



Great Lakes I&M Network

Landbirds Monitoring Database – User Guide

Version 2

Supplemental Document to the Landbirds Monitoring Protocol



ON THE COVER

A datasheet is visible in front of a man holding his hands up to his ears.

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Revision History Log

The following table lists the edits and amendments to this document.

Version Number	Revision Date	Author(s)	Description
1.0	07/11/2018	R. Key T. Gostomski	Initial document on the instructions on the database – access, data entry, troubleshooting.
2.0	7/23/2021	R. Key T. Gostomski M. Hart	Revision on instructions to reflect new user interface platform and structure.

Introduction and Background

Data collected under the Great Lakes Network's (GLKN) landbirds monitoring protocol (Gostomski et al. 2010) must be entered, quality-checked, documented, managed, and made available to others for a variety of purposes, such as management decision-making, research, and education.

The landbirds monitoring database is made of two components, a web-based front-end user interface and the back-end database which is on a SQL server. The user-interface is accessed through the National Park Service's Integrated Resource Management Application (IRMA), which can be accessed using various web-browsers – the most common being Microsoft Edge and Google Chrome, unlike the previous front-end web application (v. 1) which had to be used with Internet Explorer.

The user interface consists of various forms to help the user enter and validate data. Reporting tools allow for queries of the data for various QA/QC and final reports. The landbirds back-end database consists of numerous lookup and data storage tables, which are linked to the front-end database. This back-end is powered by a SQL server located at an NPS data center in Denver / Reston. Because it is on an NPS system, it can only be accessed by those who have an NPS active directory account. This means the person using the database must be a current employee, partner, or contractor who has been given approval for accessing government computer networks. Besides having an active directory account, the person must be an authorized user for the landbirds database. Permissions for database access are given by the GLKN landbirds monitoring coordinator and the GLKN database administrators, with approval from the park's landbird monitoring coordinator.

The Great Lakes Network maintains one master copy of the landbirds database on the NPS central SQL server. Back-up copies of the back-end database, as well as the front-end web user interface, will be at the data center in Denver / Reston. SQL scripts to re-create the back-end database structure and data will be housed at the Great Lakes Network office. After data has been quality-checked and is marked as "complete, approved certified data", it will be posted on the NPS IRMA Data Store and potentially shared with the Midwest Avian Data Center (<https://data.pointblue.org/partners/mwadc/index.php?page=home>).

This user guide goes through the screens that all authorized users can access to view records; and for those with data entry roles, can make edits. It also goes through the processes of entering field data sheets into the correct fields within the database. Other guides will be available for QAQC processes and administrative tasks, and for information on reporting options.

Opening the Database

There are a few ways you can get to the GLKN landbirds database using a web-browser (currently supported are Microsoft Edge and Google Chrome). As the database is within the NPS IRMA system, the a user must be connected to the NPS network either at their park office OR via a VPN connection.

Option 1 – Access from the homepage of the IRMA application.

1. Go to <https://irma.nps.gov/Portal/>.

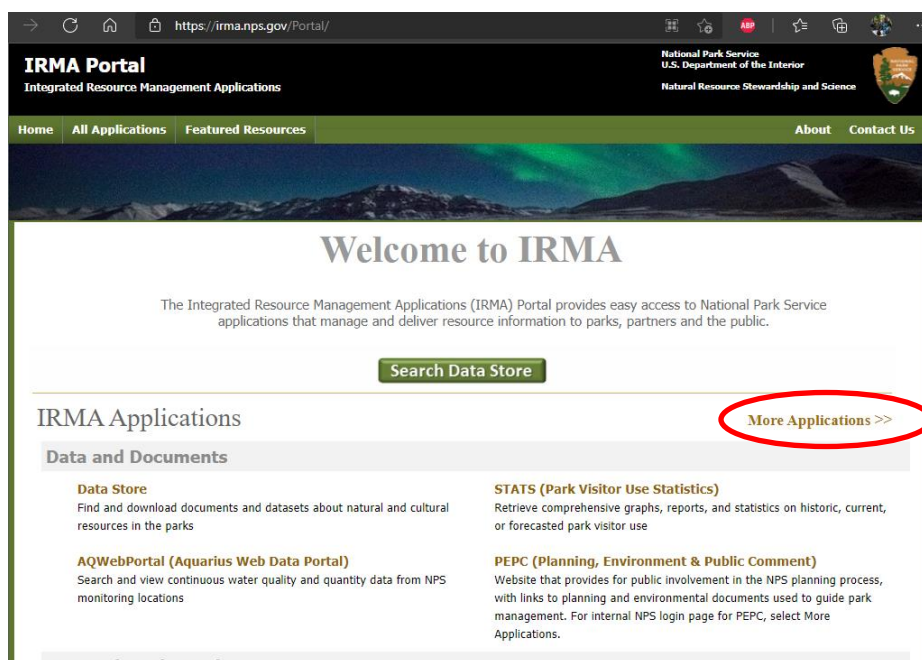


Figure 1. IRMA Portal Homepage

2. Click on “More Applications” on the right side.
3. On the page that loads, scroll down to the section called “Monitoring in the Parks” and click on the “Great Lakes Network (GLKN) Monitoring Applications.”

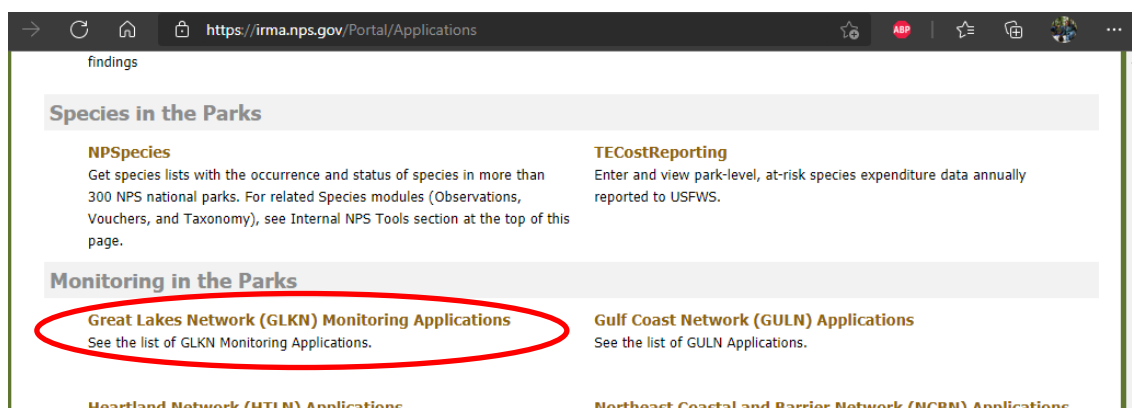


Figure 2. IRMA Portal – More Applications page showing the Monitoring in the Parks section

That will open the Great Lakes Network Applications page. Select the item under “GLKN Landbirds”.

