Every single sighting you enter will have a Nation related to it in the assigned Place linkage. **In the cases of United States and Canada, you must assign to a state or province, or a Place linked to a state or province.**

Selecting and Adding Nations

At the end of this chapter, you will find a table of countries and their Nation Codes, arranged by geographic area. Let's examine why we need such a thing:

Because of the wide variety of geographic reports required by the ABA, and the fact that those geographies have overlapping boundaries, AviSys must keep a very precise accounting of where you see birds. While this will be of minimal importance for your North American bird records, it is vital for your world records.

Therefore, AviSys uses a defined set of nations and a set of codes for those nations.

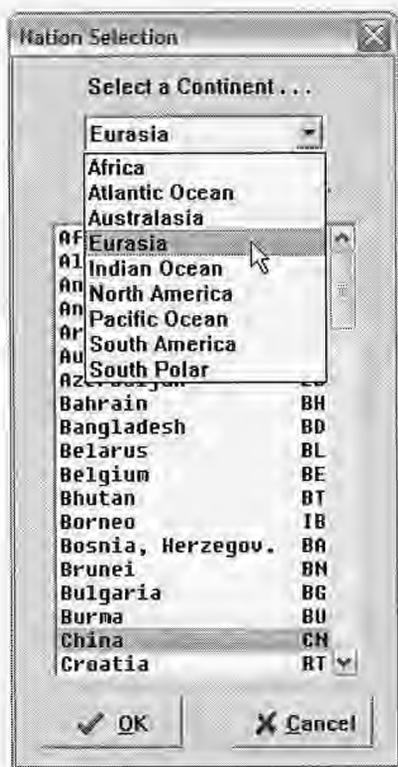
There are only two things of importance: one is the customer and the other is the product.

If you take care of your customers, they come back.

If you take care of your products, they don't come back.

It's just that simple . . . and just that difficult.

For example, go to the Places Tables, select the **Nations** tab, and then click the **Add** button.



The Nation Selection dialog opens with one continent selected and that continent's nations displayed in the selection list. **Drop down the continent list and select the correct continent for the nation you wish to add.** Then select the nation by double-clicking it or by highlighting it and pressing **Enter**.

Note that you are given no opportunity to type in a name when entering nations. That's because AviSys needs complete control of the nation and continent structure so that it can be certain all your records will be posted to the correct geographic and ABA reporting areas and regions.

Also note that each nation has an associated two-letter Nation Code. When you list sighting records, those codes are displayed next to the state codes in the listing.

When you add a nation to your Places Tables, it is automatically linked to the proper continent.

You can assign a sighting to a nation that exists in your Places Tables, or to any Place that is linked to a nation. **In the cases of United States and Canada, you must assign to a state or province, or a Place linked to a state or province.**

Glascow's Fourth Law: ". . . if it doesn't need documentation, then it doesn't do anything worthwhile."

Blinn's Fourth Law: "When a program is designed so that fools can use it, only a fool would want to use it."

The Fixed Continent Scheme

As you might have guessed, AviSys has a fixed set of Continents, designed to make your data entry as accurate and flexible as possible while maintaining the integrity of the geographic scheme and allowing you to run a wide variety of ABA reports.

In fact, **you cannot add, edit, or delete Continents.** (As the ultimate bureaucrat says, "This is for your own good.")

If you have taken a look at the Continents table, you probably noticed a very strange arrangement. The **real** Continents, to which Nations are linked, are as follows:

Africa	South Polar
Australasia	Atlantic Ocean
Eurasia	Pacific Ocean
South America	Indian Ocean
North America	

The best way to understand what each of these "continents" covers is to study the countries included in them in the Nation Code table at the end of this chapter and review their descriptions following the Nation Code table. These geographic areas were chosen because they do not split nations, because they correspond to defined ABA *Regions*, and because they will be useful for possible compatibility with other software. These areas can be seen visually in the map provided with the *ABA Listing Report Form*.

The possibly striking things here are that North America includes Central America (it's the AOU North America), and Eurasia includes all of Europe and Asia. The AviSys Eurasia corresponds to the ABA Eurasia Region. *If you bird in the Australia-Indonesia area, you will want to study the Nation Code table and the written ABA description of the dividing line between Australasia and Eurasia.*

Special ABA Reporting Areas

Note the following special entries in the Continents table:

[ABA Area]	[Lower 48]
[Asia]	[Mexico]
[Canada]	[Oceanic]
[Central America]	[US]
[Europe, West Pal]	[West Indies]

Those entries, as indicated by the enclosing []'s, are for special purposes only. They cannot be used for sighting entries. In fact, **these entries are used only for checklists, reports and sighting file listing criteria.** They correspond to the ABA Reporting Areas not covered by the AviSys continents. If, for example, you select [**Lower 48**] as the Place criterion for a Report, AviSys will use records from only the contiguous 48 states, automatically excluding Hawaii and Alaska.

The [**Europe, West Pal**] entry deserves some attention. The Western Palearctic area includes Russia west of the Ural river and mountains. To accommodate this splitting of a country, when you enter sightings for Russia you will be prompted to indicate if they are from western or eastern Russia. Later, when you select [Europe, West Pal] as a report criterion, AviSys will take care of such details as including Turkey and excluding Russia east of the Urals.

In a similar manner, when you enter sightings for Mexico and China, you are prompted to indicate if they are for the northern or southern areas of those countries (described more specifically in the prompt.) This allows AviSys to store faunal zone information internally which provides for possible enhancements or compatibility with other software. Specifically, the faunal zone information AviSys quietly keeps track of conforms with the faunal zones described in *Birds of the World ~ A Checklist*, by Dr. James F. Clements.

While the real AviSys North America extends through Panama, and is consistent with the AOU, the ABA's version of North America, [**ABA Area**], includes only the continental US and Canada. When you select [**ABA Area**] as a report criterion, AviSys automatically selects only the records from the ABA Area.

[**Oceanic**] represents the ABA Oceanic Region. It is the summation of the Atlantic, Pacific, and Indian Ocean AviSys Continents. We kept them separate for the obvious reasons, and doing so allows for possible reinstatement by the ABA.

As Usual, Hawaii is Unique

Hawaii is politically a US state. Geographically it is in the Pacific Ocean. We need to be able to handle Hawaii both ways. So we created a special Nation for Hawaii, called **US-Hawaii**, Nation Code **UH**, and linked it to the continent Pacific Ocean. Then we made special arrangements internally so that Hawaiian sightings will show up in all the right places, such as [**US**] and **Pacific Ocean**.

Non-Nations - Those Pesky Pelagics

When your personal 85 foot schooner (with crew) passes the magic 200 mile limit off the coast of Ecuador, and you begin seeing twenty species of Albatrosses and Petrels, you might wonder how to record them. Just determine the proper Ocean continent, such as **Pacific Ocean**, and then select the "Pelagic Nation" for that ocean, such as "**Pacific Ocn Plagc.**" That "nation," **Pacific Ocean** and [**Oceanic**] are updated. Another example: the island South Georgia is in the South Polar continent. The penguins you see there should be recorded at "**South Polar Plagc**" with a comment of "South Georgia Island."

The Report and Listing Summary

You have seen the Continent scheme, so you realize that you can select from 19 different reporting geographies in the Continents table alone, and 10 of those, the ones enclosed in brackets, are special ABA reporting geographies and are used only for reports and listings. You can also run reports based on all the other Places, as well as using Key Words to specify geographic locations, which provides you unlimited geographic reporting. By also using date ranges, Attributes, and Checklists, you can add immense depth and flexibility to your reporting.

ABA “Species Not Seen,” a Special Case

To fill an obvious requirement, a special facility in AviSys provides an automatic ABA Area Species Not Seen Report. If you select Reports/Species Not Seen and then insert [ABA Area] in the Place criterion, AviSys will automatically use the ABA Area checklist in assembling the report. Thus it will report only ABA Area birds that you have not seen in the ABA Area. You should **not** put anything in the Checklist criterion in this case.

The Nation Code List

The Nation Codes listed at the end of this chapter are standard ISO nation codes, with the exception of a few locations that do not have ISO codes. Those locations and their codes were selected to provide compatibility with, and conversion from, other software. The list will serve as a cross-reference if you see an unfamiliar Nation Code in a listing of sighting records.

Latin Display in the Master Checklist

You can have the Latin bird names displayed in the Master Checklist by checking “Display Latin Names in Main Window” in the Options menu or clicking the “L” button. Pressing **F-12** will accomplish the same result. The English name of the highlighted bird is displayed in the status bar. **With F-12 or L you can instantly toggle back and forth between Latin and English display.**

Blinn’s Second Revelation: “The very customers who demand a simple program are the same ones who then send the developer emails demanding more and more arcane features.”

Glascow’s Third Law: “Quality is not free, but it is cheaper than the alternative.”

The World Master Checklist is the latest Clements list. As required, taxonomy updates will be made available on the AviSys web site.

AviSys and Clements carry *Turdus assimilis* as White Throated Thrush, not White-throated Robin which is a duplicate name with the real robin, *Irania gutturalis*, which has had the name for 150 years. (Choosing the name White-throated Robin was, frankly, an error by the AOU embraced by the ABA.)

While Clements no longer carries extinct species, AviSys carries the North American extinct species to match the ABA checklist. This raises the world count in AviSys by five species.

HELP!

I want you to click **Help** on the menu bar, right now. Select **Contents**. Then browse around a bit, using "jumps" and the "Back" button. Remember this.

Quitting AviSys

Back Up! Back Up! If you have done a significant amount of data entry, it's a good idea to do a quick data backup to diskette before exiting AviSys. It takes only seconds. Use **Utils | Back Up Data**. Review the back up strategy on page 2.

To quit AviSys, you select **File / Exit**, double click the control button or click the **X** close button.

Performance Issues

The frequent use of a disk defragmentation program can make AviSys, and any other disk intensive program, run much faster. Disk defragmentation is a virtual necessity for any computer user. Over time, Windows unavoidably divides files into smaller and smaller pieces of data. Eventually (and this is a guarantee), your computer will become glacial in performance. Speed Disk, in Norton Utilities, is one example of a good utility that will solve that problem, as is Defrag (a "light" version of Speed Disk) which is supplied free with Windows.

A slow keyboard repeat rate can slow down the AviSys cursor and the scrolling of sighting listings and the Master Checklist on screen when you use the keyboard. In Windows, select Start | Settings | Control Panel | Keyboard to get access to keyboard repeat rate and delay adjustments.

50,000+ Records?

If you have a lot of records (we have users with more than 240,000 records) you may notice that the first time you run a listing or report it takes a few seconds to assemble. After that, the internal disk cache is primed and reports and listings are produced nearly instantly.

Overview

Let's review the fundamentals of AviSys:

- ◆ AviSys keeps track of your birding activities by storing a data record for each of your sightings in the Sighting File.
- ◆ You enter those sighting records by:
 - Selecting a species from the Master Checklist.
 - Selecting a Place from the Places tables.
 - Entering the sighting date.
 - Entering additional information in the comment dialog.
 - Creating a Field Note for the record, if appropriate.
- ◆ You can **Switch** the display among World, N.A., and Checklist Modes to reduce the number of birds you have to deal with.
- ◆ When recording sightings for a trip, after you have recorded the correct Place and date in the first sighting record, you can “Fix” the date and Place with **Fix Date**, **Fix Place**, and **Fix Comm** so that you don't have to repeat that information in subsequent sighting records. The Fixes can be toggled on and off at any time, and just a portion of the comments can be repeated by using the ; (semicolon) delimiter.
- ◆ A sighted marker ' is placed beside a species in the Master Checklist if you have any sighting records assigned to that species. In other words, *the marker is not data*—it is simply the reflection of records for that species in your Sighting File. If you have a marker beside a species that you have not seen, that means you somehow have sighting records for that species. The marker will stay there until you delete those records using the Record Listing facility.
- ◆ When entering sighting records, you can jump to major families in the Master Checklist by using **Hot Keys**, such as **Ctrl-W** to go to the Warblers. You can get to a specific species by pressing **I** or clicking **Find**, using a fragment of the species name, such as **adee** , to get to the Chickadees. If the search stops too early, you press **X** or click on **Next** to go to the next instance of **adee** . You can use **Band Codes**, the **absolutely best way** to get to the bird. You can also use the **Jump Tables**, which you pop up with the **right** mouse button.
- ◆ Because of the way the Places tables are structured, and the linkages between Places, when you ask to see your data in a listing or report and specify a Place, such as Idaho for example, AviSys selects all records of sightings at any place in Idaho, including the Site, *Little Redfish Lake*, or the City, *Boise*.

- ◆ While entering records, you can use the Journal facility to review your work and make corrections. When you have finished a session with AviSys, you can print the Journal to keep a hard copy listing.
- ◆ You can view or print your sighting records with the record listing facility. You can select the records you want to see with unlimited variety, by using listing criteria such as Species, Place, Date, Attributes, Key Words, etc. You can edit and delete listed records, and you can add Field Notes or view, edit, and delete existing Field Notes. All listed records can be exported to other programs.
- ◆ With the Reports facility, you can produce a wide variety of reports, such as species seen or not seen, checklists, bird population or sighting incident census spreadsheets, summaries and detail of species counts by state, and state checklist detail. By using such report criteria as Date Range, Place, Checklist, Attributes, and Key Words, you can customize those reports with unlimited variety.
- ◆ You can direct AviSys output to screen viewer, printer, ASCII file, print file, or WYSIWYG print preview.

Before Entering Real Sighting Records

- ◆ Delete the fictitious sightings you entered here, using the record listing facility. That will also clear all the bogus sighted markers from the Master Checklist. Also, delete any fictitious Places you may have created, but keep the ones you need.
- ◆ Read Chapters 2 and 6, *Power and Strategy* and *The Places Tables* (At least... If you can stand it, read the entire manual) Review Chapter 5 to see the wide variety of reports available to you.
- ◆ Create and link the Places you most frequently bird, using what you learned in Chapters 6 and 2 to decide which Places to create and which tables to place them in.
- ◆ With the help of Chapter 2, decide on the best strategy to enter your life list and existing state, county, and site lists.
- ◆ Develop a strategy that will allow you the most efficient use of the "Fix" capability, or Initialize, during entry—big time savers.
- ◆ World birders, especially, should consider Band Codes to get to birds.
- ◆ Carefully plan how you will use Attributes and Key Words. Those powerful features can add immense depth and flexibility to your use of AviSys if you plan ahead properly.
- ◆ If possible, use another person to read your old lists to you—unless you are a touch typist, the work will go much faster that way.

North America

US United States
CA Canada
GL Greenland
BM Bermuda
BZ Belize
CR Costa Rica
SV El Salvador
GT Guatemala
HN Honduras
NI Nicaragua
PA Panama
MX Mexico
BS Bahamas
BB Barbados
VG British Virgin Is.
KY Cayman Islands
CU Cuba
DM Dominica
DO Dominican Republic
GD Grenada
GP Guadeloupe
HT Haiti
JM Jamaica
MS Leeward Islands
MQ Martinique
PR Puerto Rico
LC Saint Lucia
VC St Vincent, Gren.
TC Turks & Caicos Is.
VI US Virgin Islands
PM St Pierre, Miquel.

South America

AR Argentina
AN Netherl. Antilles
BO Bolivia
BR Brazil
CL Chile
CO Colombia
EC Ecuador
GF French Guiana
GY Guyana
PY Paraguay
PE Peru
SR Suriname
TT Trinidad & Tobago

UY Uruguay
VE Venezuela

Africa

DB Aldabra
AO Angola
BJ Benin
BW Botswana
BI Burundi
CM Cameroon
CV Cape Verde
CF Cent. African Rep.
TD Chad
CG Congo
DJ Djibouti
GQ Equatorial Guinea
ET Ethiopia
GA Gabon
GM Gambia
GH Ghana
GN Guinea
GW Guinea-Bissau
CI Ivory Coast
KE Kenya
LS Lesotho
LR Liberia
MW Malawi
ML Mali
MR Mauritania
MZ Mozambique
NA Namibia
NE Niger
NG Nigeria
RW Rwanda
ST Sao Tome, Principe
SN Senegal
SL Sierra Leone
RA Socotra
SO Somalia
ZA South Africa
SD Sudan
SZ Swaziland
TZ Tanzania
TG Togo
UG Uganda
HV Burkina-Faso
ZR Congo (Dem. Rep.)

ZM Zambia
ZW Zimbabwe
DZ Algeria
IC Canary Islands
EG Egypt
LY Libya
MA Morocco
TN Tunisia
EH Western Sahara

Eurasia

AF Afghanistan
AL Albania
AD Andorra
AT Austria
AM Armenia
ZB Azerbaijan
BH Bahrain
BL Belarus
BE Belgium
BA Bosnia, Herzegov.
BG Bulgaria
RT Croatia
CY Cyprus
CZ Czech Republic
DK Denmark
EN Estonia
FI Finland
FR France
GG Georgia
DE Germany
GI Gibraltar
GR Greece
HU Hungary
IS Iceland
IR Iran
IQ Iraq
IE Ireland
IL Israel
IT Italy
JP Japan
JO Jordan
KZ Kazakhstan
GZ Kirghizia
KP Korea, DPR
KR Korea, Republic
KW Kuwait

LV	Latvia	IN	India	JT	Johnston Island
LB	Lebanon	ID	Java and Bali	KI	Kiribati
LI	Liechtenstein	LA	Laos	RM	Marshall Islands
LN	Lithuania	SS	Lesser Sundas	FM	Micronesia, Fed St
LU	Luxembourg	MO	Macau	MI	Midway Islands
ME	Macedonia	MY	Malaysia, Penins.	NR	Nauru
MT	Malta	NP	Nepal	NC	New Caledonia
DV	Moldova	PH	Philippines	NZ	New Zealand
MC	Monaco	SG	Singapore	NU	Niue
MN	Mongolia	LK	Sri Lanka	NF	Norfolk Island
NL	Netherlands	SW	Sulawesi (Celebes)	PU	Palau, Carolines
NO	Norway	TA	Sumatra	PN	Pitcairn Island
OM	Oman	TW	Taiwan	WS	Western Samoa
PK	Pakistan	TH	Thailand	SB	Solomon Islands
PL	Poland	TP	Timor	TK	Tokelau
PT	Portugal	VN	Viet Nam	TO	Tonga
QA	Qatar			TV	Tuvalu
RO	Romania	Australasia		VU	Vanuatu
RS	Russia	AU	Australia	UH	US-Hawaii
SM	San Marino	CS	Moluccas	WK	Wake Island
SA	Saudi Arabia	PG	New Guinea	WF	Wallis, Futuna Is
SK	Slovakia	TS	Tasmania	ZP	Pacific Ocn Plage
SI	Slovenia	RL	Admiralty Islands		
ES	Spain	MK	Bismark Archipel.	Indian Ocean	
SJ	Svalbard Islands			CX	Christmas Islands
SE	Sweden	South Polar		CC	Cocos (Keeling) Is
CH	Switzerland	AA	Antarctica	KM	Comoros
SY	Syria	ZO	South Polar Plage	MG	Madagascar
ZS	Tadzhikistan			MV	Maldives
TR	Turkey	Atlantic Ocean		MU	Mauritius
TM	Turkmenia	AZ	Azores	RE	Reunion
UR	Ukraine	FK	Falkland Islands	RZ	Rodriguez
AE	United Arab Emir.	FO	Faroe Islands	SC	Seychelles
GB	United Kingdom	MD	Madeira Islands	ZI	Indian Ocn Plage
BK	Uzbekistan	ZC	Tristan ' Gough Is		
YE	Yemen	ZH	St Helena, Ascens.		
YU	Yugoslavia	ZT	Atlantic Ocn Plage		
AI	Andaman, Nicobar I			Pacific Ocean	
BD	Bangladesh	AS	American Samoa		
BT	Bhutan	CT	Canton, Phoenix Is		
IB	Borneo	CK	Cook Islands		
BN	Brunei	IP	Easter Island		
BU	Burma	FJ	Fiji		
CN	China	PF	French Polynesia		
KH	Kampuchea	GS	Galapagos		
HK	Hong Kong	GU	Guam and Mari- anas		

ABA Reporting Area Descriptions

The ABA Reporting Areas, which are used as Report criteria by AviSys, and which are found in the Continents Places table, have unique and sometimes overlapping geographic boundaries. Here are the descriptions of those boundaries as stated by the ABA in the Listing Report Form:

[ABA Area]

As in the *ABA Checklist*: Canada and the 49 Continental United States, St. Pierre et Miquelon, and their adjacent waters to a distance of 200 miles, or half the distance to a non-included area, whichever is less.

[US] All 50 states and related waters, (*Includes Hawaii*)

[West Indies]

After Bond's *Birds of the West Indies*. Includes Bahamas and Bimini, Greater and Lesser Antilles, the marginal islands in the western Caribbean (San Andrews, etc.). Does not include Trinidad and Tobago, Aruba, Curacao, Bonaire, offshore islands of Venezuela, keys off Honduras and other Central American countries, Mexican islands, or Bermuda.

[Central America]

Guatemala through Panama. Count species according to the taxonomy of the *AOU Checklist*, 7th ed. (**Note:** *this does not include Mexico.*)

[Europe, West Pal]

As defined by *Birds of the Western Palearctic*: see map inside the front cover. It includes the Canary Islands, the Azores, Iceland, North Africa, and parts of the Middle East west of Iran. Bounded on the east by the Ural River and Mountains, the Caspian Sea, and Iran (not included).

