Bumble Bee CBA Baseline Acres Tool

January 2026

Background

Establishing baseline conditions is a required step in the enrollment process under the Bumble Bee Conservation Benefit Agreement (CBA). For this Agreement, baseline conditions are defined as the acres of natural land cover that may support covered species foraging, nesting, or overwintering within the mapped occurrence ranges of covered species at the time of individual Partner's enrollment, or during subsequent modifications to covered species or lands included. This determination is based on documented habitat conditions observed during initial field monitoring and informed by the best available science and species occurrence data.

The Bumble Bee Baseline Acres Tool was developed to support consistent and transparent evaluation of baseline conditions across diverse geographies and management units. By integrating spatial data layers with site-specific management boundaries, the tool identifies potential habitat within enrolled areas and allows users to determine if any of 11 vulnerable, threatened, or endangered bumble bee species overlap with their organization's rights-of-way features. Partners can upload polygons representing management areas or "enrolled acres" to detect areas of overlap, review results, and generate reports and spreadsheets designed to facilitate the enrollment process. This process enables Partners to efficiently document baseline acres and supports Program review.

Before for Using the Tool

Before using the Bumble Bee Baseline Acres Tool, users should consider the following:

- **Accessing the tool**. This tool is integrated into the Geospatial Habitat Database system. To use it, users must have an organization account in the system. Users can create a free account by completing this form.
- **File types allowed**. The tool accepts uploads in KML/KMZ format. If compressed into a single ZIP file, users may also upload data in shapefile, file geodatabase, or GeoJSON format.
- **Data format.** Two options exist for data types. Which one a user chooses is based on personal preference and ease of use.
    - *Polygons*. A user can provide a set of polygon boundaries representing their enrolled lands. Within the geospatial habitat database, these are termed "management areas". Users may upload multiple polygon files to compile management areas. By default, the bumble bee analyses will be applied to all management areas stored in the user's account.
        - **Important:** Do not upload overlapping polygons, as this will lead to an overestimation of calculated areas. Overlapping polygons can be removed by running the Dissolve tool prior to upload.
    - *Polylines*. If a user does not have polygons available, a built-in tool is provided to convert centerlines into polygons using user-defined buffer distances. This tool has a maximum runtime

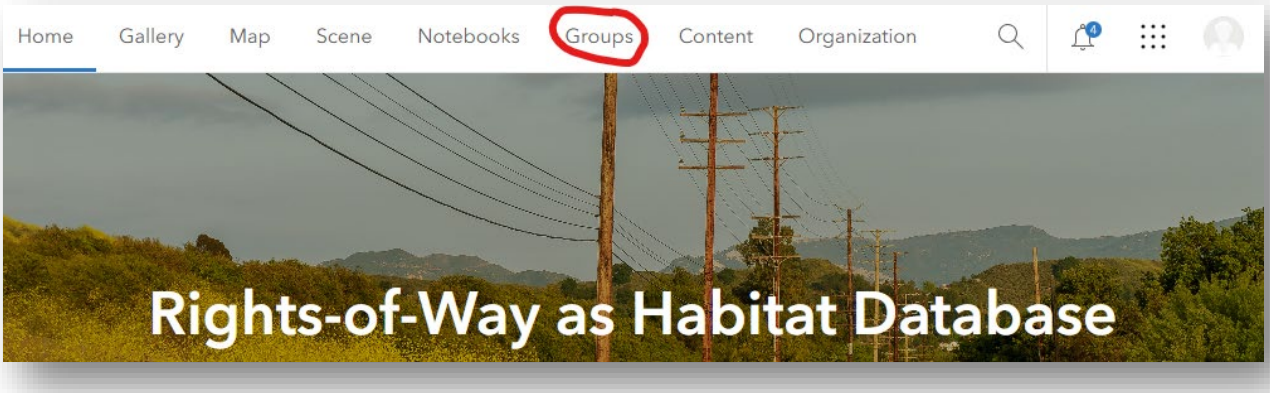
of 30 minutes. Large datasets (e.g., more than 5,000 lines) are not compatible with the tool. Multiple polylines can be merged prior to upload to the tool.

