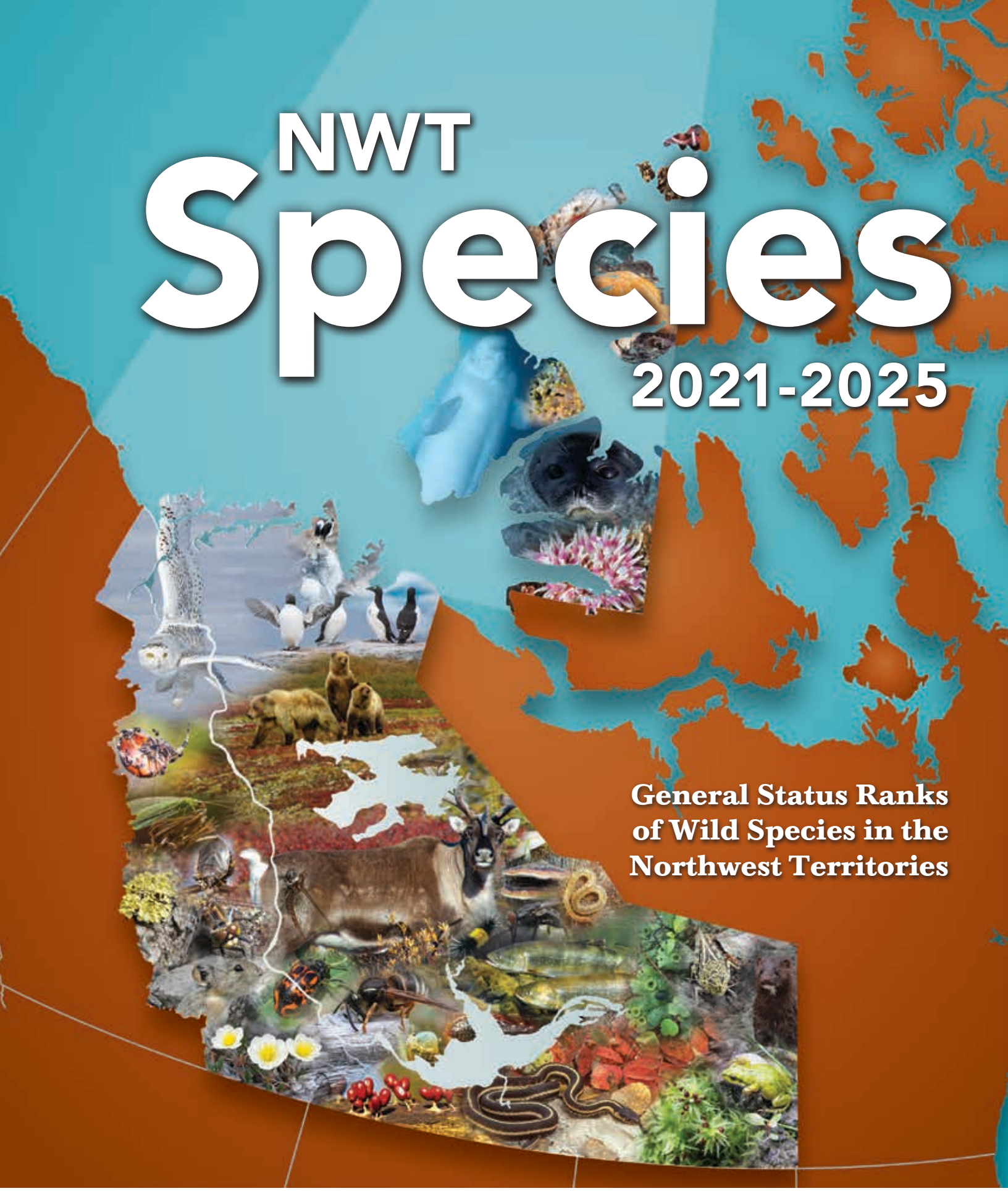
NWT Species 2021-2025



General Status Ranks of Wild Species in the Northwest Territories

In collaboration with:

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Canada

WILDLIFE MANAGEMENT ADVISORY COUNCIL (NWT)

FJMC

Wek'èezhìi Renewable Resources Board

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NWT Species 2021-2025

General Status Ranks of Wild Species in the Northwest Territories

Department of Environment and Natural Resources, GNWT

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

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Arctic Hare
Photo Credit: M. Jackson

Table of Contents

Executive Summary **1**

Sommaire **2**

Preface – Building on our knowledge of NWT species **3**

1 Background – Why rank the general status of all wild species? **4**

2 Objectives – What are we trying to achieve? **7**

3 Scope – What did we look at? **8**

Geographic Scope – Where and what is the Northwest Territories? 8

Species Scope – Which species are ranked in this report? 9

4 Data Sources and Methods – How did we rank species? **10**

Species Lists and Information – the Infobase 10

Protocol Factor Step – Sorting data and information into factors 10

Protocol Coding Step – Rating factors using codes 12

Matrix for rating factors 13

Protocol Rule Step – Applying rules to rank species 14

Protocol Point Step – Applying points to rank species 14

Protocol Definition Check – Verifying calculated ranks with definitions 15

Status Rank Categories – Ranking species for assessment and management 18

Changing Ranks – Keeping track of changes in the General Status Ranks of NWT species 19

5 Results – What did we learn? **20**

About NWT Species 20

About Changes in Ranks between 2016 and 2021 24

About Monitoring 26

6 Ranked Species Lists – What are the details? **27**

Vertebrates **28**

6.1 Mammals 28

6.2 Birds 38

6.3 Fishes 52

6.4 Amphibians and Reptiles 62

Porifera **66**

6.5 Sponges 66

Echinoderms **68**

6.6 Selected Echinoderms 68

Cnidarians **74**

6.7 Corals 74

Molluscs **78**

6.8 Molluscs 78

Annelids **88**

6.9 Earthworms and Freshwater Leeches 88

Arthropods **94**

6.10 Decapods 94

6.11 Springtails 98

6.12 Myriapods 106

6.13 Beetles 108

6.14 Hymenopterans 142

6.15 Lacewings and Relatives 156

6.16 Selected Flies 162

6.17 Stoneflies 198

6.18 Caddisflies 202

6.19 Mayflies 208

6.20 Hemipterans 214

6.21 Lepidopterans 228

6.22 Odonates 248

6.23 Grasshoppers and Relatives 252

6.24 Fleas 256

6.25 Arachnids 258

Table of Contents

Plants **272**
6.26 Vascular Plants 272
6.27 Liverworts 310
6.28 Mosses 318

Fungi **334**
6.29 Lichens 334
6.30 Mushrooms and other Macro-fungi 358

Protozoans **374**
6.31 Slime Moulds 374

7 Challenges and Opportunities – What are the next steps? **378**

8 Further Your Knowledge – How to learn more? **381**

9 Acknowledgments – Who participated in this program? **386**
Participating Agencies 386
Participating Individuals 386

Monitoring Information – How to get involved? **387**



Executive Summary

The Northwest Territories (NWT) is home to about 30,000 wild species. An important first step in safeguarding biodiversity is to increase our knowledge of each species and to provide a mechanism to regularly and quickly rank their conservation status. The ranks described in this report help us detect changes before they become critical and are used to prioritize which species need more detailed assessments or closer monitoring.

The NWT Species 2021-2025 is the fifth report of the NWT General Status Ranking Program. The reports are issued every five years and species status ranks are valid for the whole period. The current report provides ranks for 8,228 species, about 27% of all species expected to be present in the NWT.

This report was produced collaboratively with other agencies and wildlife co-management boards, and with the input from many knowledgeable people from the NWT and elsewhere.

The official General Status Ranks provided in the NWT Species 2016-2025 report are valid from 2021 to 2025 inclusively.

Over the past five years, 2% of status rank changes can be attributed to an increase in threats to species. These threats are complex and include the effects of climate change and new diseases. Additional groups of insects and marine animals are ranked in this report for the first time, and we have started to monitor lesser-known organisms, such as the protozoans. The majority (56%) of changes in ranks over the past five years were due to new information. However, still not enough information was available to rank the general status of 63% species.

