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**KBA Tools Documentation**

Github: <https://github.com/msouthee/KBATools>

# Structure

## Source Code

Source code resides in <https://github.com/msouthee/KBATools> . Contact Meg Southee (msouthee@wcs.org) for access.

Recommended to use an interactive development environment (IDE), such as PyCharm (<https://www.jetbrains.com/pycharm/>) or Visual Studio (<https://visualstudio.microsoft.com/vs/community/>) to facilitate interactive debugging. The Python file for each tool contains a controlling process at the end which allows you to start the tool by running that file, passing parameters for debugging.

## Toolbox

Description: The tools in this toolbox are designed to be run on the server. Tool development occurs locally (on laptop), Github is used to sync changes to the server when the tool development is complete, and the tools are run directly on the SDE database via remote desktop connection.

Python Toolbox Name: **KBATools.pyt**

Essential Scripts: KBATools.pyt, KBAUtils.py

# Tool Descriptions

## Append Coordinator Data Tool

Description: Append formatted coordinator data to the KBASiteCentroids feature class. This is used when coordinators provide static updates of KBAs that are not yet integrated into the EBAR-KBA database.

Tool Name: **Append Coordinator Data to KBASiteCentroids**

Script Name: AppendCoordinatorDataTool.py

Parameters: [1] Geodatabase; [2] Feature Class to Append

Frequency: Run manually, when needed.

Notes:

* The formatted data requires two specific fields [nationalname, coordinator] to match with the KBASiteCentroids feature class.
* Before this tool is run you should bulk delete the input values from the last import from that specific coordinator.
* These can easily be identified by the ImportDate and Coordinator fields.
* Preprocessing should be done locally in the KBACoordinatorData.gdb and then transferred to the server where the Tool is run.

## KBA Site Calculate Spatial Parameters Tool

Description: Calculate spatial parameters for all polygons in the KBASite feature class, including updating the centroid from the KBASite dataset, and updating, inserting and deleting records in the KBASiteCentroid dataset. Specifically, this tool calculates the latitude and longitude of the KBA polygon centroid in WGS84, and outputs the lat/long values to the KBASiteCentroid point feature class to update their location. This script is used to update the data points in the KBA public dashboard. The ouput KBASiteCentroid feature class is used as the underlying spatial layer in the public dashboard to display progress and development of KBAs across Canada. [KBA Public Dashboard: <https://gis.natureserve.ca/portal/apps/opsdashboard/index.html#/ad84def2aef04ecabb3b38982764f59e> ]

Tool Name: **KBA Site Calculate Centroit Tool**

Script Name: KBASiteCalculateCentroidTool.py

Parameters: [1] Geodatabase

Frequency: This tool is scheduled to run on the server every hour to keep the data up to date in the dashboard. The tool was scheduled using the Windows Task Scheduler via the Remote Desktop Connection. Scheduled via Windows Task Scheduler to run hourly on the server. [Task Name: Update KBASiteCentroids]

## KBA Site Species Filter Tool

Description: Write and update species information in the KBASiteCentroidSpeciesNames table from the KBASite\_Name\_Filter SQL View. The output table displays the species information in the KBA public dashboard. This tool also removes the names of any sensitive species so that they are not displayed in the public dashboard.

Tool Name: **KBA Site Species Filter – Update Records**

Script Name: KBASiteSpeciesFilterTool.py

Parameters: [1] Geodatabase

Frequency: Scheduled via Windows Task Scheduler to run hourly on the server. [Task Name: Update KBASiteSpecies Details]

Notes:

* The KBASiteSpeciesFilterTool.py script is used to generate the output records in the KBASiteCentroidSpeciesNames table.
* This script reads an SQL view table "kbasite\_name\_filter" as its input and creates an ArcGIS Pro table as its output.
  + The output ArcGIS table is needed to 'publish' the data the KBA\_Public Service.
  + The script is used to generate the unique combinations of kbasiteid and speciesid.
  + The script removes duplicates that exist in the SQL view and null records from the SpeciesAtSite table.
* The script also reads the biotics\_datasensitive\_yes SQL view table and then delete records from the output KBASiteCentroidSpecies Names table if they contain the names of sensitive species.