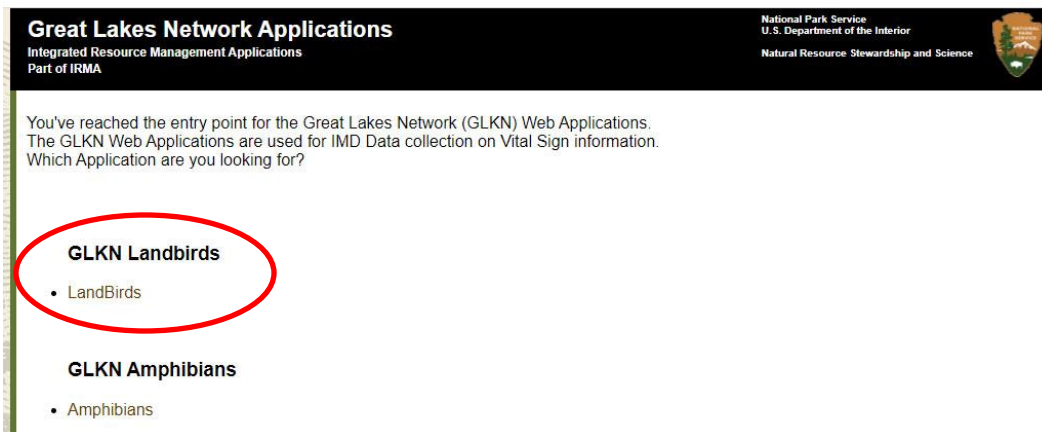


Figure 3. IRMA Portal – Great Lakes Network Application page

Option 2 – Access from the Great Lakes Network Applications page.

1. Go to <https://irma.nps.gov/GLKN/>. This will take you straight to the screen seen in Figure 3.

Option 3 – Access the application directly by going to <https://irma.nps.gov/GLKN/Landbirds/>.

Inside the Database

Regardless of which method the user took to get to the database, authorized users will see this screen:

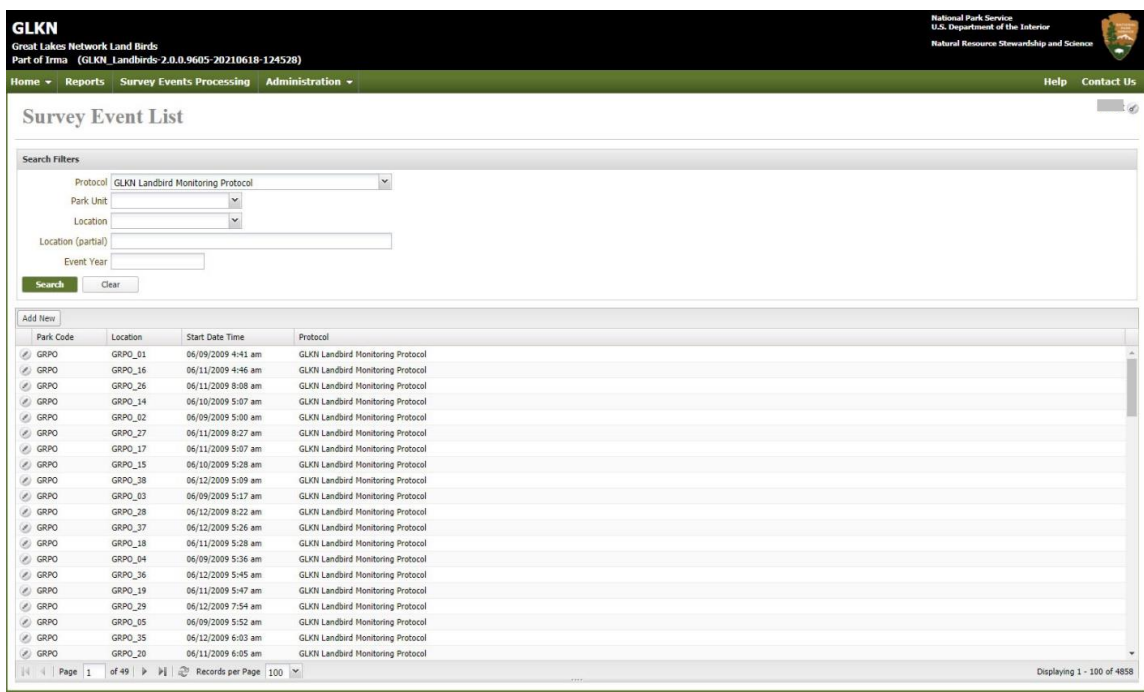


Figure 4. Opening screen of the GLKN Landbird Monitoring database – the Survey Event List

If you are not an authorized user, you will see this:

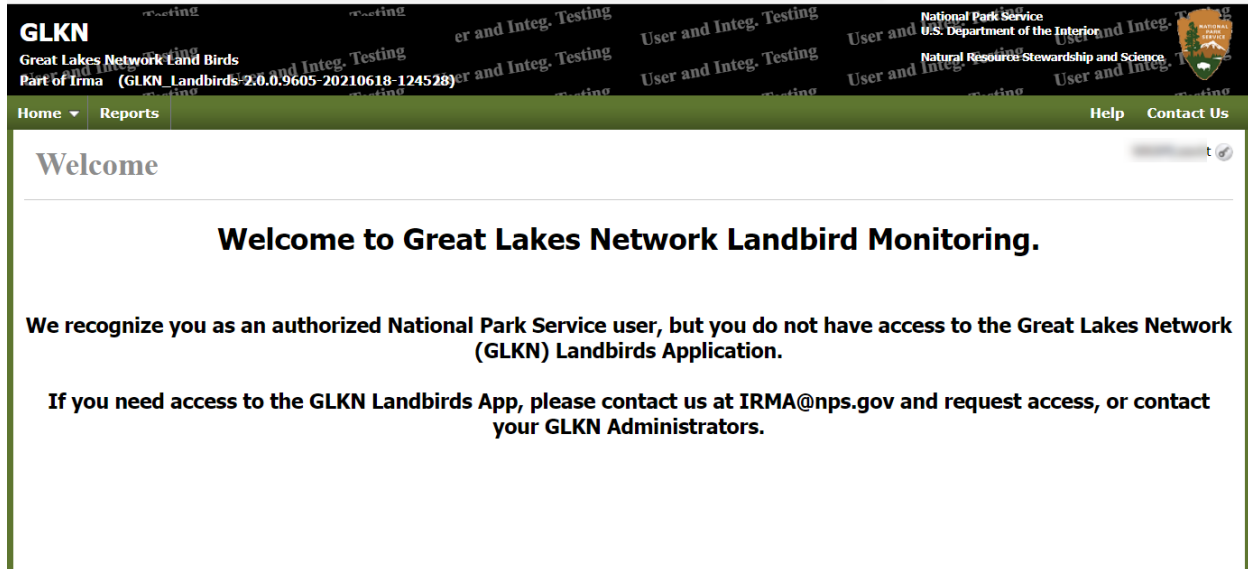


Figure 5. 'Error' message for Unauthorized Users

Please contact the GLKN database administrators or landbird monitoring coordinator to be added to the authorized users list.

User Roles

Only authorized users can access the database application. The user roles that can be assigned are:

- Administrator: User who has full access. Primarily for use by the GLKN database administrators and the GLKN landbird monitoring coordinator.
- Data Reader: User who has access to view database records and run reports. Is not able to add or edit database records data.
- Data Entry: User who has access to add and edit database records for all parks.
- Park Data Entry: User who has access to add and edit database records for their assigned park(s). Non-assigned park records can be viewed but not edited.

Maneuvering in the Database

The Survey Event List (see Figure 4) is the homepage to the database. Any page that is accessed from this location will have the menu bar (Figure 6 and Figure 7) accessible. From the menu bar, users can add and edit data, as well as access QA checks, data summaries, and reports. For those with the roles of Data Entry or Data Reader, the only items visible are the Home tab and the Reports tab (Figure 7). The roles of Administrator also have access to the tabs of "Survey Events Processing" and "Administration" (as seen in Figure 6).



Figure 6. Full Menu Bar within GLKN Landbird database (left-side of screen, green ribbon bar)



Figure 7. Data Entry / Data Reader Menu Bar within GLKN Landbird database (left-side of screen, green ribbon bar)



Figure 8. Help portion of Menu Bar within GLKN Landbird database (right-side of screen, green ribbon bar)

Home

When the user clicks on the word/tab "Home", no matter what screen the user is on, it will take them back to the homepage of the database, which is the Survey Event List (see Figure 4). If the user hovers over the "Home" tab, a sub-tab appears that says "IRMA Portal" which will take the user back to main IRMA Portal page (see Figure 1).

