

# Alaska Natural Heritage Program

## Conservation Status Report

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*Bombus frigidus* Smith, 1854  
Frigid Bumble Bee

<b>ELCODE:</b> IIHYM24130	<b>Taxonomic Serial No.:</b> 714806
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*Synonyms:* None.  
*Report last updated* – June 12, 2017

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### Conservation Status

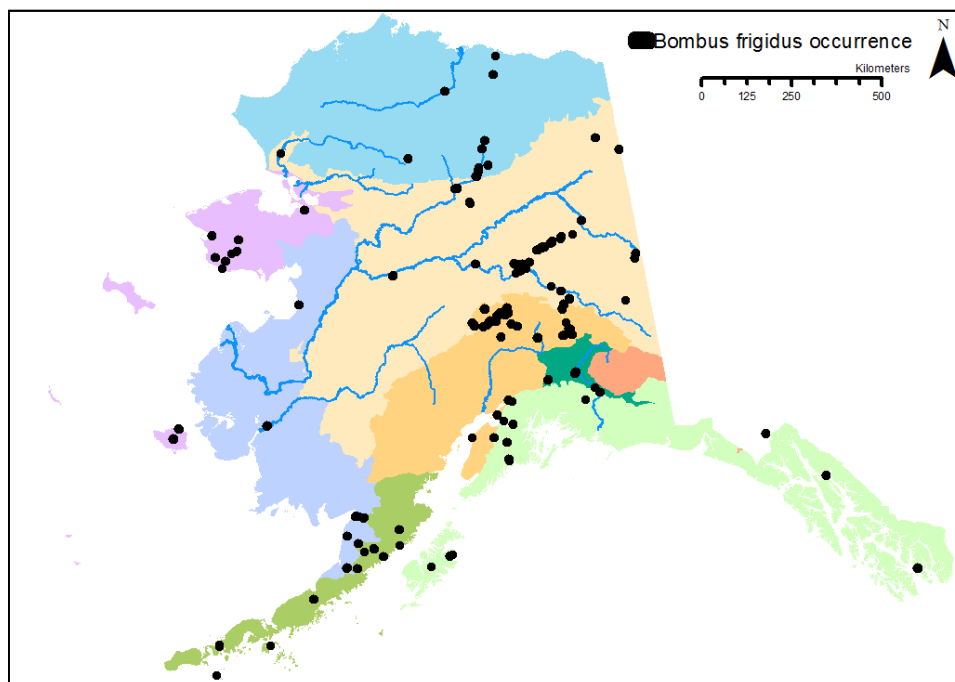
G5 S5	ASRS: not yet ranked
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### Occurrences, Range

*Number of Occurrences:* 162; number of museum records: 2,977 (American Museum of Natural History, University of Kansas, U.C. Riverside, Ohio State University, Canadian National Collection, Illinois Natural History Survey, Kenai NWR, University of Alaska Museum Insect Collection, University of Alberta, Koch et al. 2015, Yale Peabody Museum)

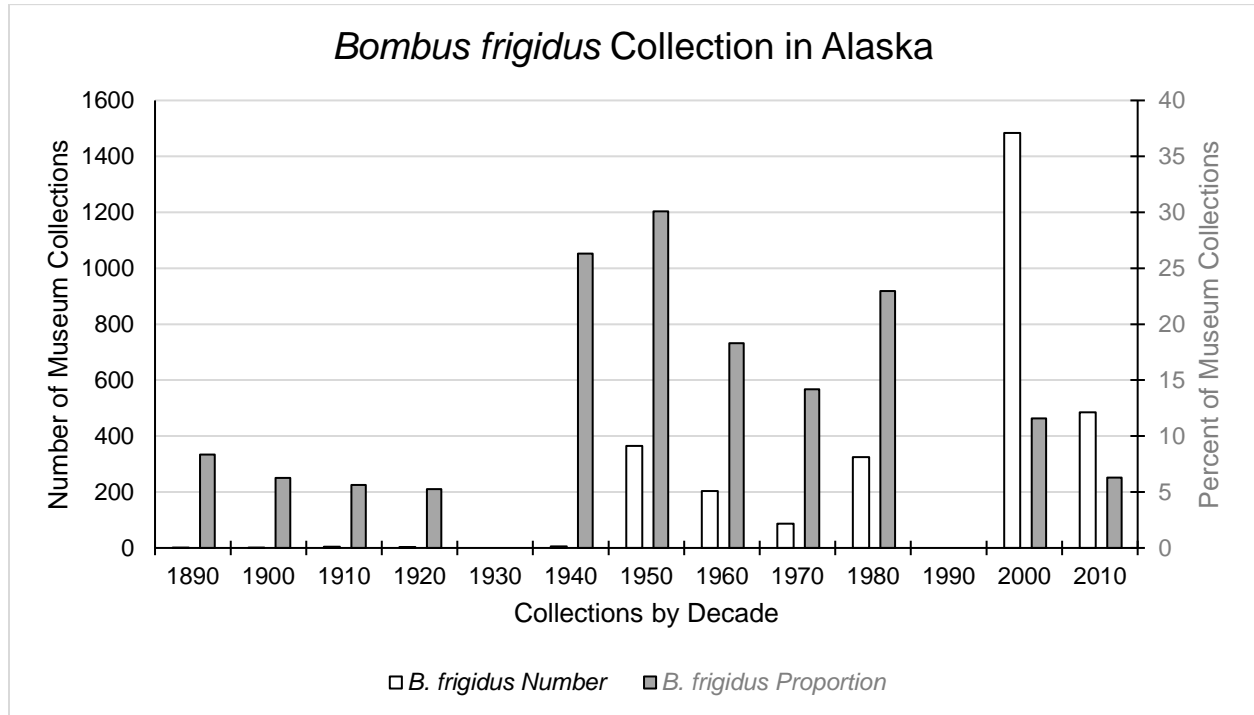
*AK Range Extent:* 1,671,553 km<sup>2</sup>; 4-km<sup>2</sup> grid cells: 175; Wide distribution in Alaska from the arctic coastal plains to Seward Peninsula and YK Delta to Alaska Peninsula, Interior and Coastal Rainforest.