[Asia]

The part of Eurasia (*the real AviSys Continent and an ABA Region*) which is bounded on the west by Cyprus, Turkey up to the Dardanelles and Bosphorus, Caucasus and the former USSR west of the Urals, arctic islands east of Novaya Zemlya (not included). (*Note the peculiar overlap with [Europe, West Pal]; this area includes such nations as Turkey, Georgia, Armenia, Azerbaijan, and all the Middle Eastern nations.*)

[Oceanic] The union of the three ocean regions (*AviSys Ocean "Continents"*).

[Canada] The nation of Canada.

[Mexico] The nation of Mexico.

[Lower 48] The continental US States, excluding Alaska.

[AOU] AOU Area: North and Central America and associated islands, West Indies, Greater Antilles, Leewards/Windwards, etc., Hawaii, Bermuda, Bahamas.

ABA Listing Regions

These "continental" regions are official ABA listing regions as well as the basic AviSys Places Tables "Continents". Together, they cover the entire planet. Each of the regions includes all interior seas, related islands within 200 nautical miles, and a "pelagic belt" which extends seaward 200 miles from the coast line and related islands, or half the distance to another continent or its related islands, whichever is closest. **More detailed descriptions of these regions can be found in the current ABA List Report.**

North America Includes all of the Aleutian Islands, following the Russia/US boundary where the two are within 200 miles. Includes other related islands within 200 miles of the Atlantic and Pacific coasts. Includes Greenland, Bermuda, and the waters between Bermuda and the continent, the Bahamas, all the cays and islands between Nicaragua and Jamaica, all the Greater and Lesser Antilles south to, and including Grenada and Barbados, but excluding Trinidad and Tobago and other islands included in the South America region. Includes all of Panama and extends across the Caribbean halfway to South America and its related islands.

South America The entire Continent, including Trinidad and Tobago and the Netherlands Antilles, and the Caribbean half way to North America. Includes Isla del Malpelo, Juan Fernandez Is., Isla del Coco, Isla San Felix, Isla San Ambrosia.

Eurasia Includes all of Europe and Asia, as follows: Includes the British Isles, Iceland, Svalbard Is., all the Arctic islands east of Greenland and west of North America. Joins North America at Alaska, as described above. Separated from Africa by the Suez Canal. Includes Lesser and Greater Sundas, Sulawesi, Moluccas, Lombok east to and including Tanimbar and Kai Is. Excludes New Guinea and satellite Islands.

Africa The African continent and associated islands, including Cape Verde Is., Aldabra, Socotra.

Australasia The Australian continent, separated from Eurasia as described above. Includes New Guinea, the Admiralties, and the Bismark Archipelago. Excludes Tobu, Helen, Bougainville, Carolines, Solomons, and New Caledonia.

South Polar Defined by a complex line that is basically either 52, 54, or 56 degrees south, except for the 200 mile "pelagic belt" of South America.

Atlantic Ocean All islands and oceans more than 200 nautical miles from adjoining continents, the Falkland Islands, the Faroe Islands, Madeira Is., or as defined above.

Pacific Ocean All islands and oceans more than 200 nautical miles from adjoining continents, Galapagos, or as defined above.

Indian Ocean All islands and oceans more than 200 nautical miles from adjoining continents, Christmas Is., the Maldives, Madagascar, the Comoros, Mauritius, Reunion, Seychelles, or as defined above

Power and Strategy

This chapter covers a wide variety of subjects with the intent of assisting you in getting the most out of AviSys. Two seemingly different topics are covered here: *AviSys Power Features*, and *Strategy*. In reality, those topics belong together. You can't study the power features without thinking about how you would apply them to your plans and requirements for AviSys. And the minute you start thinking about your AviSys strategy, you start thinking about all the requirements you will have for recording, organizing, manipulating, and presenting your birding data, and all the special features and methods you will require to meet your current and future requirements.

Just as you would not go on a major birding tour without a lot of advance planning and equipment preparation, you should not start using AviSys without a similar degree of preparation. Two factors make AviSys strategy development an imperative: You will be using AviSys for a long time, and once you start recording your data you have taken a big step forward—but it can be very difficult to step back and start over if you've stepped off in the wrong direction in the first place.

Some Strategy Issues

I can't teach you your strategy—that's your business. But I can cover some things that will be important to you in developing your strategy. These thoughts come from my discussions with hundreds of AviSys users over the years.

- Think about all the possible ways you might want to use your birding data in the future, including the ways other people, such as your local birding organization, might ask you to use it.
- Don't pay too much attention to how your current birding records are organized. The chances are pretty good they aren't in the best condition to meet your future requirements.
- Examine your interests beyond just recording the birds you've seen. A surprising number of people have discovered, once they understood how easy Attributes are to use, that they wanted to record detailed information about habitat, behavior, nesting, feeding, mating activity, photographs, etc. If you spend time actually "*watching*" birds, rather than just ticking them off, you should examine those interests carefully.

- Learn all the AviSys Reports and Sighting File Listing capabilities. When you are planning your data recording strategy, consider how you might use those features.
- Think about your environmental and conservation interests. Are there ways your AviSys data can contribute to those efforts? Will population data for some species become important to you some day—especially for species that are not in trouble in your area now, but very easily could be threatened in a few years? Can you contribute to local conservation programs with your birding data?
- Will you be retiring soon? Will you have more time for birding interests, and a corresponding requirement or desire for more comprehensive bird records?
- If learning the fundamentals of AviSys is a bit of a pain right now (learning all new software is), don't let that dampen your quest for more detailed use of the program in the future. In a little while you'll be banging away at AviSys like you wrote it yourself, and you'll be writing me emails asking for even more powerful and arcane features.
- Always keep *fun* in mind. AviSys is fun to use, and it can contribute to the fun of birding as well,

What is a good Places strategy for me?

Establishing how you are going to utilize Places is vital to your getting the most out of AviSys. The depth and versatility of AviSys depend to a large degree on the Places scheme, and you want to leverage those characteristics to your benefit.

One important point to remember: **You will not create a Site for every location where you see a bird. In fact, a large percentage of your sightings will probably be assigned directly to a State.** When you happen by the Interstate 5 rest stop at Buttonwillow, CA and see an interesting bird, you certainly won't create a Site to record it—you'll probably not bird there again if you can help it. You will most likely assign that sighting directly to California, with a comment that the bird was seen at Buttonwillow (and maybe a /rs Attribute if you are keeping a "Rest Stop" list).

The Sites table is intended to hold the small, specific locations you will bird often, and for which you will frequently want reports or listing data. While you have room for 450 Sites, adding Sites you won't use just adds clutter to the table, making it difficult to use. Chances are, when scanning your Sites table two years from now, you won't even know what "Buttonwillow" means.

Always remember, you can assign sightings to nations, states, counties, or cities, and record the specific locations where birds were seen in comments as Key Words. You can later run reports and listings using those Key Words almost as easily as if you had used Places from the tables. Later in this chapter you will learn all about the power and flexibility of the Key Word facility.

Advance planning before you begin filling up the Places tables is important. For example, what is your interest in keeping data by counties? You may have no interest in counties at all, and might never create a Counties Place. You could link all your Cities directly to States, ignoring the Counties table entirely. The same could apply to the Cities table. It is conceivable that many birders will have Places in only the Sites, States, Nations and Continents tables, and that strategy will serve them well, with Sites linked directly to States. And in that situation, the Cities and Counties tables could be used for more Sites—after all, **it's not what table a Place is in that counts, it's how it's linked.**

On the other hand, counties are receiving increasing attention as geographic entities of interest to birders. AviSys even has a special County Summary report. There are 21 county field guides and checklists offered in the ABA catalog alone, and there are certainly many others available. One of the finest regional guides I know of is *"Birding in Seattle and King County"* by Eugene Hunn. That guide, alone, caused me to create Seattle and King County Places. (In fact, that guide and my need for a county list was the inspiration for the Places scheme and, eventually, AviSys.)

Furthermore, who says you need to follow political boundaries? Suppose one of your interests is the birds of the South Carolina Low Country. You could create a "County" for that geography, linking to it any Sites and Cities that lie within it. That would preclude your also having County Places that lie within that same geography, however. For a better solution, allowing you to still record all the counties, for example, *Click **Help**, and select **Places Z-LIST - Multiple Places for Reports** in the Contents.*

See **Mass Place and Key Word Editing**, later in this chapter.

The "big" places...

Now, let's examine what you do about those large "places," such as National Parks, National Wildlife Refuges, state parks and other similar large locations. The first instinct is to make them Sites. You will bird there a lot, and it seems like a good idea. However, there are good reasons to place those locations in the Cities or Counties tables. For one thing, geographically they are more like Cities or Counties.

Putting those large locations somewhere else will save space in your Sites table. Also, doing so will allow you to create Sites within those locations. For example, a birder might want separate lists for Yellowstone NP, and Hayden Valley, which is within Yellowstone. She could make Hayden Valley a Site, linked to Yellowstone NP, a "County." In some cases, there are actually towns (Cities) within National Parks, such as Madison and Grant Village in Yellowstone.

So, you see, the Places scheme is very flexible, allowing you to tailor things to fit your specific requirements—your view of the world. Just keep in mind the fundamental hierarchical structure of Places—smaller locations linked upward to larger ones that geographically encompass them. And remember how **Key Words** can add more granularity to the scheme.

How Do I Enter My Initial Life List?

When you first start using AviSys, you may wish to initially enter just the sightings required to re-create your Life List and any state lists you have been maintaining. One good approach is to select a past date to enter all those records, and a comment, such as "Initial Life List." After the first record is entered, "fix" the Date, Place and Comment. Then, all you have to do is click off birds, selecting each species in your current list.

For your North America lifers, the state is the appropriate Place for Life List entries, while for your World Life List entries you should select the appropriate nation. Using a unique past date, such as 1/1/30, will allow you to list all your "initial" records at any time by using the date in the listing criteria. However, if you use the actual dates for your "lifers," you will be able to list them using the First Sightings feature when listing sighting records. And you may prefer to enter the correct Place, and include comments. All that takes much more time, but may be worth it. If you have a lot of state lists, entering those first will probably take care of most of your North America Life List entries.

An alternate method of entering your initial life list is to enter the records with a sighting date of 1/1/2029. Then, as you enter real sightings from the past, they become the "Firsts." Later, when you run "Firsts + Lasts" Sighting File listings, if a 2029 sighting (always the "Last") shows up in a pair, you can delete it because it has been duplicated by the real "First" sighting. Thus, you can systematically eliminate all those 2029 records as you enter "real" sightings.

Initialize - Rapid Initial Record Entry for State and Nation Lists

Look in the **File** menu for **Initialize (F4)**. This function will allow you to create multiple sighting records for the currently highlighted species, all of which have the same date and comment, and each of which has a different Place which you select from the Places Tables. (If a Family name is highlighted in the Master Checklist, the File / Initialize menu item is disabled.) This approach is useful if your current paper birding records look like this:

European Starling - France, Italy, Iowa, Nebraska, Ohio, King County, Yard

Highlight a species in the Master Checklist and select File / Initialize, or press F4. You will be prompted for a date and a comment. Then AviSys will **repeatedly** take you to the Places Tables to select Places. Each time you select a Place, a sighting record for the bird will be created with the Place you selected and the date and comment you entered at the start. **The process will keep repeating until you click the red X to cancel Place selection.**

This is a way to update your initial state and nation lists. Thus, depending on your strategy, the date would be a fictitious early date, such as 1/1/1950, or a late date, such as 12/31/2029. Also, the comment might have a notation such as "Initial Lists" to identify these records.

It is your responsibility to select rational Places, and to select only Places that meet the requirements for sighting records, i.e., each Place must be a Nation or have a Nation in its linkage, and if the Place is in the US or Canada, it must be a State or Province or have one in its linkage. The selection will be rejected if it does not meet these requirements.

As records are added in this function, the Journal and Record Stream (if invoked) are updated, just as if you had entered the records manually. You can select the Journal to review the results and to make any corrections, and you can pass on these sightings to another data set or another computer, via the Record Stream.

Rapid Breeding Bird Survey Data Entry

Create a separate data set for your BBS data (clear the Places tables). Set up all your survey stops in the Places Tables. Click **Options / BBS Mode Initialize**, if it is not already checked. For each species in the survey, use **Initialize (F4)**, as described above. In this mode, however, for each Place selected the Comments dialog is presented. If any comment is being carried forward a space is inserted in front of it. The edit cursor (I-beam) is placed at the beginning of the comment, ready for you to type in a quantity.

Because a BBS route typically involves a few species, but many stops, this process represents the most rapid data entry.

The American Birding Association

This is a good place for a plug to join the American Birding Association. They will keep you up to date on all AOU actions that affect your N.A. checklist. They maintain their own ABA North America Checklist with a very competent and diligent acceptance committee, in cooperation with the AOU. It is considered by most birders to be the authoritative checklist. They also sell, very cheaply, checklists for other areas of interest, as well as a wide variety of books, optics, and supplies



for birders. Membership is inexpensive, and includes an exceptional magazine, a newsletter, and discounts on equipment and supplies purchases. If there is one place where you can hone your birding skills, gain valuable knowledge, and enjoy, vicariously, the adventures of top-notch birders, this is it. They can be reached at 1-719-578-9703, and the sales operation is at 1-800-634-7736. Tell them AviSys sent you. (*No, I don't get anything.*)

AviSys Power Features

The following features add immense power to AviSys. While they may not seem immediately of use to you, study them well. They are very easy to use, and you may very well discover they should become an important part of your AviSys strategy

Attributes

The Attributes facility is very powerful. If it represents a level of complexity you don't want to deal with right now, you can ignore it and it won't get in your way. If you do (or when you do) want to use it, you should do a considerable amount of advance planning to ensure that you get the most out of the facility and that you don't get ambiguous results from it. *Your Attributes strategy should be carefully integrated with your overall AviSys usage strategy.*

Study the Attributes scheme carefully so that you understand it well enough to apply it to your needs. Then develop an Attributes strategy that not only meets your current requirements but which will also be adaptable to your future needs. While AviSys provides a suggested Attributes strategy, you need to be certain it is the right one for you before adopting it. You can modify it as needed.

Before we immerse ourselves in the verbosity that follows, let's try to understand why this section is so long. It's not because Attributes are complicated—it's just that it's easy to miss the central points, so I get a little redundant at times. If you have done any work making queries against databases, then the idea of "arguments" in a query which cause selection of records based on the data in a file (loosely, "attributes") is nothing new—you will be asleep soon.

If you haven't done any of that kind of work, then there are a couple things we might need to review. In AviSys reports and listings we have what we call "criteria." You've already used criteria, such as date ranges and Places, to select records. Actually, you haven't been selecting records—you've been **rejecting** records that didn't match all the criteria, and then keeping what was left over. That's a fine point, but one that provides a perspective that's very helpful in this discussion.

One of the criteria available for all reports and listings is called "Attributes." In a way, that's a misnomer—*actual* attributes will exist only in your sighting records, and will describe something about a sighting, such as the habitat. When you enter something in the report criterion called "Attributes" you are actually entering an attribute **argument**. An argument says "**Match this!**" So, when I am talking about stuff (which looks like attributes) that you enter in report criteria, I'll try to always say "argument" so you'll know what I'm talking about.

With all that in mind, let's see how we do here. (Throughout this, I will use the word "report" to mean listings, reports and spreadsheets.)

Attributes in Sighting Comments

You can place up to six attributes in any sighting record, describing such things as habitat, behavior, sex, nesting status, heard-only photographed, egg count, or anything else you choose.

Each attribute is a code, consisting of the token / plus one or two characters, in the form /**XX**. Note that *attributes are case sensitive*; for example, /**g** means something entirely different than /**G**.

A provision is made in all report criteria dialogs to select records based on these Attributes, in combination with the existing date range, Place, species, Checklist, and Key Word criteria.

Attributes			
S SALT WATER	W WOODS, FOREST	L ELEVATION	t TRIP RECORD
SR rocky shore	WC coniferous	B BRUSH	? NON-LIFER
SS sandy shore	WD deciduous	BT thicket	X SPLIT ESCROW
SM marsh, mud	WX mixed	BO open	
SO open water	WO open woodlands	G GRASSLANDS	_____
SF flats	D DESERT	R RIPARIAN	(CRITERIA ONLY)
ST tide pools	DB brush, scrub	m MALE	_____
F FRESH WATER	DF flatland	f FEMALE	NO NOT function
FS shore	DM mountain	i IMMATURE	OR OR function
FM marsh, mud	DR riparian	n NESTING	
FF flats	M MOUNTAIN	nc constructing	
FL lake, pond	MC coniferous	nb brooding	
FR river	MD deciduous	nf fledging	
A AGRICULTURAL	MX mixed	c COURTSHIP	
U URBAN	MM meadow	cd display	
UR residential	MR rocky, bare	cm mating	
UP park	F FEEDER	cs song	
UC commercial	E1 feeder #1	p PHOTOGRAPHED	
T TUNDRA	E2 feeder #2	b BANDED	
O OVERFLIGHT	E3 feeder #3	h HEARD ONLY	

Return
 Select
 Manual
 Edit
 Add
 Del
 List
 Cnc

The figure above is the screen that is available by clicking the **Attribute** button when you are entering a sighting comment or entering report criteria arguments. You select the Attributes you need from the screen, and they are automatically inserted into the correct location in your comment or report criteria.

The main screen holds 99 Attributes, and you can add up to 5,000 more using the List Button. Be sure you don't create duplicates by accident.

The Attribute screen supplied with AviSys is a suggested Attribute coding scheme; you can easily modify it to fit your own requirements.

Attribute coding is open ended; you are free to use any coding scheme for any sighting characteristics you choose. AviSys does not “know” the attribute scheme—that is, the program simply resolves the attributes in the sighting record comments, compares the results with the attribute argument in a report criterion, and then selects records accordingly.

The second attribute character is a modifier of the first.

Attribute coding has two levels, with the second character being a modifier of the first. A report argument of **/W** will select only records containing the attributes **/W**, **/WC**, **/WD**, or **/W[anything]** in their comments. (That means it explicitly rejects all records that don't have some combination of **/W[anything]**; it doesn't care about the second character.) A report argument of **/WD**, being specific about the second character, will select only records containing **/WD**, rejecting all others. This feature gives you the power to select sightings from all mountain habitats (**/M**), for example, or from only mountain deciduous habitats (**/MD**).

Attributes in Report and Listing Criteria

In a report criterion argument there is an implied logical “AND” between adjacent attributes; that is, an argument of **/WD/f**, selects only records with *both* **/WD** and **/f** (females in deciduous woods). A report criterion can contain up to six attribute arguments.

Thus, a user could request a report with a query as simple as “*Show all my sightings at my feeders,*” or as complex as “*Give me a spreadsheet, by month, from March 1990 through February 1992, of the quantities of nesting, female Hermit Thrushes above 3,000 ft. in the mountain coniferous forests of Sierra County, CA, excluding heard-only records.*”

The special /NO criterion argument

The argument **/NO** (or **/no**) is reserved for use in a report criterion only (Don't put **/NO** or **/no** in sighting comments.) The **/NO** argument is paired with the argument that follows it and modifies it to mean “NOT.” In its simplest use, an argument of **/NO/FS** would select all records otherwise allowed by the other criteria, but **not** (would explicitly reject) those with **/FS**. As a more complex example, the report argument **/n/no/WC** will cause the report to select only those records with **/n**, or **/n[anything]**, but will *explicitly reject* any records with **/WC** even if they also have a **/n** attribute.

The most typical use of **/NO** is to exclude heard-only sightings with the argument **/NO/h**. You can record your heard-only sightings in AviSys with **/h** in the comments, but exclude them from reports whenever you wish.

The special /OR criterion argument

The argument **/OR** (or **/or**) is reserved for use in a report criterion only (Don't put **/OR** or **/or** in comments.) The **/OR** argument is coupled with its preceding and following arguments, modifying them to mean "OR." For example, the argument **/SM/or/FM** would mean "Select only records that have either **/SM** or **/FM**."

You can "stack" OR's. For example, **/S/or/FM/or/FS** means "Select records containing **/S** or **/FM** or **/FS**."

You can also combine NO's, OR's and (implied) AND's. **/i/S/or/F/no/h** means "Select only records that contain **/i** and (**/S** or **/F**) but not **/h**." The parentheses in the above argument description are mine, for clarity I'm sure you have noticed by now that in the unique cases of the **/OR** and **/NO** arguments, the lower case **/or** and **/no** have exactly the same meanings.

It should be clear by now that the powerful, and flexible, Attributes facility offers a tremendous opportunity to put consistency and structure into compact sighting comments, while allowing you to access your sighting data with virtually unlimited variety. As we continue to examine this facility and its capabilities, I will risk being redundant and suggest, again, that you carefully analyze your current and future requirements. Then establish an Attributes strategy that will meet those requirements.

Here are some examples of attribute argument usage, using the scheme pictured in the Attribute entry screen above. Don't forget that in addition to the attributes, the records could also be selected with species, date range, Place, Key Word, and Checklist criteria. Some of the examples (not necessarily realistic) apply attributes in ways you might not have thought of:

What you want	How to get it
"Select my sightings from any water habitat."	/S/or/F
"Select birds I photographed in a nest environment."	/p/n
"Select birds I actually saw in courting behavior "	/NO/h/c
"Select my sightings of mature birds constructing nests in fresh water shore or marsh habitat."	/NO/i/nc/FS/or/FM
"Select the birds that used my feeder #1 "	/E1

Imagine a bird photographer who keeps accurate records in AviSys, uses Attributes, and also puts slide file location numbers in her comments. She gets a call from an agency "We need pictures of birds brooding on nests. What have you got?" **/nb/p** Zap! "Well, I have bluebirds and orioles and Osprey and hummingbirds and.. "

An ornithologist might use Attributes to isolate sighting data by geographic coordinates (or grids) for a census study. A census report criterion argument of **/A/84/OR/85** would restrict the selected records to those from grids A-84 or A-85, for example. Here's an example of ambiguity in verbal syntax. When putting that argument together you would probably verbalize it as "Give me the sightings from A-84 and A-85." Everybody but AviSys (or a logician) would know what you meant. You really meant "Give me the sightings from A-84 **or** A-85." There's no such thing as a sighting at A-84 **and** A-85; a bird can't be in two places at the same time.