- **Other options for calculation.** The Bumble Bee Baseline Acres Tool is provided as a convenient method for most users to calculate their baseline acres. Use of the Bumble Bee Baseline Acres Tool is not a requirement of the Bumble Bee CBA. For some users, an alternative method of baseline acres calculation may preferred. Other acceptable methods for baseline acres calculation include:
  - *Run the analysis in smaller batches*. During the upload process, users may assign a group name to their data. Group names can be used to buffer a selected group of centerlines together (e.g., by utility line voltage, road class, or pipeline function), and/or run reports on a specific subset of user management areas (e.g., energy generation vs. transmission corridors).
  - *Conduct the analysis outside of the Bumble Bee Baseline Acres Tool*. The process used in the tool is described in detail within Section 4.4.3 (Baseline Determinations) within the Bumble Bee CBA. Users can conduct the analysis described using publicly available data layers in their own native ArcGIS environments. Users taking this approach must provide their analysis data and methodology with their application for enrollment.
  - *Contact UIC for analysis assistance*. The UIC Sustainable Landscapes program can assist with troubleshooting and technical support for Bumble Bee Baseline Acres Tool use. If necessary, the program may also be able to conduct the analysis on an applicants behalf for an additional fee.

Running the Tool

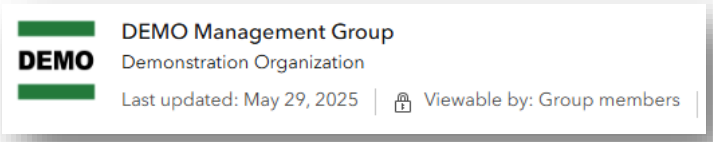
Step 1: Log In

1. Go to https://ArcGIS.com and log in using an account registered to the users organization.
2. Then, click on “Groups” at the top of the screen.

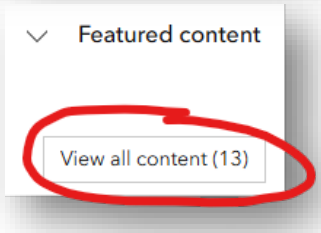


Step 2: Access Group Content

1. Search for or select the organization's Management Group. The DEMO Management Group is displayed here as an example.



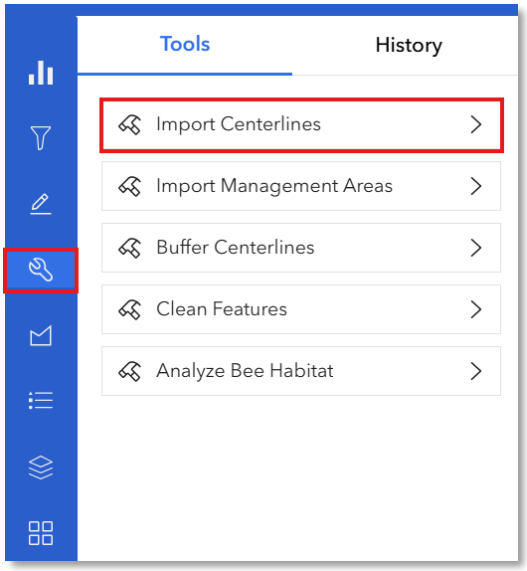
2. Under Featured Content, click "View all content," then select "Bumble Bee CBA Baseline Acres Tool"



Step 3: Add Centerlines

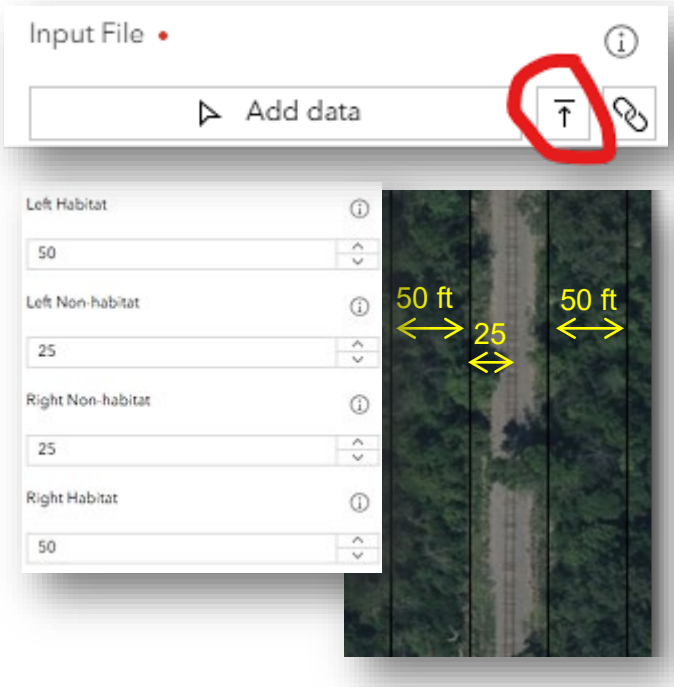
This step adds centerlines to the database. If a user has polygons representing enrolled lands (management areas) to upload, skip to Step 5. If polygons are already added in the database, skip to Step 6.