More people are enthusiastically sharing information on biodiversity using popular platforms such as iNaturalist.ca, or on social media. People are often capturing high-quality digital photographs of great value to projects such as the NWT General Status Ranking Program.



Red Fox
Photo Credit: R. Kennedy

Sommaire

Aux Territoires du Nord-Ouest (TNO), on compte environ 30 000 espèces sauvages. Pour préserver la biodiversité, il est important, dans un premier temps, d'accroître nos connaissances sur chaque espèce et de mettre en place un mécanisme permettant d'évaluer et de classifier rapidement et régulièrement leur état de conservation. Les classifications décrites dans ce rapport nous aident à détecter les changements avant qu'ils ne deviennent critiques et sont utilisées pour classer par ordre de priorité les espèces qui nécessitent une évaluation plus poussée ou une surveillance plus étroite.

Le rapport Espèces des TNO 2021-2025 est le cinquième rapport du Programme de classification de la situation générale des espèces aux TNO. Les rapports sont publiés tous les cinq ans et les classifications de la situation des espèces sont valides pendant toute cette période. Le rapport actuel indique la classification de 8 228 espèces, soit environ 27 % de toutes les espèces censées être présentes aux TNO.

Ce rapport a été produit en collaboration avec d'autres organismes et conseils de cogestion de la faune, et avec la contribution de nombreuses personnes compétentes des TNO et d'ailleurs.

La Classification de la situation générale officielle fournie dans le rapport Espèces des TNO 2016-2025 est valide de 2021 à 2025 inclusivement.

Au cours des cinq dernières années, 2 % des changements de classification de la situation peuvent être attribués à une augmentation des menaces pesant sur les espèces. Ces menaces sont complexes et incluent les effets du changement climatique et les nouvelles maladies. D'autres groupes d'insectes et d'animaux marins sont classés dans ce rapport pour la première fois, et nous avons commencé à surveiller des organismes moins connus comme les protozoaires. La majorité (56 %) des changements de classification au cours des cinq dernières années sont dus à de nouvelles informations. Toutefois, les informations disponibles étaient encore insuffisantes pour classer la situation générale de 63 % des espèces.

De plus en plus de personnes partagent avec enthousiasme des informations sur la biodiversité en utilisant des plateformes populaires comme iNaturalist.ca ou les médias sociaux. Les gens prennent souvent des photos numériques de haute qualité qui sont d'une grande valeur pour un projet comme le Programme de classification de la situation générale des espèces aux TNO.



Spotted Sandpiper
Photo Credit: R. Kennedy

Preface – Building on our Knowledge of NWT Species

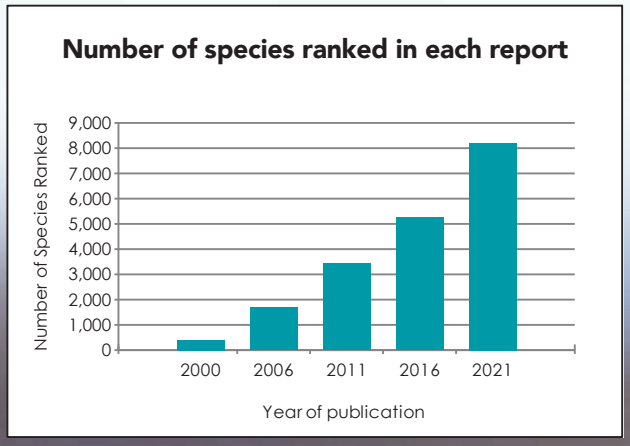
The NWT Species 2021-2025 report is the fifth in a series of reports to be published every five years. This report presents the general status ranks of 8,228 species known or expected to be present in the NWT.

Since 2000, we have collected information on additional species. Monitoring of the general status of species was performed every year. We updated, corrected, and added new information to our catalogue of referenced information, the "*NWT Species Infobase*", searchable on the Internet.

As of 2021, we have updated the general status rankings for 315 species ranked in 2016 and added new ranks for additional species.

With this report about 27% of all species expected to be present in the NWT have been ranked.

We thank all knowledgeable persons from the NWT, or visiting and studying in the North, who have contributed a vast amount of information on NWT species.



The NWT Species General Status Ranking Program continues to be a valuable tool to exchange ideas, reach common understandings, and build on our collective knowledge to manage human activities in an ecologically sustainable manner. The program also has an official role in supporting species conservation. From 2010 onward, the program has provided species ranks to the NWT Species at Risk Committee (SARC) for their prioritization lists for which species should be assessed in detail in the NWT.

The program is also a key source of information for tracking alien species and species that are potentially detrimental to our ecosystems. Tracking all species is essential to our understanding of the complex effects of climate change on our ecosystems.

Working Group on General Status of NWT Species

Refer to the Monitoring Infosheet at the end of this report for contact numbers.

1 Background – Why rank the general status of all wild species?

This report is the product of the NWT Species General Status Ranking Program. The program was initiated as a result of a series of commitments and recognized needs during the past few decades.

The NWT is home to about 30,000 species. Some of them have a very important place in our economy and our cultures. Some species are facing threats due to human activities and other species are simply very rare. We recognize the need to broaden our monitoring efforts. Increasing our knowledge of all species is essential to modern wildlife management and sustainable development. The loss of a single species may have negative consequences that ripple through an ecosystem, which could result in threats to the survival of both game and non-game species. We now can provide baseline information on a greater number of species and can report on how each one is doing in general. Species that are found to need special attention are noted and prioritized for further assessment.

Our commitments under the *Accord for the Protection of Species at Risk in Canada*

The Government of the Northwest Territories signed the *Accord for the Protection of Species at Risk in Canada* in 2004. The Accord acknowledges that an important first step in providing effective protection to species is to prevent them from ever becoming at risk. This is done by monitoring, assessing and reporting regularly on the status of **all** wild species. The Department of Environment and Natural Resources, working closely with the federal government, co-management boards, universities, consulting firms and knowledge holders, initiated the NWT Species General Status Ranking program to fulfill its commitment to monitor the general status of all wild species in the Northwest Territories. This document is the fifth report of a continuing program.

Our species prioritization for species at risk assessments

In 2010, the Government of the Northwest Territories passed its first legislation designed to protect species at risk in the NWT as part of a larger commitment to maintain biodiversity in the NWT. The NWT Species at Risk Committee (SARC) assesses in detail the biological status of species that may be at risk in the NWT. Drafting detailed status reports takes time and resources, so prioritizing species that most urgently need a detailed assessment is essential. The lists available in this report provide information for SARC to help prioritize which species should be assessed in detail first, which species need more information before they are prioritized, and which species are apparently doing well and do not need detailed assessments.

With about 30,000 species expected to be in the NWT, SARC needs the results of the NWT General Status Ranking Program as a a very important starting point to prioritize species for a more detailed assessment.