Sightings from a larger area could be accessed with **/A/OR/B/84/OR/85**, which will select sightings from the square composed of the grids A-84, A-85, B-84, B-85. **/A** will get the entire "column" A-1..n. **/42** will get the entire "row" A..Z-42.

If you get really serious with Attributes, you can employ them as a useful shorthand in your comments. Rather than entering them all together, you could do something like this: **/f seen /nb in /MC at /L3**, which would mean "Females seen brooding on nests in mountain coniferous forest above 3,000 ft. elevation."

If you have plans to export sighting records to other programs for further data reduction or graphing, you may want to consider establishing a strict sequence in which you enter Attributes in comments, using a "null" Attribute, such as **/x**, to fill any positions in the sequence that must remain blank. Because of the way Attributes are exported, you would then have all attributes of the same "type", such as habitat, in the same column in the other program. That will be of immense help in manipulating data. See *Chapter 4, Sighting File Listings Intelligent Export*.

AviSys will check your argument entries for syntactical correctness. If you try to do something logically impossible, such as **/NO/OR/n**, it will give you an error message. (A valid attribute must follow **/NO**; a **/OR** must have a valid attribute on each side of it.) It can't, however, check to see if your argument really says what you meant it to say. That's your responsibility. AviSys can't read your mind—it just reads your arguments.

The lower case arguments **/no** and **/or** function identically to the upper case **/NO** and **/OR**.

Attributes (and arguments) can contain the following characters:

**0..9, a..z, A..Z, ; < > = ? @ [] ^ _ ' **

(In anticipation of possible future AviSys enhancements, you should reserve the attributes **/=**, **/[**, **/]**, **/<**, and **/>** from any coding scheme you develop. You should also avoid the use of **** (It's just too easy to confuse with **/**.) The Attribute **/?** is reserved for identifying the records that are not true lifers when multiple records of a life species are recorded on the same day. See *Real Lifers* in Chapter 1.

The relative sequence of Attributes in comments is unimportant. AviSys will always find the correct ones for comparison.

But those codes are so arcane!

Ah, yes, I've been so focused on explaining those codes and how they work that I forgot to emphasize one important point: **You don't have to mess around with the codes themselves.** Take a look at the Attribute dialog, from which you select the codes to be placed in your comments and report criteria. **You don't select the codes, you select the descriptions**—which are plain English.

Using Attributes for Dual Birders

You might be considering using Attributes for dual birders, such as **/g** for Gary and **/k** for Karen. With that scheme, it would be easy to separate Gary's and Karen's records to ask "*What has Gary seen?*" and "*What has Karen seen?*" However, you can't *join* Gary's and Karen's records to ask "*What have we both seen?*" or to ask "*What has Gary seen that Karen hasn't?*" For birding partners we recommend using separate data sets: **File | Add New Data Set.** See **AviSys Partners**, a free add-on, on the AviSys web site, www.avisys.net, which provides comparative reporting for birding partners, and **Sighting Record Streaming** for moving sighting records between data sets.

Creating a Customized Attributes Table

The suggested coding scheme is provided in the form of a window which is available when entering comments or criteria arguments.

You can modify the Attributes Table to match your own scheme by clicking the **Add**, **Edit** or **Delete** buttons. When adding Attributes, the dialog suggests the correct format, such as:

```
S   SALT WATER
S R rocky shore
S S sandy shore
```

The new attribute is added **after** the currently highlighted one.

AviSys takes care of the indenting of the two-letter "sub-codes" on the screen. There is a 14 character limit to the length of the description. Use all capitals **only** for the major headers—capitals take up too much room in the table. You can have up to 99 Attributes in the main table. You could also remove the NOT and OR entries, but you would have to enter those manually in criteria using the **Manual** button. In addition, you can add up to 5,000 more Attributes, sequenced by description, using the List button.

The Attributes table can also be reached at any time via the File menu.

Key Words

By entering a string of characters as an argument in a Key Word report criterion, you can select records for a report or listing based on the presence of an identical string of characters anywhere in the record comments. The report output will contain only records that have that string. Examples of such strings might be "feeding", "rain", "subspecies", "Manhattan," or "Golden Pond."

When **manually** entering a Key Word **argument**, a "space" becomes very meaningful. In the examples below, spaces are indicated with underscores:

What you enter	The argument becomes	What it does
rain<enter>	RAIN	Any occurrence
<space>rain<space><Enter>	_RAIN_	isolate a word
rain<space><Enter>	RAIN_	Ignore prefix
<space>rain<Enter>	_RAIN	Ignore suffix

Note that the argument is converted to upper case. The word search is case insensitive; that is, **RAIN** will match **rAiN**. Also, any spaces you enter in an argument are retained and participate in the search. To remind you of these factors, when you enter a Key Word argument it is displayed in all upper case in the report menu, and spaces are indicated with underscores.

These are examples of arguments and the comment strings they match:

<u>Sighting Comments</u>	
Report Criteria	Arguments
	RAIN X X X X any context
	RAIN X O O O isolated a word
	RAIN_ X O O X ignored a prefix
	_RAIN X X O O ignored a suffix
	_RAIN_FOREST_ X O O O found a phrase
	DRAINED O O O O no way!

X = match O = no match

While all this may seem a little complex, there are really only two basic things you need to know: To isolate a word, bracket the argument with spaces. To find a string in any context, simply enter the argument without spaces.

The reason the Key Word facility is covered in this section of the manual is that if you plan to make much use of it, you should integrate a Key Word strategy with your overall AviSys strategy, with particular emphasis on deciding which sighting characteristics should be treated as Attributes, and which are better handled as Key Words. **Many of your sighting location notations will be Key Words.** If you enter comments with the thought of later searching for Key Words, be consistent; always enter the Key Words in the same context, or at least in a form that allows consistently reliable searches. Because AviSys uses a special high-speed search algorithm to parse Key Words, do not use special characters such as - ? ! ' " etc. in Key Words—the search facility will not reliably select them.

Refer to Chapter 1, *The Fundamentals, Key Words*, to see how the Key Word table is used, and to see how you can enter Key Words manually into report criteria to allow the special configurations with spaces as described above.

See **Mass Place and Key Word Editing**, later in this chapter.

Using Multiple Data Sets for Multiple Users - or Your Spouse

One copy of AviSys can be used with several users by keeping the data files for each user in separate data sets. See Chapter 1, *The Fundamentals, Adding Data Sets*. Also, see **AviSys Partners**, a free add-on on the AviSys web site.

Many AviSys users keep a separate data set for their yard list. They can then keep detailed records of their yard activity without cluttering up their main database with repetitive records. A separate data set is also useful for special studies such as Breeding Bird Surveys and Christmas Bird Counts.

IMPORTANT: Data files must never be intermixed between data sets. Because each user's Sighting, Places, Master Checklist and Checklist files are unique and accessed in a relational manner, AviSys will fail if you do not maintain absolute file integrity. John can't "loan" his Master Checklist to Mary. Further, if AviSys should run properly in such a situation, both users' files could be corrupted during that use. *This is the sort of restriction that applies to any database program.* However, **Sighting Record Streaming**, covered later, is a method by which data can be safely exchanged between data sets and even between copies of AviSys on different computers.

The Running Journal

You read about the Journal, earlier, which holds a copy of all your records for **only the current session**. If you click **Options | Write to Running Journal on Close** just once, from that time on AviSys will record **all** your sighting records in a continuous text file **Running Journal.TXT** in the data set folder.

Named Stored Reports

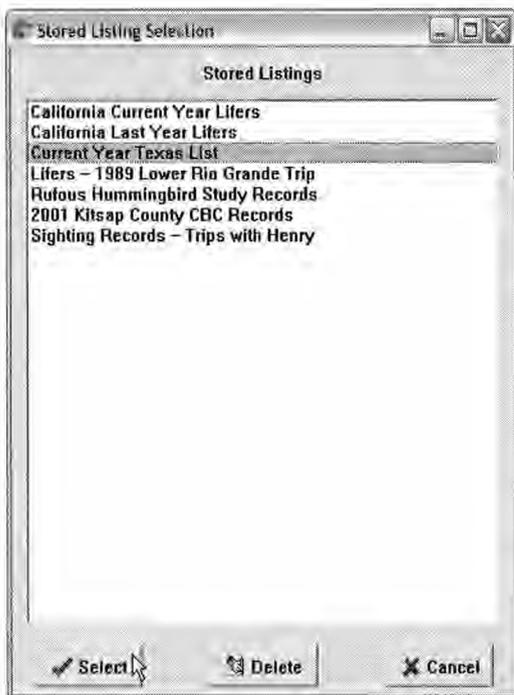
Saving Report and Listing Criteria for Future Use



You may have noticed when studying Reports and Listings (List Recs), that the criteria dialogs for those functions have **Load** and **Store** buttons. An example is the Listing Criteria dialog (left).

When you have assembled the criteria for a report or listing, and have determined that the output is exactly what you need, you can click the **Store** button and store the criteria in a list of reports for future use. You will be asked to provide a descriptive name of up to 36 characters.

Later, when you want to repeat the report or listing, you click the Load button and select from the list the report or listing you have stored away. The criteria, Date Range, Place, Checklist, Attributes, Key Words, First Sightings, etc., will be inserted in the dialog exactly as you had originally entered them.



In the cases of **This Year** and **Last Year**, the appropriate date ranges will be entered; so even if you had originally created the report in 2002, if you Load it in 2004 the date ranges entered will be 2004 and 2003.

This facility does not store the Print Options you used with the original report. You will have the opportunity to select the destination and typography appropriate for the current instance.

There are separate facilities for Reports and Sighting Record Listings (List Records). And, see the Trip Log on the next page.

Creating a Trip Log



Click the **Trips** main menu item. The Trips dialog will hold a log of the outings and trips you feel are important enough that you will want to frequently review them, run reports based on them, or list their records.

Unlike trip-oriented software, where you must create a trip every time you record a sighting, even a Rock Pigeon in your back yard, in AviSys **you** determine which outing is worth a trip log entry. (Note a subtle difference; *Stored Reports are best used for things like year lists. The Trip Log facility is best for trips and outings.*)

To record a trip, you use this dialog, where you can record trips of one day or multiple days, with optional Place, Key Word and Description entries. You can add a Field Note to any trip record (@ next to Description).

If you come here while entering records, and have Place and/or Date "Fixed," a trip record is automatically set up with those elements entered. You can add a Key Word and Description if you desire, and you can extend the date range if the trip record is really for a multiple day trip.

Note the **Listing Criteria** dialog on the prior page. In addition to the stored report buttons, it has a **Trips** button. While preparing a listing or report, you can go to the Trip Log and select a record; the Start and End Dates, Place, and Key Word, if present, will be automatically posted in the dialog criteria.

You can edit any existing trips, and you can sort (or reverse sort) the Trip Log on any of the columns. The entire Trip Log can be printed for reference.

REMEMBER, the Trip Log entries are completely independent of your actual data. You create the Trip Log entries you want, and each entry points to a set of data you have already entered.

DON'T PLAY THE SHELL GAME!

This is important if you have two computers!

Think about the shell game, or its modern equivalent, Three Card Monte. It's a case of "what you see is not what you see—you lose." You can get into a similar pickle by transferring files back and forth between two copies of AviSys.

Let's say you have a computer in the office, and a laptop you take on birding trips. You want to use AviSys on both. Follow this rule: **always keep one computer "live" and the other "dead."** That is, make sighting entries and changes to the Places, Checklist and Master Checklist files on only one computer (the "live" computer) at a time. Then, transfer **all** data files, as listed in the backup instructions in *Chapter 1, The Fundamentals, There is Safety in Backups*, from the "live" computer to the "dead" computer. You can then make the "dead" computer "live." In other words, use only one machine at a time, and do a complete data set transfer with Backup and Restore before switching machines.

If you don't follow this rule, you could lose sighting records or, worse, hopelessly mess up the relationships between your sighting records, Places tables and Master Checklist. This rule applies to any database program that uses multiple files or tables in a relational manner. (Also see **Sighting Record Streaming**.)

Best's Law: "If data resides in two places, it will be inconsistent."

Christmas Bird Count Compiler Strategy

A good strategy for CBC compilers is to **create a separate data set**, as for another user, to isolate CBC activity from your own records. You can add required "species" such as "Gull sp.," and any subspecies of CBC interest to the Master Checklist.

When entering data from 12 or fewer parties, use a separate, **consecutive** date in the sighting date for each party. (The actual date doesn't really matter in this task.) Then you can use the Census 12 Day by Day report which will show the totals for each party (in the day columns) and totals for your Count.

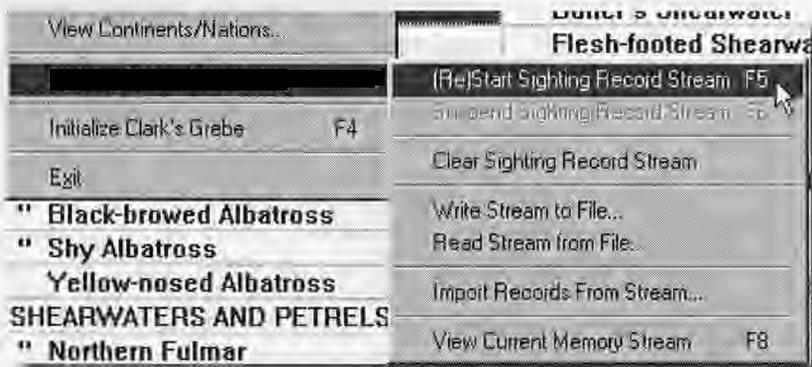
If you have more than 12 parties, then use unique dates for each. You can then list party entries separately, using Sighting File listings. Although you can't separate the parties in one spreadsheet, you can still get your totals that way.

If you personally participated in the count, you can move copies of your records into your personal data set (or vice versa) by using **Sighting Record Streaming**, thus avoiding duplicate entry effort. (Reserve the actual sighting date for you.)

Avoid the shell game, described above.

Sighting Record Streaming

Note these entries in the **File** menu on the main screen:



A powerful feature, called Sighting Record Streaming is used to transfer sighting entries into another data set, or even into a data set on another computer. For example, **if you and your spouse keep birding records in different data sets, this feature will allow you to avoid having to do duplicate data entry when you bird together.**

In the File menu, you can choose **File | Sighting Record Streaming | Re)Start Sighting Record Stream** or press **F5**. From that point forward, a copy of each sighting entry you make, including attached Field Notes, is placed in a Stream in **memory** (RAM). By choosing **... | Suspend Sighting Record Stream** or pressing **F6**, you can *temporarily* suspend the placement of your entries into the Stream. You can also clear the existing Stream. (**Remember**, the Stream is in memory (RAM) -- it disappears when you terminate AviSys.) When streaming is active, a green LED appears at the bottom center of the main screen to remind you.

When there are records in the Stream, you can view them by selecting **... | View Current Memory Stream** or pressing **F8**. The records displayed cannot be edited — they are presented for information only.

For records Streamed by data entry, any edits and deletes you do in the Journal are reflected in the Stream. However, any edits and deletes done in List Recs do not affect the Stream.

If you then open a different data set from the File menu, say your spouse's data set, you can then choose **File | Sighting Record Streaming | Import Records from Stream** and automatically duplicate your sighting records in your spouse's data set. As you do so, the record confirmation dialog appears for each record, giving you the opportunity to edit or reject it. If there are more than 10 records in the Stream, you are given the option of dispensing with the confirmation dialog and letting the import proceed automatically.

Note: it is the user's responsibility to ensure that every species and every Place used in the Stream is duplicated in the receiving data set. Obviously,

if you try to send a record assigned to Taj Mahal, and your spouse does not have Taj Mahal in her Places Tables, the record cannot be imported. Further the user is responsible to ensure that imported Places with the same name and position in both data sets actually mean the same thing. Portland in the Cities table should not mean Portland, Oregon in one data set and Portland, Maine or Portland, Victoria, Australia in the other

When the import is requested, every record in the Stream is first checked to be sure that there is a matching Place (in the corresponding table, such as Cities); that the Place is linked to a Nation, and that the species exists in the Master Checklist. If everything matches, the import proceeds without interruption. If there are problems, messages call out the missing Places and/or species. The receiving user is then given the opportunity to import just those records that did not have problems, or to terminate the import and fix the problems with the Places Tables and/or Master Checklist.

As a safety matter, the program will not let you import a Stream into the same data set it was created on -- that would simply create duplicate records. However, if the Stream has been read from a file, AviSys can't tell where it came from, so there is no check.

Streaming Records to a File

You can also write an existing Stream to a disk file, and read a Stream file from disk into a Stream in the program. Thus, you can load data into a Stream in another computer, or save a Stream for loading into the same computer at a later time. (... | **Write Stream to File** and ... | **Read Stream from File**)

Remember, though, that reading the file is not an import -- that just puts the data in a memory Stream. You must also then do an import from the Stream. (After reading a Stream file, a message will remind you of that fact.)

Exporting Records to a Stream File

When listing sighting file records (List Records), if you ask to do an **Export**, you have the choice of a standard comma-delimited data exchange export or a Sighting Record Stream File export. Thus, **you can select any group of records, by any criteria, and export them for use by any data set or another instance of AviSys**, provided all the species and Places are compatible.

When a Sighting Stream File is written, AviSys enforces a **.STR** file extension. Please do not get creative and change the extension; the results can be unpredictable. Also, if there are attached Field Notes in the Stream, an additional file with the name you chose and the extension **.FNR** is automatically created.

The free memory (RAM) requirements for these operations, and file space requirements if a Stream is written to file, are 148 bytes per sighting record and 7,500 bytes per attached Field Note (even though in your actual sighting data the Field Notes will be much smaller).

Multiple (Aggregate) Nation Checklists

With the Shawneen Finnegan Nation Checklist Add-On, by using the Z-LIST facility, you can create checklists of groups of nations. For instance, if you are planning a trip to three Central America nations, you can quickly create a checklist that encompasses the aggregate of the three nations' checklists, including ' and " markers. (Endemic markers are not available for multiple nation checklists.) You can store these groups away for future use.

Multiple (Aggregate) State Checklists

With or without the Nation Checklist Add-On, you can create multiple (aggregate) state checklists using the Z-LIST facility. For instance, you might create a Z-LIST for the Northwest containing OR, WA, ID and BC. (Store it away as 'NORWEST.ZLS' for future use.) You can then create a Northwest checklist by invoking that Z-LIST from the Checklist menu.

How the Z-LIST works for Checklists

Generally, when you create a state or nation checklist, you simply add the state or nation to the Checklist menu. At that time the checklist is transferred to the Master Checklist. When you invoke the checklist from the Checklist menu, it is instantly displayed (marked) on the main screen.

A multiple nation or state checklist created with the Z-LIST works a little differently. When you **Add** Z-LIST to the Checklist menu (Z-LIST is usually parked in the County Places table), nothing happens except that it appears in the menu. When you invoke the Z-LIST, the Z-LIST dialog appears and you can then **Add** nations or states to it, or **Load** a previously **Saved** Z-LIST from file.

When you have everything you want in the Z-LIST, and click OK, AviSys creates a combined (aggregate) checklist of all the states or nations in the Z-LIST and marks and displays it in the Master Checklist.

Thus, the existence of a Z-LIST in the checklist menu does not represent a particular checklist -- **it represents the potential for any multiple checklist you decide to create.** When it is invoked, it creates a checklist from whatever group of nations or states you place in the Z-LIST at that time.

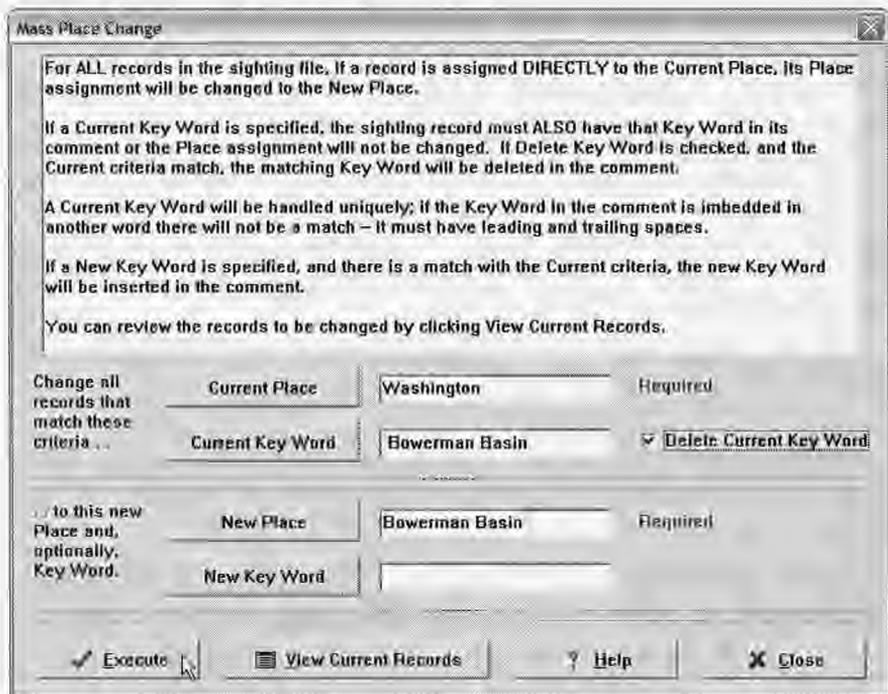
The Z-LIST, as used for reports and listings, is covered in Chapter 5, Reports. Checklists are covered in Chapters 1 and 3. The concept of Z-LIST is simply applied to the Checklist facility.