1. Click the wrench icon along the left rail to access all tools, then select "Import Centerlines".
2. Click the upload icon next to the Add Data box to upload centerlines in one of the following formats:
    a. KML/KMZ
    b. Shapefile (zipped)
    c. GeoJSON (zipped)
    d. File geodatabase (zipped)
3. Set the Output to "Centerlines" to add data to the database (Setting this to "Map" is only for temporary viewing).
4. (Optional) Enter a Group Name to:
    a. Apply different buffering distances to a subgroup of centerlines (in the next step), and/or
    b. Run reports later on a subset of management areas.
5. Click Run to add the centerlines to the database.



Step 4: Create Management Areas by Buffering Centerlines

Buffer the uploaded centerlines to create management areas. This analysis has a maximum runtime of 30 minutes. For large datasets, consider either 1) running the tool in smaller batches by using group names, or 2) creating buffers prior to uploading them as polygons in the database (see Step 5).

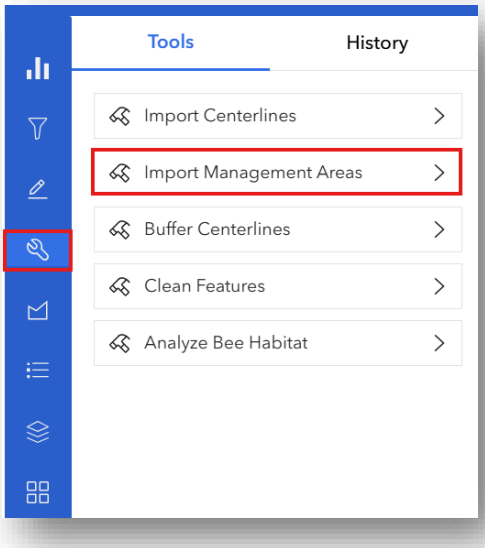


1. Click the wrench icon and select Buffer Centerlines.
2. Choose the desired unit of measure.
3. Set the Output to “Management Areas” to store the resulting polygons in the database. (Setting this to “Map” is only for temporary viewing).
4. Enter Zone Widths for habitat and non-habitat areas. For example, a user may set left or right easement widths to 50 or 100 feet based on their typical system easement widths.
5. (Optional) Enter a Group Name to apply the buffer only to those records. If left blank, the buffer will apply to all records.
6. Click Run to create and save management areas. Management areas should now be visible in the database.

Skip to Step 6 unless the user plans to upload additional management areas as polygons in the next step.

Step 5. Add Management Areas

This step adds management areas to the database.

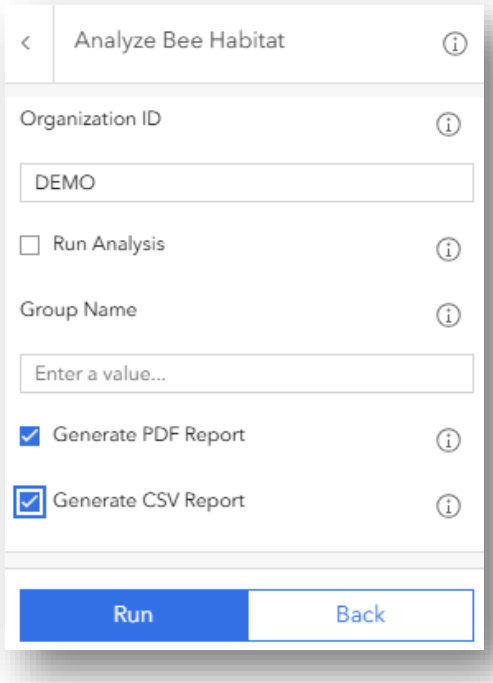


1. Click the wrench icon along the left rail and select Import Management Areas.
2. Upload the user’s system polygon dataset. (This step may be repeated if users have more than one dataset.)
3. (Optional) Enter a Group Name to organize user data. Group names are useful for running reports on a specific subset of features.