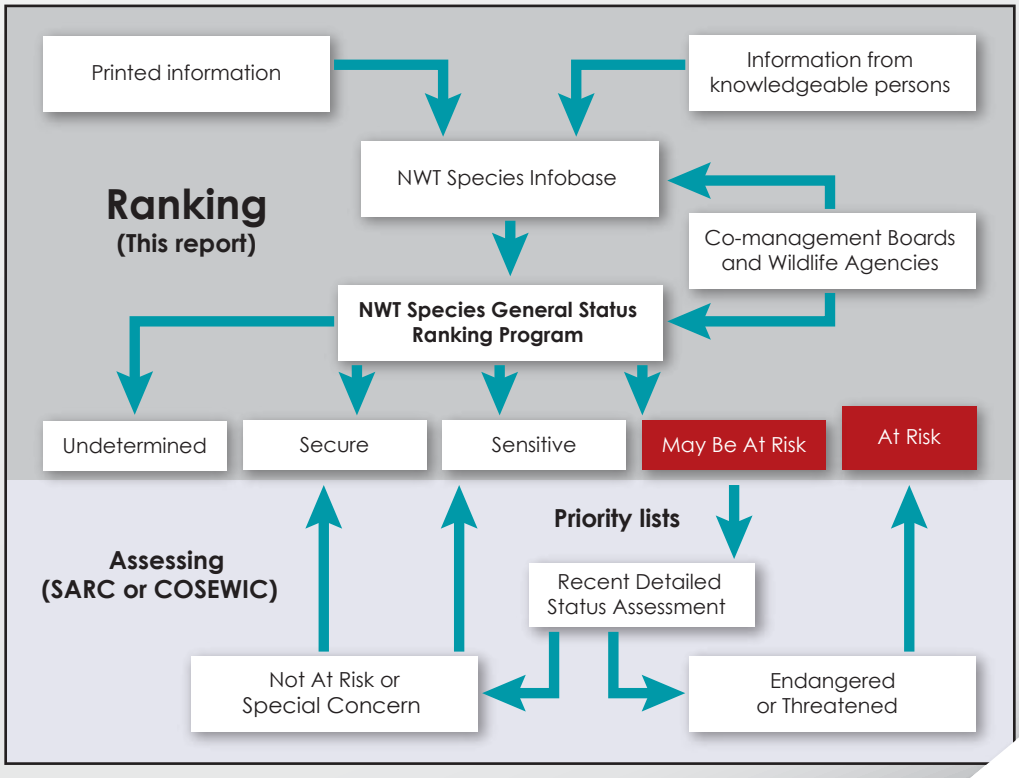


Barren-ground Caribou

Photo Credit: S. Fochuk

The NWT General Status Ranking Program provides the starting point for our continuous efforts to monitor and conserve biodiversity in the NWT. The program aims to provide official lists of all species known to be present in the NWT and to quickly rank these species every 5 years. Each species is ranked using a standard protocol described in this report. The ranking protocol requires adequate information, and is faster than a detailed assessment.

Species that are ranked as "May be at Risk" are forwarded as a priority list to SARC and the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) for their consideration for future detailed assessments of conservation status. These assessments are onerous and can take up to three years to complete as they require more detailed information assembled in large comprehensive status reports. These status reports, in turn, provide ample information to re-rank a species in the subsequent update of the NWT General Status Ranking Program. All species assessed[1] as "Endangered" or "Threatened" in the NWT or in Canada have their ranks updated to "At Risk" as a rule. There is no rule for species that have been assessed recently as "Special Concern" or "Not at risk"; these species may have their rank updated to either secure or sensitive.



[1] For more information on the NWT Species At Risk program go to www.nwtspeciesatrisk.ca/.

1 Background – Why rank the general status of all wild species?

Our participation in NatureServe Canada and the National General Status Program

In 2011, the NWT General Status Ranking Program became an official "Conservation Data Centre", a jurisdictional member of NatureServe Canada. Link to www.natureserve.ca. The evaluation system described in this report uses a standard protocol shared by all other Canadian jurisdictions[1]. This protocol was adopted by the NWT General Status Ranking Program and merged with the past methodology to ensure that current results were comparable with previous ranks published in past reports. More details on the new protocol are provided in this report.

The results of the NWT Species General Status Ranking Program are combined with the results of similar programs in each jurisdiction in Canada to develop an overall "Canada-wide rank" for each species. Canada-wide ranks for species can be found on the Wild Species – General Status of Species in Canada website.
Link to www.wildspecies.ca.

Our efforts to help track invasive alien species

In 2021, a new NWT Council on Invasive Species, Pests and Pathogens was launched to work with management authorities in the NWT to develop best practices, as well as prevention, eradication and management programs related to invasive species, pests, and pathogens. This report will be used by the council to keep track of all alien species as a starting point for its consideration of which species have the potential to cause harm to our ecosystems and to our economy, and which should be considered invasive. Link to https://nwtcispp.ca/.

We require better cooperation to prevent entry, eradicate or minimize spread and mitigate impacts of invasive alien species in northern ecosystems. The NWT General Status Ranking Program helps to integrate data on the presence of all alien species into circumpolar community-based observing networks to help coordinate monitoring programs across all pathways and ecosystems in the Arctic. Link to www.caff.is/invasive-species.



Pacific Loon

Photo Credit: A. Hill

[1] NatureServe is a non-profit organization that provides biodiversity and conservation data, tools, and services to private and government clients, partner organizations, and the public. It is based near Washington DC, US. NatureServe Canada is the Canadian network of NatureServe. Most network members in Canada are government agencies.

2 Objectives – What are we trying to achieve?

Goal

To maintain biodiversity by ensuring that no species becomes extinct as a consequence of human activity.

Prioritize

- **To prioritize species for more detailed status assessments.**

  Species ranked as "May be at Risk" have the highest priority for detailed assessment by SARC of extirpation risk in the NWT and in Canada by COSEWIC.

- **To prioritize species for an investigation of invasiveness**

  Species ranked as "Alien" may be detrimental to our ecosystems and invade our habitats. Tracking these species will help during investigations of their level of invasiveness.

Describe

- **To succinctly describe the current state of our knowledge about all wild species in the NWT.**

  This is achieved by quickly summarizing the data and information relevant to the ranking process from printed material and knowledgeable people. Information gathered in detailed assessment reports prepared by SARC and COSEWIC is also used in the ranking process if the assessment is recent.

Educate

- **To educate and increase awareness of species needing special attention and of possibilities for active involvement in monitoring activities throughout the NWT.**

  This objective is supported by information presented in this report and by providing venues for discussions and information sharing on NWT species on social media.

Guide

- **To provide a clear evaluation system and species status ranks to guide conservation and impact assessment decisions.**

- **To provide a tool for exchanging information about the status ranks of wild species in Canada and in the circumpolar world.**

  This program is a member of NatureServe Canada, has been fully integrated with GNWT's Wildlife Management Information System and has adopted the use of BIOTICS 5, a system used to share species information globally.



Black Bear Cubs
Photo Credit: R. Kennedy

3 Scope – What did we look at?

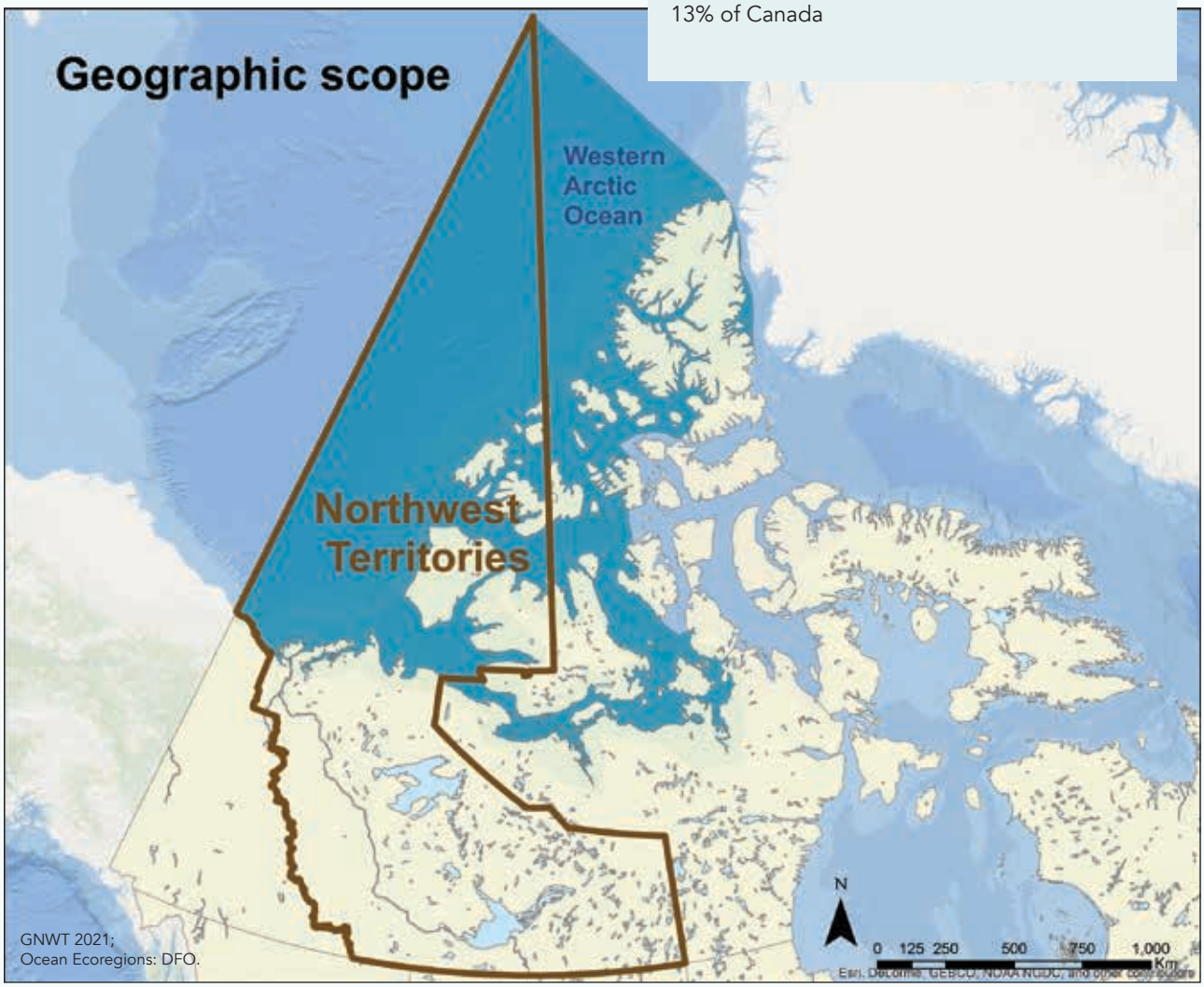
Geographic Scope – Where and what is the Northwest Territories?