Palm (Pilot) PDA Data Entry

Any state, nation, or custom checklist can be exported to a Palm PDA device and used for sighting data entry. We enthusiastically recommend using a Palm device for data entry in the field, and automatically transferring the data to AviSys. These devices are very easy to use and are bright and visible in the field. See the AviSys web site, www.avisys.net, for more information.

Mass Place and Key Word Editing

This **super-powerful** feature, found under **Utilities** in the Main Menu, offers the opportunity at any time to change the Place assignments and/or Key Words in an unlimited number of selected records.



Reassigning Records to a New Place

In the example shown above, the user has many records assigned directly to the State, *Washington*, with a Key Word of *Bowerman Basin*. She decided that she will bird that location frequently so she created a Site named *Bowerman Basin*. In the dialog, she enters a Current Place of *Washington*, and a Current Key Word of *Bowerman Basin*.

The operation will then select **all**, and **only**, the records assigned **DIRECTLY** to *Washington*, **with a Key Word** of *Bowerman Basin* in the comments. To be sure she understands exactly which records will be modified, she can click the **View Current Records** button.

Note: for a Current Key Word entry to match with a key word in the comments of sighting records, the Key Word in the comments cannot be imbedded in another word. Example: with a Current Key Word criterion of **percil**, the comment "Seen at **Percil**" would match — the record would be modified. The comment "The bird was **supercilious**," would not match — the record would not be modified. (Case does not matter) This restriction ensures that only records with unambiguous, specific location Key Words are selected.

For the New Place, she selected the Site she just created, *Bowerman Basin*. Since she needs no further definition of the location, she leaves the New Key Word blank.

When she clicks **Execute**, all records assigned DIRECTLY to *Washington*, that also have a Key Word of *Bowerman Basin* in the comments, will be re-assigned to the new Site, *Bowerman Basin*. No additional Key Word will be inserted in the comment. Now, if she had also checked the Delete Current Key Word box, during the operation the Key Word *Bowerman Basin* would be deleted from the comments because it is no longer needed.

Deleting a Place you no longer need, and reassigning the records

For an inverse kind of operation, if she had sightings assigned to the Site, *Schnurdle Pond*, and she doesn't bird there any more, she can have all those records re-assigned to *King County*, with a Key Word of *Schnurdle Pond*. Then, in the Places Tables, she can delete the Site, *Schnurdle Pond*, removing unnecessary clutter from her Sites table. In this case, remember that reports and listings can still be run for *Schnurdle Pond* by simply specifying it in the Key Word criterion.

What do you mean by DIRECTLY?

In the first example, above, records assigned to *Seattle* would not be included in the modifications. They are only indirectly assigned to *Washington* by linkage. The only records considered will be those where the user chose *Washington* from the States table when the records were entered in the database.

Here's a Trick! Mass Key Word Modification!

Although this facility is intended just to change Place assignments, because it handles Key Words it can be used to do mass Key Word changes. You see, if you use the **same** Current Place and New Place, **you don't move the records at all**. But the Key Word functions are still active. So, you can delete the Current Key Word and/or, optionally, add a New Key Word, without changing the Place at all!

The Help Button

It's always there to provide information — use it.

Adobe Acrobat PDF File and RTF File Output

All AviSys reports and listings can be sent to Adobe Acrobat PDF files, the world-wide standard for high quality documents that can be distributed easily and safely over the Internet via email or the Web, or to RTF files for Word.

To send a report to PDF or RTF file, you do a **Print Preview** and click the **PDF** or **RTF** button which launches the **Acrobat Machine** or the **RTF Machine**.

The documentation for the PDF feature is in a PDF document, PDFOps.PDF, which has been installed in your base AviSys folder, such as C:\AVI6. Download the free Acrobat reader at **www.adobe.com** if you don't yet have it installed.

The Clements/Finnegan Worldwide Nation Checklists

A Powerful Optional Add-On Feature

AviSys can now import and completely integrate the official Jim Clements/Shawneen Finnegan Worldwide Nation Checklists. This optional add-on provides the most authoritative and up-to-date nation checklists of the 254 nations and other important geographic entities of the world—2,520,442 data points! The nations covered are those listed in Chapter 1

This monumental work, performed over several years and continually updated, is the result of an incredible effort by Shawneen Finnegan, an experienced birding professional, and Jim Clements. It has a bibliography of over 800 books, checklists, and papers, reference to 14 personal and institutional libraries, and input from many dozens of authorities around the world. The depth and quality of these checklists are simply unmatched.



Instant World-Wide Range Data for Any Species

When the Nation Checklist add-on is present, the **StateCL** button on the main screen changes to **Range** (or **StCL** and **Rng**). When the button is clicked, if you are in World Mode (or Checklist Mode with a non-N.A. checklist), the Nation Checklist Status for the currently highlighted bird is presented, as shown above.

If you are in N.A. Mode (or Checklist Mode with a N.A. checklist), the standard State Checklist dialog is presented with the **Nations** button enabled. (If there are no states in the state checklist status, the nation display is produced automatically.) Note that the Nation Checklist dialog, above, has a **States** button. In any Mode, therefore, you can flip back and forth between the state and nation dialogs. The initial nation checklist status is grouped by ABA Region. Clicking a radio button changes the display mode to an alphabetic listing.

Invoking Nation Checklists

The Nation Checklists are handled exactly like the Tony White State Checklists. When you add a nation to the Checklist menu, the range data for that nation is integrated within the Master Checklist. When you invoke the checklist, you are placed in Checklist Display Mode and the checklist birds are the only ones displayed. If you Switch to World mode, the birds in the checklist are bold on screen, and the birds not in the checklist are dimmed. Species you have seen within the geography of the invoked checklist are marked with a " and species you have seen anywhere else are marked ' Depending on the setting of the **Options / Endemics** menu item, birds endemic to the nation are marked with a or ! or not marked at all. (See **Z-LISTS for Checklists in the prior section**)

Printing Nation Checklists

You can print the invoked Nation checklist from the Reports/Checklist menu, and you have the options of printing the ' and " markers, endemic markers, and checkoff boxes. When printed to Text File, if you have Palm Support, the checklists can be sent to your Palm device for sighting data entry

Nation Checklists in Reports

Producing a Nation Hit List

Species Not Seen Report

Place Criterion the target nation

Checklist Criterion: the target nation

a list of the birds of that nation that you have not seen **in that nation**.

Producing a Lifer Hit List for a Nation

Species Not Seen Report

Place Criterion [All]

Checklist Criterion: the target nation

a list of all the birds of that nation that you have not seen **anywhere**.

A Species Seen Report with a Nation Checklist invoked acts just like one with a state checklist invoked. Species seen that are not in the Nation Checklist are listed in the Accidentals section.

Region / Area Checklists

With the Nation Checklist add-on, you can also create and invoke checklists of the nine ABA Regions (AviSys' "Continents"), or six ABA Areas (see pages 51-52):

ABA Regions

Africa	South Polar
Australasia	Atlantic Ocean
Eurasia	Pacific Ocean
South America	Indian Ocean
North America - (AOU)	

ABA Reporting Areas

[Asia]
[Central America]
[Europe, West Pal]
[Oceanic] (not = BirdArea faunal zone)
[West Indies]
[ABA Area] - (North America North of Mexico)
[AOU] - (AOU North America through Panama)
[US] - (ABA US Area, United States including Hawaii)
[Lower 48]

Those checklists function with the same power as individual nation checklists, including ' and '' sighted markers and endemic markers.

Note, however, that the [XXXX] Places are "special" -- they do not represent locations in the normal AviSys geographic "trees." While they will display ' and '' markers, the '' markers may disappear if you or the program invoke Utils / Set Checklist Markers. Simply re-invoke the checklist to restore the '' markers. Also, these special Places, when used as checklists in report criteria, may give a message about incompatibility. If the checklist and Place are compatible, ignore the message. Example: Place = United Kingdom, Checklist = [Europe, West Pal]

ABA Area Checklists

With the Nation Checklist add-on, the ABA Area, state, province, United States, [US], Canada, and [Lower 48 checklists] are still provided by the Tony White State Checklist data.

A Note About Marking

Marking a nation checklist affects **only that instance** of the checklist. It does not affect the Shawneen Finnegan Nation Checklist data (if installed), and does not update endemics. You would need to use the BirdArea facilities to change the range for a bird. Preferably, you'll use the annual updates from SBSP

How To Get the Nation Checklist Add-On

Call us at 1-800-354-7755, or visit our web site, www.avisys.net. At publication time the price was \$59.95 plus \$4.00 S&H.

The Master Checklist

The basic operations of the Master Checklist are covered in *Chapter 1, The Fundamentals*. This chapter will concentrate on the other, less frequently used, functions and features. The assumption is made that you have already mastered the information in Chapter 1, that ground will not be plowed again here. **Visit the AviSys web site periodically for taxonomy update information.**

State, Nation, and Custom Checklists

A checklist in AviSys is a subset of the Master Checklist, containing any, or all, of its species. It is a list of all the species that can be seen in a geographic entity, such as a state, county, or NWR. **All checklists are related directly to AviSys Places** and exist in three forms:

- ◆ The 63 official Tony White state and province checklists, which are held in a special built-in state checklist cache, plus Canada and U S. (49 or lower 48) checklists. Those checklists can be rolled in and out of the Checklist menu.
- ◆ If you have the Nation Checklist Add-On, the checklists of the 254 nations and important birding areas, and the worldwide ABA Regions and Areas.
- ◆ Custom checklists which you create (mark). Those checklists are created in, and remain in, the Checklist menu, and can be backed up to file.

State and Nation Checklists

The fundamentals of adding State and Nation Checklists, and invoking checklists to reduce the Master Checklist size on screen, are covered in Chapter 1, pages 26, and 38, and Chapter 2, page 74.

Marking—Creating a Custom Checklist

(As an introductory exercise, you can create a fictitious custom checklist and just mark several species at random. You will get familiar with the process. The checklist can be deleted at any time with the Delete button.)

From the main screen, press **Alt-K** or click on **Checklists** on the Main Menu. Create a new checklist, clicking the **Add** button. This time, select any Place, but *not* a state or nation (your county or a NWR, maybe). Since AviSys does not have internal checklist data for that Place, you will need to “mark” the proper species into the checklist. This will be a “Custom” checklist.

To mark species in the checklist, highlight the new checklist name and click the **Mark** button. You are returned to the Master Checklist with a message to click the red **X** at the bottom of the screen when you are done marking.

From the top of the Master Checklist, move through the species, pressing **Enter** or double clicking each species you want included in the checklist. Species that are marked are in bold type; those not marked are dimmed.

By the way, you had to switch to World mode to add the checklist to the menu, but for marking, you can leave the checklist menu, switch to NA mode, and return to the Checklist menu to mark your new checklist.

Marking actions:

Selecting a species If a species is not marked, selection marks it.
If a species is marked, selection un-marks it.

Selecting a family If some, or none, of the species in the family are marked, selection marks all of them.
If all the species in the family are marked, selection un-marks all of them.

A checklist can be marked very quickly by having another person read the species to you while you do the marking. (*The reader needs to read only the first word of the species name; the full name will be right in front of you on the screen.*) Click the red **X** button when you are done marking. Later, you can easily make updates, marking or un-marking one species at a time.

Backing Up a Custom Checklist

Because the data for a custom checklist is not stored in a separate cache, if you delete it from the Checklist Menu, accidentally or otherwise, it is gone forever—unless you back it up to file. To do so, simply invoke the checklist, select Reports / Checklist, and select the invoked checklist. From the Print Options dialog, select Text File. At the marker dialog, be sure to select “No Checkmark Boxes,” de-select “Use ‘ and “ Sighted Markers,” and de-select “Use Endemic Markers,” if it is presented. At the “Palm” prompt, answer No. At the Save As dialog, use an extension of **.CLB** -- overriding any asserted **.TXT** extension. The **.CLB** extension is important -- see below

Restoring / Loading a Custom Checklist

If you start a marking operation for a checklist, and there are any files with **.CLB** extensions in the current data set, you will be asked if you want to load the checklist from a checklist backup file. If you respond Yes, you can select the backup file in a File Open dialog, and it will be used to load the checklist. If there are any birds in a backup file that are no longer in your Master Checklist, an exception file is written for your information. When loading a backed-up checklist, perform **Utilities | Rebuild Sighting File Indexes** to update it.

Importing and Exporting Files to Create Custom Checklists

Reading the prior paragraphs, it probably occurred to you that a checklist backup file is just a text file of bird names created by printing a checklist to text file. During the restore, AviSys simply reads the text file, and marks the appropriate birds into the target checklist.

This facility can also be utilized to export custom checklists to other AviSys users. Just send the other user a backup file.

You can use a text file from another source to create a custom checklist in AviSys, provided the file meets the following criteria.

- The file must have English names.
- The English names must be in separate records, or
 - the English names can be followed by Latin names or other data that is separated by a common delimiter such as , ; | /
- Entire comment lines headed by a delimiter are ignored.

Thus

```
American Robin, Turdus lawnplover
```

or

```
American Robin
```

```
Turdus lawnplover
```

or

```
American Robin. this is a common bird
```

```
Turdus lawnplover
```

```
'this is a comment
```

will all work. In the second two cases, the Latin names will end up in the exception file as mismatched English names.

Also, the restore function automatically eliminates the header lines when reading a checklist that was printed to ASCII file (Reports / Checklist) without checklist markers and checkboxes -- which is the checklist backup method. Other report input will end up with header lines in the exception file.

This would also make it easy for a user to start with one checklist, say a state checklist, load it into a user checklist, and then further mark/unmark that user checklist to create a NWR checklist or something.

More important, you could start with a Species Seen Report, and use that as the input to a custom checklist -- probably with additional marking to fill it out.

Using a checklist to define a special bird study

The ease of marking selected species into a group, using the Checklist facility, can be capitalized on to help you with special species studies. For example, suppose you wish to do a Census of warbler populations in your state. The first trick is to isolate your warbler sightings. Here's how to do that:

From the main screen, click **Places** and go to the Cities table (for example). **Add** a Place called "Warbler Census." (Yes, I know, that's not a place, but bear with me for a moment.)

From the main menu, select **Checklists**. At the Checklist menu, **Add** a checklist called "Warbler Census" by using that Place you just created. (Getting the idea?)

Leave the Checklist menu so you can switch back to NA mode. Then select Checklist again and highlight the new "Warbler Census" checklist.

Mark into that new checklist the warbler species you are interested in for the Census study (Now you've got it!)

If you have not already done so, record some sightings of those warblers using any Places in your state. Use some quantities to make things interesting.

(Don't use Warbler Census as the Place for the sightings.)

Now, run any of the three varieties of Census reports with the Warbler Census checklist invoked in the Checklist criterion, and with the your state in the Place criterion. Select an appropriate date range. When a checklist is invoked, the Census reports list only the species included (marked) in the checklist, so you end up with a census spreadsheet of only the warblers you selected, and it includes only sightings in your state within the date range you selected. By the way, you can select either Sighting Incidents or Bird Population.

If you have entered appropriate Attributes in your sightings, you can limit the report to nesting warblers, for example, or birds in a particular habitat. See *Chapter 2, Power and Strategy* to learn about Attributes—a powerful feature.

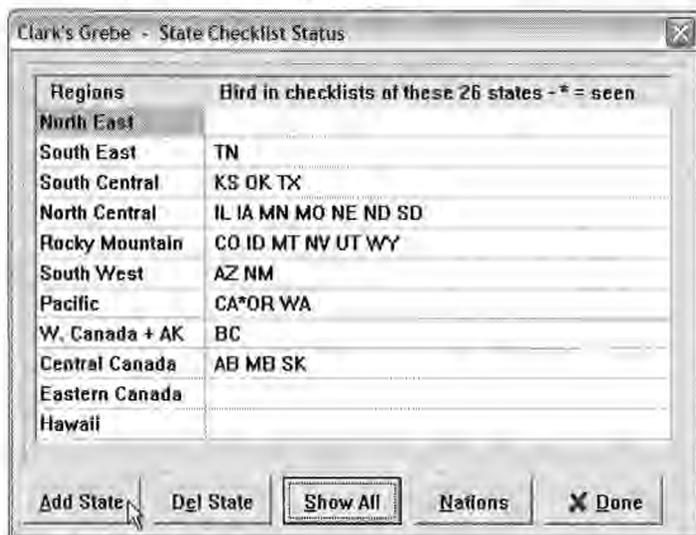
The process is so quick and easy you can do a special census of any group of species, any time you want.

Now, **NEVER** assign a sighting to Warbler Census or any Place you use for species census purposes. Obviously, these aren't really places; they are just temporary, for temporary checklists, intended only for special reports. That's why I suggest putting these in the Cities table, or a table you don't use frequently, where there's extra room. I name mine X-Warbler #1, etc., so they are moved, alphabetically, to the bottom of the table—further out of the way

Chapter 5, Reports will cover further the effects of invoked checklists on reports.

Maintaining the State Checklists

Periodically, state checklist committees get together and perform such scientific exercises as throwing darts, tossing coins, and listening to wild birding tales to decide which species should be added to, or deleted from, their official state checklists. Well, actually, these are very hard working and diligent people who provide a great service to us. We just don't always understand the results of their labor. When they do make changes, you will need to update your state checklists, too. There are two methods you can use to do that. The first is the easiest. Do you remember the **State CL** (or **Range**) button from the main screen? (See *Chapter 1, Fundamentals*)



Prepare your mind a little here. You are accustomed to state checklists having species. But, likewise, you can consider species as having state checklists, as in this display for a Clark's Grebe.

Any state/province (except Hawaii) added here places the species in the ABA North America checklist.

You can add states to, and delete states from, the target species by us-

ing **Add State** and **Delete State** in this window. In fact, you can add or delete up to six states at a time by typing them in the form **/CA/TX/MD/BC** in the text entry window provided. This action not only changes the state checklists you have installed in your Checklist menu, but it also updates AviSys' internal cache of all 63 state and province checklists. **This is the best way to make periodic changes to state checklists.**

The **Nations** button is activated if you have the Shawneen Finnegan Nation Checklist Add-On. See *Chapter 2, Power and Strategy* for information.

Marking to Update a State Checklist

Another way to make changes is to "mark" and "un-mark" species in an invoked state checklist. This process requires that you have that state in your checklist menu. (If you don't, you need to add it—a simple process.) Select Checklists from the main menu, highlight the state checklist you need to change, and click the **Mark** button. Now you can navigate through the checklist, marking and un-marking species as required. When you are finished, click the red **X** escape button to finish the marking.

Because you could make a massive mistake while marking, AviSys will ask your permission to transfer these changes to its internal state checklist cache by asking:

OK to transfer changes to PERMANENT state checklist?

Answer **No** if you have blown it, **Yes** if things are cool. (If you have made such an error, and selected **No**, the only checklist damaged is the one in your menu. Just delete it, and then re-create it—a simple two step process that retrieves the original AviSys internal state checklist.)

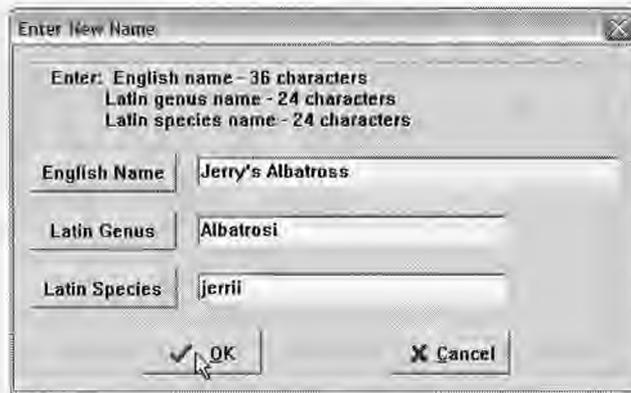
Important Note: Adding a bird to a state checklist (except Hawaii) for the first time will also automatically add that bird to the ABA North America Checklist after AviSys has been restarted **twice**.

Maintaining the Master Checklist

Adding a Species or Family to the Master Checklist

You can not add or delete species in NA mode or when a checklist is invoked.

Select the species or Family name *above* the spot where you want the new species or family to appear. Select **Edit/Add Species** to add a species, or **Edit/Add Family** to add a family name.



At the text entry window, type the common English name, the Latin genus name and the Latin species name of the new species or family. The species or family now appears in the correct place in the list.

You can add up to two species between any two original species in the list. Internally, the species are numbered 1, 4, 7, 10, etc.

Select Options/Show Bird Numbers to see the species numbers at the bottom right of the screen.

If you run out of room between two species, simply select **Utilities / Renumber Master Checklist**. Two empty spaces will be inserted between all species names, including the ones you just added. When you add species at the bottom of the list, they are numbered in multiples of 3, such as 98730,98733, 98736, etc., leaving two available numbers between each new species.

Be sure to update your custom checklists appropriately, and if an added species is a North American bird, be sure to add it to the appropriate state checklists so it will show up in NA mode (See the prior page).

Deleting Species

Place the cursor on the species you want to delete. Select **Edit** and then **Delete Species/Family**. You will be asked to confirm your intentions. Click **Yes** to confirm. The species is deleted. If there are sightings of that species, AviSys will not allow you to delete it until sighting records for it have been deleted.

