

Integrated Monitoring In Bird Conservation Regions (IMBCR): Data Entry Protocol



March 2012



ROCKY MOUNTAIN BIRD OBSERVATORY

Mission: *To conserve birds and their habitats*

Vision: *Native bird populations are sustained in healthy ecosystems*

Core Values: *(Our goals for achieving our mission)*

1. **Science** provides the foundation for effective bird conservation.
2. **Education** is critical to the success of bird conservation.
3. **Stewardship** of birds and their habitats is a shared responsibility.

RMBO accomplishes its mission by:

Partnering with state and federal natural resource agencies, private landowners, schools, and other nonprofits for conservation.

Studying bird responses to habitat conditions, ecological processes, and management actions to provide scientific information that guides bird conservation efforts.

Monitoring long-term trends in bird populations for our region.

Providing active, experiential, education programs that create an awareness and appreciation for birds.

Sharing the latest information in land management and bird conservation practices.

Developing voluntary, working partnerships with landowners to engage them in conservation.

Working across political and jurisdictional boundaries including, counties, states, regions, and national boundaries. Our conservation work emphasizes the Western United States, including the Great Plains, as well as Latin America.

Creating informed publics and building consensus for bird conservation needs.

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Singing MacGillivray's Warbler; By Glen Tepke (pbase.com/gtepke). Used with permission.

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I. Accessing the Databases

You will need to visit up to three separate web pages in order to enter all the data associated with a given transect.

Private Landowner Contact Information

You can record information regarding private landowner contacts by visiting <https://fc.rmbo.org/Default.aspx>. Once there you will need to log in and click on the link entitled "Landowner Database".

Transect Description Information

To change or enter information on how to get to a transect please visit: <http://www.rmbo.org/dataentry/mcb>. This link will take you to a login page where you will be asked to enter your Username and Password. Both will be provided to you. After logging in you may change your password by clicking the "Change Password" button found in the middle of the page. You will be prompted to enter the old password and then a new password. Please keep your password in a safe place where you can access it throughout the field season. If you forget your password, contact IT (970-482-1707 ext. 10, it@rmbo.org) and they will reset it for you.

Survey Information

In order to enter data collected during a survey you will need to open the index.htm file that your crew leader provided for you.

II. Data Categories

The data entry can be broken up into 6 major sections:

A) Landowner Contact Information

Recording all forms of communication with private landowners.

B) Transect Description

Directions to the transect, notes about the transect, camping, landowner contact information, etc.

C) Transect Visit Data

Observer, transect name, date, start and end times, sky, wind, temp, etc.

D) Point Visit Data

The points visited during the survey, start times, gps accuracy, reasons points were not surveyed, etc.

E) Vegetation Data

Vegetation and other point information such as the presence/absence of prairie dogs.

F) Bird Data

Species recorded at the point, and information related to the observation such as detection type, sex, distance from observer, etc.

III. Entering Data

A) Landowner Contact Information

To access the Landowner Database go to: <https://fc.rmbo.org/Default.aspx> and login. Next, click on the link for the Landowner Database. To find a landowner you can either use the search box in the upper left corner of the screen or select the transect associated with the landowner using the drop down menu in the upper right corner. To view information or update the contact log for a particular landowner click on the landowner's name. To add contact information click on the button at the top of the screen labeled "View Contact Log" and type a description of the contact/contact attempt in the text box and click on the "Add Note" button using your mouse (pressing the "Enter" button will not add your comment to the log).

Please be specific when recording contact information. Try to include whether or not you spoke with someone or if you reached their voicemail, whether or not you left a message, and what the outcome of the correspondence was. For example, "Called and left message on voicemail asking Frank to call me back" is more informative than "Called, no answer". Each contact note will be "tagged" with a date and time stamp as well as your name. If you are unable to add the note to the contact log immediately after the correspondence please include the date and time when the contact was made/attempted in the note since the time stamp will be incorrect.

B) Transect Description

To record or edit transect description information go to: <http://www.rmbo.org/dataentry/mcb/default.aspx> and login. Select the "Transects" link at the top of the page, use the scroll-down menu in the upper left corner to select the transect you would like to edit, and press the "Select" button. Once the page loads, you should see the name of your transect in red at the top of the page. If the transect has been surveyed in past years, this page should already be filled out. For all transects make sure that the following information is entered and accurate.