For the purposes of this project, we considered all species found on the land and in the water included within the territorial boundary within Canada as part of the NWT (outlined in brown on the map). This includes the ocean waters and sea floors that are part of the Beaufort Sea – Western Arctic Ocean complex, limited in the south by the mainland of the Northwest Territories and the off-shore limit of the Yukon, in the west by the International Boundary with the United States, in the east by the boundary with Nunavut and in the North by the 90th Parallel.

Marine species known to be present in Canada were ranked separately for each of four marine ecoregional groupings in the National report: Pacific Ocean, Western Arctic Ocean, Eastern Arctic Ocean, and Atlantic Ocean. The Western Arctic Ocean (royal blue on the map) largely intersects the geographic scope of the present report. All marine species recorded in the NWT portion of the Western Arctic Ocean (WAO) were included in this report.

NWT Geographical Information

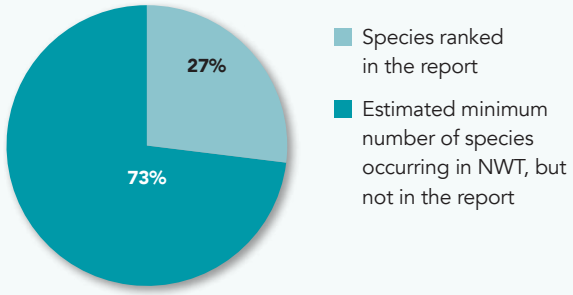
Total area = 1,350,000 km^2
13% of Canada



GNWT 2021;
Ocean Ecoregions: DFO.

Species Scope – Which species are ranked in this report?

The *NWT Species 2021-2025* report covers 27% (8,228) of all species estimated to be in the NWT.



In this report, we have ranked additional groups of insects, including the true bugs and fleas, as well as other arthropod groups, such as the springtails and centipedes. The present report includes the rank of all species of earthworms, leeches, lichens, mushrooms and slime moulds recorded in the NWT. Additional marine groups were added: the starfishes and marine molluscs. We reviewed the ranks of most groups of species included in the 2016 report. These reviews were conducted in collaboration with all jurisdictions in Canada to help us share expertise, information and efficiencies. For this report, we concentrated efforts on new species groups and some groups were not formally reviewed. Review protocols are described in next section.

Proportion of species ranked compared to all species expected to be in the NWT

Major Subdivision	Total Expected[a]	Status Ranked in 2021	Percent Ranked
Archea – Non-nucleic single-cell organisms	*thousands*		0%
Bacteria (e.g., bacteria, cyanobacteria)	*thousands*		0%
Chromista (e.g., chromist algae, diatoms, dinoflagellates)	*750*		0%
Protozoa – Single celled organisms (e.g., slime moulds)	*150*	44	29%
Basidiomycete Fungi (e.g., mushrooms)	*875*	267	31%
Ascomycote Fungi (e.g., sac fungi, morels, yeasts, mildews)	*125*	35	28%
Lichens – Fungi in symbiosis with algae or cyanobacteria	850	785	92%
Plantae – Non-vascular Plants (liverworts, mosses)	690	642	93%
Plantae – Vascular plants (e.g., flowering plants, trees, ferns)	*1,300*	1,236	95%
Animalia – "Simple" animals (e.g., sponges)	*50*	8	15%
Animalia – Cnidaria (e.g., corals, jellyfishes)	*60*	10	17%
Animalia – Annelids (e.g., earthworms, leeches)	40	29	77%
Animalia – Mollusca – Mollusks	*250*	146	58%
Animalia – Arthropods – Centipedes	5	2	40%
Animalia – Arthropods – Springtails	120	115	95%
Animalia – Arthropods – Crustaceans	*300*	20	7%
Animalia – Arthropods – Arachnids (e.g., spiders)	*850*	329	39%
Animalia – Arthropods – Insects	*15,000*	4,008	27%
Animalia – Echinoderms (e.g., starfishes, urchins, sea cucumbers)	60	28	47%
Animalia – Chordates – Reptiles and Amphibians	7	7	100%
Animalia – Chordates – Fishes	200	123	62%
Animalia – Chordates – Birds	320	300	94%
Animalia – Chordates – Mammals	95	89	94%
Total	***25,000 – 30,000[b]***	**8,228**	**27%**

[a] Expected number of species in NWT was estimated using this equation, Ne = C x p, where Ne = the number of species expected to be in the NWT, C = the number of species found in Canada, p = the average percent of species found in NWT, based on the percent of Canadian arthropod groups known to be in NWT. For most groups, p = 25%. *Estimated numbers are in italics.*

[b] The number of recorded species in the NWT was estimated at 25,000. The total of all taxa expected to be present, including species not yet recorded or described is about 30,000.

4 Data Sources and Methods – How did we rank species?

Species Lists and Information – the Infobase

The *NWT Species Infobase* stores all the information available to rank species. Link to https://www.enr.gov.nt.ca/en/services/biodiversity/nwt-species-general-status-ranking.

The information in the Infobase is updated every year. Each piece of new information is linked to a source. Traditional, local and scientific knowledge are used as sources for updating information. Sources of information can take the form of a printed publication, database, web page, video, or a personal communication. Many knowledgeable people have added information from their personal observations and from their expert opinion. Adding newly available local knowledge and traditional knowledge and keeping track of new scientific knowledge is contributing greatly to the information needed to rank species.

The type of information added to the *NWT Species Infobase* included new species, updates to all species names according to current taxonomic authorities, addition of new baseline information used to rank the general status of a species, updates to the list of threats, and for some species, updates to the results of detailed status assessments conducted by SARC in the NWT or COSEWIC in Canada.

Relevant information from the NWT Species Infobase is used to keep up-to-date the NWT's contribution to NatureServe Explorer, a web-portal for information and data on species, including species ranks from the NWT, Canada and other countries.
Link to https://explorer.natureserve.org/.[1]

[1] More details on the Biotics5 system, an web-based system used to update the NatureServe Explorer can be found at http://www.natureserve.org/conservation-tools/biotics-5.

Protocol Factor Step – Sorting data and information into factors

The NWT General Status Ranking Program has adopted a standard protocol developed by NatureServe to rank the conservation status of species. This protocol is shared among all jurisdictions in Canada.

The protocol uses a step-wise point and rule approach to quickly, explicitly and consistently calculate and rank the conservation status of a large number of species. The initial step in this protocol converts data and information into eight core factors organized into three categories. These core factors are described in the next pages. More details on each factor can be found in "*NatureServe Conservation Status Assessments: Factors for Evaluating Species and Ecosystems Risk*". Link to www.natureserve.ca.