Editing a Species Name

Suppose the AOU decides to change the name of a species. That has happened on several occasions, sometimes because of humorous errors. For example, one thrush was originally named the Eye-browed Thrush. With the hyphen, the clear implication was “this is a thrush whose brows have eyes.” (*The eyebrows are pretty distinctive, and maybe somebody thought the eyes were secondary to the brows.*) Muttering something about a typographical error involving a hyphen, the AOU changed the name to Eyebrowed Thrush, a thrush with eyebrows. Now, that’s the sort of intellectual challenge AviSys can handle.

In a case like this, put the cursor on the offending species and select **Edit** and **Edit Species/Family Name**. In the text window, edit the English and Latin names. That’s it. Now a warning: Don’t lose sight of the fact that this changes nothing except the spelling. All your sightings are assigned to this species as before. If you edit it to “Schnurdle Valve”, all those sightings assigned to the original name are still assigned to the same species number. They will end up listing as sightings of “Schnurdle Valves.” Use edit only for correcting names, except for the cases of splits and lumps, described below

Handling Splits

If you are reading this during your initial use of AviSys, relax. By the time you have real splits or lumps to do, you will be so familiar with AviSys that these instructions will make a lot of sense.

Periodically, the AOU determines that an existing species is really two or more separate species, usually split along subspecies lines. A perfect example is the Brown Towhee. It was split into the California Towhee and the Canyon Towhee. The former is the race that lives on the Pacific coast and west of the Colorado River, and the latter a race that was restricted to the desert areas of Arizona and other southwestern states.

Using that example, let’s walk through a “split.” **Don’t actually do this**, unless you have a live split to do, but mentally go through the process. (Now, come on, you’re supposed to celebrate a split.)

First, back up your data set as described in Chapter 1, The Fundamentals.

Determine which of the resulting species will end up having the majority of your existing sighting records assigned to it. (*The large majority of my Brown Towhee sightings were really of the "new" California Towhee.*) This is the Primary Species. If it's a close count, or you had no sightings, just pick any one of the new species as the Primary.

Edit, if necessary, the name of the original species to that of the Primary Species. (*I edited the old "Brown Towhee" to "California Towhee."*)

Add, underneath the Primary Species, the additional species created by this split. There could be more than one. (*I added the "Canyon Towhee."*)

Changing sighting records which now need to be reassigned to newly created species.

All the sighting records which were assigned to the original species are now assigned to the Primary Species, which may have the same name as the original species. If some of those sighting records need to be reassigned to one of the new species, continue with this section. Otherwise, the split is complete. (*Is this sounding like a 1040 form? I had Brown Towhee sightings in the geography of the new Canyon Towhee, so I had to continue.*)

1. From the Master Checklist, highlight one of the new species to which you want to reassign existing sighting records.



Press **Ctrl-F3** or select **Utils** and **Save Species for Edit**. That species is now "saved" for future use. (*In my case, I needed to reassign some old records to the new Canyon Towhee. I pressed Ctrl-F3 at Canyon Towhee.*)

Note that the dialog will hold up to 8 species for use when editing sighting records. This allows you to do multiple species edits from one sighting record listing. Close the dialog.

2. Press **L** or select List Recs from the main menu. In the Listing Criteria dialog, select **Species**. You are taken to the Master Checklist, where you select the Primary Species. Click the **List** button to list all

records assigned to that species. (*I selected California Towhee. The resulting screen listing contained all my original Brown Towhee records, now showing as California Towhees.*)

3. For each record you need to reassign to the species you saved in step 1, highlight the record and click the **Edit** button. Select **Species** in the Edit dialog and the Saved Species menu is presented. Select the desired species from the menu. The species in the record is then changed to the species "saved" in step 1. Click **Finished** and click **Yes** to confirm the change. For additional records, you can just double-click the desired records and initiate a mass edit operation. See Chapter 4, *Listing Sighting Records* to understand mass edits. (*I edited all sight-*

ings that were located in the southwest desert. They were changed to Canyon Towhee which I had saved in step 1.)

4. Repeat steps 1 through 3 for any additional newly created species to which you need to reassign sighting records. Then, the split is complete.

This process sounds a little complicated, but when you have a real live case in hand what you need to do makes sense and becomes obvious.

Examine each of your affected state and custom checklists and mark the new species appropriately. Use the **State CL** button from the Master Checklist to correct your state checklists. You may have to secure detailed information about the split to properly place the new species in your checklists.

Handling Lumps

Lumps are a process by which the AOU applies modern science and technology to reduce the size of your life list. A lump that is almost certain to occur in the future is the combination of the Northwestern Crow and the American Crow. Most experts agree that the only thing that separates the two as species is the fact that the Northwestern Crow has rain damage. Those of us in the Northwest are suffering high anxiety, which masks our guilt for having this bird in our life lists in the first place.

So a lump is the combining of two or more species into one species. The resulting species may, or may not, retain the name of one of the original species. (*Don't you just love the fact that the word "species" is both singular and plural?*)

Let's take the hypothetical case of the "lumping of the Crows" and suggest that the AOU will combine the Northwestern Crow and the American Crow into the "Eye-browed Crow" (*In 2007 we'll get to change the name again.*) **Don't really do this!**

Before doing the lump, you should record the state checklist status of the species involved. You will need this to update the state checklist for the new lumped species. The easy way to do this is to use the **State CL** button on the main screen. If there are a lot of states involved, you can use the Print Screen button to copy the State Checklist dialog to the clip board, start your Word Processor, and type Ctrl-V to copy the dialog into a document. Then save or print the document for future use.

If you have NO sighting records assigned to any of the affected species:

From the Master Checklist, delete all but one of the affected species. If necessary, edit the remaining species name to the name of the new resultant species (Eye-browed Crow). That's real easy

If you have sighting records assigned to ONLY ONE of the affected species:

From the Master Checklist, edit the species to which the sightings are assigned to match the name of the new resultant species (Eye-browed Crow). Delete the other species involved in the lump. That's just as easy

If you have sighting records assigned to TWO OR MORE of the affected species:

Determine the species that has the most records assigned to it. From the Master Checklist, edit the name of that species to the species that will result from the lump (Eye-browed Crow).

Delete any of the lumped species that have no records assigned to them.

For **each** of the remaining lumped species that have records assigned to them:

1 From the Master Checklist, save the name of the species that will result from the lump. (Highlight Eye-browed Crow and press **Ctrl-F3** or select **Utilities/Save Species for Edit.**)

2 Select **List Records**. From the **Listing Criteria** dialog, select one of the remaining lumped species and click the **List** button to list all the records for that species.

3 Select a record and click the **Edit** button. Select **Species** from the edit dialog, and then select the species you "saved" from the Saved Species menu. Click the **Finished** button. The record will be reassigned to the species you "saved," Eye-browed Crow Repeat this process for all selected records, by simply double-clicking each of them. (Mass Edit)

4 Repeat steps 2 and 3 for all remaining lumped species except, of course, the Eye-browed Crow

5 From the Master Checklist, delete the remaining species that are to be eliminated by the lump. (If you failed to reassign any sightings, AviSys will not let you delete the species until you do so.)

Review your state and custom checklists and correct them for the lump. In the case of state checklists, use **State CL** from the Master Checklist.

The Taxonomy

The taxonomic sequence of species, as defined by the Clements Checklist of the Birds of the World, and updated to the latest edition, is followed by AviSys with minor exceptions to move such groups as Fringillidae to more familiar positions. However, AviSys' "Family" names are not truly family names—they are descriptions of related groups of birds, intended to make navigating the Master Checklist easier

In recent years, there have been significant changes by the AOU in the groupings of species within families. In particular, 156 species of Warblers, Tanagers, Cardinals, Grosbeaks, Sparrows, Blackbirds and other species were placed in the family Emberizidae. To the eye, and in most of our minds, these species groups have no relationship to each other, although science proves otherwise. In AviSys, "family" names have been inserted in this grouping where it seems to make sense, improving your ability to find the birds you are looking for. Examples of those "families" are "Wood Warblers," "Sparrows, Towhees, Juncos and Allies," and "Blackbirds and Orioles." The species sequence remains untouched, however and may be at variance with older field guides.

For periodic updates to the taxonomy, check the AviSys web site, www.avisys.net

The remaining features and functions of the Master Checklist are covered in *Chapter 1, The Fundamentals*. If you have not done so, please review it.

A Secret Species Delete Process

The following feature will rarely be used. It is intended for non-North America tour guides who have reasons to create special data sets with reduced numbers of birds.

The Delete key (Del) can be used to delete species from the Master Checklist. On first use, a prompt is issued to ensure that is really your intent. You can then proceed to delete species by pressing Del and Y. If you press Delete while a family name is highlighted (except the first family), you will be asked if you want to delete the **entire family**. With a positive response, all species between the highlighted family name and the following family name will be deleted, **except** any species for which there are sighting records.

Note: AviSys is not intended to be used with a list that does not include at least several pages of birds. Further, there should always be a few pages of N.A. birds so that AviSys will function if accidentally switched to N.A. mode. You may have to put birds in state checklists (with StateCL) to ensure you have at least three pages of N.A. birds, even though the birds may not really be N.A. species.

(In any case, AviSys is not guaranteed to work with severely modified lists.)

For Massive Taxonomy Changes

See the **EditMaster** facility in the AviSys web site. This facility provides for quick and easy movement of species, families, even groups of families.

Listing Sighting Records

Sighting File Structure

Each sighting record you enter in AviSys creates a record in the Sighting File, SIGHTING.DAT. The record does not actually hold the name of the species or the name of the Place where a bird was seen. Rather, it holds a pointer to the location in the Master Checklist, another file, where the species name can be found, and a pointer to a location in the Places tables, another file, where the Place name can be found.

The date is stored in a numeric coded form, as is the quantity.

The record also contains a bit-by-bit coded list of the various ABA Regions and Areas the record applies to.

Additionally, the record contains a code for the assigned nation and, if necessary, a direction indicator for those nations that require a north/south or east/west modifier.

During Sighting File Listings and Reports, AviSys resolves the pointers and area/region list bits, as well as the nation codes, making the Place, region, nation and species names available. The date is also decoded.

Attributes and Key Words and comment text are stored in the comment field.

Attached Field Notes, which reside in another file, are made available via a pointer stored in the record.

At the time a sighting record is placed in the file, three index entries are made in the index file, SIGHTING.IX. The index file is structured in a manner that allows rapid selection and sequencing of sighting records by species, Place and date during the generation of reports and listings.

The important thing in all of this is that your data is stored in multiple files, all interrelated—a data set. **No single file holds your data.** That's why it's important to use the AviSys facility for backup, or, if you use other methods, to back up the entire data set folder at once.

Listing Sighting Records

Some information here repeats information in Chapter 1, *The Fundamentals*.

Press **Alt-L**, or click **List Records** in the main menu, to view your records.



This is where you enter the criteria for a Sighting File listing. In its initial state, it is set up to list on your screen all records in the file, as indicated by the status of **All** for **Species**, **Date Range** and **Place**, and **None** for the other criteria.

By simply filling in the criteria dialog, you can request records selected by any combination of species, date range, Place, Attributes and Key Words, as well as asking for three kinds of "First Sightings."

When you click the **Species** button, you are taken to the Master Checklist where you can select a species for the listing. Only records of that species will be displayed in the listing. While you are in the Master Checklist to select a listing species, a special red **X** cancel button is enabled. If you change your mind, click it to be returned to the criteria dialog without a species selection.

If a species is selected, you can click the **SS** button to select a subspecies and have it entered in the **Key Word** criterion.

You click the **Date Range** button to restrict the listing to sightings recorded within a range of dates. The date entry calendar is presented to enter both the starting date and the ending date. The selected dates are displayed in the cri-

teria dialog. Date ranges are inclusive—sightings for both dates, and those in between, are displayed.

If you click the red **X** cancel button while in the date entry calendar, you are returned to the criteria dialog and the date range is reset to **All**.

If you need a date range of “**This Year**” or “**Last Year**,” click the appropriate button to insert, for example, the date range 1/1/(this year)-12/31/(this year), assuming your computer’s clock-calendar has been set properly. This saves a lot of keystrokes when you are running year-to-date listings.

The “**Seasonal**” button completely changes the meaning of the date range. For example, a Seasonal date range of 6/13/89 through 8/21/92 actually means “Select the records that occurred between the dates June 13 and August 21 for each of the years 1989 through 1992. (To be sure we’ve been clear—a record on September 3, 1990 would **not** be included.) In essence, **you can define your own “seasons,”** and run listings for them for any range of years,

Normal clears the annual or Seasonal selection.

Clicking the **Places** button takes you to the Places tables, where you select a Place which defines the geographic selection for your listing. Only records assigned to that Place, and Places linked to it, will be included in the listing. (See *Chapter 5, Reports, The Places Z-LIST*, for information about using multiple Places in listings.)

If you click the red **X** cancel button while in the Places tables, you will be returned to the criteria dialog and the Place selection will be reset to **All**.

Since your usage of **Attributes** and **Key Words** should be an integral part of your AviSys usage strategy, information about those criteria is covered in *Chapter 2, Power and Strategy*. Either of those criteria is entered by clicking the associated button, and they are canceled and cleared to **None** with red **X** cancel button in the associated dialog.

First Sightings selects the earliest sighting, within the other selection criteria, for each species. Only *one* record, the *earliest*, will be listed for each species.

First Sightings Chrono produces results identical to **First Sightings**, but lists the records in date sequence—a chronology of your first sightings.

First + Last Sightings selects the earliest and latest sightings within the other criteria. Two records are listed for each species, unless there is only one record for a species, or there is more than one but all are on the same date.

Normal clears any selected “**First**” button.

See Chapter 2, *Power and Strategy*, for information about the **Load, Store** and **Trips** facilities where you can store a set of criteria for future use.

Lifers - a Unique Situation

We have described the listing options of First Sightings and First Sightings Chrono, which produce only the first (earliest) records for each of the species seen on the described (Place and Date) trip—basically one record per species, the

earliest. (The Chrono option presents the records in date sequence rather than species sequence.)

These options, when a Date and/or Place criterion is used, present a secondary prompt, **“Do you want ONLY LIFERS seen this trip?”** If you respond positively, the entire meaning of the “First” option changes—now it means **really first**, life sightings only. This is how you ask the question, **“Which of the sightings on that trip to Texas last week were lifers?”**

While doing a “First” listing without a Place and Date will produce your total Life sightings, we recommend you select a date range which covers all your records, such as 1/1/30-12/31/29, 1930 through 2029. The reason for doing that is described next.

Remember, in AviSys, a **“Lifer”** is the first sighting of a given species, anywhere, any time **in your lifetime**.

Real Lifers

When “Only Lifers” are listed, as described above, if there is a **/?** Attribute in any of the records, those records will be automatically ignored. This provides a way for the user to identify records that were **multiple instances of the same life bird on the same day**. Because AviSys does not record time of day, it has no way of knowing which of multiple records of the same life species on the same day is the true life record. The record without **/?** becomes the **“real lifer”** and is listed when “Only Lifers” is selected.

If you plan to use this feature, you should add **/? Not a Lifer** to your Attributes table. Remember, this is required **only** when you record a life species more than once on the same day and **only** if you are particular about having the exact life record listed.

Clearing Criteria Entries

The **Clear** button clears all the criteria to **All** or **None**. To clear an individual criterion, simply click its button and then click the red **X** cancel button for whatever dialog is presented. In the case of a Species selection, a special red **X** cancel button is enabled on the Master Checklist just for that purpose.

When you have the listing criteria set as you wish, click the **List** button. Then select the record sequence (Species, Date or Place) from the Sequence dialog.

Your records are listed. The “current” record is the highlighted record. The **Edit**, **Delete** and **Note** buttons operate on that record.

The comment line is listed in light gray, to provide visual separation from the first line. However, if you use an unusual Windows color scheme, the gray type may not be visible. In that case, from the main screen, select **Options | List Comments in Black/Navy**.

Selected Sighting Records				
Pygmy Nuthatch	Rustler Peak	AZ	US	Aug 16, 1992
Red-breasted Nuthatch	Rustler Peak	AZ	US	Aug 15, 1992
Red-breasted Nuthatch	Rustler Peak	AZ	US	Aug 16, 1992
Brown Creeper	Rustler Peak	AZ	US	Aug 15, 1992
House Wren	Rustler Peak	AZ	US	Aug 16, 1992
Golden-crowned Kinglet	Rustler Peak	AZ	US	Aug 16, 1992
Mexican Chickadee	Rustler Peak	AZ	US	Aug 16, 1992
Mexican Chickadee	Rustler Peak	AZ	US	Aug 16, 1992
Olive Warbler	Rustler Peak	AZ	US	Aug 15, 1992
Black-throated Gray Warbler	Rustler Peak	AZ	US	Aug 15, 1992

Record number 13398 of 29002 selected from 29002 total records in file

Sighting Record Listing

|| - Rustler Peak - Cochise - Arizona - United States - NA

You can scroll through the listing with the arrow buttons, the scroll bar, or the keyboard cursor keys. **Ctrl-Home** and **Ctrl-End** take you directly to the first and last selected records, respectively.

Where the sighting Place is, or is linked to, a state or province, the two letter abbreviation for the state is included in the listing. The Nation code is also listed. An expanded Place hierarchy for the highlighted record is displayed at the bottom.

The criteria for the listing, including Key Word and Attributes, are listed in the panel at the bottom of the window. The record number of the current record, the number of records in the current listing, and the total number of records in the sighting file, are listed in panels below the listing.

It's easy to lose sight of the fact that each criteria entry further restricts the number of records selected. If the combined criteria result in no matches among your sighting records, the following message is displayed:

No sighting records meet selection criteria...

Too few criteria, however, can waste your time and paper. It doesn't make sense to list all records and then go paging through hundreds of them looking for a specific sighting of a certain species in a certain Place on a certain date.

With the **Note** button, you can view and edit an existing Field Note (in records with a @), or attach a new Field Note to a record.

Deleting a Sighting File Record

You can delete a record by highlighting it and clicking the **Delete** button. A confirmation message is issued. **OK to delete this record?**

Printing the Sighting Record Listing

You can print all the selected records by clicking the **Print** button. The Print Options dialog is presented for you to select the print destination and various other options. Detail about the Print Options dialog is covered in Chapter 5, *Reports*. In that dialog, and unique to record listings, is an option to have the attached **Field Notes printed in-line with the records**. If you select **Use Latin Names**, an additional line is added, which also includes a Place expansion. **No Comments**, produces output with no comments lines, printing only the Species, Place, Date, State code and Nation code, producing only one line per record, doubling the number of records per printed page.

Note that if you select a print destination of Screen Viewer when attempting to print sighting records, your request will be rejected because the records are *already* displayed in a screen viewer. **If you select Text File, you will get a file you can attach to an EMAIL.** Also see Print Preview and PDF/RTF in Chapter 1

Editing a Sighting Record

Highlight a record and click the **Edit** button, or double-click a record, to perform an edit. The following edit dialog appears.

The screenshot shows a dialog box titled "Edit a Sighting Record". It has a standard Windows-style title bar with a close button. The dialog contains several input fields and buttons. On the left, there are four buttons labeled "Species", "Date", "Place", and "Comment". To the right of these are text input fields containing "Greater Roadrunner", "Aug 17 1992", "Hildago", and "Quantity" followed by a small text box containing "3". On the right side of the dialog, there are two buttons: "Finished" (with a checkmark icon) and "Cancel" (with an 'X' icon). At the bottom of the dialog, there is a text field containing the text "Lordsburg-Redrock:NM464".

By clicking the **Species**, **Date**, **Place**, or **Comment** buttons, you can change those elements of the record. You can continue to make changes to the record until you have what you desire. The changes will not actually be made permanent until you have clicked **Finished** and answered **Yes** to a confirmation prompt. Before that, you can cancel the edit at any time.

When you select **Date**, the date entry calendar is displayed. Enter the desired new date. When you select **Place**, you are taken to the Places tables. Select the new Place for your record. Selecting **Comments** takes you to the comment entry dialog where you can edit the comment and add Key Words and Attributes. (See *Complex Comment Edits*) Select **Quantity**, to change that element.

If a Field Note had been attached to the edited record, the first two lines of the note may have to be manually changed by you to match the changes you made to the record. Click the **Note** button in the record listing after doing the edit.



If you want to edit the **Species** field of the record, you must have first “saved” the new species name from the Master Checklist, with **Utilities/Save Species for Edit** or **Ctrl-F3**, prior to coming to the sighting listing facility. Then you can select the new species from this list of up to eight saved species names.

Remember, you **must** select **Finished** to actually complete the edit.

Mass Edits

You can apply an edit to multiple records by performing the edit on the first record, as usual, and then simply double-clicking the other records to be edited, or highlighting them and pressing **Enter**. The first time you select a record after an edit, you are asked **Do you want to do mass edits?** to confirm that you really want to edit multiple records. After that, you just double-click as many records as you like. The edit operation is applied to each successive record exactly as it was to the first. **To do it faster**, tap the **down-arrow** key and **Enter**.

If you have been doing mass edits and then want to change the edit operation, just use the **Edit** button again. (See *Mass Place Edits in Chapter 2*)

Complex Comment Edits

Automatic Text Additions: to automatically add a text string to all comments during an edit, clear the original comment in the edit window, and then enter a “+” followed by the text you wish to insert in all comments. For example, editing the comment field to say “+windy” (don’t enter the quote marks) will add “windy” to each comment, **leaving all the other comment text intact**. The new text is added immediately after any initial Attribute information. If the addition of text causes the new comment to be longer than 80 characters, the comment is truncated at the end.

