EBAR Heatmap Documentation

In this document, you will find information pertaining to the development of the EBAR Heatmap from EBAR range maps of SARA listed/ COSEWIC assessed (Endangered, Special Concern, Threatened, or Extirpated) species.

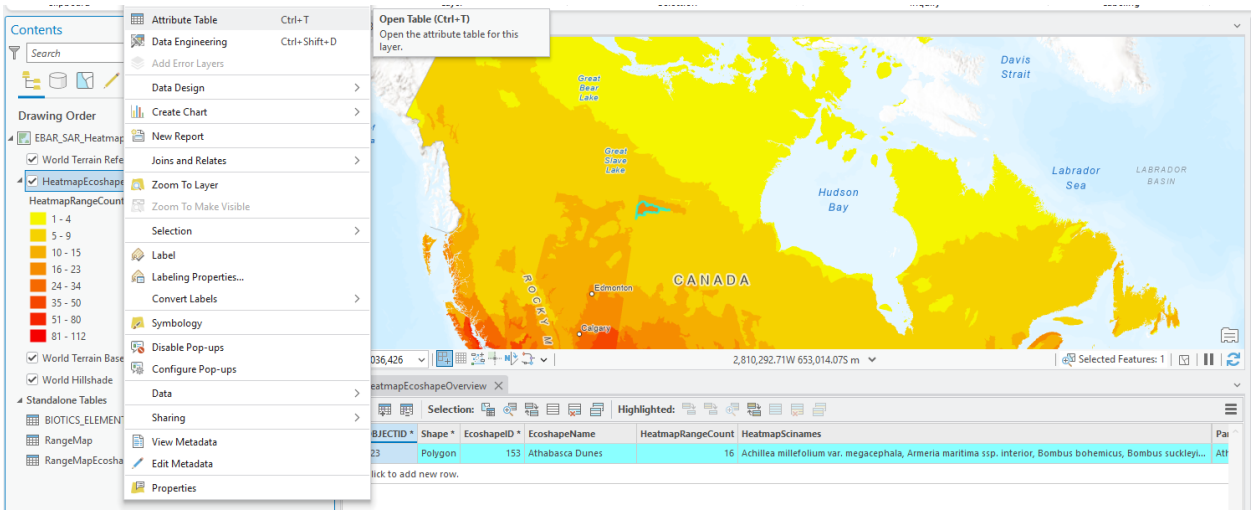
The Heatmap summarizes the number of published EBAR species ranges that intersect each Ecoshape. The map creation date and the number of ranges used in the analysis can be found on the map jpeg and in the GIS data package. Ecoshapes with a darker red coloration indicate areas with a higher count of EBAR ranges that intersect the Ecoshape (i.e., higher count of species known to be present, historically present, or expected to be present within the Ecoshape).

To access an image of the Heatmap and the underlying spatial data, visit the EBAR webpage at https://www.natureserve.org/canada/ebar.

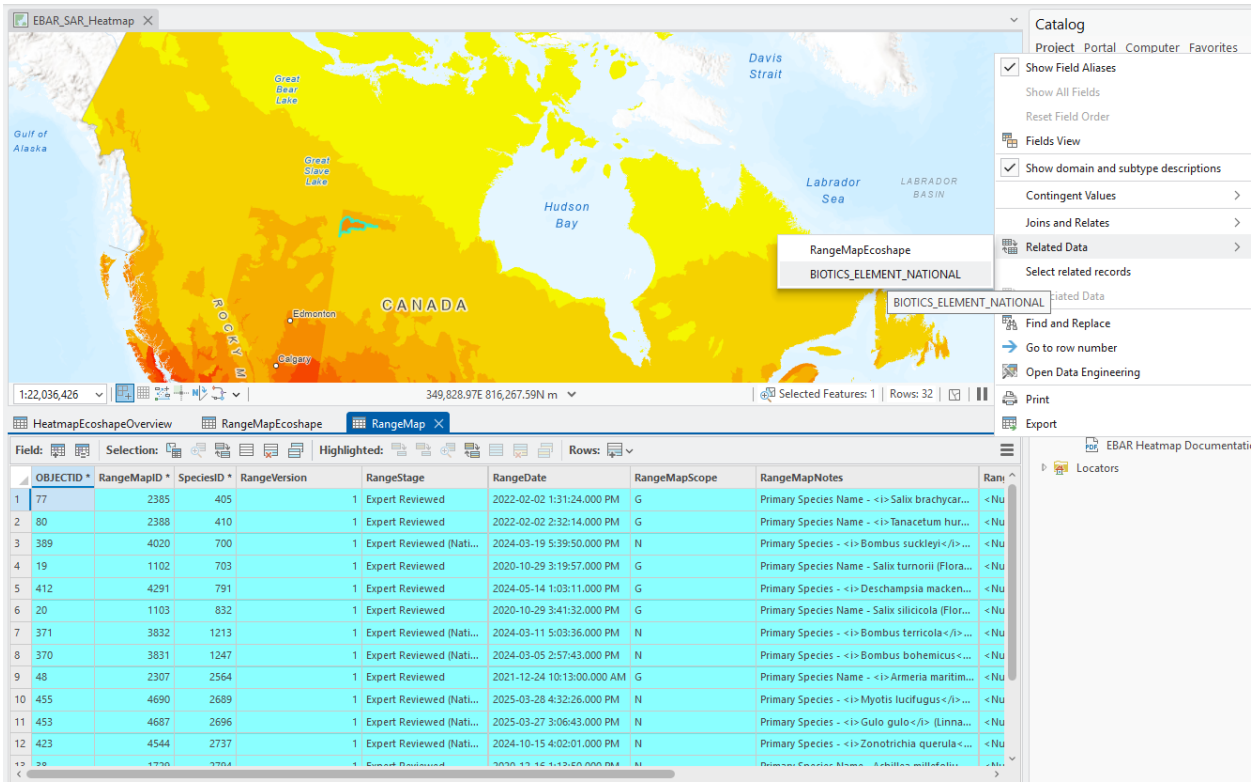
Disclaimer: Please review our methods document before using EBAR. EBAR range data are relatively coarse scale and appropriate for screening and education purposes but are not intended for all types of applications and analysis. The absence of data in any geographic areas does not necessarily mean that a species is not present. An Ecoshape with a presence value does not necessarily mean that a species is present throughout the entire geographic area.