Prickly Saxifrage Photo Credit: R. Kennedy



Brook's Pink-shanked Grasshopper Photo Credit: S. Cannings

Core factor definitions

Rarity	Distribution	Range Extent	**Area contained within the smallest continuous boundary drawn around all occurrences, excluding cases of vagrancy.** This factor accounts for the overall distribution of a species, and may include large sections of unsuitable habitat.
		Area of Occupancy	**Area which is actually occupied by the species.** This factor calculates the habitat essential at any stage to the survival of existing populations. It excludes all unsuitable habitats. In practice, this factor is usually estimated using 4 km^2 grid cells.
	Abundance	Population Size	**Estimated current total population of the species within the area of interest based on naturally occurring and wild individuals of mature age.** This factor has special guidelines for taking into account natural population fluctuations and for considering hybrids, re-introduced individuals, and other types of exceptions.
		Number of Occurrences	**Area of land or water where a species is present** This factor is key to the protocol and is measured using a set of very detailed standards found in the document "*Element Occurrence Data Standard*".[a]
		Area with Good Viability OR Environmental Specificity	**Area or occurrences with good viability where there is favourable population size or quality and quantity of habitat and if conditions prevail, the species is likely to persist for at least 20 years.** OR **Some information on the number of populations with good viability or the percent of areas occupied by species with good ecological integrity.** This factor helps track the probability of persistence of a species in some portion of its range or helps determine the degree a species depends on relatively scarce habitats or specific ecological factors.
Trends		Long-term Trend	**Observed, estimated, inferred, or suspected degree of change in population size, range extent, area of occupancy, number of occurrences, or areas of good viability over the next 200 years.** This factor is primarily useful for very long-lived species.
		Shorter-term Trend	**Observed, estimated, inferred, or suspected degree of change in population size, range extent, area of occupancy, number of occurrences, or areas of good viability over the next ten years, or three species generations, whichever is longer, to a maximum of 100 years.** Trends can be continuous, irregular or sporadic. Natural fluctuations are not usually considered trends, but a change from normal cycles could be considered. This factor accounts for all trends that could influence species conservation in the near future.
Threats		Threat Impact OR Intrinsic Vulnerability	**A calculation of the threat impact indicates the degree to which a species is observed, inferred or suspected to be directly affected in an area of interest.** Direct threats are human activities, or natural processes influenced by human activities, that cause destruction, degradation, or impairment to the survival of a population. Threat Impacts are usually the results of a Threat Classification Scheme exercise[b]. OR **Description of the observed, inferred or suspected degree to which characteristics of a species (e.g., life history, behaviour, or colonization capacity) make vulnerable or resilient to threats or natural catastrophes.** This factor is used only if the threat impact is not calculated.

[a] Available at www.natureserve.org/conservation-tools/standards-methods/element-occurrence-data-standard.

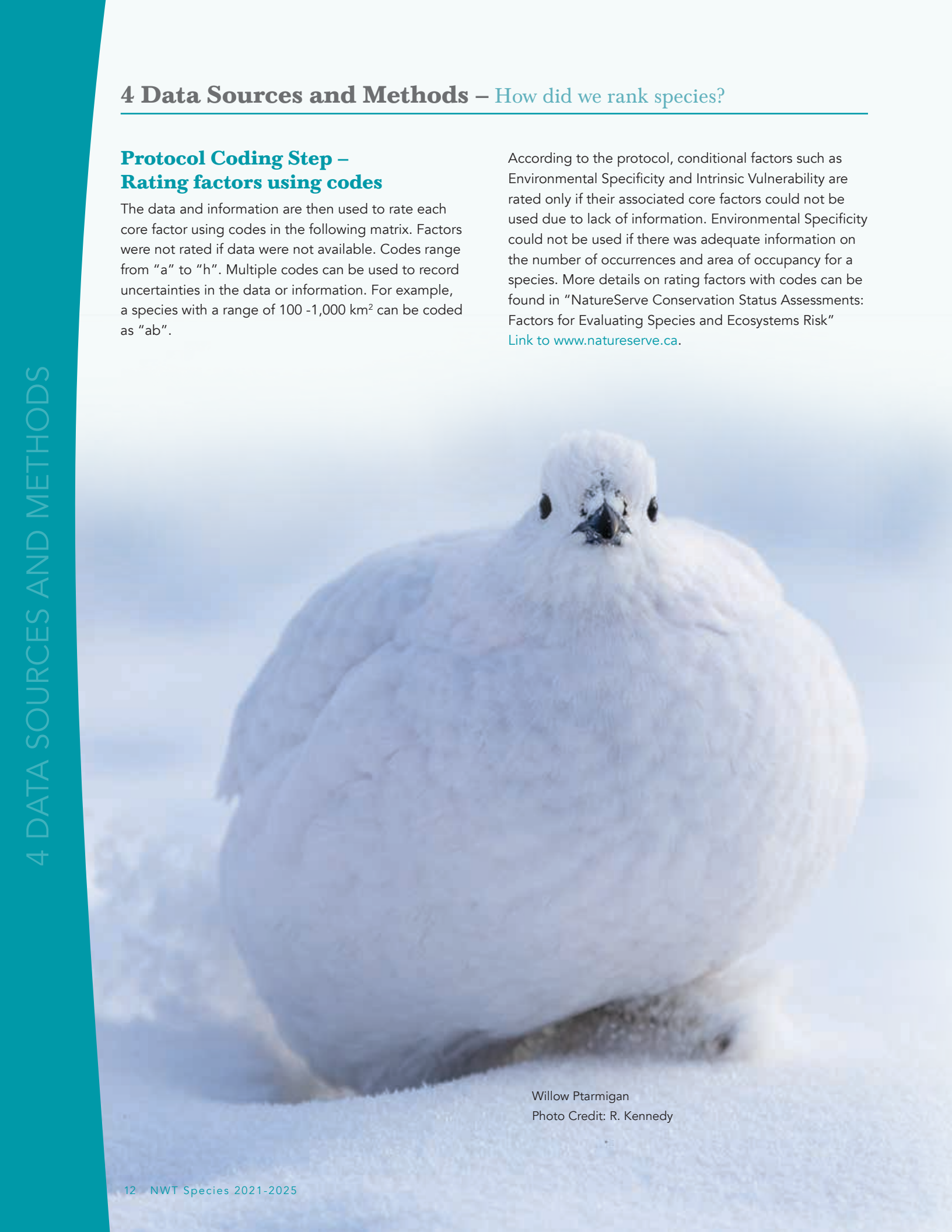
[b] More information on the Threat Classification Scheme can be found on the IUCN web-site at www.iucnredlist.org/technical-documents/classification-schemes/threats-classification-scheme.

4 Data Sources and Methods – How did we rank species?

Protocol Coding Step – Rating factors using codes

The data and information are then used to rate each core factor using codes in the following matrix. Factors were not rated if data were not available. Codes range from "a" to "h". Multiple codes can be used to record uncertainties in the data or information. For example, a species with a range of 100 -1,000 km^2 can be coded as "ab".

According to the protocol, conditional factors such as Environmental Specificity and Intrinsic Vulnerability are rated only if their associated core factors could not be used due to lack of information. Environmental Specificity could not be used if there was adequate information on the number of occurrences and area of occupancy for a species. More details on rating factors with codes can be found in "NatureServe Conservation Status Assessments: Factors for Evaluating Species and Ecosystems Risk" Link to www.natureserve.ca.