Reports

The Reports screen (Figure 9) is used to access any available reports. More information and details about these reports will be in a separate manual.

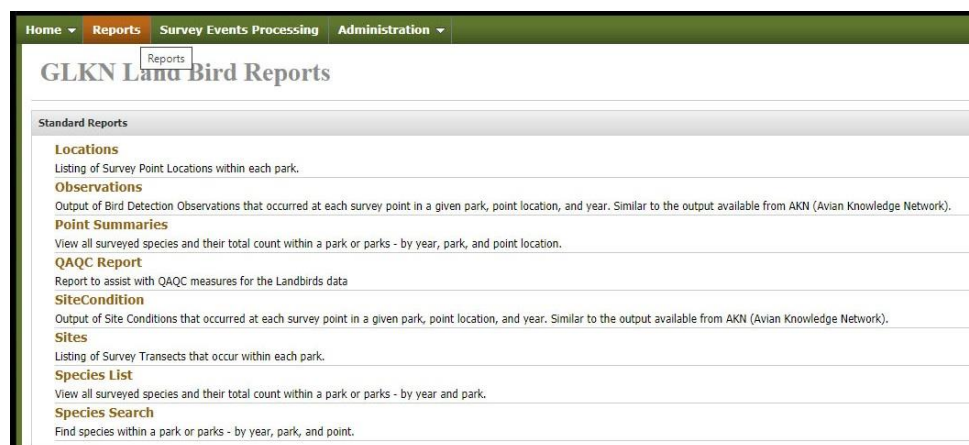


Figure 9. Report screen

Survey Event Processing

The Survey Event Processing screen (Figure 10) is used by the network's landbird monitoring coordinator and database administrators to process large quantities of data. It can also be used to determine which survey locations for a particular time frame are still in the "raw" data state and need to be quality-checked and corrected.

	Park Code ^	Location	Start Date	Data Processing Code
☐	AP15	SA_03	06/17/2020 6:18 am	R
☐	AP15	MD_08	06/23/2020 8:36 am	A
☐	AP15	SA_12	06/17/2020 4:49 am	A
☐	AP15	SA_08	06/17/2020 7:35 am	A
☐	AP15	OA_03	06/12/2020 6:24 am	A
☐	AP15	RA_05	06/16/2020 5:15 am	A
☐	AP15	MD_05	06/23/2020 7:18 am	A
☐	AP15	MD_07	06/23/2020 8:13 am	A
☐	AP15	RA_07	06/16/2020 7:17 am	A

Figure 10. Survey Event Processing screen

Administration

The Administration tab is used by the network's landbird monitoring coordinator and database administrators to manage lookup lists and point count sites, users and permissions, and protocols.

Help

The "Help" page provides links for the users to access various documents. This includes items like the user manuals, the protocol, and standard operating procedures. The links for these documents take the user to where they are at within the IRMA Data Store.

Contact Us

The "Contact Us" page provides contact information for the GLKN Landbird database administrators. This information can be used by users that have questions, suggestions, and to report errors / bugs.

Viewing / Entering / Editing Landbird Monitoring Data

To enter data from the field datasheets, to continue editing existing records, or to view existing data, go to the "homepage" of the database, which is the Survey Events List (see Figure 4).

Parts of the Survey Events List Screen

Filters

The Filters section (Figure 11) of the Survey Events List screen is in the upper left-hand corner. No matter if you are doing data entry, data edits, or just looking at data, the Filters section is your greatest tool. When searching for records, all filters are optional. When doing data entry for new events, the Protocol filter is required.

When the Survey Events List screen opens, it will automatically be filtered to show the “GLKN Landbird Monitoring Protocol” data, as it is the default protocol of the database. If you are using a different protocol, choose from the Protocol list for the correct choice. Currently, the two protocols in use are the “GLKN Landbird Monitoring Protocol” and the “North American Breeding Bird Survey”.

Survey Event List

Search Filters

Protocol
GLKN Landbird Monitoring Protocol
▼

Park Unit

▼

Location

▼

Location (partial)

Event Year

Search
Clear

Figure 11. Survey Events List – Filters

The filters available are:

- Protocol – a picklist. Pick the protocol of the data you want to look at / enter data under.
- Park Unit – a picklist. Pick the park you want to look at / enter data under.
- Location – a picklist. Choose the exact bird survey point.
- Location (partial) – a textbox. Type in any part of a bird survey point or transect that you are interested in looking at. For example, it could be “OA” for any Oak Island survey points, or “OA_0” for all Oak Island survey points 01 to 09.
- Event year – a textbox. Type in any year you would like to filter the selections to show.

To have the listing show items that match your filter selections, click on the “Search” button.

To remove a filter, just delete the contents in the specific filter box then click on the “Search” button to refresh.

To remove all filter selections (including the Protocol default), click the “Clear” button.

Survey Events List

The survey events listing is the bottom portion of the main page (see Figure 4). Choices from the Filter section will re-query the list to make it easier to find out if your survey is in the database or not. Figures 12 through 15 show some examples of how the filters modify what is in the listing.

Search Filters				
Protocol	GLKN Landbird Monitoring Protocol			
Park Unit	MISS			
Location				
Location (partial)				
Event Year				
Search		Clear		

Add New				
Park Code	Location	Start Date Time	Protocol	
MISS	GRCL_03	06/21/2019 8:47 am	GLKN Landbird Monitoring Protocol	
MISS	PIKE_05	06/20/2019 9:12 am	GLKN Landbird Monitoring Protocol	
MISS	PIKE_06	06/20/2019 8:57 am	GLKN Landbird Monitoring Protocol	
MISS	PIKE_07	06/20/2019 8:38 am	GLKN Landbird Monitoring Protocol	
MISS	PIKE_08	06/20/2019 8:23 am	GLKN Landbird Monitoring Protocol	
MISS	PIKE_09	06/20/2019 7:57 am	GLKN Landbird Monitoring Protocol	
MISS	GRCL_02	06/20/2019 6:17 am	GLKN Landbird Monitoring Protocol	
MISS	GRCL_01	06/20/2019 5:52 am	GLKN Landbird Monitoring Protocol	
MISS	CW_02	06/19/2019 9:09 am	GLKN Landbird Monitoring Protocol	
MISS	CW_01	06/19/2019 8:54 am	GLKN Landbird Monitoring Protocol	
MISS	PIKE_04	06/19/2019 7:12 am	GLKN Landbird Monitoring Protocol	
MISS	PIKE_03	06/19/2019 6:55 am	GLKN Landbird Monitoring Protocol	
MISS	PIKE_02	06/19/2019 6:38 am	GLKN Landbird Monitoring Protocol	
MISS	PIKE_01	06/19/2019 6:21 am	GLKN Landbird Monitoring Protocol	
MISS	ORDW_05	06/18/2019 7:53 am	GLKN Landbird Monitoring Protocol	
MISS	ORDW_04	06/18/2019 7:30 am	GLKN Landbird Monitoring Protocol	
MISS	ORDW_03	06/18/2019 7:01 am	GLKN Landbird Monitoring Protocol	
MISS	ORDW_02	06/18/2019 6:41 am	GLKN Landbird Monitoring Protocol	
MISS	ORDW_01	06/18/2019 6:11 am	GLKN Landbird Monitoring Protocol	
MISS	SHAR_05	06/17/2019 7:51 am	GLKN Landbird Monitoring Protocol	

Page 1 of 3 Records per Page 100 Displaying 1 - 100 of 235

Figure 12. Survey Events - Filters used: Protocol and Park.