*North American Distribution:* Alaska, all Canadian provinces and territories except Nunavut, south into the Cascade Range and Rocky Mountain Range system.



## Trends

Trends are based on museum voucher collections of all *Bombus* species. Short-term trends are focus the past two decades (2000's and 2010s), whereas long-term trends are based on all years. Data originate from museum voucher collections only and are summarized by decade. White bars indicate the number of voucher collections for the species. Grey bars indicate the percent of *Bombus frigidus* to all *Bombus* species.



*Short-term:* appears stable (<10% change) within the past two decades. Numerous collections made.

*Long-term:* appears stable (<10% change) when compared to pre-1930s, however there is a significant decline (>10% change) compared to the 1940s to 1980s.

## Threats

*Scope and Severity:* Unknown.

*Intrinsic Vulnerability:* Not intrinsically vulnerable. Found widespread in Alaska and associated with multiple floral resources.

## Ecology

*Habitat:* Alpine meadows, tundra, boreal forest

*Known Floral Resources:* *Achillea millefolium*, *Arnica lessingii*, *Castilleja caudata*, *Chamerion angustifolium*, *Chamerion latifolium*, *Epilobium parviflorum*, *Melilotus albus*\*, *Potentilla* sp., *Oxytropis arctica*, *Oxytropis* sp., *Senecio lugens*, *Hedysarum alpinum*, *Taraxacum officinale*\*, *Trifolium repens*\*

\*denotes non-native plant species

*Nesting behavior:* nests above and below ground

*Parasitism:* Unknown

*Ecological Integrity of Occurrences:* Current and future Landscape Condition Models have occurrences intact with high ecological integrity.

## Literature

GBIF.org (7th April 2017) GBIF Occurrence Download <http://doi.org/10.15468/dl.nvc9vf>

idigbio.org. (2017), 43395 records, accessed on 2017-03-01T21:39:42.991495, contributed by 10 Recordsets, Recordset identifiers:

<http://www.idigbio.org/portal/recordsets/a6eee223-cf3b-4079-8bb2-b77dad8cae9d> (43165 records);

<http://www.idigbio.org/portal/recordsets/271a9ce9-c6d3-4b63-a722-cb0adc48863f> (56 records);

<http://www.idigbio.org/portal/recordsets/4f436daa-01d5-4be6-b5c3-fdd255677536> (51 records);

<http://www.idigbio.org/portal/recordsets/eaaf5f19e-ff6f-4d09-8b55-4a6810e77a6c> (37 records);

<http://www.idigbio.org/portal/recordsets/5e893602-84ca-4c8c-bac1-99111c777582> (27 records);

<http://www.idigbio.org/portal/recordsets/da67ebd9-52de-444d-b114-e23c03111ac6> (27 records);

<http://www.idigbio.org/portal/recordsets/69037495-438d-4dba-bf0f-4878073766f1> (12 records);

<http://www.idigbio.org/portal/recordsets/6539877e-82dc-485c-ad3d-038f383d5431> (9 records);

<http://www.idigbio.org/portal/recordsets/db4bb0df-8539-4617-ab5f-eb118aa3126b> (6 records);

<http://www.idigbio.org/portal/recordsets/fc628e53-5fdf-4436-9782-bf637d812b48> (5 records)

Koch JB, Cordes N, Solter LF, Griswold TL, Ikerd HW, Cameron SA, Lozier JD, Strange JP, Stewart I (2015): US *Bombus*, contemporary survey data of North American bumble bees (Hymenoptera, Apidae, *Bombus*) distributed in the United States. v2.4. ZooKeys.

Dataset/Occurrence. <http://ipt.pensoft.net/resource?r=usbombus&v=2.4>

Pampell, R., Sikes, D., Pantoja, A., Holloway, P., Knight, C., Ranft, R. 2015. Bumble Bees (Hymenoptera: Apidae: *Bombus* spp.) of interior Alaska: Species composition, distribution, seasonal biology, and parasites. Biodiversity Data Journal 3: e5085. doi: 10.3897/BDJ.3.e5085

Williams, P. H., Thorp, R. W., Richardson, L. L., & Colla, S. R. (2014). *Bumble bees of North America: an identification guide*. Princeton University Press.

Woodard, H. (Feb. 28, 2017). Personal communication, email of collection data.

University of Alaska Museum Insect Collection. <http://dx.doi.org/doi:10.7299/X75D8S0H>. (Records Accessed 24<sup>th</sup> February 2017).