Willow Ptarmigan
Photo Credit: R. Kennedy

Matrix for rating factors

			Rating Codes							
		Factors	**a**	**b**	**c**	**d**	**e**	**f**	**g**	**h**
Rarity	Distribution	Range Extent (km^2)	<100	100-250	250-1,000	1,000-5,000	5,000-20,000	20,000-200,000	200,000-2,500,000	>2,500,000[a]
		Area of Occupancy (km^2)	1-4	5-10	11-20	21-100	101-500	501-2,000	2,001-10,000	>10,000
	Abundance	Population Size	1-50	50-250	250-1,000	1,000-2,500	2,500-10,000	10,000-100,000	100,000-1 million	>1 million
		Number of Occurrences	1-5	6-20	21-80	81-300	>300			
		Area with Good Viability OR Environmental Specificity[b]	Very Small OR Very Narrow	Small OR Narrow	Moderate	Broad				
Trends		Long-term Trend (% change over 200 years)	Decline >90%	Decline 80-90%	Decline 70-80%	Decline 50-70%	Decline 30-50%	Decline 10-30%	Relatively Stable (less 10% change)	Increase
		Shorter-term Trend (% change over 3 generations or 100 years)	Decline >90%	Decline 80-90%	Decline 70-80%	Decline 50-70%	Decline 30-50%	Decline 10-30%	Relatively Stable (less 10% change)	Increase
Threats		Threat Impact OR Intrinsic Vulnerability[b]	Very High	High	Medium	Low OR Not Intrinsically Vulnerable				

[a] This extremely large range extent is not available for the NWT.

[b] Use one factor or the other, not both. Threat Impact is usually calculated using a formal Threat Calculator exercise.

Rule: Information or data for at least two factors are required.



North American Beaver

Photo Credit: A. Hill

4 Data Sources and Methods – How did we rank species?

Protocol Rule Step – Applying rules to rank species

Each species was placed into one of ten standard ranks. Rank categories are defined in the next pages. These definitions have changed little since the inception of the program. Hence, species with the same rank from 2000 to 2016 can be expected to have the same priorities for detailed assessment, study or management actions.

The next steps in the protocol apply rules to quickly determine some ranks.

Rule: Assign ranks for species meeting the rank definition for:

- Extirpated/Extinct
- Vagrant
- Alien
- Presence Expected
- Not Ranked

Rule: Assign a rank of Undetermined for species without the required minimum of two rated core factors.

These must include:

- One factor from Rarity – Distribution and
- One factor from Rarity – Abundance

OR

- One factor from Rarity and
- One factor from Trends or Threats

More details on applying rules to assign ranks can be found in "NatureServe Conservation Status Assessments: Methodology for Assigning Ranks" Link to www.natureserve.ca.

Protocol Point Step – Applying points to rank species

For species not already placed into a rank using the rule step, a point system was used to determine ranks. This point system was developed by NatureServe as the centre-piece of its standard protocol. The system is available as a Conservation Ranking Calculator[4]. The Rank Calculator is an automated spreadsheet programmed to implement the NatureServe ranking protocol by applying appropriate guidelines, assign points and weights to factor ratings and generate a calculated rank. A visual representation of the point system is presented in the next page. More details about the point system to assign ranks can be found in "NatureServe Conservation Status Assessments: Methodology for Assigning Ranks" Link to www.natureserve.ca.

The ranks calculated by the NatureServe Rank Calculator are number-based sub-national ranks, called S-Ranks. The same calculator was used to calculate ranks for species across a whole country (N-ranks) or around the globe (G-ranks).

[4] The calculator and detailed instruction for its use are available at www.natureserve.org/conservation-tools/conservation-rank-calculator.



Tree Swallow
Photo Credit: A. Hill

Protocol Definition Check – Verifying calculated ranks with definitions

In the last step in the protocol, we cross-referenced and verified each calculated rank with the definition for the relevant rank category. This step is an important aspect of the protocol, as it allowed us to resolve factor entry errors and account for uncertainties in the data. This final check ensured that the species' rarity, trends, and threats matched the definition of the final assigned rank.

To ensure continuity in our ranking system the NWT General Status Ranking Program retained the rank categories and definitions used in past reports. These ranks are published in the following species tables in the present report.

In general, calculated NatureServe S-ranks were cross-referenced to ranks used in this report following the examples below. Exceptions exist and are explained in the NWT Species infobase. Link to https://www.enr.gov.nt.ca/en/services/biodiversity/nwt-species-general-status-ranking.

Official NWT Ranks

Note that the official ranks for NWT species for 2021-2025 are published in this report.

If any discrepancies exist between ranks available elsewhere, notify us and use the ranks in this report.

Contact us at wildlifeobs@gov.nt.ca or NWTbugs@gov.nt.ca

NatureServe S-ranks	NWT General Status Ranking Program Ranks
SX*	Extirpated/Extinct
S1 to S2	At Risk**
S1 to S2	May be at Risk
S3***	Sensitive
S4 to S5	Secure
SU	Undetermined
SNA	Alien
SNA	Vagrant
SNA	Presence Expected
SNR	Not Ranked

* SH (Historical rank) is used for species where there has been some reasonable inventory and yet there has been no record in the past 40 years or more. There are no equivalent ranks in the NWT General Status Ranking Program.

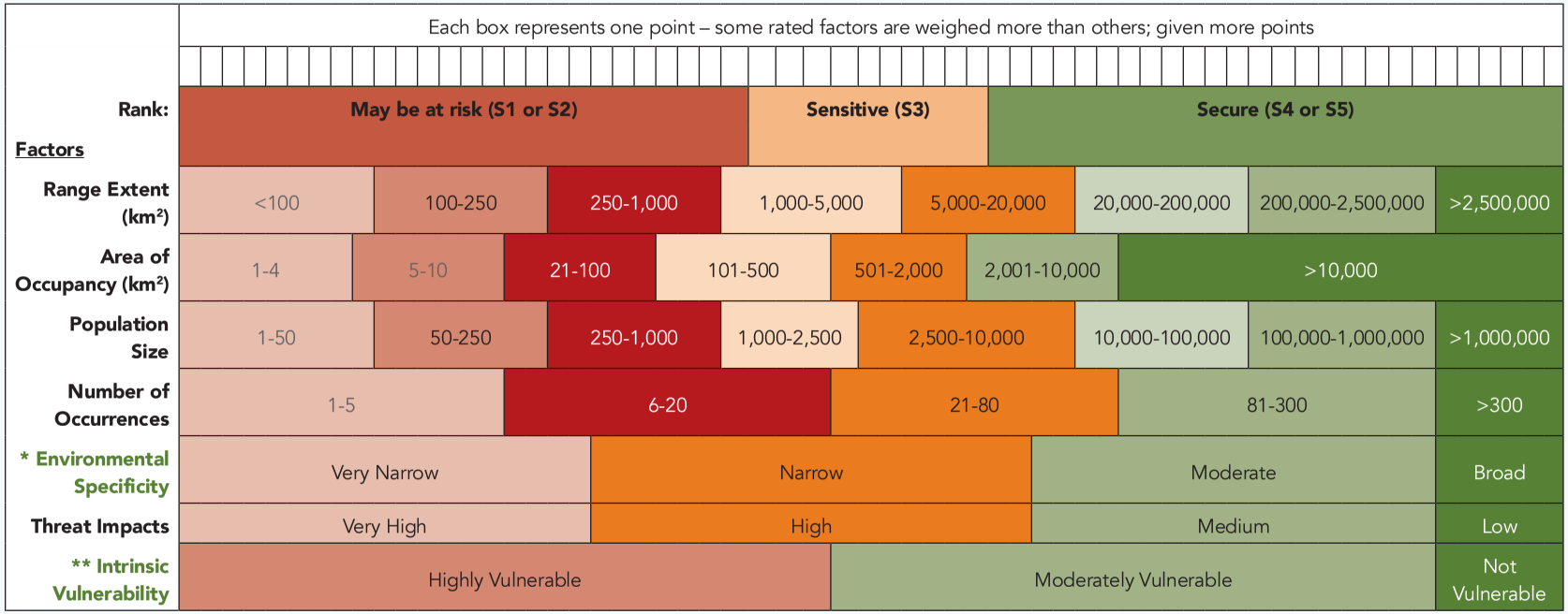
** By rule "At Risk" only includes species assessed in detailed as either endangered or threatened according to COSEWIC or SARC.

*** S3 may include species assessed as of special concern according to COSEWIC or SARC.

For your convenience, the NatureServe S-ranks for NWT species that were calculated and verified for 2016 also can be obtained on demand or can be searched on NatureServe's Explorer® Link to explorer.natureserve.org. Other jurisdictions in Canada solely use the number-based NatureServe S-ranks.