Search Filters				
Protocol	GLKN Landbird Monitoring Protocol			
Park Unit	APIS			
Location	OA_01			
Location (partial)				
Event Year				
Search		Clear		

Add New				
Park Code	Location	Start Date Time	Protocol	
APIS	OA_01	06/12/2020 5:27 am	GLKN Landbird Monitoring Protocol	
APIS	OA_01	06/18/2019 4:55 am	GLKN Landbird Monitoring Protocol	
APIS	OA_01	06/14/2018 6:15 am	GLKN Landbird Monitoring Protocol	
APIS	OA_01	06/07/2017 6:32 am	GLKN Landbird Monitoring Protocol	
APIS	OA_01	06/17/2016 6:15 am	GLKN Landbird Monitoring Protocol	
APIS	OA_01	06/10/2015 5:05 am	GLKN Landbird Monitoring Protocol	
APIS	OA_01	06/17/2014 6:15 am	GLKN Landbird Monitoring Protocol	

Figure 13. Survey Events - Filters used: Protocol, Park, & Location.

Search Filters				
Protocol	GLKN Landbird Monitoring Protocol			
Park Unit	VOYA			
Location				
Location (partial)	RLVC			
Event Year				
Search		Clear		

Add New				
Park Code	Location ^	Start Date Time	Protocol	
VOYA	RLVC_01	06/02/2010 5:15 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_01	06/10/2011 5:29 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_01	06/04/2014 5:35 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_01	06/07/2016 5:03 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_01	06/01/2017 5:08 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_01	06/23/2015 5:00 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_01	06/01/2012 5:26 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_01	06/19/2013 5:24 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_01	06/20/2018 6:16 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_01	06/07/2019 5:09 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_01	06/16/2020 5:03 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_02	06/02/2010 5:39 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_02	06/10/2011 5:56 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_02	06/01/2012 5:55 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_02	06/19/2013 6:00 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_02	06/07/2016 5:23 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_02	06/01/2017 5:32 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_02	06/04/2014 6:02 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_02	06/23/2015 5:45 am	GLKN Landbird Monitoring Protocol	
VOYA	RLVC_02	06/20/2018 6:40 am	GLKN Landbird Monitoring Protocol	

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Figure 14. Survey Events - Filters used: Protocol, Park, & Location (partial).

Search Filters				
Protocol	GLKN Landbird Monitoring Protocol			
Park Unit	SLBE			
Location				
Location (partial)				
Event Year	2017			
Search		Clear		

Add New				
Park Code	Location	Start Date Time ^	Protocol	
SLBE	E_02	06/08/2017 5:30 am	GLKN Landbird Monitoring Protocol	
SLBE	W_07	06/08/2017 5:48 am	GLKN Landbird Monitoring Protocol	
SLBE	CF_01	06/08/2017 6:09 am	GLKN Landbird Monitoring Protocol	
SLBE	CF_02	06/08/2017 6:24 am	GLKN Landbird Monitoring Protocol	
SLBE	SF_04	06/08/2017 6:46 am	GLKN Landbird Monitoring Protocol	
SLBE	IL_03	06/08/2017 7:10 am	GLKN Landbird Monitoring Protocol	
SLBE	F_04	06/08/2017 7:31 am	GLKN Landbird Monitoring Protocol	
SLBE	W_03	06/08/2017 7:48 am	GLKN Landbird Monitoring Protocol	
SLBE	W_06	06/08/2017 8:15 am	GLKN Landbird Monitoring Protocol	
SLBE	IL_01	06/08/2017 8:34 am	GLKN Landbird Monitoring Protocol	
SLBE	E_04	06/09/2017 5:27 am	GLKN Landbird Monitoring Protocol	
SLBE	F_01	06/09/2017 5:46 am	GLKN Landbird Monitoring Protocol	
SLBE	CF_07	06/09/2017 6:09 am	GLKN Landbird Monitoring Protocol	
SLBE	E_03	06/09/2017 6:47 am	GLKN Landbird Monitoring Protocol	
SLBE	D_01	06/09/2017 7:13 am	GLKN Landbird Monitoring Protocol	
SLBE	D_02	06/09/2017 7:35 am	GLKN Landbird Monitoring Protocol	
SLBE	BM_04	06/14/2017 5:31 am	GLKN Landbird Monitoring Protocol	
SLBE	BM_03	06/14/2017 5:46 am	GLKN Landbird Monitoring Protocol	
SLBE	F_06	06/14/2017 6:11 am	GLKN Landbird Monitoring Protocol	
SLBE	IL_02	06/14/2017 6:36 am	GLKN Landbird Monitoring Protocol	

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Figure 15. Survey Events - Filters used: Protocol, Park, and Event Year

Besides being the location to see what is in the database for a park, survey location, or year, this section is also where new records are started and existing record specifics can be opened and modified. See the *Adding a New Record* and *Editing a Record* sections of this manual for more information.

Viewing a Record

Once browsing the pages of results (filtered or not) in the Survey Events Listing, one can open the record to view by using the icon next to the result. Figure 16 shows the 2 icon types available that will open records. The icon that looks like a “link” are records that can be viewed only, while the icon that looks like a pencil are records that can be viewed and/or edited. How the icons appear is based on the user role.



Figure 16. Icons to open database records

To get back to the Survey Event List once done viewing, adding, or editing a record, the user can use the browser’s back button or click on the “Home” tab as described in the “Maneuvering in the Database” section of this document.

Parts of a Survey Event Record

The Survey Event Details screen shows when a survey event record is open for viewing or editing (Figure 17). The parts of the screen are:

- Save Button – to save changes made to the record.
- Delete button – Only active for administrators.
- Survey Event Details – the top portion of the screen, which contains the point location and survey condition information.
- “Mark Provisional” and “Mark Raw” buttons – are for use during QAQC procedures and will be discussed in the QAQC manual. Do not use during Data Entry sessions.
- Bird Detections – first tab in the bottom portion of the screen. Lists out the specific bird detections that are associated with the event.
- Land Cover – second tab in the bottom portion of the screen. Is not used at this time.
- Scanned Files – third tab in the bottom portion of the screen. Is not used at this time, but will be used to track locations of datasheet scans and QAQC files.
- Audit Information – fourth tab in the bottom portion of the screen. Tracks revision history of the record.

Figure 17. Survey Event Details Screen

Adding a New Record

You have collected data in the field and now it is time to enter the data into the database.

Make sure you are in the Survey Events List (see Figure 4). If not there, click on the “HOME” tab in the green banner bar. Once on the Survey Events List, make sure to choose the correct protocol you will be entering data for in the Filter section. This is required, otherwise the initial add screen for Survey Event Details will not work. The Park and Location filters are optional, but if they are filled in, the add screen will have those fields be defaulted to the filter values.

Any fields with an asterisk (*) next to the label are required fields. If they are not filled out when the record is saved, error messages will occur and the fields in need of entry will get a red outline and a red exclamation point icon (see Figure 18).

Figure 18. Required Fields – Null Error Indicators

Step 1.

To create a new record, click on the “Add New” button between the search filters section and the survey events listing (Figure 19).

Figure 19. Point Survey Events – Add New Record

Step 2.

Figure 20 shows an example of the datasheet for the GLKN Landbird Monitoring Protocol. Items outlined in blue are survey event details. Items outline in orange are bird detections. See figures 21 and 22 for corresponding sections in the database.