1. **Access Point (AP)** - Enter the zone, easting, and northing of the access point (where you parked your vehicle to access the transect) if it is different from previous years.
2. **DL Page** - Enter the page number and coordinates from the Delorme (e.g., if the transect can be found on page 12, at the coordinates B4, then enter 12 B4).
3. **Time required for the transect** - Enter the average amount of time it takes to survey the transect (from the start of the first point to the end of the last). Do not include time hiking to and from the transect in this section.
4. **Accessible to** - From the drop-down menu, select what type of vehicle is required to get to the access point. Your choices are: all vehicles, high-clearance, or 4WD only. If a transect requires both high-clearance and 4WD please select 4WD only.
5. **Directions** - It is absolutely crucial to have detailed and accurate directions to every transect. If you conduct a survey for the first time, please make sure to provide UTM's of the most logical and efficient location from which to access each transect. This location should be recorded as the Access Point and is the end point for the driving directions you provide. Also, be explicit in your description of the Access Point itself. The Access Point should be an easily recognizable feature on the landscape (e.g., a cattle guard, sign post, parking turnoff). Driving directions should begin at a major landmark readily found on a map (e.g., town, major intersection, etc.) and end at the

Access Point. Record mileages from intersections or other landmarks using your odometer to the nearest 10th of a mile.

If the directions you received for a transect are incomplete or inaccurate, enter correct directions into the database.

Finally, provide directions from the Access Point to the logical first point count location on the transect.

Example: From Prescott, AZ head North on US-89 for 34.8 miles. Turn right onto Drake Road and follow this road 6.5 miles past the quarry. Turn right onto FR 182 and drive another 0.9 miles, just past where the electric fence crosses the road. This is the Access Point. Point 4 is 1.79 km E from the AP. Easy hike in, ~1/2 hour.

- 6. Transect Description** - The transect description section allows you to provide information outlining what a future technician should expect when surveying a transect. This should include notes on habitat type(s), slope, useful landmarks, vegetation, terrain, and tips on how to navigate between points (where applicable). Record any points that are inaccessible and why (e.g., on a steep cliff, in the middle of a lake, etc.). If there is a preferred survey order due to terrain or other reasons you can record that information here as well. Please refrain from recording specific bird species detected on the transect as this can bias future survey data.

Example: Moderate transect in rolling hills of Pinyon-Juniper. Suggested order of points: 16-13, 9-12, 8-6, 2-4, points 1 and 5 inaccessible due to cliffs.

- 7. Notes/camping** - Record any other important or interesting information here, wildlife encounters, road conditions, etc. Please also record the location at which you camped the night before conducting the survey, available amenities (if any) and the cost. Please include the UTM's of camping site if different than the AP. It is also helpful to know if camping at the Access Point is an option and if any alternatives are available in the area. Information on local services such as fuel, libraries, etc. is also helpful.

Example: points 13-16 are owned by Anne and Timothy Scott; contact them the day before at 820-999-8888. Remaining points are public - USFS. Camp at the AP or at one of several dispersed camping sites with fire pits and picnic tables located along FR 182. Nearest library is located in the town of Prescott.

C) Survey Data

Transect Visit Data, Point Data, Vegetation Data, and Bird Data should all be entered by double clicking on the browser file entitled "index.htm" which will be provided to you by your crew leader. This data entry system works the best in Firefox (free downloads are readily available). If Firefox is not your default browser, right click on the index.htm file and select "Open With" and then select Google Chrome, or open a blank tab on google chrome and drag and drop the "Index" file into the open browser window.

These data can be entered offline and then subsequently uploaded into RMBO's database. At this time, there is no way to easily edit or complete data entry on a different computer than that which the data were initially entered on. This means that

once you begin to enter data for a transect on one computer you should ensure that you can finish entering all the data for that transect on that same computer. Also, BE SURE to upload any data that you enter; otherwise, your data entry efforts will be lost (since no one else can upload the information you've entered without your computer).

Occasions may arise where the data recorded on the data sheet seem incorrect or are missing. Under no circumstances should you enter any values other than those recorded on the data sheet or those values which are designated below to indicate "missing values". If you run into a problem where you must enter a value and do not know what to enter, please contact your crew leader or Chris White (chris.white@rmbo.org).