Automatic Text Deletions: to automatically delete a text string from all comments during a mass edit, clear the original comment in the edit window, and then enter a "-" followed by the text you wish to delete from all comments. For example, editing the comment field to say "-flugle" will delete the first instance of the text string "flugle" in all comments in edited records. **All other text remains intact.** The facility does not delete multiple instances of the same string. Be careful; the strings "fluglehorn" and "contraflugle" will be converted to "horn" and "contra"

By the way, Attributes are really just text; they can be automatically added and deleted, too.

Note: There can be **no** text preceding the first "+" or "-" and the following text. **If there is, the entire comment will be replaced by the text you entered.**

Complex Edit Example

Let's assume you entered 25 sightings with a Site of Nisqually NWR and a date of 4/28/92. You had entered the Key Word "McAllister Creek" in each of the comments to identify the specific area of the NWR where the birds were found.

Suddenly, you discover you had picked up the wrong set of field notes to enter those records! You had entered records that were actually from the north shore of Sinclair Inlet on 5/3/93.

Here's what you do. Run a Sighting Record Listing with a Place of Nisqually NWR, and a date of 4/28/92. Now all the offending records are listed. Double-click the first bad record, or highlight it and click **Edit**. Select Place in the edit dialog, and select Sinclair Inlet from your Sites table. Select Date and enter 5/3/93. Select Comment and enter "-McAllister Creek +North Shore" Click **Finished**. The Place and date are corrected, "McAllister Creek" is deleted from the comment, and "North Shore" is added. **All other comment information, including attributes, is retained.** Now double-click the next bad record and answer **Yes** to **Do you want to do mass edits?** The second record is corrected. **You will receive no more prompts.** As fast as you can double-click, or tap the **down-arrow** key and **Enter**, you can correct the remaining records. (**Also see *Mass Place Edits in Chapter 2* for a possibly better solution.**)

Intelligent Data Export

You can export all, or selected, sighting records, in comma delimited interchange form, for use in other programs such as databases or spreadsheets. (This is in addition to the printing of report and listing output to an ASCII file for use by word processors.) The records to be exported are selected with the Sighting Record Listing facility and exported by clicking the **Export** button. You then select a standard export or a Sighting Record Stream Export (see *Chapter 2. Power and Strategy, Sighting Record Streaming*.) This section covers only standard data export.

A **Save As** dialog will be presented for you to choose the path and file name for the exported file.

The file will be exported as text, with the following structure, in industry standard comma/quote delimited interchange format:

AviSys Export File Format

Species Name	A	36	English name
Genus Name	A	24	Latin genus
Species Name	A	24	Latin species
Place	A	30	
Date	A	10	MM/DD/YYYY
(Date	A	8	MM/DD/YY optional form)
Quantity	N	5	
Comments	A	80	
State Abbrev	A	2	If the Place is a state or is linked to one
Nation Code	A	2	
Nation mod.	A	2	e.g. 'We' (west) for Russia
Species No.	N	5	AviSys internal taxonomic sequence number
Site	A	30	Optional expanded Place information
City	A	30	
County	A	30	
State	A	30	
Nation	A	30	
Continent	A	30	
Attribute 1	A	2	Optional resolved attributes
Attribute 2	A	2	
Attribute 3	A	2	
Attribute 4	A	2	
Attribute 5	A	2	
Attribute 6	A	2	

Alpha fields (A) are not padded to length, excepting empty Attributes, which are padded with two spaces, and empty expanded Place positions and comments which are filled with one space to avoid ambiguity. Numeric fields (N) are text, padded to length, right aligned. The length of each field in bytes is shown above.

Important: Double quotes (") in comments are replaced with single quotes (') to maintain file formatting integrity. Place and species names are not checked. If you have edited any of those names with double quotes you should remove them or replace them with single quotes before using the Export facility. Other software chokes on imbedded quotes during import.

At the beginning of an export, in response to prompts, you make three decisions about the format of the exported records:

The date field can be converted to the form MM/DD/YY instead of the normal MM/DD/YYYY. The shorter form is useful with some database programs which accept only two-digit years (PC-File, for example).

Up to six Attributes can be exported in separate fields. The Attributes are resolved in the sequence they appear in the comment. The / delimiters are removed. If you always enter Attributes in the same sequence during sighting entry (e.g. the sequence sex, habitat, nesting status) then, if records are exported to another program, subsequent data reduction by Attributes will be easy. (To maintain sequence during sighting data entry, if there is no appropriate Attribute for one of the positions, a "null", or meaningless, Attribute should be entered, e.g. /x.)

Optionally the sighting Place can be expanded to six fields containing the sighting Place and all Places it is linked to, similar to the "Show" function in the Places Tables facility. Because unused Place category fields are represented with a space, all the expanded Places occupy the correct fields, maintaining consistency for use in other programs. The original sighting Place field is retained to allow direct access to it in other programs.

The species number is provided only to allow subsequent re-sorting of the data in taxonomic sequence—otherwise, it is meaningless. Lacking a quantity entry when initially recorded, all sighting records contain a quantity field of one (1), which will be reflected in the export record. The two letter state/province abbreviation is provided when the sighting Place is, or is linked to, one of the U.S. states or Canadian provinces.

The records are exported in comma-quote delimited format. An example record with expanded Place and Attributes options follows: (Note that the sighting was recorded at the "City" Place level—therefore, the "Site" field is left blank (space). There were two Attributes in the record, /SO and /f.)

```
"Common Loon","Gavia", "immer", "Seattle", "01/25/1989", 32, "32 /SO/f on Elliott Bay at 9AM", "WA", "US", , 730, " ", "Seattle", "King County", "Washington", "United States", "North America". "SO", "f", " ", " ", " ", " "
```

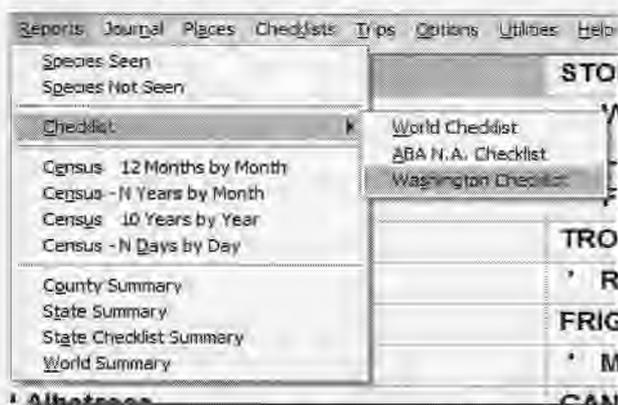
This exported data can literally be "poured" into virtually all spreadsheet and database programs. Most programs, such as Excel, Lotus 123, Access, Quattro Pro, and Paradox, examine the incoming data and automatically create the proper field sizes and formats. (Less capable programs require that the user first create a file format that matches the AviSys output.) The program import functions will refer to this kind of interchange format as "comma-quote delimited", "mail merge", CSV, or possibly just "ASCII."

CHAPTER 5

Reports

This chapter will go into more detail about Reports than *Chapter 1* did, covering a wider range of reports. It is assumed that you understand the material in the prior chapters, including a good understanding of Places and Custom Checklists.

Report Type Selection



At the main screen (Master Checklist) press **Alt-R** or click the **Reports** menu.

You are presented the Report selection menu where you have a choice of nine categories of reports:

- Species Seen** A checklist format report that lists the species you have seen under the circumstances you define in the Report Criteria dialog.
- Species Not Seen** The reverse of Species Seen, it shows the species not seen (a "hit list").
- Checklist** Prints the Clements World Checklist, the ABA N.A. Checklist, or an invoked state or custom checklist.
- Census-12 Months by Month** Prints a spreadsheet of the quantities of either sighting incidents or bird populations, in the geography and 12 month date range you define. Quantities are listed by month, with a starting month of your choice.
- Census-N Years by Month** The same as the above, except that you can define any number of years, and the months always start with January.
- Census-10 Years by Year** Similar to the above; you select a ten year date range. Quantities are listed by year.

Census-N Days by Day

A really neat spreadsheet for multi-day birding trips and for birding guides. You select up to 12 consecutive days. Sighting incident or population counts are listed by day.

County Summary

Pick a state. It will give you a one page summary of species seen counts for each county in that state. Use the Z-LIST to *remove* any bogus counties linked to the state.

State Summary

Produces a one page summary of species seen counts and checklist counts for states, provinces, and regions, as well as total ticks for the larger regions. Optionally produces a listing of all species seen, with indicators for the states and provinces in which the species have been seen.

State Checklists

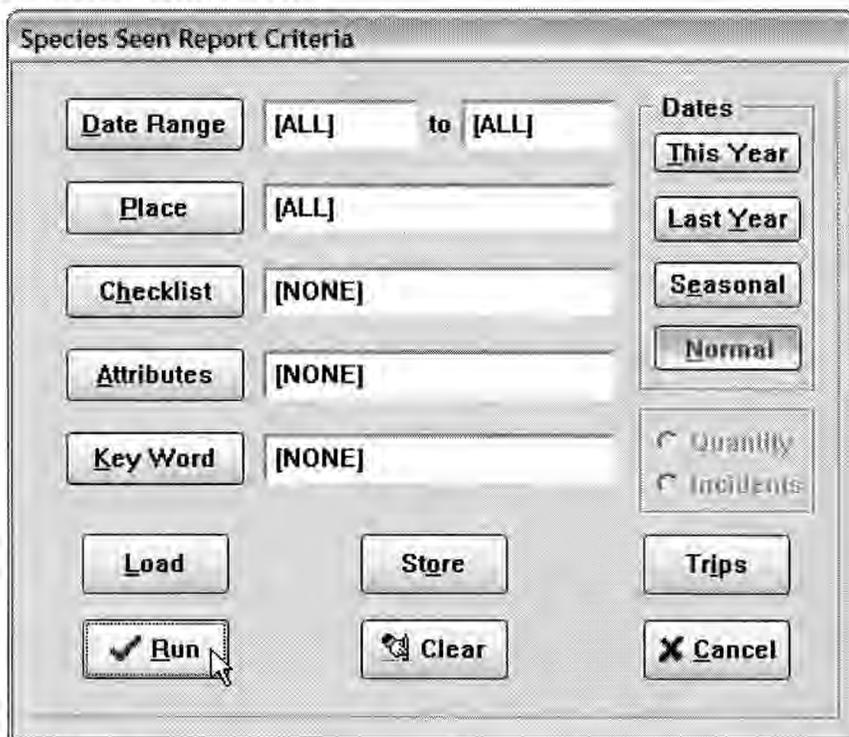
Produces a listing of all species in the N.A. Checklist, showing, for each species, the states that include that species in their checklists.

World Summary

Produces a one-page summary of your species seen counts for all nations, continents, and ABA Regions/Areas.

Report Criteria Selection

After selecting the report type, you are presented a Report Criteria selection dialog, like the one shown below.



The dialog box is titled "Species Seen Report Criteria". It contains several input fields and buttons. On the left, there are five rows of input fields: "Date Range" with "[ALL]" and "to [ALL]", "Place" with "[ALL]", "Checklist" with "[NONE]", "Attributes" with "[NONE]", and "Key Word" with "[NONE]". Below these are buttons for "Load", "Store", "Run" (with a checkmark icon), and "Clear" (with a trash can icon). On the right, there is a "Dates" section with buttons for "This Year", "Last Year", "Seasonal", and "Normal". Below that are two radio buttons for "Quantity" and "Incidents". At the bottom right are buttons for "Trips" and "Cancel" (with an X icon).

Selecting **Date Range** allows you to restrict the sighting records considered in the report to those with sighting dates within the range of dates you supply. The allowable dates are from 1/1/1930 to 12/31/2029.

Clicking the date edits is the same as clicking the Date button. However, if a data range is already loaded, clicking one of the edits pops up the Date Entry dialog for only the edit you clicked, *From* or *To*. Thus, **you can change either of the two dates separately**, instead of having to go through both date entries.

Clicking the **This Year** radio button will insert the date range 1/1/(this year)-12/31/(this year). Likewise, the **Last Year** button will insert a date range for the prior year. This saves keystrokes when selecting a year-to-date report.

The **"Seasonal"** button completely changes the meaning of the date range. For example, a Seasonal date range of 6/13/89 through 8/21/92 actually means "Select the records that occurred between the dates June 13 and August 21 for each of the years 1989 through 1992. (To be sure we've been clear—a record on September 3, 1990 would **not** be included.) In essence, **you can define your own "seasons,"** and run reports for them for any range of years.

Selecting **Place** allows you to restrict the sighting records used in the report to those assigned to the Place you select and any Places linked to it. For example, selecting Georgia would include sightings assigned directly to the state of Georgia, plus those assigned to Atlanta, DeKalb county, Stone Mountain, Tara, etc.

See the **The Places Z-LIST**, later in this chapter, for information about using multiple Places as an aggregate in a report criterion.

Clicking **Checklist** presents the Checklist selection menu where you can invoke a state or custom checklist, **restricting** the sighting records considered in the main body of the report to those of the species that are marked (included) in the invoked checklist. In a Species Seen report, species not included in the checklist, but which otherwise count as seen, are listed in an "Accidentals" appendix.

The **Quantity** and **Incidents** radio buttons are used for Census Spreadsheet reports, and determine if the spreadsheets will count the **actual quantities** of birds seen, or just the number of **sighting incidents** for each species.

Attributes and **Key Words** should be an integral part of your AvSys usage strategy and are covered in *Chapter 2, Power and Strategy*.

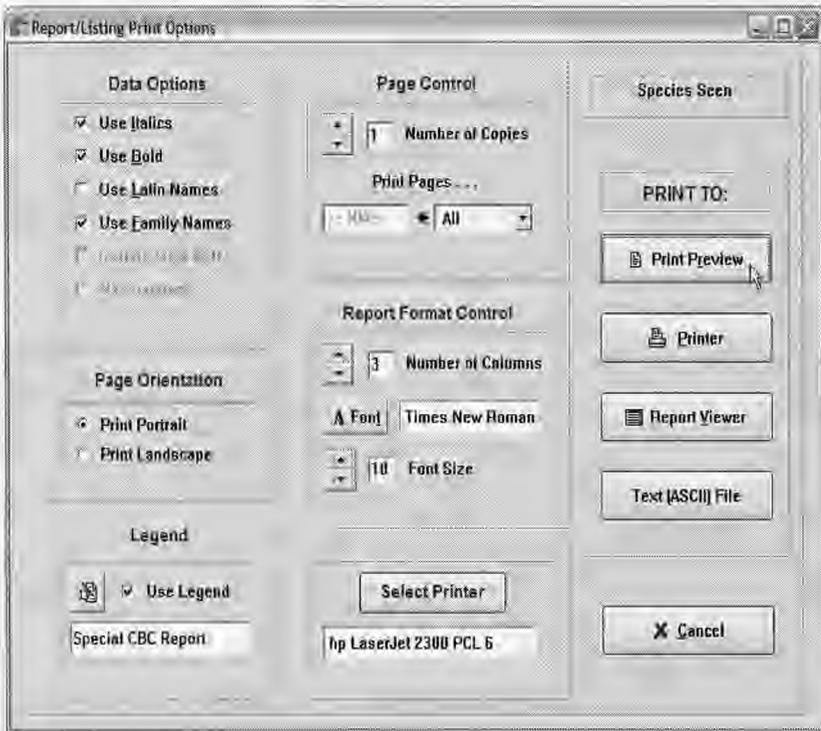
Clearing a Criterion entry

To clear any single criterion entry, select the criterion and then immediately press **Esc** or click the red **X** Cancel Button at whichever dialog is presented. Clicking the **Clear** button clears *all* the criteria.

Load and Store

See Chapter 2, *Power and Strategy*, for information about the **Load**, **Store** and **Trips** buttons which allow you to store a set of criteria for future use.

Report Print Options



After clicking **Run**, you will be presented the Print Options dialog.

Note: 90% of the time you will deal only with the PRINT TO: buttons.

The Report and Listing Print Options dialog gives you several options regarding the destination, style and appearance of the report output. The first part of the dialog you deal with is the group of destination **PRINT TO:** buttons:

Print Preview

This button provides a graphical (WYSIWYG) image of the printed pages of your report. If you have a good monitor, this is the option you will use the most. It gives you a view of exactly what the printed page will look like, including fonts and font styles. If your monitor does not give you a satisfactory view to read your data, use **Report Viewer**

Report Viewer

This is not really a Print operation. This button, which you will use if you just want to read the results, invokes a special high speed **screen viewer** that is custom designed for the particular report you are running. *(When you list your sighting records, as you did earlier, they are already listed in a viewer. Thus, this button is not relevant for listing records and is disabled.)*

Printer

This button sends your report output to your printer

Text (ASCII) File

This button sends your output to a text (ASCII) file on your hard drive. The precise format depends on the kind of report you are running. The details of the various formats are covered later. This is useful to send a report via an EMail message or to pour into a web page or document.

See PDFOPS.PDF in the base AVI6 folder for information about output to Adobe Acrobat PDF, the industry standard document interchange format, and RTF files for Microsoft Word. These provide the ultimate in EMail documents and quality publishing directly from AviSys. They are accessed from the Print Preview window.

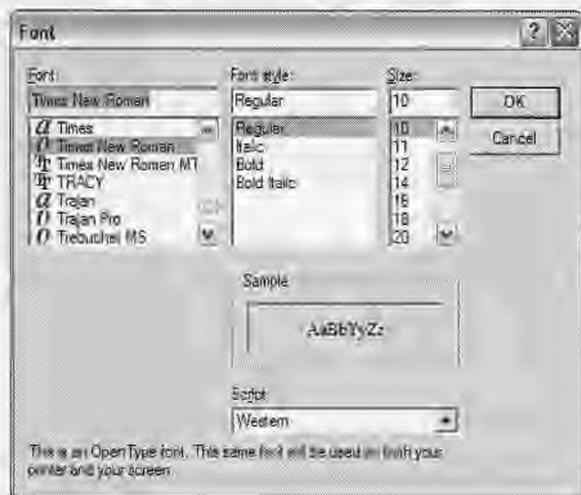
The **Columns** selection is appropriate only for Species Seen, Species Not Seen and Checklist reports. For more columns, select a proportionately smaller font. If you need more than 8 columns, enter the number directly into the edit. **For example, with 7 point Times New Roman font and 6 columns, you can get over 400 species of a Checklist or Species Seen report on one page!**

Use Italics, Use Bold, Use Latin Names, and Use Family Names check boxes are enabled only where they are appropriate to the selected report or listing. You will probably check **Use Latin Names** sparingly as it doubles the number of lines in a report and tends to obscure the more important report data.

Include Field Notes is enabled only when listing sighting records.

Print Portrait cause printing in the normal vertical format on paper. **Print Landscape** causes printing with the wide dimension of the paper horizontal. Reports and listings do not adjust their content or format to take advantage of landscape printing, but that mode does allow you to select a larger font for reports than you could normally use across the narrow width of the paper.

Legend allows you to add a legend (description) of up to 48 characters (24 characters for a Checklist) at the bottom of reports and listings. Click the Legend button to get an edit in which you type the legend you wish. If the **Legend** box is checked, the legend will be printed.



Copies allows you to print multiple copies. The **Print Pages** dropdown allows you to print only the odd or even pages of a report, or a defined set, such as 1,4-8,12. You can print **two-sided reports** by printing the odd pages, re-inserting the paper in your printer, then printing the even pages.

The **Font** button opens a dialog where you can select a font. With laser and ink jet printers, the True Type fonts are good choices. Frequently, a non-serif font like **Arial** provides a cleaner print image.

than a serif font like Times New Roman on the less expensive printers. **To use a font smaller than 4 points, enter it directly into the edit.**

If you have more than one printer or print driver installed, the **Printer** button will allow you to select the printer or driver of your choice.

Saving your Print Options: The current print option setup can be saved for use as the default every time you start AviSys. Use the **Options** menu.

Report Examples

Species Seen Report

The last page of a Species Seen report run to the screen viewer is shown below. The birder has asked: *"Show me the species I have seen in California in 1995. Use the California checklist so I can see any accidentals."* Note that the accidentals are shown separately on the last page, and their existence is made known by the "...incl. ACC..." remark in the seen count panel on the viewer. Accidentals, such as the Glossy Ibis, are species seen that were not included (marked) in the invoked checklist. Notice, also, that the checklist seen count in the title bar does not include the accidentals—it can't because they are not in the checklist.

See Chapter 1, *The Fundamentals, Running AviSys Reports*, for an example of a Species Seen report sent to **Print Preview** and your **Printer**.

1/1/1995 to 12/31/1995 - in California - California Checklist - 202 seen		204 Seen incl. ACC.
Wrenit	Lincoln's Sparrow	204 Seen incl. ACC.
CHICKADEES, TITS	White-crowned Sparrow	
Mountain Chickadee	Golden-crowned Sparrow	
Chestnut-backed Chickadee	Dark-eyed Junco	
Oak Titmouse	Savannah Sparrow	
LARKS	Black-chinned Sparrow	
Horned Lark	Lark Sparrow	
OLD WORLD SPARROWS	Rufous-crowned Sparrow	
House Sparrow	Green-tailed Towhee	
SISKINS, CROSSBILLS AND ALLIES	Spotted Towhee	
Pine Siskin	California Towhee	
American Goldfinch	Abert's Towhee	
Lesser Goldfinch	Black-headed Grosbeak	
Cassin's Finch	BLACKBIRDS, GRACKLES, ORIOLES	
House Finch	Red-winged Blackbird	
NEW WORLD WARBLERS	Tricolored Blackbird	
Orange-crowned Warbler	Western Meadowlark	
Yellow-rumped Warbler	Great-tailed Grackle	
Townsend's Warbler	Brewer's Blackbird	
Common Yellowthroat	Brown-headed Cowbird	
Wilson's Warbler	//// — ACCIDENTALS — ///	
BUNTINGS, SPARROWS, TANAGERS, AL	Glossy Ibis	
Fox Sparrow	Canyon Towhee	
Song Sparrow		

Species Not Seen Report

A “Not Seen” report has the same format as a “Seen” report (above). However, the only species printed are those that have **not** been seen under the criteria circumstances. If a state or custom checklist is invoked, only species included in that checklist and **not** seen are printed. An inquiry by the birder whose report is shown above might be: “*Show me the species I did not see in California in 1995, but include only those species in the California checklist.*” (A California “**hit list**” for 1995) See “**ABA Species Not Seen**” in Chapter 1, *The Fundamentals*, for special rules using [ABA Area] as a criterion.