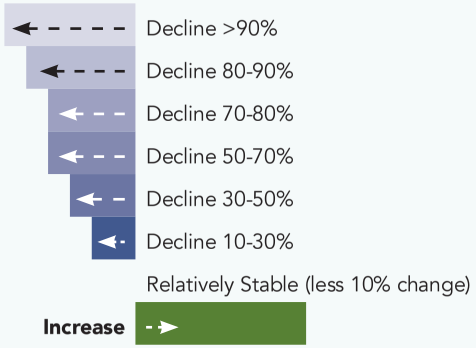
The official ranks for NWT species are found in the present report in the following lists. These ranks can also be searched in the NWT species Infobase on the ENR website. Link to www.enr.gov.nt.ca.

Visual representation of NatureServe's Conservation Rank Calculator

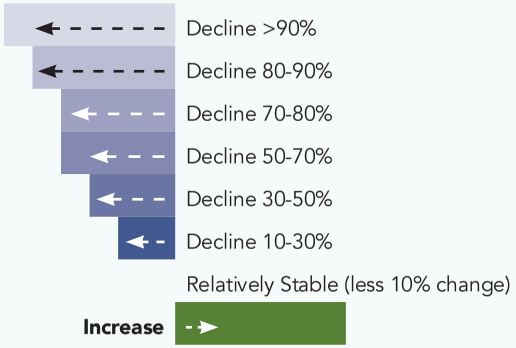


Guideline:
Calculate the average rank of at least two factors. Consult the methodology for more details on how factors are weighed. Trend factors are applied to average of the other factors to determine the final rank.

Short-term Trends
(% change over three generations or 100 years)



Long-term Trends
(% change over 200 years)

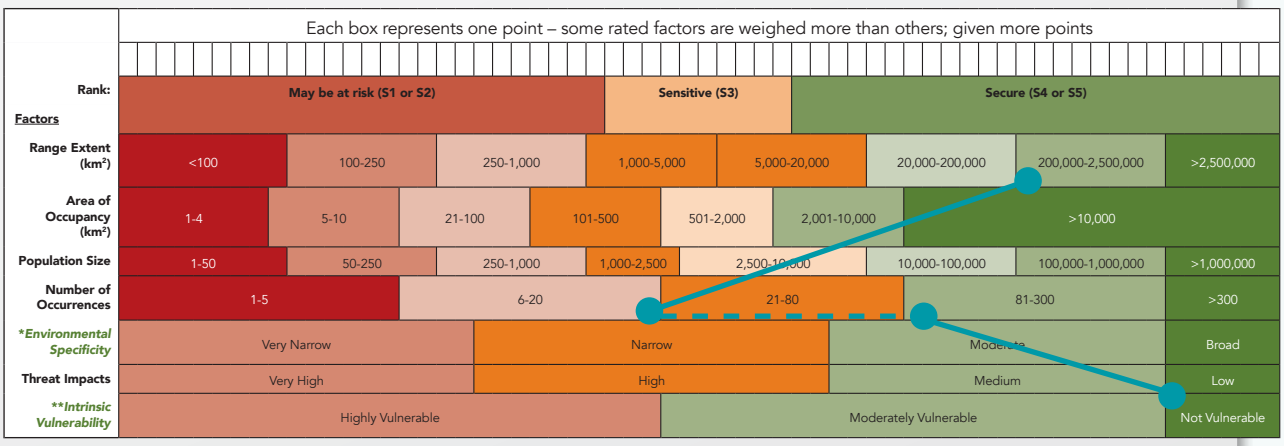


* Or use text on environmental specifically to determine rarity.

** Use Threat Calculator or use text on intrinsic vulnerability to estimate threats.

The NatureServe point system weighs some factors more than others, then calculates an initial rank based on rarity and threats, and finally modifies the results based on trend factors. This can be illustrated visually using a hypothetical species. Many insect species in the NWT share this type of data. The hypothetical species has been observed at six locations so far, but based on the type of habitat and other considerations, we could expect some 300 other sites (number of occurrences = 6-300, score BD). The six known sites were found over about 250,000 km^2. (Range extent score G). The species is not known to be particularly vulnerable (score C); no formal threat impacts were calculated. Trends are unknown (no score).

Visual example for a hypothetical species



For this example, the NatureServe Rank Calculator form looks like this.

Range Extent	**300,000 – 500,000**
Area of Occupancy:	
Direct estimate (ecosystems) *OR*	
4 km² grid cells (species) *OR*	
1 km² grid cells (linear species)	
Number of Occurrences	**6 – 300**
Population Size*	
Good Viability/Ecological Integrity:	
Number of Occurrences *OR*	
Percent of Area Occupied	
Environmental Specificity (opt.)	
Assigned Overall Threat Impact	
Calculated Overall Threat Impact (FYI)	
Intrinsic Vulnerability (opt.)	**Low**
Short-term Trend	
Long-term Trend	
Minimum factors requirement met (2 or more)?	**TRUE**
Calculated Rank	**S4S5**

4 Data Sources and Methods – How did we rank species?

Status Rank Categories – Ranking species for assessment and management

Each species was placed into one of ten standard ranks defined below.

A rank determined using rules

1) **At Risk** = species for which a detailed assessment has recently been completed and determined that the species is at **high**[1] risk of extinction or extirpation. This is a special category used only for species that have been assessed in detail as" "Endangered" or "Threatened" in the NWT according to SARC or in Canada according to COSEWIC.

Ranks determined using the point scoring matrix

2) **May Be At Risk** = species that may be at risk of extinction or extirpation and are therefore candidates for detailed risk assessment.

   This is the highest rank that can be given to a species using the General Status Ranking Program independent of a more detailed assessment as noted in the At Risk category. **These species are ranked with the highest priority for a more detailed assessment by COSEWIC or SARC**.

3) **Sensitive** = species that are not at **high**[1] risk of extinction or extirpation but may require some special attention or protection to prevent them from becoming at risk. These species are ranked with a medium priority for a detailed assessment.

4) **Secure** = species that are neither at risk nor sensitive. These species have the lowest priority for a detailed assessment.

Rank determined using rules or the point scoring matrix

5) **Undetermined** = species for which insufficient information, knowledge, or data is available to reliably evaluate their general status rank.

Ranks determined using rules

6) **Not Ranked** = species which have not been examined for this report. Due to resource constraints, some species have not been ranked for the present report. This information provides a list of species that should be examined soon.

7) **Alien** = species that have been introduced as a result of human activities. Synonymous with exotic or introduced. Most alien species have been introduced to North America from Europe and Asia. Changes in the number of alien species can be monitored as their presence and abundance may affect the status of wild species native to the NWT.

8) **Extirpated/Extinct** = species no longer thought to be present in the NWT (extirpated) or are believed no longer present anywhere in the world (extinct).

9) **Vagrant** = species occurring infrequently and unpredictably in the NWT. These species are outside their usual range. Synonymous with accidental. These species may be in the NWT due to unusual weather, an accident during migration, or unusual behaviour by a small number of individuals. If a species appears in the NWT with increasing predictability and more frequently, it may eventually be given a different rank. Changes in the number of vagrant species may be a good indicator of general ecosystem change or climate change.

10) **Presence Expected** = species not yet recorded in the NWT, but are expected to be present.

    These species are expected in the NWT due to their presence in adjacent jurisdiction(s), the presence of appropriate habitat in the NWT, and other evidence. The status rank is used to list species for which we need firm evidence of their presence in the NWT. When a new species is found in the NWT, the list of "presence expected" species is useful to differentiate between species that may have been in the NWT all along but simply had not been confirmed and species that are truly new to NWT, and may indicate that ecosystems are changing. This is a rank category developed in 2005 for the NWT; no other jurisdictions in Canada have adopted it.

[1] Text was added to the definition provided in 2011 to better clarify the category.

Changing Ranks – Keeping track of changes in the General Status Ranks of NWT species

With this report, we continued to track how the general status ranks of NWT species change. We detailed how ranks changed between 2016 and 2021. Changes in the rank of a species may occur for various reasons. We coded these reasons to be able to quickly draw up lists of species that truly have increasing or decreasing risks of becoming in danger of extirpation. These species can be set apart from species that have a different rank simply because additional information was found, an error was corrected, or for other reasons.