When entering data we recommend that you use the "Tab" button to move from one field to the next across rows. To return to the previous cell you can use "Shift + Tab".

1) Transect Visit

This is the start-up page upon opening index.htm

- a. **View Options** – The very first thing you should do before entering any data is to make sure you are using the correct version of the program according to your study area. Since we conduct surveys using a variety of study designs, we customized different data entry pages for each study design. When you select "View Options", you will get a pop-up window that says "Data Entry Options" at the top. You will be given a list of options to choose from: IMBCR, Habitat, Parks, or Jalisco. At training your crew leader will instruct you on which version you should be using.
- b. **Observer** - Enter the observer's username login using the drop down menu **(Required)**.
- c. **Date** - Enter the date on which the survey was conducted as mm/dd/yyyy by typing in the appropriate digits or by selecting the date from the pop-up calendar (e.g., 07/15/2005). **(Required)**
- d. **GPS Unit** - Enter the four digit number located on the silver property tag of the GPS unit that you used to complete the transect. If you are using a personal GPS unit or you are using a GPS that was provided to you by your employer that does not have a silver property tag on it please enter "0000".
- e. **Transect ID** - Select a Transect ID from the drop-down list. (Note: if you click in the box and then type "c" the list will jump to the Colorado transects, or type "w" and it will go to the Wyoming transects). **(Required)**
- f. **Who Collected?** - Select the name of your employer from the drop down menu. **(Required)**
- g. **Data Entry** - Type in your first and last name. Please be sure to enter this even if you were the observer for this transect visit.
- h. **Time** - Enter the start and end time of the survey using the format hhmm (e.g., 0545) (Note: there is no colon and the time must be 4 digits. Enter a "0" in the first place holder if the time is between 1 AM and 9 AM). If no time was recorded on the data sheet enter "0000".
- i. **Sky** - Enter the Sky information recorded at the start and end of the transect. If no Sky information was recorded enter "-1".

- j. **Wind** - Enter the Wind information recorded at the start and end of the transect. If no Wind information was recorded enter “-1”.
- k. **Temp** - Enter the temperature in degrees Fahrenheit recorded at the start and end of the transect. If no Temp was recorded enter “-99”.
- l. **Notes** – Record any notes written in the “Notes” section of the data sheet.

2) Point Data

To enter Point Data click on the button labeled “Point Data” located at the bottom of the screen. Add a row for each point on the survey, regardless of if you surveys that point. For IMBCR surveys, each transect has a total of 16 points, so in this case all 16 points should be added. Please enter the points in numerical order on this page. **This will make it easier for us to proof the data after the field season.**

- a. **Start Time** – Enter the start time for each point from the Bird Data sheet in the format hhmm (e.g., 0545) (Note: there is no colon and time must be four digits. Enter a “0” in the first place holder if the ime is between 1 AM and 9 AM). If no time was recorded on the data sheet for a given point enter “0000”.
- b. **Accuracy** – Enter the accuracy of the GPS location that was recorded on the Vegetation data sheet in meters. If no accuracy was recorded on the data sheet enter “-1”.
- c. **Completed** – Select a reason why the point was not completed from the drop down menu if you did not survey the point. This information can be found on the back of the Vegetation Data sheet. By default each point is set as “completed”.
- d. **Notes** – Type any notes associated with reasons why points were not completed.

3) Vegetation Data

Those of you that are not required to collect vegetation data for your study design should have chosen a data entry option that does not have a “Vegetation Data” tab and you should skip this section. For the rest of you, click on the button labeled “Vegetation Data” located at the bottom of the screen. You can quickly create rows for all the points that were completed on the survey by clicking on the “Add Rows From Point Data” button located below the vegetation data table. Alternatively, you can create empty rows to enter the Vegetation Data into by clicking on the “Add Row” or “Add Five Rows” buttons. Enter all the vegetation information for each point following the directions below.

