

Alaska Natural Heritage Program

Conservation Status Report

Bombus natvigi Richards, 1931

Common Name: High Arctic Bumble Bee

ELCODE: IHHYM24430	Taxonomic Serial No.: 714811
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Synonyms: *Alpinobombus hyperboreus* Schönherr, 1809, *Bombus hyperboreus* Schönherr, 1809

Taxonomy Notes: Based on molecular analyses, Williams et al. (2015) suggest splitting *B. hyperboreus* into two geographically distinct species: *B. hyperboreus* for Old World (Europe, Asia) populations, and *B. natvigi* for North American populations.

Report last updated – June 12, 2017

Conservation Status

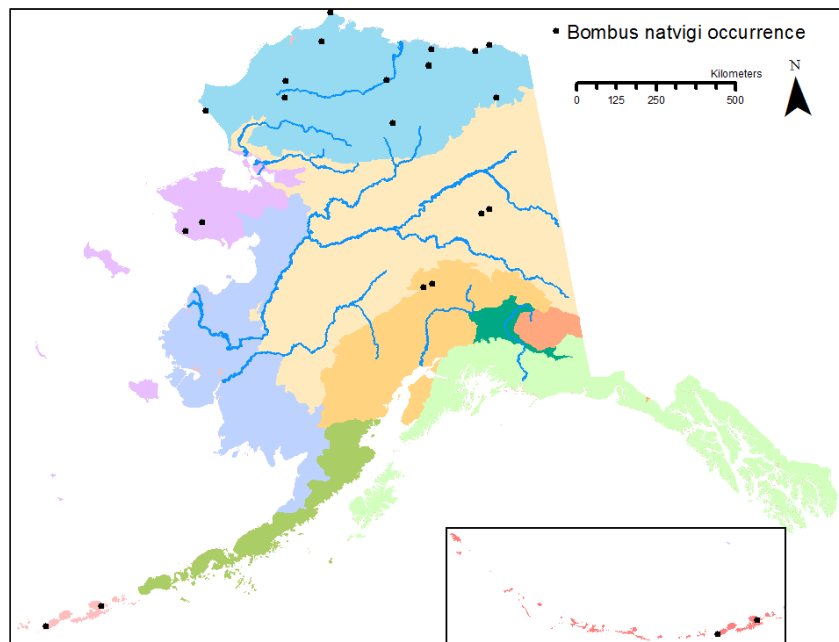
G5 S4	ASRS: not yet ranked
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Occurrences, Range

Number of Occurrences: 22; number of museum records: 53 (American Museum of Natural History, Canadian National Collection, U.C. Riverside, Illinois Natural History Survey, University of Alaska Museum Insect Collection, University of Alberta Museums).

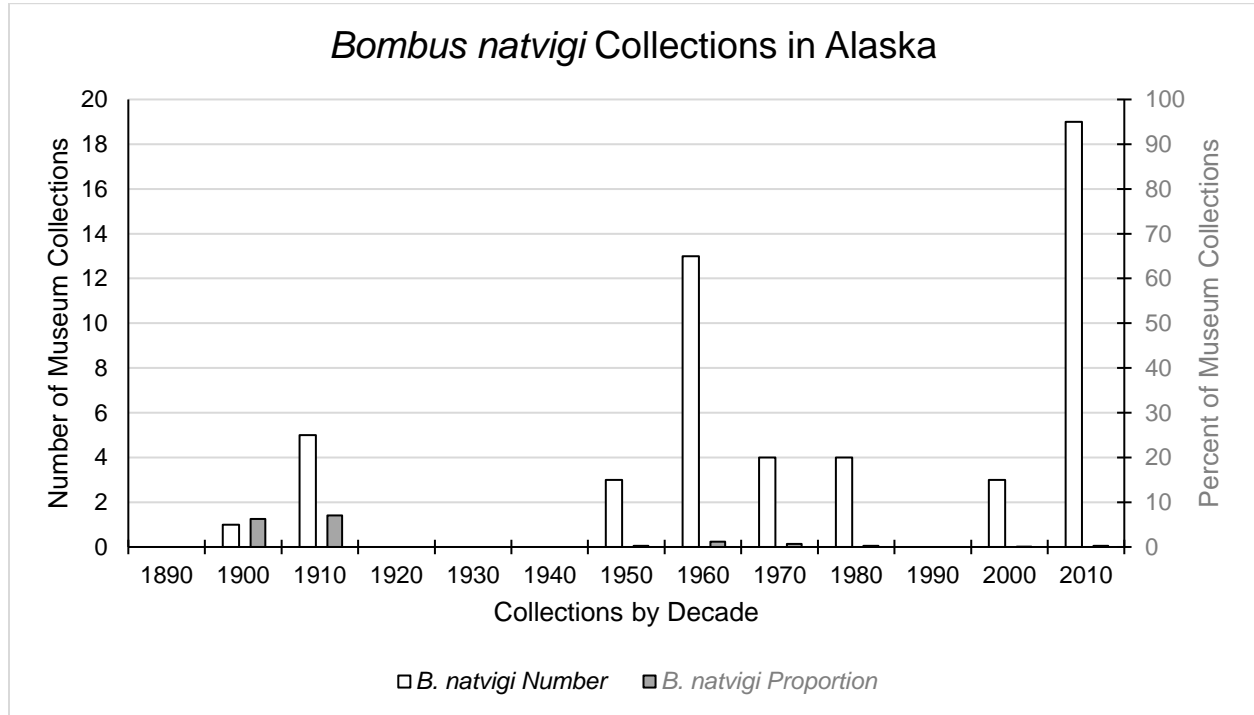
AK Range Extent: 619,744.62 km² + Unalaska and Anangula Islands (Aleutians West); 4-km² grid cells: 23; Majority on North Slope and Seward Peninsula, scattered occurrence in the Interior and Denali National Park. Also occurs in Aleutian Islands.

North American Distribution: Alaska and Arctic Canada, additionally in the High Arctic.



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 natvigi* to all *Bombus* species.



Short-term: A significant increase in proportion of *B. natvigi* collected in the 2010s compared to the 2000s (0.02% to 0.24% respectively).

Long-term: Significant decline (> 50%) in proportion of *B. natvigi* collected since the early 1900s.

Threats

Scope and Severity: Unknown

Comments: Unknown

Intrinsic Vulnerability: Found in arctic and alpine habitats which are highly vulnerable to climate change.

Ecology

Habitat: tundra

Known Alaskan Floral Associates: Hedysarum alpinum, Oxytropis campestris, Oxytropis spp., Pedicularis sudetica.

Nesting behavior: Unknown.

Parasitism: Social parasite of *B. polaris*.

Ecological Integrity of Occurrences: Found in regions of high ecological intactness and condition in current and long-term future.

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/ea5f19e-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)

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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.

Williams, P. H., A. M. Byvaltsev, B. Cederberg, et al. (2015). Genes Suggest Ancestral Colour Polymorphisms Are Shared across Morphologically Cryptic Species in Arctic Bumblebees. PLOS ONE 10:e0144544.

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



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