Checklist Report

A Checklist report prints what you see on the Master Checklist in a standard columnar report. You are prompted for the options to include the ‘ and ” seen markers, and the [] or _____ checkoff markers at each species. If a Custom or State Checklist is invoked and selected for the report, the species not included (not marked) in that checklist are not printed. This report, when run to Text File, can also be used to create a checklist for the Palm Data Entry option.

Printing a State Checklist

Printing any state checklist is easy. Click **Checklists** in the main menu. If the state you want is not in the menu, add it. Select the state checklist from the menu. From the Report menu, select Checklist. You will see that the state has been added to the menu. Select the state. (See Chapter 1, *The Fundamentals*) You can also create and print a US or Canada checklist or, if you have the Nation Checklist Add-On, any nation checklist. (See Chapters 2 and 3.)

Census Spreadsheet Reports

There are four basic kinds of Census reports, as described in the first part of this chapter

Census reports create spreadsheets of either bird populations (based on quantities you enter in sighting records) or sighting incidents (where each sighting record counts as one incident, regardless of the quantity of birds.) This selection is made with the **Quantity** and **Incidents** radio buttons in the Report Criteria dialog.

The other criteria are selected as in Species Seen reports, except that the date entry method is different to accommodate the unique requirements of these reports—individual months, years, and or year counts are entered at prompts.

Note: When directed to Text File, Census reports are actually exported in a comma delimited text interchange format so that your census data can be poured into other spreadsheet or database programs, such as Excel, Access, Lotus 123, Paradox, dBASE, etc.

Species count totals are included, but not shown in the following examples. Also, with the Options menu you can substitute 1,2,3... for the month names.

The following is an **N-Years by Month** Census, of Sighting Incidents, for the 10 years starting in 1993, in California. The California checklist has been invoked to keep accidentals out of the count. The N-Years by Month report can include sightings for up to 99 years, but it always starts with January.

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Aber's Towhee	1	1	1	2	0	0	0	0	10	2	1	0	18
Summer Tanager	0	0	0	0	0	0	0	0	2	0	0	0	2
Western Tanager	0	0	1	0	0	0	0	0	12	0	0	0	13
Black-headed Grosbeak	0	0	0	0	0	1	0	0	0	0	0	0	1
Brown-headed Cowbird	1	2	1	4	0	1	0	0	8	0	0	0	17
Totals	855	1558	865	541	0	55	117	0	3531	932	195	153	8401
Species Totals	155	206	179	177	0	46	80	0	295	182	95	69	
Total Species	340												

Print OK California - California Checklist selected - 340 Species

In a **12 months by Month** Census, fragment below, note that you can start the report with *any* month.

	10	11	12	1	2	3	4	5	6	7	8	9	Total
Rufous-winged Sparrow	0	2	0	2	0	0	1	3	0	0	0	0	8
Rufous-crowned Sparrow	3	8	5	1	0	6	5	7	0	0	0	0	35
Green-tailed Towhee	7	10	7	8	1	9	8	5	0	0	0	0	52

A **10 Years by Year** Census reports annual numbers and uses only 10 columns.

	92	93	94	95	96	97	98	99	00	01	-	-	Total
Say's Phoebe	0	33	163	168	209	222	250	288	178	168	0	0	1677
Black Phoebe	0	51	243	200	195	226	188	228	171	176	0	0	1678
Vermilion Flycatcher	0	12	105	125	109	98	103	125	102	88	0	0	867

N-Days by Day, the great trip report, gives **daily** numbers, up to 12 days, with

	19	20	21	22	23	24	25	26	27	-	-	-	Total
Blue Grosbeak	.	X	X	.	X	X
Lazuli Bunting	.	X	.	.	X	X
Indigo Bunting	.	X	X	.	X	X
Painted Bunting	X	X	X
Dickcissel	X	.	.	.	X
BLACKBIRDS, ORIOLES, GRACKLES, ETC.													
Red-winged Blackbird	X	X	.	.	X	X	X	X
Eastern Meadowlark	.	X	.	.	X	X

ibility, the state code legend is repeated three times on each page when printed to paper or preview

In the case shown here, the user responded **Yes** to **Do you want to show checklist markers?** So, the state checklist status for each bird is also marked. The coding is thus expanded as follows: **X** means the bird was seen in the state and is in the state's checklist. **O** means the bird was seen in the state and is **not** in the state's checklist (an accidental). If the bird has not been seen in a state, it is marked + if it is in the checklist, and . if it is not.

Note the Golden-crowned Sparrow in the illustration. It has been called out as an accidental because it was recorded in Alabama but is not in the Alabama checklist. That accidental status shows up here as an **O**.

Frankly, this report is terrible to read. Nevertheless, it is the best way to present the required 244,000+ data points in one report of single page width. If you have a lot of sightings in just a few states, then the state columns will become obvious to you. But, if you have many sightings in many states, then you will probably need a straight edge—or great eyes.

However, if you use the Screen Viewer you can click the crosshair cursor between two state columns to place a **red guideline** so you can easily see a particular state's position in the column. Note the guideline set up between New Jersey and New Mexico in the illustration.

You might find the actual state summary to be much more useful. It is presented by itself, or at the end of the report when state detail is requested.

STATE/PROVINCE SIGHTING SUMMARY
All dates
CHECKLIST/SPECIES SEEN COUNT BY STATE/PROVINCE/REGION

Alabama.	.392	Maine.	.408.	Ohio.	.398
Alaska.	.445	Manitoba.	372	Oklahoma.	.447
Alberta.	377	Maryland.	.403 .52	Ontario.	.459.
Arizona.	511. .89	Massachusetts.	.460	Oregon.	.466..134
Arkansas.	.380	Michigan.	.401.	Pennsylvania.	387
British Columbia.	.466 32	Minnesota.	.414	Prince Edward Is.	.310
California.	.588 .299	Mississippi	.. 391	Quebec.	.417

The top portion (fragment shown) shows the checklist and seen counts for each of the states and provinces.

The bottom portion shows the regional seen counts and "total ticks," as well as species seen counts, for various geographic areas of interest to birders. "Total Ticks" is the summation of the species counts for the states and provinces in the areas defined.

Eastern Canada	0	Southwest USA	141
Central Canada	0	So. Central USA	1
Western Canada +AK	32	Southeast USA	140
Pacific Coast USA	317	Northeast USA	111
Rocky Mountain USA	90	No. Central USA	51

	Total Ticks *	Species Seen
ABA North America.	1217	.417
N.A + Hawaii	1246	.426
U.S.A incl Hawaii	1214.	.426
U.S.A w/o Hawaii.	.1185.	.417
Lower 48 states.	1185	.417
Canadian Provinces.	32	32

* Total Ticks is the summation of state species counts.

The regions are as defined in the ABA Regional Checklists:

Eastern Canada	PQ, NF, NS, PE, NB, NU
Central Canada	ON, AB, MB, SK, NT
Western Canada+AK	BC, YT, AK
Pacific Coast	CA, OR, WA
Rocky Mountain	ID, MT, CO, WY, NV, UT
Southwest	AZ, NM
So. Central	TX, OK, LA, KS, AR
Southeast	VA, NC, SC, GA, FL, AL, MS, TN, KY
Northeast	ME, NH, VT, MA, RI, CT, NY, PA, NJ, DE, DC, MD, WV
North Central	ND, SD, NE, MN, IA, MO, WI, IL, MI, OH, IN

Note: The state checklist status, as shown in the top portion of this report, used in other reports in AviSys, and used to print state checklists, is derived from the Tony White State Checklist data embedded in AviSys. You should keep your state checklists up to date by subscribing to the Tony White Quarterly State Checklist Update and Newsletter. Go to www.avisys.net and click the Order button on the first page to subscribe for only \$15 per year.

County Summary Report

When you select **County Summary**, you are prompted to select a state from the Places Table. Your Seen counts for all the counties in that state are reported, similar to the World Summary (shown next). If you have "bogus" counties linked to that state, for NWR's for example, you can list them in the Z-LIST to have them ignored in the report. Save that Z-LIST for future use.

To understand recursion, we must first understand recursion.
--- Anonymous

State Checklists Report

The State Checklists report is similar to the State Summary report when species detail and state checklist markers are requested. In fact, the differences are a little subtle, with the basic difference being that the State Summary shows **seen** species only, and produces a summary page.

State Summary Provides a **one page summary** of sightings, by state. Criteria, such as date range and Attributes, can be used to limit the report to specific records. **Optionally** produces species **detail of all seen species**, showing the states where each was seen. **Optionally** adds **state checklist markers** to the above.

State Checklists Produces **species detail of all** N.A. species, showing the states that include the species in their checklists. **Optionally** adds sighting markers. **Criteria cannot be used.**

World Summary Report



	Total Species Seen
Nepal.....	1
Spain.....	204
Switzerland.....	4
United Kingdom.....	41
Antarctica.....	7
Atl/Arct Ocn Plagc....	26
US-Hawaii.....	74
----- CONTINENTS -----	
Atlantic Ocean.....	60
Pacific Ocean.....	356
Indian Ocean.....	210
North America.....	1635
South America.....	1878
Africa.....	490
Australasia.....	626
Eurasia.....	215
South Polar.....	7
----- AREAS/REGIONS -----	
[ABA Area].....	724
[Canada].....	29
[US].(incl HI).....	758
[Lower 48].....	692

World Summary
All Dates

The World Summary Report presents your species seen counts for every nation, continent and ABA Reporting Area and Region.

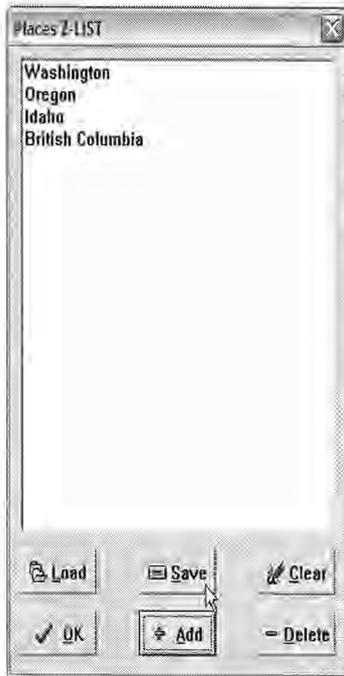
The example shown has been directed to the Screen Viewer. Note that it is scrolled part way down.

The report can use Date Range, Attributes, and Key Word criteria.

The ABA Areas and Regions are as described in Chapter 1, *The Fundamentals, ABA Reporting Area Descriptions*.

(Note that the Area [US] includes Hawaii, while the nation *United States* does not.)

The Places Z-LIST



To run reports with **multiple** Place criteria, at the AviSys main screen, select **File** and then **Places Z-LIST**. You are presented an empty list box. Using the **Add** button, you can add any number of Places to the list. For example, for the Pacific Northwest Region, you could **Add** the states Oregon, Idaho, Washington, and British Columbia to the list. **OK** closes the dialog.

Click **Places**. In either the Sites, Cities, or Counties table, add a Place called **Z-LIST**, spelled exactly like that, in caps. (We put one in Counties for you) **Don't link anything to this Place, and don't link it to anything. It's not real, it's a token.**

Now, when running reports or listing sighting records, if you select a Place criterion of **Z-LIST**, the report will include records for the combination (aggregate) of Places **currently** in the Z-LIST dialog. In our hypothetical case, the report would include all records for all four states.

You could make a Z-LIST for all the NWRs you bird in, or for a group of counties. On-line **Help** provides more useful information and examples about how the Places **Z-LIST** can be used to solve complex geographic reporting problems.

Note that you can **Save** the current Z-LIST in a .ZLF file. In our case, you might name it PNW.ZLF. You can then **Load** that Z-LIST any time you wish, and you can modify it and store it away again. You can **Clear** the list and **Delete** entries.

AviSys Output for Quality Publishing

The "checklist format" reports, reports that result in columns (Checklist, Species Seen, and Species Not Seen), when directed to ASCII (Text) files, are produced in a **single stream** form ideal for word processing and desktop publishing. The output file consists of a single "column," with each bird or family name followed by a carriage return and line feed. There are no page breaks or other codes.

If it's a Checklist report, AviSys will ask you if you want the "sighted" markers (' and ") printed. *Usually* you will respond "No" because you don't want to publish your sightings and, also, those markers can disturb the formatting of the species lists in the final output. For a Checklist report, you will also be asked if you want "checkoff" blocks ([] []) printed. These will not disturb report formatting so they are a good choice if you are creating a checklist for field use.

The single stream produced can be poured into newspaper-style columns in your word processor or desktop publishing program. **However, there are other forms of quality output that are much more important.**

From the **Print Preview** window, you have the options of converting a report or listing to:

Adobe Acrobat -- .PDF file -- the EMail solution

This is the document interchange standard for the industry. Any report or listing sent to a .PDF file can be sent to any other computer user, PC or Mac, as an email attachment, and the recipient will see the report in its full formatting, fonts and font attributes, just as you see it in the preview. *(The recipient may need to download the free Adobe Acrobat Reader from www.adobe.com, but most computers in recent years have included the reader.)*

Rich Text Format -- .RTF file -- the Microsoft Word solution

Microsoft Word can import .RTF files, and they will retain their full formatting and standard fonts and font attributes. *(At the moment, other word processors have difficulty with the complex formatting of AviSys reports, but that could change with word processor program updates.)*

Hypertext Markup Language -- .HTML file -- the web solution.

This output option produces an HTML web page document. A multi-page report will produce multiple pages, with Next and Prior buttons for navigating. If you maintain a web site, you can transfer reports and listings directly to your site.

See the document PDFOPS.PDF, in the base AviSys folder, for more information.

Double-Sided Page Printing

You can do two-sided report printing with laser or ink-jet printers. In the Print Options dialog, the **Print Pages** entry now offers **All**, **Odd**, or **Even**. Print the odd pages first, then turn the paper over, reload it, and print the even pages. You will have to experiment with your printer to determine how the pages are reloaded so that the blank sides are printed on the second pass. You may need to re-sequence the pages with ink-jet printers, or with laser printers that flip the pages as they are stacked.

Maximum counts for spreadsheet cells

Any single sighting record	65,534
Any spreadsheet detail cell	99,999
Any column total (bottom row)	999,999
Any species total (right column)	9,999,999
Grand total (bottom right)	99,999,999

5 digit counts (over 9,999) in any cell overwrite the left vertical divider bar. If any column total (bottom line) exceeds 4 digits, the totals are written, alternately, on two lines.

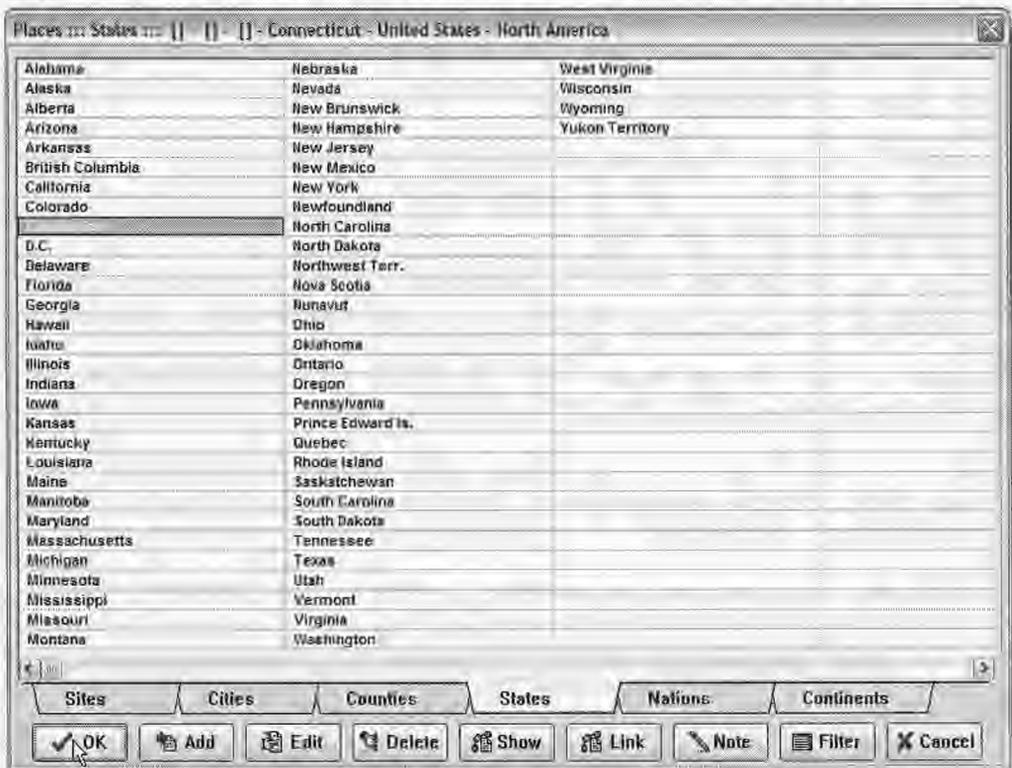
C H A P T E R 6

The Places Tables

You have already used most of the functions of the Places tables in *Chapter 1, The Fundamentals* and you may want to review Creating Places there. Because the concept of Places is so important to AviSys, I will be repeating some information you read about in Chapter 1, but in a little different format, as well as covering some things you haven't heard about.

AviSys Places are geographic entities that can encompass (or logically include) other AviSys Places. Press **Alt-A** or click **Places** on the main screen,

AviSys Places are divided into six pages, or tables, named as shown in the dia-



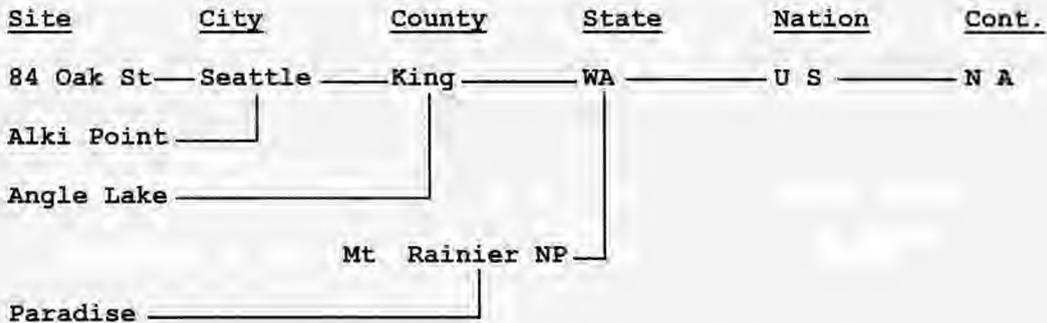
log. The pages of Places are arranged hierarchically from Sites—the smallest, or most granular, entities—to Continents—the largest and most encompassing.

Places are arranged as a “tree,” where a root, such as a Continent has a number of Nations attached to it by “linkages.” In turn, those Nations have attached States, which have attached Counties, which have attached Cities, which have attached Sites.

In AviSys, a reference to the Continent North America, for example, automatically includes (or encompasses) all its attached Places, be they Nations, such as Canada and United States; or States, such as North Dakota, or Sites, such as your back yard—whether they are linked to North America directly or indirectly through linkages to other Places.

Just as the roots of a tree have direct paths to the limbs and leaves, AviSys Places are also interconnected in an organized and intelligent manner

An imaginary **fragment** of a set of linkages could look like this:



Note that the Sites **84 Oak Street** and **Alki Point** are linked to **Seattle**, and that **Angle Lake**, a Site outside the city limits, is linked directly to **King County**, since the lake is not in the city, but is located in the County. Further, this birder has opted to define **Mount Rainier NP**, a very large area, as a County linked to **Washington** (State), and has linked the Site **Paradise** to **Mount Rainier NP**.

If you record a sighting at **84 Oak Street**, AviSys automatically updates your **84 Oak Street, Seattle, King County, Washington, USA** and **North America** lists, as well as your Life List.

The same is true of a sighting at **Alki Point**, except that the **Alki Point** list is updated, as well as **Seattle, King County** etc. A sighting at **Angle Lake** updates the **Angle Lake, King County, Washington, USA, North America** and Life lists. A sighting at **Mount Rainier NP** updates the **Mount Rainier NP, Washington, USA, North America**, and Life lists.

If you run a report naming a Place in the report criteria, AviSys works backward through the tree, gathering up all the Places linked to the defined Place. If you define Washington in a report, bird sightings assigned to Washington, King

County, Mount Rainier NP, Seattle, Angle Lake, Alki Point, Paradise, and 84 Oak Street will be included.

A sighting can be assigned to any Place at nearly any level in the tables.

You won't be creating a Place for every site, city or county where you happen to bird. You will create a Place when you have a **particular interest** in that spot for recording purposes. If you are birding in the wilds of North Dakota and see a Flicker, you would probably assign that sighting directly to North Dakota, bypassing any Sites, Cities or Counties. However, if the sighting happened to be in your home county, you might have a Place for that and record the sighting at the County level. (You can always put more detailed location data in the comment and you can run reports for that location by means of a Key Word.)