- a. **Private property** - click the box for each point that is on private property. Otherwise, leave blank.
- b. **Primary habitat** - Enter the 2 letter code or select the code from the drop down list that corresponds to the primary habitat that was recorded. If this field was left blank on the data sheet please select “XX – Not recorded”.
- c. **Canopy Cover (%)** - Enter the percentage of *overstory* cover, rounded to the nearest integer. Do not include decimals. If there is no overstory enter “0”.
- d. **Canopy height (m)** - Enter the estimated mean height of the canopy, rounded to the nearest meter. If there is no overstory leave this blank.
- e. **Overstory species and abundance** - Enter the two letter code of each species followed by its percentage abundance as a whole number. You can

verify that the species percentages for each point add up to 100% by looking at the “Total %” column located to the right of Species 5 Abundance. If the Total % does not add up to 100, check that you have entered all of the percentages correctly. If you have entered all of the percentages to reflect the data sheet and the Total % column does not equal 100 don't worry about it and move on. Do NOT change the values to sum to 100% if the values on the data sheet do not sum to 100%. Leave this section blank if there is no overstory. If you enter OT for “other tree”, please record the species in the notes section of the transect information tab if it is known. Also, if a two letter code was recorded on the data sheet that is not available in the drop down menu for Species 1 -5, enter “XX-Not listed” and record the discrepancy in the Notes section of the Transect Information tab. If a transect has more than one species recorded as OT please enter a note that includes the Species and point(s) where it occurred (e.g., overstory species 1 – OT = Western Red Cedar for points 1,5,14; overstory species 3 – OT = Western Larch for points 3 and 9).

- f. **Midstory** – check this box if it was checked on the data sheet.
- g. **Cliff/Rock** - check this box if it was checked on the data sheet.
- h. **P. dog Town** - check this box if it was checked on the data sheet.
- i. **P. dogs present?** - check this box if it was checked on the data sheet.
- j. **# of Snags** - Enter the number of snags that were recorded at each point. If there were no snags present or if the field was left blank enter “0”.
- k. **Shrub layer cover (%)** - Enter the percentage cover of the shrub layer to the nearest integer. Do not include decimals. If this field was left blank enter “0”.
- l. **Mean height of the shrub layer (m)** - Enter the estimated mean height of the shrub layer, to the nearest 0.25 meter (e.g., 0.25, 0.50, 1.50, etc.). If this field was left blank enter “0”.
- m. **Shrub species and abundance** - Enter the two letter code of each species followed by its percent abundance as a whole number. You can verify that the species percentages for each point add up to 100% by looking at the “Total %” column located to the right of Species 5 Abundance. If the Total % does not add up to 100, check that you have entered all of the percentages correctly. If you have entered all of the percentages to reflect the data sheet and the Total % column does not equal 100 don't worry about it and move on. Do NOT change the values to sum to 100% if the values on the data sheet do not sum to 100%. Leave this section blank if there are no shrubs present. If you enter OT for “other”, please record the species in the notes section of the transect information tab if it is known. Also, if a two letter code was recorded on the data sheet that is not available in the drop down menu for Species 1 - 5, enter “XX-Not listed” and record the discrepancy in the Notes section of the Transect Information tab. If a transect has more than one species recorded as OT please enter a note that includes the Species and point(s) where it occurred (e.g. shrub species 1 - point 1 OT=False Azalea; shrub species 2 OT=Snowbrush).
- n. **Ground Cover** - Enter the percentages to the nearest integer of each ground cover category: 1) Snow, 2) Water, 3) Woody, 4) Dead and Down, 5) Herbaceous, 6) Bare/litter, 7) Residual Grass and 8) Live Grass. You can verify that the ground cover percentages for each point add up to 100% by looking at the “Total %” column located to the right of Live Grass %. If the Total % does not add up to 100, check that you have entered all of the percentages correctly. If you have entered all of the percentages to reflect the

data sheet and the Total % column does not equal 100 don't worry about it and move on. Do NOT change the values to sum to 100% if the values on the data sheet do not sum to 100%. If any category is not present enter "0".

- o. **Grass and Herbaceous height (cm)** - Enter the average height in cm of Residual Grass and Live grass and herbs in the appropriate columns. If there is no grass or herbaceous cover present enter "0".

4) Bird Data

To enter Bird Data click on the button labeled "Bird Data" located at the bottom of the screen. You can add blank rows in which you can enter the bird data by clicking "Add a row", "Add five rows", or "Add fifty rows". Often times adding 50 rows is very slow, so we recommend that you add five rows or less. Use the tab button to move from left to right through the fields. Note: when entering 88 bird detections enter the point that the observer was coming from in the "Point" column and record the "Minute" as "88".