Date: 6/23/2020		Park: ADIS	Location: MD	Point: 07
Observer: TGostomski				
Recorder: TB				
Start Time: 0813				
Sky Conditions (circle one)				
Clear or a few clouds	0			
Partly cloudy/ scattered	1			
Cloudy (broken) or overcast	2			
Fog/Smoke	4			
Drizzle	5			
Snow	7			
Showers	8			
Wind Speed (circle one)				
<1 mph	0			
1-3	1			
4-7	2			
8-12	3			
Background Noise (circle one)				
None	0			
Barely reduces hearing	1			
Noticeably reduces hearing	2			
Prohibitive	3			
Temperature (indicate F or C)				
58F				
Detection Type				
Singing	S			
Calling	C			
Observed	O			
Flyover	F			
Non-Vocal	NV			
Detection Distance				
0-50 m	1			
51-100 m	2			
>100 m	3			
COMMENTS Wind in the canopy occurs. makes it hard to hear. (Noise = 2) Upset HAWK pair when arriving, AMRO too. Both calling repeatedly for a while. Finally calmed down around Minute 6.				

Office use only (enter name, date for each):
 Data entered by: QA/QC check by: Corrections made by:

Figure 20. Landbird Datasheet Example

From your field datasheet, enter the survey event details (the point location and survey condition information, which are shown in Figure 20 boxed in blue) into the fields in the “Add New Point Survey Event” pop-up screen (Figure 21).

The screenshot shows a web-based form titled "Add New Point Survey Event". At the top, it says "Protocol GLKN Landbird Monitoring Protocol". Below this, a blue rectangular box highlights the main survey event details section. This section contains the following fields: "Park Unit *" (a dropdown menu), "Location *" (a dropdown menu), "Start Date *" (a date picker), "Start Time *" (a dropdown menu), "Observer *" (a dropdown menu), "Observer Experience Level" (a dropdown menu with "X - Unknown" selected), "Recorder *" (a dropdown menu), "Notes" (a large text area), "Atmosphere/Sky *" (a dropdown menu), "Wind *" (a dropdown menu), "Background Noise *" (a dropdown menu), "Air Temperature Recorded?" (a checkbox), "Air Temperature" (a text input field), and "Temperature Unit" (a dropdown menu). Below the blue box is a section titled "Data Processing Level R" which includes "Data Processing Level Date" (a text input field) and "Data Processing Level Notes" (a large text area). At the bottom of the form are two buttons: "Save" and "Cancel".

Figure 21. Screen for adding a new point survey event

- Protocol: The Protocol information will auto-fill based on the default protocol of the database, which is “GLKN Landbird Monitoring Protocol.” If you are using the North American Breeding Bird Survey Protocol or another protocol, click "Cancel" on this screen. Then in the Search Filters on the Survey Event List page, select the correct protocol from the drop-list options, then click on “Add New” to start again with the correct protocol.
- Park Unit: What park’s data are you entering? If the user is in the role of “Park Data Entry”, the drop list for park will be limited to those park the user is assigned to. If the park filter was used on the main page of the database, the Park Unit field will be defaulted to the value that was in the filter.
- Location: What is the survey point / location? The location selection drop-list will just show locations within the selected park. If a location is not on the drop-list, see the *Troubleshooting* section of this manual for information on what to do. If the location filter was used on the main page of the database, the Location field will be defaulted to the value that was in the filter.

- d. Start Date: The date of the field survey. Type in the date, or choose the correct date from the calendar button, that corresponds to the date on the datasheet.
- e. Start Time: The time of the field survey. Type in, or select from the drop-list, the correct start time that is indicated on the datasheet.
- f. Observer: Who did the observations? This should be indicated on the datasheet. If the person is not on the drop-list, select “UNKNOWN” and see the *Troubleshooting* portion of this manual for information on what to do.
- g. Observer Experience Level: At this time, leave this field as the defaulted value.
- h. Recorder: If not indicated on the datasheet, the recorder should be the same as the observer. If the person is not on the drop-list, select “UNKNOWN” and see the *Troubleshooting* portion of this manual for information on what to do.
- i. Notes: Use this field to put down any notes the observer/recorder notated on the datasheet. This could be about noise, birds seen before or after the survey, etc. If there are notes regarding specific birds noted during the survey, place those notes in the bird detections (explained further down in the manual).
- j. Atmosphere/Sky: Choose from the list the correct condition indicated on the datasheet. If it was not indicated, select “X – NULL value”.
- k. Wind: Choose from the list the correct condition indicated on the datasheet. If it was not indicated, select “X – NULL value”.
- l. Background Noise: Choose from the list the correct condition indicated on the datasheet. If it was not indicated, select “X – NULL value”.
- m. Air Temperature Recorded: Was the temperature listed on the datasheet? If so, checkmark the box. If not, leave the box empty.
- n. Air Temperature: If you checked the box for ‘Air Temperature Recorded’ (as noted above), then this field will be available to fill in with the temperature recorded on the datasheet.
- o. Temperature Units: Automatically filled as Fahrenheit. If the temperature was recorded in Celsius, change this field to reflect the correct units.
- p. Data Processing Level: All new data are Raw. Provisional (P) and Accepted (A) data are those having undergone QA/QC, corrections, and finalization. This is a non-editable field in this form.
- q. Data Processing Level Date: The date the Processing Level was given. This is a non-editable field in this form.

- r. **Data Processing Note:** This field is used for any notes during the various processing steps for tracking and informational purposes. Primarily used during QAQC processes and data acceptance finalization.

Once the fields have been filled in, click “Save” to move on to the bird detections. This will then open the “Survey Event Details” form (Figure 22).

If for some reason the data you entered is in error, click “Cancel” or use the ESC key on your keyboard.

Step 3.

With the Survey Event Details screen open, edits can be made to the point location and survey condition information in the top section (see Figure 22, blue outline). The fields are the same that were described in Step 2. If changes are made, click on the “Save” button in the upper left corner of the screen.

Survey Event Details

Save Delete

Survey Event Details

Protocol GLKN Landbird Monitoring Protocol

Start Date * 06/23/2021

Start Time * 8:13 AM

Park/Location APIS/MD_07

Observer * Gostomski, Ted

Observer Experience Level * X - Unknown

Recorder * Gostomski, Ted

Notes Wind in the canopy

Atmosphere/Sky * 2 - Cloudy (broken) or overcast

Wind * 1 - 1-3 mph

Background Noise * 1 - low noise

Air Temperature Recorded? ☒

Air Temperature * 58

Temperature Unit * F - Fahrenheit

Data Processing Level R

Data Processing Level Date

Data Processing Level Notes

Mark Provisional Mark Raw

Bird Detection Land Covers Scanned Files Audit Information

Add

Species (Park)	# Indivi...	Time Interval	Detection Type	Distance Class	Common Name (rea...	Detection Notes	Import Notes
AMRO - (American Robin)	1	0 - minute 0 - minut...	C - Calling	1 - 0 to 50 m	American Robin		

Figure 22. Survey Event Details Screen

To start on the bird detections, add the species noted on the datasheet (see Figure 20, orange outline) to the “Bird Detection” tab at the bottom of the screen (see Figure 22, orange outline). Create a new bird detection by clicking on the “Add” button under the “Bird Detections” header (Figure 23). Then fill-out the detection information (see Figure 24).

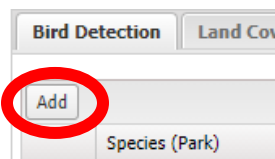


Figure 23. Bird Detections – Add Record Button

The screenshot shows a software window titled 'Bird Detection' with tabs for 'Land Covers', 'Scanned Files', and 'Audit Information'. The 'Add' tab is active, displaying a form for adding or editing a species record. The form has the following fields:

- Species (Park):** A dropdown menu with 'YBSA - (Yellow-bellied Sapsucker)' selected.
- # Individu...:** A text input field containing '1'.
- Time Interval:** A dropdown menu with '0 - minute 0 - minute 1' selected.
- Detection Type:** A dropdown menu with 'C - Calling' selected.
- Distance Class:** A dropdown menu with '1 - 0 to 50 m' selected.
- Common Name (read only):** A text input field containing 'Yellow-bellied Sapsucker'.
- Detection Notes:** A text input field.
- Import Notes:** A text input field.