Within the zipped data package, you will find an ArcGIS Pro project (.aprx file) as well as data in two formats (File Geodatabase for use with ArcGIS, and Shapefile/CSV for use with other software).

Upon opening the EBAR_SAR_Heatmap ArcGIS Pro project you will see the heatmap. To query the details of an Ecoshape, use the Explore feature to click on the map and Popup attribute, or use the Select feature to select an Ecoshape and see its details (include the Range Count and Species Scientific Names):



If additional information about the Range Maps or Species are required, use the Related Data Feature to navigate to the RangeMapEcoshape, RangeMap and BIOTICS_ELEMENT_NATIONAL tables:



Following are the fields in the data:

1) Feature Class “HeatmapEcoshapeOverview”

For the Geodatabase Feature Class, the following fields are included:

- EcoshapeID = EBAR Ecoshape unique identifier
- EcoshapeName = the name of the Ecoshape
- HeatmapRangeCount = count of EBAR Range Maps that are included in the Ecoshape
- HeatmapScinames = National Scientific Names of the species included in HeatmapRangeCount
- ParentEcoregion = the name of the parent Ecoregion
- ParentEcoregionFR = the French name of the parent Ecoregion
- Ecozone = the name of the Ecozone
- EcozoneFR = the French name of the Ecozone
- MosaicVersion = version of the Ecoshape mosaic used

2) Table ("RangeMapEcoshape")

For this Geodatabase Table, the following fields are included:

- RangeMapID = EBAR RangeMap unique identifier
- EcoshapeID = EBAR Ecoshape unique identifier
- Presence = presence value ("P" = Present; "H" =Historical; "X" =Presence Expected)
- UsageType = the breeding status if a range map has had usagetype differentiated
- RangeMapEcoshapeNotes = additional notes, including input records and published reviewer names and/or comments
- MinDate = the minimum observation/occurrence date
- MaxDate = the maximum observation/occurrence date

3) Table ("RangeMap")

For this Geodatabase Table, the following fields are included:

- RangeMapID = EBAR RangeMap unique identifier
- SpeciesID = EBAR Species/ELEMENT unique identifier
- RangeVersion = the version of the RangeMap
- RangeStage = the expert review stage of the range map
- RangeDate = the date the range map was generated
- RangeMapScope = the geographic scope at which a range map has been created (i.e. National, Global, North American)
- RangeMapNotes = details on the species name(s)
- RangeMapComments = additional comments regarding the range map, its development process, or other important considerations
- ReviewerComments = expert reviewer names and overall comments (if applicable) provided through the review process

- SynonymsUsed = synonym species names that are used in the generation of a range map
- DifferentiateUsageType = Either “1” (breeding information included in the map generation phase; this is done for migratory or wide-ranging species) or “Null” (breeding information not included in the map generation phase)

4) Table “BIOTICS_ELEMENT_NATIONAL”

For this Geodatabase Table, the following fields are included:

- SpeciesID = EBAR Species/ELEMENT unique identifier
- ELEMENT_NATIONAL_ID = Canadian unique identifier for the element
- ELEMENT_GLOBAL_ID = International unique identifier for the element
- ELEMENT_CODE = Unique identifier compatible with the Biological and Conservation Data system
- CATEGORY = High-level category to which the species belongs (e.g., Vascular Plant, Fungus)
- TAX_GROUP = Taxonomic group to which the species belongs (e.g., Dicots, Lichens)
- KINGDOM = Taxonomic kingdom for the species element
- CLASS = Taxonomic class for the species element
- TAX_ORDER = Taxonomic order for the species element
- FAMILY = Taxonomic family for the species element
- NATIONAL_SCIENTIFIC_NAME = Canadian scientific name for the species
- NATIONAL_ENGL_NAME = Canadian English name for the species
- NATIONAL_FR_NAME = Canadian French name for the species
- COSEWIC_NAME = COSEWIC scientific name for the species
- ENGLISH_COSEWIC_COM_NAME = COSEWIC English name for the species
- FRENCH_COSEWIC_COM_NAME = COSEWIC French name for the species
- COSEWIC_STATUS = Endangered designation assigned to the species in the latest COSEWIC review
- SARA_STATUS = Endangered designation under the Canadian Species At Risk Act
- SHORT_CITATION_AUTHOR = Author of the short citation for the element name
- SHORT_CITATION_YEAR = Year of the short citation for the element name
- FORMATTED_FULL_CITATION = Formal citation for the reference
- NSX_URL = Link to element details on NatureServe Explorer

Heatmap Citation:

NatureServe Canada. 2025. Ecosystem-based Automated Range (EBAR) Heatmap for Species at Risk in Canada. Ottawa, Canada. Accessed via: https://www.natureserve.org/canada/ebar

Species List: Please see the full list of species used in the analysis at https://gis.natureserve.ca/download/EBARHeatmapPublishedSAR.csv. Additional species information can be found within the BIOTICS_ELEMENT_NATIONAL table of the GIS download.