Step 6. Analyze Bumble Bee Habitat

This analysis identifies areas of overlap between bumble bee occurrences and management areas. This step can be time-consuming and may time out after 30 minutes with large datasets.

New calculations are run nightly for organizations with updated management areas in the Geospatial Habitat Database. Therefore, users returning to this step the next day can forgo the time consuming “Run Analysis” option.

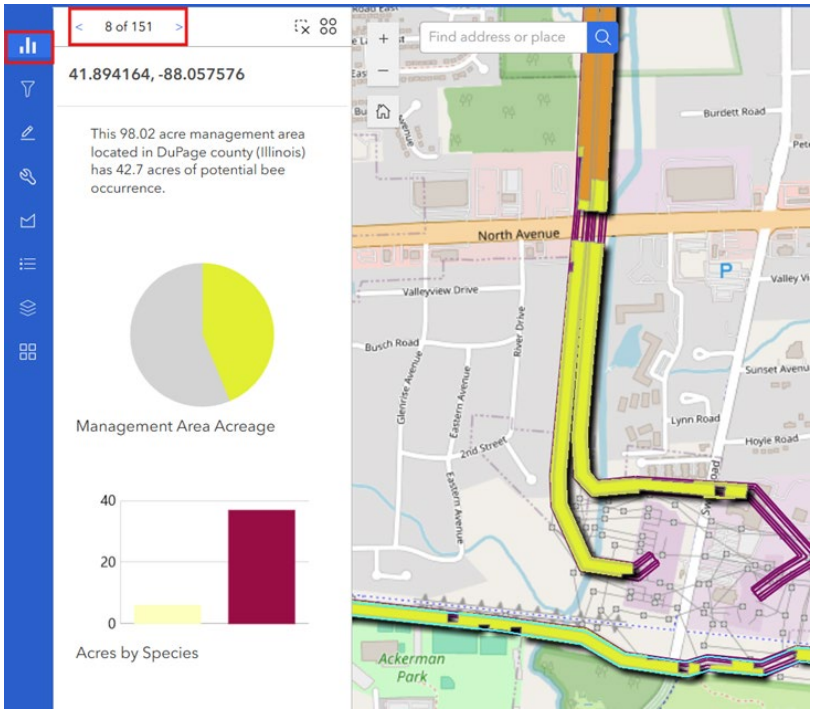


1. Click the wrench icon and select Analyze Bee Habitat.
2. Check the following options:
    a. Generate a PDF Report
    b. Generate a CSV Report
    c. (Optional) Check Run Analysis only if new management areas were added.
    d. (Optional) Enter a group name to run a report on a specific subset of features.
3. Then click Run. If no changes have been made, users can display their organization’s most recent report without re-running the analysis by not selecting the “run analysis” checkbox.

Step 7: Confirm Visual Results

In this optional step, users can visually cycle through management areas that overlap bumble bee species occurrence areas to confirm the analysis results in site-specific context.

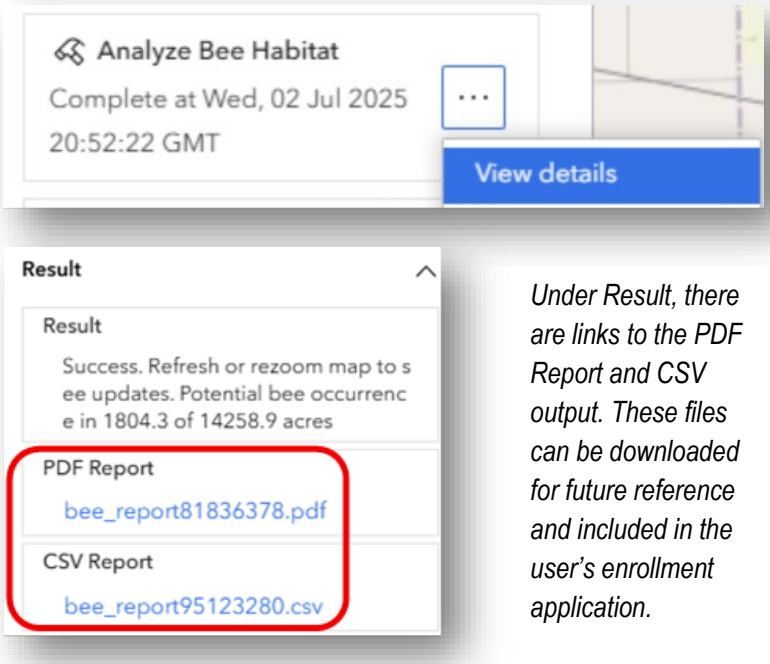
1. Click on the bar-chart icon (top left rail) as shown. Cycle through areas of overlap by clicking the arrow icon. By default, this tool only shows management areas with species occurrence data.
2. If you added group names, you can use the filter button to review results for a specific group.