At the bottom of the form are 'Update' and 'Cancel' buttons.

Figure 24. Bird Detections – Add / Edit Species Record

- Species:** Choose the species detected from the drop-list. The list will be filtered based upon the park (from location chosen). If a species is not on the drop-list, see the *Troubleshooting* portion of this manual for information on what to do.
- Number of Individuals:** Number of individuals of the bird species detected for the time interval, detection type, and distance class.
- Time Interval:** Select the correct time interval for the detection.
- Detection Type:** Select the correct detection type for the detection.

If a record has multiple detection types, place the first in the detection type field and note the others in the detection notes field. For example, if the recorder states YBSA, 1, 0, C/F, then in the database it would be YBSA, 1, 0, C and the detection note would say ‘also flyover’.

If a datasheet record shows something like NAWA, 1/1, 2, C/S then we can infer that this should be added as two records. The first would be NAWA, 1, 2, C and the second would be NAWA, 1, 2, S.

- Distance Class:** What distance range the detection was in.
- Common Name:** a read-only field to reiterate the bird species that was selected.
- Detection Notes:** Any notes about the species detected. Could be notes about drumming, call type, etc.
- Import Notes:** Any notes about bulk importing. Do not use during Data Entry sessions.

To assist with data entry, you can use the tab key to move between fields.

When data entry is complete, you can use the enter key on the keyboard to save or use the ‘Update’ button on the bird detection data entry screen.

If any required fields are not filled in, they will be outlined in red and the “Update” button will not be available.

If for some reason the data you entered is in error, click “Cancel” or use the ESC key on your keyboard.

Step 4.

Now that data has been entered, it should be saved. To save the record, click on the “Save” button in the upper left corner of the Survey Event Details screen (see Figure 17 or Figure 22).

A record can be saved at any time during data entry, not just when you have completed the entire record. Save when you feel like it but try to save often.

If at any point mistakes have been made during data entry, you can correct the appropriate field(s).

A reminder that the “Mark Raw” and “Mark Provisional” buttons are not used during data entry.

When leaving the edit session by clicking on the “HOME” tab, using the back arrow on the browser, or even closing your browser window - if you have unsaved changes you will have a window prompt letting you know.

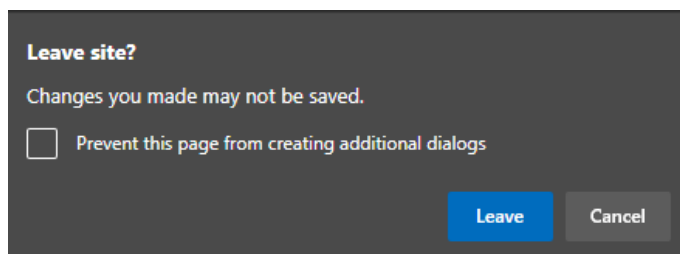


Figure 25. ‘Unsaved Changes’ Message when leaving page

Editing a Record

Editing a survey record – be it for making corrections based on QA/QC or to pick-up on data entry that was not finished earlier – is fairly simple. You can use the Filters section to help reduce the list of point surveys to choose from. Then select the needed record from the Survey Events List and click on the pencil icon (see Figure 16). Either continue entering data into the fields as needed or correct those fields that have incorrect information. Reference Step 2 for section and field specifics.

To edit a specific bird detection in a survey record, the process is the same. Click the pencil icon next to the species detection record that needs to be revised (see Figure 26, blue circle). Reference Step 3 for section and field specifics.

Once changes have been made, make sure to save your changes.

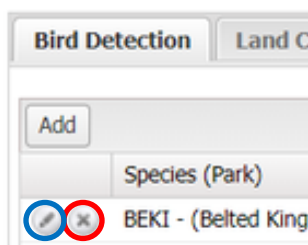


Figure 26. Icon placement within Bird Detection screen

Deleting a Record

Bird Detections within a Survey

Users with the roles of Data Entry, Park Data Entry, and Administrator have the ability to remove specific bird detections in a survey. To do this, the user would click on the “X” button (see Figure 26, red circle).

Full Survey Records

Users with the roles of Data Entry and Park Data Entry do not have the ability to delete a complete survey event record. The role of Administrator does have that ability to delete full records.

For Data Entry users, place the text “DELETE” and an explanation into the Data Processing Level Note field.

For the Administrators, to delete single records there are two options. The first is to open the record in question, then click on the “Delete” button in the upper right of the Survey Event Details screen (Figure 21). The second option is to run an SQL query for the text “DELETE” that users placed in the Data Processing Level Note field, then request the SQL server administrators to run a batch delete.

Tracking Changes on a Record

If you need to know when a record was created, by whom, what, and when revisions were made, look at the “Audit Information” tab in the bottom section of the “Survey Event Details” screen of a specific record (Figure 27). Please note that depending on various things, the date/time either reflects the user’s computer clock OR the clock on the server where the data is stored.

Bird Detection Land Covers Scanned Files Audit Information									
Entered By MBS Contractor									
Entered Date Time 01/15/2014 8:06 AM									
User Name	Log Date	Action	Entity Affected	Old Value	New Value	Field Name	Record Locat...	Detail Descri...	Description
NPS\rseversion	06/19/2020 1...	Update	DetectionEve...	0	50	Air Temperat...	<Protocol = ...		
NPS\rseversion	06/19/2020 1...	Update	DetectionEve...	6/1/2009 4:4...	6/9/2009 4:4...	Start Date Ti...	<Protocol = ...		
NPS\rseversion	06/19/2020 1...	Update	DetectionEve...	X - NULL Value	1 - low noise	Protocol Nois...	<Protocol = ...		
NPS\rseversion	06/19/2020 1...	Update	DetectionEve...	X - NULL	2 - 4-7 mph	Protocol Win...	<Protocol = ...		
NPS\rseversion	06/19/2020 1...	Update	DetectionEve...	X	F	Temperature ...	<Protocol = ...		
NPS\rseversion	06/19/2020 1...	Update	DetectionEve...	X - NULL Value	2 - Cloudy (b...	Protocol Preci...	<Protocol = ...		
NPS\rseversion	06/19/2020 1...	Delete	BirdDetections				<Protocol = ...		
NPS\rseversion	06/19/2020 1...	Delete	BirdDetections				<Protocol = ...		
NPS\rseversion	06/19/2020 1...	Delete	BirdDetections				<Protocol = ...		
NPS\rseversion	06/19/2020 1...	Delete	BirdDetections				<Protocol = ...		
NPS\rseversion	06/19/2020 1...	Delete	BirdDetections				<Protocol = ...		
NPS\rseversion	06/19/2020 1...	Delete	BirdDetections				<Protocol = ...		
NPS\rseversion	06/19/2020 1...	Delete	BirdDetections				<Protocol = ...		
NPS\rseversion	06/19/2020 1...	Delete	BirdDetections				<Protocol = ...		