- a. **Point** - Select the point number that corresponds to the bird records you are entering. **(Required)**
- b. **Minute** - Enter the minute that the bird was detected. For birds detected during a point count you should enter a value of 1 to 6. If the bird was recorded between points, select "88" for minute. If no minute was recorded for the bird detection enter "0". Make sure you have entered all of the bird detections for the current point before moving on to the next point.
- c. **Species** - Enter the four letter bird code for the bird detection. To quickly find the species you want; while the drop-down list is selected, type the four letter code of the species to automatically select its name. Verify you have selected the correct species, mistakes are commonly made here (e.g. HOWR not HOWA). Press enter or tab to save your entry and move to the next field. When entering "NOBI" records the data entry system will automatically fill in the Distance, How, Sex, and Cluster Size fields. If the bird code was left blank on the data sheet enter "UNBI". **(Required)**
- d. **Distance** - Enter the distance from the observer to the bird in meters (whole numbers only). If no distance was recorded on the data sheet enter "-1". **(Required)**
- e. **How** - Select the code for how the bird was initially detected from the drop down menu. Note: If the bird was detected by any means other than singing or flying over and then was heard singing, there should be a two-letter code to enter (i.e., VS, CS, OS). If the bird was first detected singing, then you should only have one code to enter (S). If a bird is detected flying overhead and is then heard singing, it is not a flyover. Just enter the detection as "S". If the how code was not recorded on the data sheet enter "U". **(Required)**
- f. **Visual** - Check this box if the Visual box was checked on the data sheet either by left-clicking on the box using your mouse or by tabbing to this field and pressing the space bar.
- g. **Sex** - Enter the sex as it was recorded on the data sheet. If Sex was not recorded on the data sheet enter "U". **(Required)**
- h. **Migrating** - Check this box if the Migrating box was checked on the data sheet either by left-clicking on the box using your mouse or by tabbing to this field and pressing the space bar.

- i. **Cluster Size** – Enter the number recorded on the data sheet. If Cluster Size was not recorded on the data sheet enter “1”. **(Required)**
- j. **Cluster Code** – Enter the letter recorded on the data sheet. If Cluster Code was left blank on the data sheet leave this field blank.

Before moving on to the next point, make sure you have entered the same number of birds as are recorded on your data sheet and that the Point, Minute, Species, Distance, How, Visual, Sex, Migrating, Cluster Size and Cluster Code are all filled in correctly. Verify that you have entered all time periods including NOBIs for minutes without birds.

Because many of the fields on the bird data tab are required, you will not be able to move to a different tab if you have any blank rows. To quickly delete all blank rows once you are done entering bird data, click the “Remove Empty Rows” button at the bottom of the screen.

Hint: Remember to use the tab button to move from one cell to the next.

5) Saving your entered survey data

You can save your data entry progress by selecting the Transect Information tab and clicking on the “Save Transect” button. Please keep in mind that you will not be able to navigate away from the Point, Vegetation, or Bird tabs if required data are missing. In these instances, you should delete empty rows or enter data in an acceptable format in order to navigate to a different tab.

6) Editing entered data/ Completing a partially entered transect

To edit or modify a transect that you have begun to enter data for you must open up the index.htm file on the same computer that you began data entry on. From the Transect Information tab click on the button labeled “Load Transect”. A drop down menu will appear with the dates, transect names, and observer(s) for any transects that you have entered on the computer you are using. Use the mouse to select the transect that you would like to modify. You can make changes just like you would enter data for the first time. Please remember to save your work.

7) Uploading entered data to the database

Once you have entered all of the Survey data using the index.htm browser and you have obtained internet access you can upload your data by 1) Loading the transect and 2) pressing the “Submit transect” button. You can submit a transect multiple times. In the event that you submit a transect and then realize that you need to make edits to the uploaded data, you can simply edit the transect as described above (#6) and re-submit the transect. A warning message will ask if you want to overwrite an existing transect. Be sure you know what you are overwriting before you press “Yes”! If you receive a warning message that the submission failed, relax, the information you entered will have already been saved and can be recovered at any time by clicking the “Load Transect” button. If you see an error message when submitting a transect, check all of the tabs to make sure that you’ve entered all required data. This is the most likely reason that you would receive an error message when submitting a transect.