Most of the time, a sighting will be assigned to one of a few dozen of a birder's favorite birding spots (Sites), or directly to a County or State.

Here is some advice that is repeated in *Chapter 2, Power and Strategy*. Such locales as National Parks, state parks, and wildlife refuges are best added at the City or County level in the tables. They are more like cities or counties in their geographic position, and putting them there frees up space in your Sites table. This approach also allows you to define Sites within those parks.

Now that we've gone through Places concepts, let's look at the tables themselves. There are six pages (tables) Sites, Cities, Counties, States, Nations and Continents. Each of those tables can hold 450 Places, excepting Continents which holds 100. That's a total of 2,350 Places, a potential of 2,350 birding lists. By using Key Words in comments, **the number becomes unlimited**.

Select the **States** page. (You can select pages by clicking on their tabs or by using **PgUp** and **PgDn** to move through the pages.)

The functions available with the Places tables are shown on the buttons on the bottom of the window

Add, **Link** and **Show** operations are described in detail in *Chapter 1, The Fundamentals*, so they will not be covered again here.

Edit works just as Edit does in the Master Checklist. See *Chapter 3, The Master Checklist*. Editing a Place name has no logical effect on the operation of AviSys. It just changes the spelling of the name—use it for that purpose only

Alpha Jump

If you are a keyboard user, you can get to a Place on the current page by beginning to type its name. The cursor jumps to the Place closest in spelling to what you have typed. Within two or three characters it will be on the Place you want and you can press Enter. Escape resets the Jump operation.

Deleting a Place

To delete an existing Place, you highlight the entry and click **Delete**. If sightings are assigned to the Place, a message will tell you it can't be deleted until all sightings are either deleted or reassigned to other Places. Reassignment (editing) of sighting records is covered in *Chapter 4, Listing Sighting Records* and *Chapter 2, Mass Place Edits*. If any checklists are assigned to the Place, a similar message is issued. If there are any other Places linked to the one you are deleting, a warning message is issued—you will need to re-link those Places. When a delete is allowed, a confirmation prompt **"OK to delete Detroit?"** is issued.

Adding a Field Note to a Place

Note is used to attach a Field Note to a Place entry, or to view, edit or delete an existing Field Note. Use of the Note editor is covered fully in *Chapter 1, The Fundamentals* under *Making Sighting Entries*. Any Place entry with an attached Field Note has a ! indicator to its left.

Correcting or Changing Linkages

At some point, you may have a need to change existing linkages. For example, you might discover you have a city linked to the wrong county. To make the correction, place the cursor on the city and click **Link**. You will receive a warning message, but go ahead and make the linkage. (AviSys doesn't know you are trying to *fix* a problem, not *create* one.)

Similarly, you might decide to add a county you hadn't had before. Possibly you even had cities in that county linked directly to the state, bypassing the county altogether. Simply add the county and link it to the state. Then re-link the appropriate cities to the county. Ignore the warning messages.

Does all this re-linking cause you concern that you might be messing up your lists? Don't worry. **All those lists don't really exist anyway.** That is, when you request a listing or report from AviSys, all the Place linkages are resolved at the time the report is created. **Output from AviSys always reflects the current status of your Places tables, not the status when you entered the record.** You can feel free to make any necessary changes or corrections any time you wish. See **Mass Place and Key Word Edit** in Chapter 2.

The exception to the above is that you can not delete a Place to which you have sightings assigned. AviSys won't let you do that. If you need to delete a Place, first reassign any sightings to another Place, using the Sighting Record Listings editing facility.

The Linkage Display

When a Place is highlighted, its linkage is displayed in the Places table title bar. Levels in the linkage that are skipped, or prior to the subject Place, show as [].

Creating more than 450 Places of the same category

One AviSys user maintains lists for all 36 counties in Oregon. While AviSys can easily handle that many counties, he wondered what a birder with really expansive interests might do if he wanted county lists for many states and was in danger of filling up his county table.

The solution is easy. Assuming you would not be using a lot of your City Places, just use the spares in that table for your extra Counties. Link them directly to your state, as you would with any county. You should make the names very descriptive to avoid confusion, e.g. "Bernalillo County"

You could use the same scheme to create more than 450 Sites; simply place the extra Sites in the City table and link them directly to counties. This would preclude your linking such Sites to Cities, however.

AviSys doesn't really care what table a Place is in. The intelligence is in the linkage.

When a Place Becomes Less Important

There will come a time when a Place becomes less important to you and you want to delete it. Sometimes, re-linking other Places around it will take care of things. Other times, particularly with Sites, you will need to re-assign sighting records to other Places, usually to a level or two above the problem Place. Mass record editing gives you the ability to re-assign those records quickly and easily. See *Chapter 4, Listing Sighting Records, Mass Edits*, or especially, *Chapter 2, Mass Place Edits*.

Adding and Linking Places in One Operation

Prior discussions (in *Chapter 1 The Fundamentals*) had you creating Places first, and then going back and linking them. Actually, you can do both the adding and linking in one series of steps.

For example, suppose you need to record a sighting of an Arctic Tern at Butchart Gardens in Victoria, B.C., Canada, and you discover you have neither of those Places in your tables.

Go to the Sites table, and **Add** Butchart Gardens. Then click **Link** and go to the Cities table. **Add** Victoria. Note that "Linking Butchart Gardens" is still displayed—AviSys knows what you are up to. With the cursor still on Victoria, select it. The linkage is done. But you still need to link Victoria to British Columbia, etc. So, with Victoria still highlighted, click **Link**, go to the States table and select British Columbia to complete the linkage. (British Columbia is already in the States table, and linked to Canada, which is linked to North America.)

Clearly, this process is not for the faint of heart—it's easy to lose track of what you are doing, but there are messages presented in the process to help you. If you are up to it, so is AviSys.

State and Province Abbreviations

The State Summary and State Checklist facilities use the standard state and province postal abbreviations. Those abbreviations are “mapped” to the Place names in the States Places table. However, the mapping process depends on the state names being spelled exactly as they were when AviSys was delivered to you. Therefore, you can't edit a state or province name.

The Filter Button

The Filter button allows you to highlight all Places that are linked to a given Place. For example, if you highlight Washington (state), and click Filter, all the Places linked to Washington will be highlighted, such as Seattle, or Olympic Peninsula. This makes it easier to work with a group of geographically related Places.

Blinn's Primary Postulate:

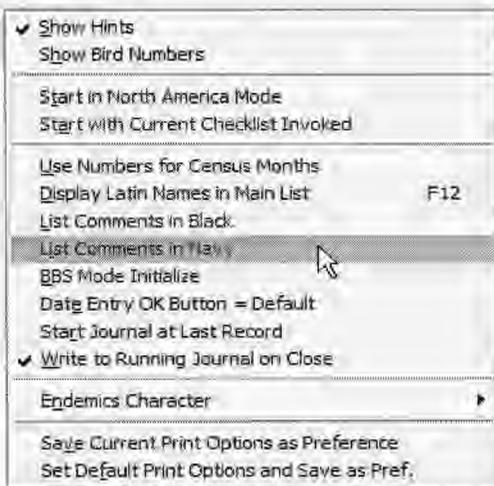
The computer is always right—programmers are occasionally right.

Notes

C H A P T E R 7

Options and Utilities

Options



From the main screen, press **Alt-O** or click **Options**:

Show Hints: If the “hints” at the mouse cursor bother you, you can turn them off by clicking this item.

Show Bird Numbers: When you are adding species to the Master Checklist, it is helpful to know the bird number of a bird and its neighbors so that you know how many spaces are left between species. Selecting this item causes the panel at the bottom of the screen to show the bird number of the highlighted species.

Start In North America Mode: When this is checked, AviSys will start up in North America display mode rather than World display mode.

Start With Current Checklist Invoked: If a checklist is invoked when this is selected, AviSys will always start up with it invoked and in Checklist Mode.

Use Numbers for Census Months: Causes monthly spreadsheet reports to use 1,2,3. .. instead of Jan, Feb, Mar Useful for CBC reports.

Display Latin Names in Main List: When checked, the Master Checklist displays Latin bird names and the status bar displays the English name. Pressing **F-12** produces the same result. Defaults to not-checked when AviSys is started.

List Comments in Black/Navy: For unusual Windows color schemes, comments in listings are shown in black or navy blue, rather than gray, for visibility

BBS Mode Initialize: See Chapter 2, *Power and Strategy, Initialize BBS Mode.*

Date Entry OK Button = Default: Changes the behavior of the date entry dialog. With this checked, pressing **Enter** at any time will accept the current dialog date. You move among the day, month, and year edits using **Tab** and **Shift-Tab**. This is traditional Windows behavior

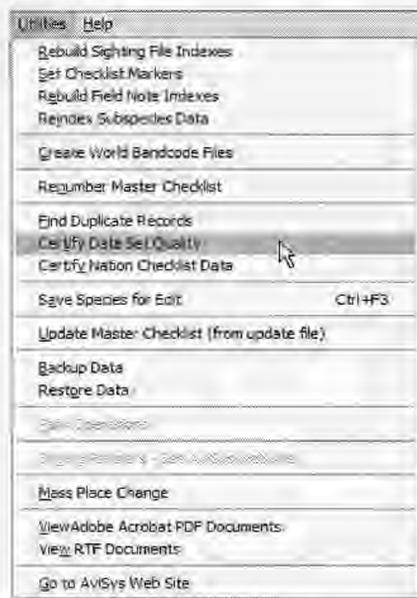
Start Journal at Last Record With this set, when you click Journal, the list will be set to the last record (the last record you entered), rather than the first.

Write to Running Journal on Close This enables, and maintains, the Running Journal. See Chapter 2 for details.

Endemics Character: Sets the character (. ! or none) used to mark endemic species in reports and on screen if you have the nation checklist add-on.

Save Current Print Options As Preference: stores the current condition of the Print Options dialog, including: Font; Font Size; Italics, Bold, Latin Names, Family Names; Include Field Notes; No Comments; Column Count; Portrait/Landscape. It does not save Printer Selection, Copy Count; Print Pages. This print options setup is loaded each time you start AviSys. You can also return the print options to the AviSys **default** condition with the next menu selection.

Utilities



From the main screen, press Alt-U or click Utilities. The first four Utilities functions are to be used when some unusual thing has happened while running AviSys, such as a power failure or a hardware malfunction. Generally you sense this condition by erratic operation; terse, obviously internal, error messages; by sighting records not being interpreted correctly during listings; or incorrect ' and " sighted markers.

When one of those situations arises, AviSys usually senses the trouble and automatically invokes these utilities.

If you have one of the above symptoms, use of the utilities could resolve the problem:

Rebuild Sighting File Indexes: If you receive fatal errors from AviSys during any

Sighting File Listing or Reports operation, or if you are convinced AviSys is missing sighting records during one of those operations, use this function. It reads the contents of all your sighting records and creates a new index file.

Set Checklist Markers: If the ' and/or " markers in the Master Checklist are missing or are incorrect, use the **Set Checklist Markers** function.

Rebuild Field Note Indexes: If AviSys fails to find Field Notes, or displays incorrect ones, use this utility

Reindex Subspecies Data: Used when the Master Checklist has been updated to a new taxonomy or otherwise modified.

Create World Band Code Files: Use the first time you start AviSys, and when you add species to the Master list.

Renumber Master Checklist: If you add species and need more room between two species, use this function.

Certify Data Set Quality: In cases of the most catastrophic form of hardware failure, or the improper mixing of data files of different vintages (see *Chapter 2, Power and Strategy Using Multiple Data Directories Don't Play the Shell Game*), it is possible that AviSys will give error messages or produce obviously bad results during listings or reports. In such a case this utility may provide the fix for the current problems.

Certify Nation Checklist Data: If you have the nation checklist add-on, use this function to ensure that the birds in the nation checklists match those in the Master Checklist. Used when you first get the add-on and when you update it.

Save Species for Edit: See Editing Records in Chapter 3.

Update Master Checklist: This item is enabled when a taxonomy update has been downloaded from the AviSys web site and installed in AviSys.

AviSys Partners: See the AviSys web site, www.avisys.net

Palm Operations: See the AviSys web site, www.avisys.net

Mass Place Changes: See Chapter 2, *Power and Strategy*.

View Adobe Acrobat / RTF Documents: See PDFops.PDF in the base AviSys folder and Chapter 2.

Find Duplicate Records

This facility checks all records in your sighting file for records that have identical Species, Date and Place fields. (It does not automatically check comments because a user would be very unlikely to enter exactly the same comment in an inadvertent duplicate record.)

The output is a file in your data set directory named DUPLICAT.TXT You can load it into Notepad, or a similar editor or word processor, to view or print it. Its format is as follows:

Great Crested Grebe ~ United Kingdom ~ Nov 2, 1995

----- Staines Reservoir

----- Virginia Water (Surrey/Berkshire)

----- Chichester-Selsey (Pond)(West Sussex)

Western Grebe ~ Eagle Point Rd. ~ Jul 11, 1992

Double-crested Cormorant ~ Oregon ~ Aug 10, 1990

----- Oregon coast.

----- Oregon coast.

Red-winged Blackbird ~ Pt.Reyes ~ Aug 11, 1991

----- Pt.ReyesBirdObserv.-Pt.ReyesLt.H.-Abbott Lagoon

----- Pt.ReyesBirdObserv.-Pt.ReyesLt.H.-Abbott Lagoon

For each pair or more, of duplicates the Species, Place and Date are listed. Then, for each of the duplicate records the comment, preceded with -----, is listed. (Thus, for every pair there will be three lines, for every triplicate, four lines, etc.)

In the above example, the first duplicate group is three records. Judging from the comments, they are not true duplicates—each shows a separate location for the sighting in the comment.

The next two pairs are truly suspicious. They have either no, or identical, comments, suggesting that the user entered records from a trip list twice. There is simply no question about the last pair; they are duplicates.

You can delete duplicate records with the List Sighting Records facility

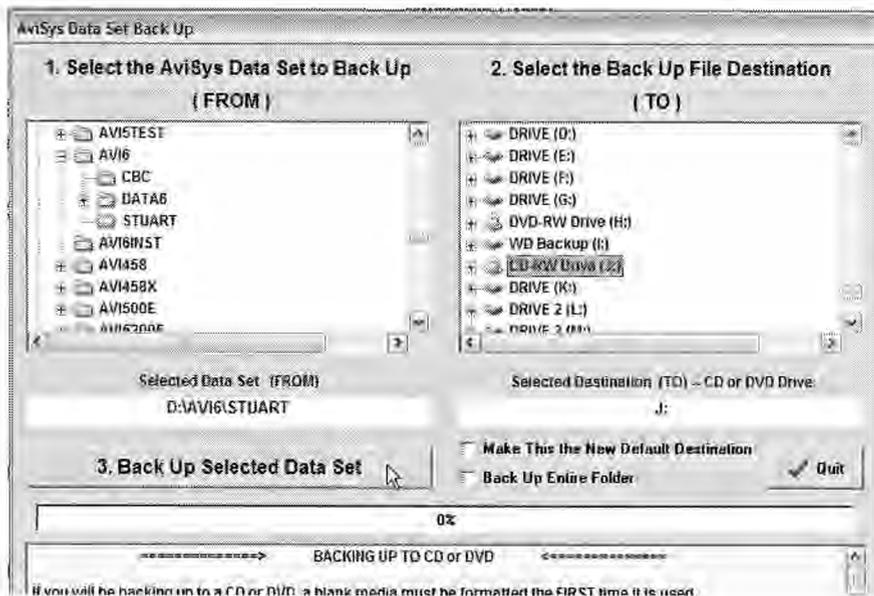
Each time you run the duplicate check, you are asked, “**Have Comments Participate in Duplicate Check?**” This option should be taken **only** when the duplicate result file without a comment check is much too large to deal with. Using the comments will cause records to show as duplicates only if they also have identical comments. While this would significantly reduce the number of duplicates, the manner in which the comments are checked will allow comments with identical Key Words and/or Attributes, but in different sequences, to be detected as duplicates. (The two comments **/MD Rainy Michael** and **Michael /MD Rainy** would show as a match.) A side effect of this technique is that on rare occasions a clear mismatch will show as a match. Those will be obvious to you.

Doing a Backup of Your Data

You will, or should, use this utility often. The selected data set is compressed and written to a **single** backup file on the selected destination drive. The backup file is compressed in the industry standard PKZIP 2.04g archive format. The file will be named something like JOHN.AVZ, depending on what you named the data set. **Do not attempt to “open” or “run” either the backup archive file or any of the files contained in it—leave that work for the AviSys Restore facility which can do it correctly.**

Important Note: We recommend that you rotate through **three** backup media for each data set, always selecting the oldest media for each backup. After each backup, date the media. And it is very easy, and cheap, to take one of the backup media off site, to your office, or to grandma’s house, for maximum safety

When you select **Utilities | Backup Data**, you are taken to a dialog where you **(1.)** select the data set to back up, such as C:\AVI6\JOHN, and then **(2.)** select the target drive for the backup—a diskette drive, a hard drive directory, or some other drive such as a **properly formatted and supported CD-R(W)** drive or a flash drive.



The CD must be formatted before backup. Just as if you were to try to save a Microsoft Word document to CD, the blank CD must be formatted by your CD software before it can be written to.

(CD drives are not standard Windows I/O. Each computer has special CD software installed which handles all reading and writing of files, even when you do a drag-and-drop.)

Mount the CD. In My Computer or Windows Explorer, highlight the **CD drive**, RIGHT-click it, and **carefully** select Format (*by carefully, I mean be sure it's the CD drive you have selected*). (If no "Format" appears on the context menu, your system's CD software has not provided that facility -- you need to start the CD software provided with your computer and perform the format there.)

Instructions for **formatting a CD** are also provided in a memo at the bottom of the backup dialog.

Returning to the Backup dialog, once the source (FROM:) and destination (TO:) are selected, you click **(3.) Back Up Selected Data Set**.

If you choose to back up to a hard drive, you should select a drive other than the one on which AviSys is installed. If you back up to the same drive, a drive crash will destroy your AviSys data set **and** your backup -- **Not Good!** And remember, just because you have hard drives C, D, E, and F doesn't mean you have four separate hard drives. They could all be partitions on the **same** physical hard drive, and **if one crashes, all of them crash!**

If you do not know how to “browse” through drives and folders in the From: and To: dialog windows, please consult the Windows operations tutorial that came with your computer. “Browsing” files and folders is a fundamental Windows operation—we can’t teach you how to do it.

Restore Data

This utility presents a dialog almost identical to the one described above. It restores the data from a backup diskette, or drive/directory, to the data set you select. You do not need to have that data set invoked. **Restoring the current data set will not affect the data on screen until AviSys is restarted or a data set swap is done.** **Note:** be careful that you restore to the same path the data was backed up from, such as **C:\AVI5\JOHN**, to be certain you don’t accidentally overwrite the wrong data. Instructions are provided in each of the dialogs -- follow them carefully **Always follow with Utilities | Rebuild Sighting File Indexes.**

Restoring Data if AviSys Won’t Start

If the current data set is badly damaged, AviSys won’t start. Thus, you can’t get to the Utilities menu to do a data restore from a backup. In that case, from File Manager or Explorer, run the program **RESTORER.EXE** from your base AviSys directory, presumably **C:\AVI6**.

View Adobe Acrobat PDF Documents: When you click this menu item, you are taken to the AviSys Adobe Acrobat PDF engine. There, if you click View All PDF Documents, you will see, and can open, all the AviSys instructional PDF documents that were installed with AviSys. (You can’t create a PDF file in this mode.)

View RTF documents: As above, except that you see only RTF documents. It’s unlikely that you will have any in the folder displayed, but you can then browse to you data set folders to find files you created.

Go to the AviSys Web Site: This will take you to the AviSys web site, ***www.avisys.net***

Smith's First Invalid Assumption: “If it's not in the index, you didn't really need it.”

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The Shawneen Finnegan Nation Checklist Add-On

AviSys can import and seamlessly integrate the Official Shawneen Finnegan Worldwide Nation Checklists as provided in BirdArea from Santa Barbara Software. This add-on provides the most authoritative and up-to-date nation checklists of the 254 nations and other important geographic entities of the world -- the ranges of 9,793 species over 254 nations 2,487,422 data points!

This monumental work, performed over several years and continually updated, is the result of an incredible effort by Shawneen Finnegan, an experienced birding professional. It has a bibliography of 800 books, checklists, and papers. Shawneen has access to 14 personal and institutional libraries, assistance from many dozens of authorities around the world, and input from national records committees. The depth and quality of these checklists are simply unmatched.

The Nation Checklist Add-On (BirdArea) is available from us for \$59.95* plus \$4.00 S&H at www.avisys.net -- click the Order button near the bottom of the first page. Annual updates are available from SBSP for a modest charge. After an easy installation, the range data becomes seamlessly and tightly integrated with AviSys -- no other use of the BirdArea software is required. When this data is integrated with AviSys, AviSys provides the most powerful, useful, professional, and authoritative nation checklist function of any available birding software. The depth of features and ease of use in AviSys are simply unmatched anywhere.

* price is as of this publishing date

The Tony White State Checklists

The state checklists as provided with your copy of AviSys were current as of the date of shipment. Those checklists are the authoritative state checklists, provided by the author who produces the printed regional checklists for the American Birding Association and is the acknowledged expert on state checklists.

You should keep your state checklists up to date with the quarterly Tony White Newsletter and Automated State Checklist Update Utility. You can subscribe on the AviSys web site, www.avisys.net, for only \$15.00 a year. Click the Order button near the bottom of the main page.