Figure 27. Audit Information

General Information on Data Entry

- ✓ The data in the entry tabs are based on the datasheets from field collection.
- ✓ Data entry is straightforward, as a drop-down list of all the species listed at the park is provided, as well as dropdowns for all other applicable fields that have set lists to choose from.
- ✓ Make sure the correct survey point is selected before you begin to enter data.
- ✓ Remember to "Add" a new survey record before entering data. If data is already present and you are trying to start a new record, you will be over-writing existing information.
- ✓ Navigate between cells using the Tab key to advance and Shift + Tab to go in reverse across a row, or use the mouse.
- ✓ Remember to SAVE.
- ✓ If a complete record needs to be deleted, place the text "DELETE" and an explanation into the Data Processing Level Note field.
- ✓ If a species, observer, or recorder are not present on the drop-down list, please contact the network's database manager or the landbird monitoring coordinator.
- ✓ With any Note fields, do not use carriage returns (usually done by the Enter key). Separate notes with a period and a space.
- ✓ If abbreviations are used within the field datasheet, spell everything out completely for the official text within the database.
- ✓ Text fields, like notes, will have spell checking based on the user's computer and web-browser settings. There is no specific button to spell check the database.
- ✓ Remember to SAVE!
- ✓ There is a potential for some portions of the database to load slowly depending on your internet speed. Please be patient.
- ✓ There might be times that the database will be down for maintenance. Usually an email will be sent out to inform the users when the database is down and for how long. If you have not received an email and are experiencing issues, please contact the network's database administrators.
- ✓ SAVE, SAVE, SAVE!!!!

Troubleshooting

Missing Survey Location

If a survey location is not present on the drop-down list, inform the network's landbird monitoring coordinator or database administrators. They will enter the information after confirming that the item is not on the list.

In the meantime, skip entering data for the location in question and make a note to remind yourself or others to enter it later.

Missing Observer or Recorder Name

If an observer or recorder name is not present on the drop-down list, inform the network's landbird monitoring coordinator or database administrators. They will enter the information after confirming that the item is not on the list. It is possible that a person is on the list, but the datasheet might be misspelled, a nickname, or the person has changed their name.

In the meantime, use the name "UNKNOWN" for the unlisted person, write the name in that record's Notes section and put a Post-it note on the datasheet with a short note.

Species Missing on Park List

If a species is not present on the drop-down list, inform the network's landbird monitoring coordinator or database administrators. They will enter the information after confirming that the item is not on the list or does not have an updated name.

In the meantime, use the code "UNBI" for the unlisted species, write the species name or species code in that record's Notes section, and put a Post-it note on the datasheet with a short note.

Data Errors

Incomplete Save

When doing data entry or edits, saving is a key component to getting the entered data committed into the database. An incomplete save happens when the commit cannot happen due to validation rules in the database.

If an incomplete save occurs, the user will be notified by a pop-up messages and the fields that need to be completed will be marked in a red outline

Data entered into a field not matching pick-list options

There is a potential that data is entered into a field that does not have compatibility with the pick-list selections available. If this happens, the field will revert to a blank state. To fix, pick a selection in the picklist that applies. If none match what is on your datasheet, then select "X – NULL value".

Other Errors

There might be other errors besides those mentioned here. If an error occurs, please contact the database administrators. Try to include screen captures of error messages, information on what was being done (what was entered, clicked, etc.), and other relevant information.

Website Not Working Correctly

If the database is not working as expected or you are experiencing oddities, you might need to clear your web-browser history data (aka clearing the cache). Oddities could include:

- The “Add New” button on the main page isn’t available
- When the “Add New” button is clicked, the pop-up for the initial entry screen doesn’t occur.
- The protocol default on the homepage isn’t there
- The ability to edit your park’s records isn’t available (result’s open button is a image of a link, not the image of a pencil (see Figure 16 for image differences).

To clear your web-browser history/cache, it is recommended to do the following steps.

- 1) Close all web-browser windows and tabs, except one tab in the web browser that you will be clearing the history/cache.
- 2) There are two options to get to the area to clear the history/cache
 - a. Option 1 - On your keyboard, use the Ctl-Shift-Del keys. This will pop-up the Clear Browsing Data window in your browser.
 - b. Option 2 – On the menu bar of the browse, select the three dots in the upper right portion of the URL bar.
 - i. Microsoft Edge

With the Microsoft Edge browser bar, the three dots are horizontal (Figure 28), and is called the “settings and more” menu.

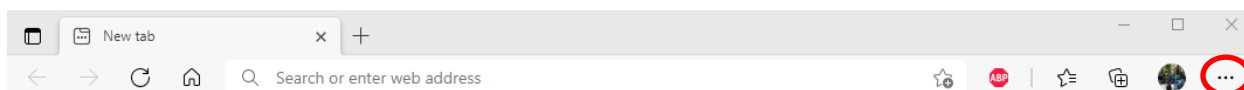


Figure 28. Microsoft Edge Browser Bar

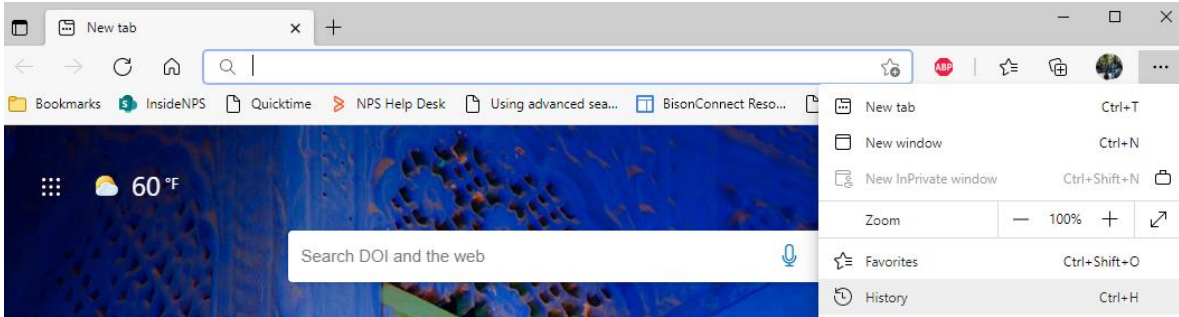


Figure 29. Microsoft Edge Browser Bar Menu – Location of History in menu

Once the dot menu is open, select History, then History again (or Ctrl-H), as seen in Figure 29. The History Menu will open (Figure 30). From here, there are two options. First is to click the word “History” (as seen in Figure 30 circled in red). This will open the History Tab, and from there click on “Clear Browsing Data” in the upper right (Figure 31). This will open the window to clear items (Figure 33).

The second option is to click the three dots on the right (as seen in Figure 32). This will open the window to clear items (Figure 33).

Change “Time Range” to be ALL TIME, then click the Clear Data button. When the process is complete, open a new tab and close the History and Settings tabs OR close the browser completely then re-open. Re-open the database.