Step 8. View Reports

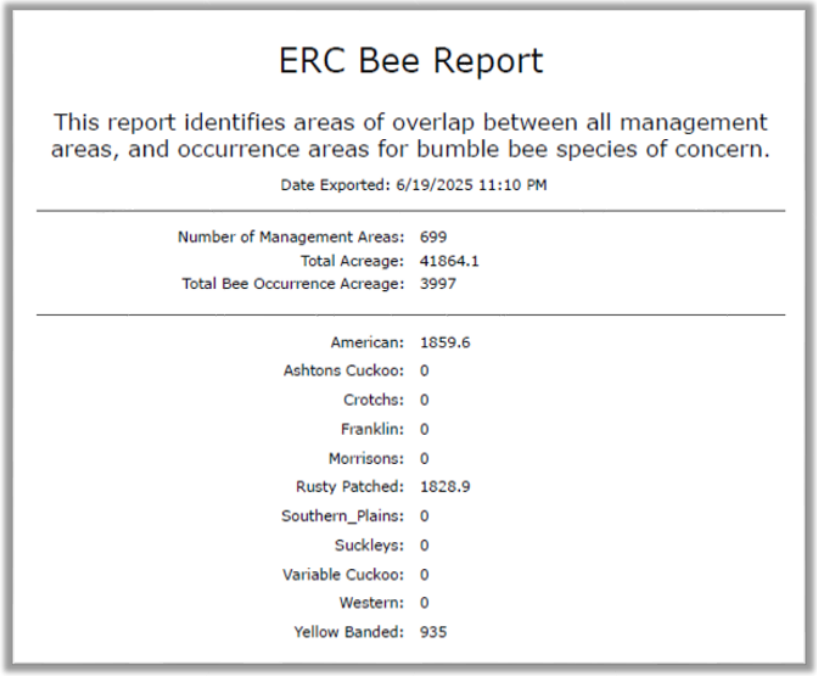
This step provides the results of the analysis. Information resulting from this step should be included the Bumble Bee CBA application.

1. Go to the History tab and locate the most recent “Analyze Bee Habitat” entry.
2. Click the ellipses to view details.
3. Under Result, there are links to the PDF Report and CSV output. Clicking the PDF Report will open a detailed report, while the CSV file can be opened as a spreadsheet and downloaded for future reference.



Under Result, there are links to the PDF Report and CSV output. These files can be downloaded for future reference and included in the user’s enrollment application.

The PDF report provides a summary of the user’s enrolled lands (management areas) and the calculated baseline acres. These files can be downloaded for future reference and included in the user’s enrollment application.



ERC Bee Report

This report identifies areas of overlap between all management areas, and occurrence areas for bumble bee species of concern.

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Number of Management Areas:	699
Total Acreage:	41864.1
Total Bee Occurrence Acreage:	3997

American:	1859.6
Ashtons Cuckoo:	0
Crotchs:	0
Franklin:	0
Morrisons:	0
Rusty Patched:	1828.9
Southern_Plains:	0
Suckleys:	0
Variable Cuckoo:	0
Western:	0
Yellow Banded:	935

The Bumble Bee Baseline Acres Tool PDF report summarizes the number and acreage of enrolled lands (management areas). It also summarizes the bumble bee baseline acres listed as Total Bee Occurrence Acreage, as well as individually by species.