

Grizzly Bear Population Estimates 2012-2018

June 18, 2020

Summary

This document briefly describes the Grizzly Bear Population Sub-Units (aka 'bear density' polygons) and attribute fields, and the data change history from 2012 to 2018. The estimated 2015 and 2018 bear population numbers and bear density are provided with the 'bear density' polygon attributes. The polygons are composed of Grizzly Bear Population Unit (GBPU), Wildlife Management Unit (WMU), Limited Entry Hunting (LEH), and National Park boundaries. **Note that that these boundaries are not coincident. Slight adjustments have been made to some polygons where needed to align the original linework to create the GBPU sub-units. Therefore, if needed, use the original source data rather than dissolving the GBPU sub-units.** Bear density is given in number of bears per 1,000 square kilometers based on net polygon area. The net polygon area excludes ice and water features from the Baseline Thematic Mapping [dataset](#). Ice and water features can be identified by using this selection criteria: PRESENT_LAND_USE_LABEL IN ('Fresh Water', 'Salt Water', 'Glaciers and Snow').

Data Catalog Record:

<https://catalogue.data.gov.bc.ca/dataset/2bf91935-9158-4f77-9c2c-4310480e6c29>

Data Change History

June 2015

2012 GBPUs were sourced from the BC Geographic Warehouse (BCGW). 2015 GBPU spatial edits were directed by T. Hamilton. The 2015 GBPUs were used in the combined linework with GBPUs, Wildlife Management Units (WMU), Limited Entry Hunting (LEH), and National Park boundaries, for which bear population numbers were apportioned.

This is a brief summary of the GBPU spatial changes, and the overall population estimate changes by GBPU in 2015 which are reflected in the bear density polygons:

- Expansions to Blackwater-West Chilcotin, Klinaklini-Homathko, and South Chilcotin Ranges. No change to number of bears.
- Wells Gray/Columbia-Shuswap boundary modification – section of Columbia-Shuswap moved to Wells Gray (28 bears allotted from C-S to WG)
- merging of Spillamacheen GBPU into North Purcells GBPU (98 bears allotted from Spillamacheen to N.Purcells)
- Central Monashees - no boundary changes, but number of bears reduced by 33 due to double accounting.

Inter-boundary Adjustments:

- Flathead/South Rockies (3 bears allotted from South Rockies to Flathead)
- Khutzymateen/ Cranberry (Kitsumkalum valley) (3 bears allotted from Khutzymateen to Cranberry)
- Kitlope-Fiordland / Tweedsmuir
- Cassiar/Taku (1 bear allotted from Cassiar to Taku)

March 2019

2018 Population estimates were revised based on new numbers for 8 GBPUs:

- Flathead & South Rockies – Mowat and Lamb 2016
- Garibaldi-Pitt, South Chilcotin Ranges, Squamish-Lillooet, Stein-Nahatlatch, Toba-Bute – Apps et al. 2014
- Kettle-Granby – Mowat et al 2017

The above changes were re-apportioned to the 'bear density' polygons based on the 2015 proportions.

- Kitlope-Fiordland / Tweedsmuir bear number adjustments to re-align with 2012 total GBPU numbers.

Attribute Descriptions

| Field Name | Description |
|-----------------------------|--|
| GRIZZLY_BEAR_POP_UNIT_ID | Is a system generated unique identification number. |
| GRIZZLY_BEAR_POPULATION_TAG | Is a business key for the population unit. It consists of a positive non-zero integer which can be null, e.g., 11. |
| POPULATION_NAME | Is the business name for the population unit. The population name generally describes a geographic area of the province, e.g., Blackwater-West Chilcotin. |
| DISPLAY_NAME | Is the formatted display name to allow for label stacking, e.g., Blackwater-\West Chilcotin. |
| STATUS | Is the status or health of a population in a grizzly bear population unit., e.g., Viable, Threatened, Extirpated. |
| WITHIN_BC_IND | Is the flag if the population units is in BC, e.g., Y, N. |
| VERSION_NAME | Is the name of the version of the population units, e.g., 2015. (Note: Grizzly Bear Population Units polygons are the same for 2015 and 2018.) |
| VERSION_YEAR_MODIFIED | Is the year of the modifications to match, for example, hunting regulations of the year, e.g., 2015, for June 2015 edits. |
| WILDLIFE_MGMT_UNIT_ID | The Primary Unique Identifier for the Wildlife Management Unit (WMU). Consists of the Environment Region number, followed by a dash, followed by a two-digit number, unique within the region, e.g., 4-2. See: https://catalogue.data.gov.bc.ca/dataset/wildlife-management-units |
| REGION_RESPONSIBLE | The region code responsible for management on the wildlife unit, e.g., 4. |
| REGION_RESPONSIBLE_NAME | The region name responsible for management on the wildlife unit, e.g., Kootenay. |
| GAME_MANAGEMENT_ZONE_ID | The primary unique numeric identifier for the zone. Starts with a WLAP region number, e.g., 4Ea. |
| GAME_MANAGEMENT_ZONE_NAME | The primary unique name identifier for the zone. Starts with a WLAP region number, e.g., Fernie. |
| National_Park | National Park of Canada name. |
| FID_WMU_BC | Wildlife Management Unit (WMU) Feature ID (OBJECTID). |
| GBPU_MU_LEH_uniqueID | Grizzly Bear Density Polygon Unique Feature ID |
| WMU_linkID | WMU_linkID is the identifier for the field "FID_WMU_BC". It is a Unique ID linking to the "WMU_grizz_Link" polygons. |
| COUNTER_ID | 'Counter' ID from Tony Hamilton's original bear density file. |
| MU | Management Unit ID is based on MOE Region - Unit. This has zero fills for unit numbers less than 10, e.g., 5-01 vs 5-1. Note that this format may convert to a date if used in Microsoft Excel format. |
| LEH_Zone | Limited Entry Hunting Zone (LEH). |
| Closed_to_Hunting_2012 | Y (yes) indicates if hunting was closed in 2012. |
| Closed_to_Hunting_2015 | Y (yes) indicates if hunting was closed in 2015. |
| AREA_KM2 | Total/Gross polygon area in kilometres squared. |
| AREA_KM2_noWaterIce | Net polygon area, excluding BTM water/glaciers & snow ('Fresh Water', 'Salt Water', 'Glaciers' and Snow') in kilometres squared. |
| EST_POP_2015 | Grizzly Bear estimated population in the year 2015 (Tony Hamilton). |

| | |
|-----------------------|--|
| EST_POP_2018 | Grizzly Bear estimated population in the year 2018 (Garth Mowat, Don Morgan). Numbers were revised for 8 GBPU's, and then apportioned as per 2015 numbers. |
| EST_POP_DENSITY_2015 | Estimated bear density for 2015 (#/1000 km ²) [EST_POP_2015] / ([AREA_KM2_noWaterIce] / 1000) |
| EST_POP_DENSITY_2018 | Estimated bear density for 2018 (#/1000 km ²) [EST_POP_2018] / ([AREA_KM2_noWaterIce] / 1000) |
| GIS_File_Version_Date | GIS file version date, e.g., January 21, 2020. |

Credits

Tony Hamilton, Garth Mowat, Don Morgan (Knowledge Experts); Sasha Lees (GIS Analyst)