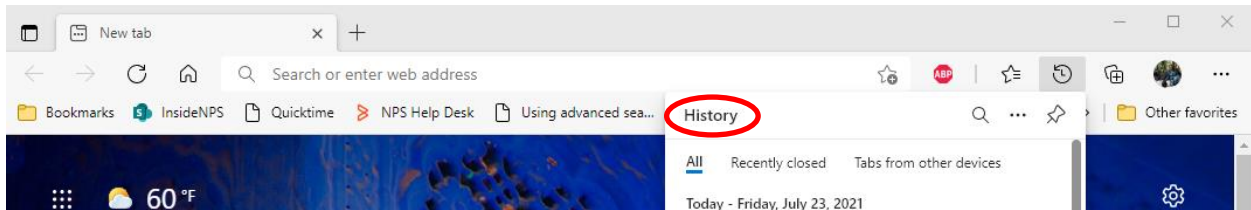


Figure 30. Microsoft Edge Browser Bar – History Menu

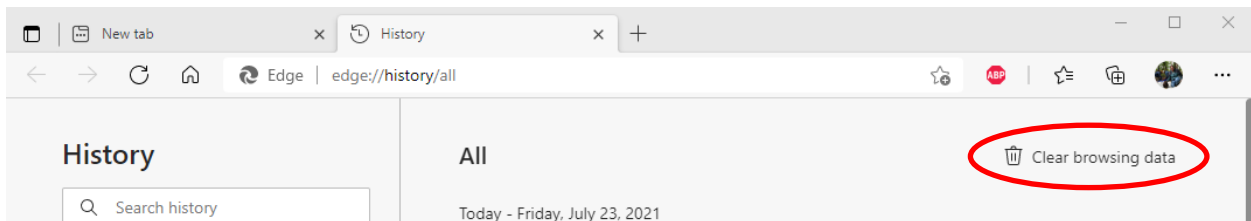


Figure 31. Microsoft Edge Browser – History Tab – Clear Browsing Data

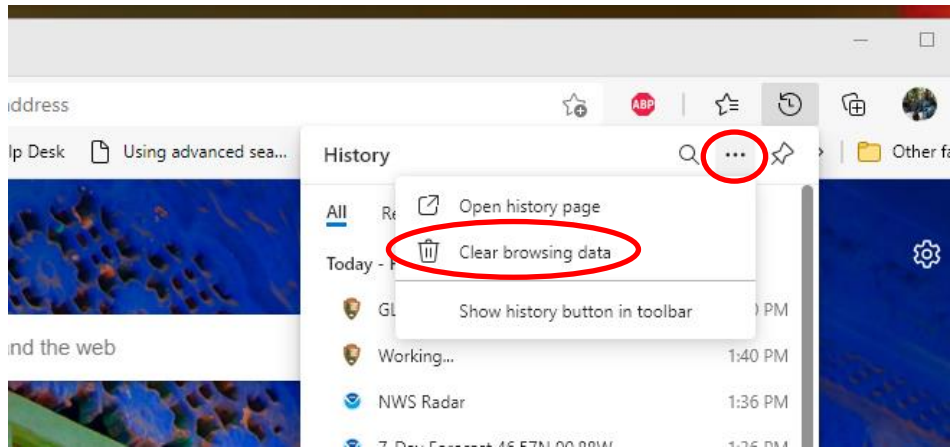


Figure 32. Microsoft Edge Browser Bar – History Menu – Clear Browsing Data short-cut

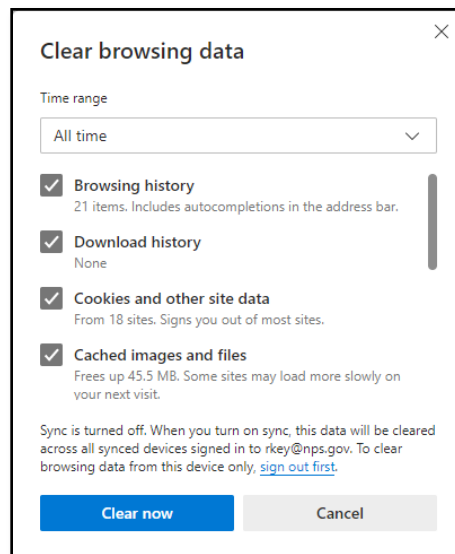


Figure 33. Microsoft Edge Browser – Clear Browsing Data window

ii. Google Chrome

With the Google Chrome browser bar, the three dots are vertical (Figure 34), and is called the “customize and control” menu.

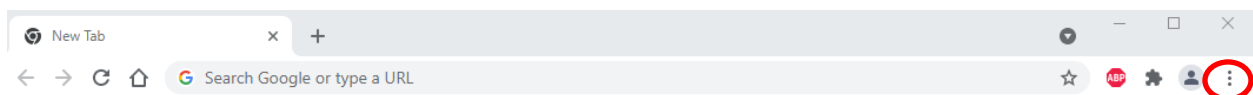


Figure 34. Google Chrome Browser Bar

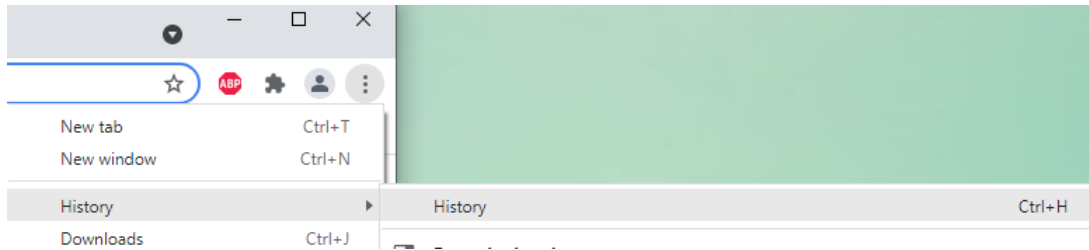


Figure 35. Google Chrome Browser Bar Menu – Location of History in menu

Once the dot menu is open, select History, then History again (or Ctrl-H), as seen in Figure 35. The History Tab will open, and on the left-side menu select “Clear Browsing Data” (Figure 36). This will open the window to clear items (Figure 37). Change “Time Range” to be ALL TIME, then click the Clear Data button. When the process is complete, open a new tab and close the History and Settings tabs OR close the browser completely then re-open. Re-open the database.

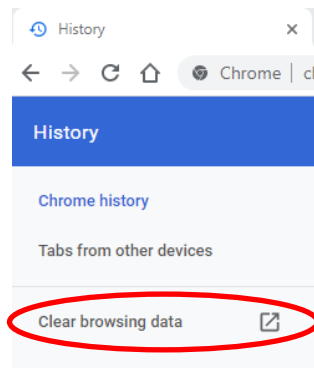


Figure 36. Google Chrome Browser– History Tab – Clear Browsing Data

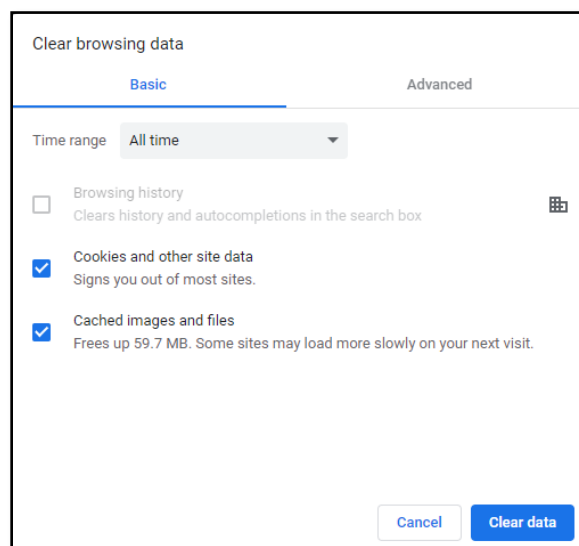


Figure 37. Google Chrome Browser – Clear Browsing Data window

Exiting the Database

Before exiting the database, please make sure you save it!

To exit the database, just close the web-browser tab or close the web-browser completely.

Database Contacts

This information is current as of the date of this document.

- GLKN Landbird Monitoring Coordinator: Ted Gostomski
theodore_gostomski@nps.gov, 715-682-0631 x231
- GLKN Landbird Database Administrators: Mark Hart & Rebecca Key
mark_hart@nps.gov, 715-682-0631 x226
rebecca_key@nps.gov, 715-682-0631 x232

Literature Cited

Gostomski, T., M. Knutson, N. P. Danz, B. Route, and T. W. Sutherland. 2010. Landbird monitoring protocol, Great Lakes Inventory and Monitoring Network. Natural Resource Report NPS/GLKN/NRR—2010/225. National Park Service, Fort Collins, Colorado.

National Park Service
U.S. Department of the Interior



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