Great Grey Owl Photo Credit: S. Fochuk

Codes marking reasons for changing the general status rank of species:

↗	**Increasing Risk**: change in rank indicating an increasing risk of becoming extirpated as a result of real changes in threats, trends, population size or a combination of these factors. ***This code can be used to estimate rate of changes in the ranks of species in the NWT***.
↘	**Decreasing Risk**: change in rank indicating a decreasing risk of becoming extirpated as a result of real improvement in threats, trends, population size or a combination of these factors. ***This code can be used to estimate rate of changes in the ranks of species in the NWT***.
Ǝ	**Error correction**: the rank published in a previous report was in error or was missing.
#	**New**: species new to the NWT since the last report.
ⓘ	**Information**: change in rank as more information became available. This is similar to an error correction, but the rank was changed simply because more research, monitoring, or inventories were conducted, or more information became available from local or traditional sources. There is no evidence that threats to the species have changed. ***This code, in addition to all codes described above, can be used to estimate the rate in knowledge gain on species in the NWT***.
T	**Taxonomy**: change in rank due to taxonomic modifications such the reclassification of two species as a single species, or the splitting of a single species into two taxonomic entities.
A	**Detailed assessment**: change in rank to "**At Risk**" because the species status was assessed in detail during the last five years by COSEWIC in Canada or by SARC in the NWT. It was determined that the species is at high risk of extirpation or extinction.

These reasons for change are similar to those used by the National General Status Ranking program, and hence can be used to compare results for the NWT and Canada at www.wildspecies.ca.

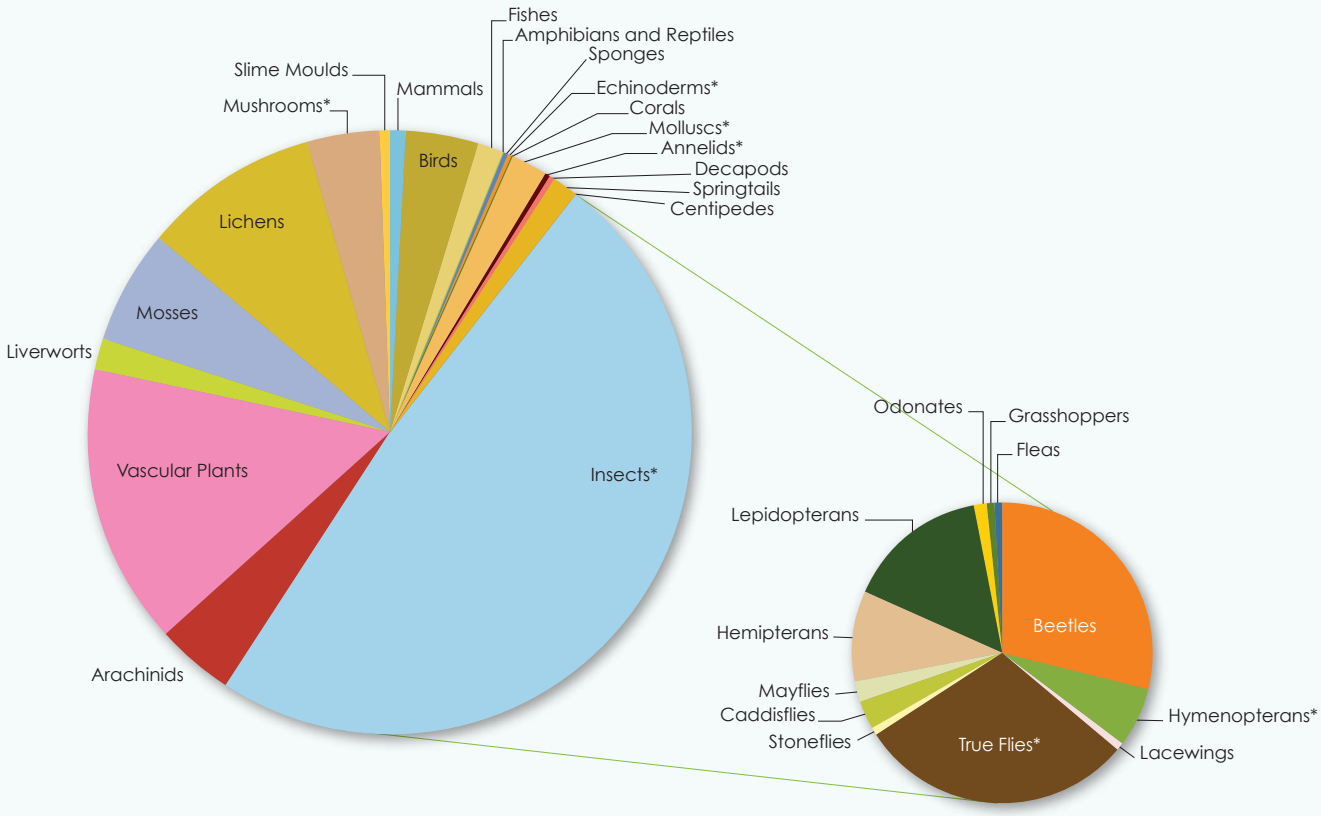
5 Results – What did we learn?

During this evaluation of the general status rank of NWT species we learned the following:

About NWT species

- We do not have enough information to determine the rank of most (63%) species. New observations can help us examine further what new species are moving north with climate change.
- The largest groups of species included in this report are beetles, flies, and vascular plants. The insect groups form the most diverse components of our native biodiversity.
- The group most at risk of extirpation is amphibians, followed by mammals and birds. Complex interactions of factors such as climate change, diseases, natural system modifications and habitat change are the main threats to species in the NWT[1].
- The groups requiring the most detailed assessments of extirpation risk going forward are amphibians, vascular plants and mosses.
- Twenty-nine percent of the NWT species ranked in this report are secure. Many of the species ranked as undetermined may also be secure but evaluating these would require additional biodiversity surveys and inventories.

Major groups included in the present report.
Not all species in groups marked by * are ranked.



Groups marked by * are incomplete, more species will be included in future reports.

[1] See an analysis of all threats to species at is risk in the NWT in the report Singer, C. and C. Lee. 2021. NWT Climate Change Vulnerability Assessment: Species at Risk. Department of Environment and Natural Resources, Government of the Northwest Territories, Yellowknife, NT. 166 pp. + appendices. Available at https://www.enr.gov.nt.ca/sites/enr/files/resources/297_manuscript.pdf

Summary of the 2021 General Status Ranks of species in the NWT

Species Group 1	Extirpated	At Risk	May be at Risk	Sensitive	Secure	Undetermined	Alien	TOTAL[1]	Vagrant	Presence Expected
Vertebrates – Mammals	0	7	1	8	42	18	1	77	11	1
Vertebrates – Birds	0	7	2	35	154	41	3	242	58	0
Vertebrates – Fishes	0	1	0	4	32	65	2	104	5	14
Vertebrates – Amphibians, Reptiles	0	2	1	1	2	0	0	6	0	1
Porifera – Sponges	0	0	0	0	0	8	0	8	0	0
Echinoderms – Sea cucumbers, Sea urchins, Starfishes	0	0	0	0	5	22	0	27	0	1
Cnidarians – Corals	0	0	0	0	0	10	0	10	0	0
Molluscs – Bivalves, Gastropods, Cephalopods	0	0	0	0	43	102	1	146	0	0
Annelids – Earthworms, Leeches	0	0	0	0	5	17	0	22	0	7
Arthropods – Crustaceans – Decapods	0	0	0	0	0	20	0	20	0	0
Arthropods – Springtails	0	0	0	0	0	108	2	110	0	5
Arthropods – Myriapods	0	0	0	0	0	2	0	2	0	0
Arthropods – Insects – Beetles	0	0	0	0	194	920	26	1,140	0	12
Arthropods – Insects – Hymenopterans	0	2	0	2	30	216	7	257	0	7
Arthropods – Insects – Lacewings	0	0	0	0	0	16	0	16	0	8
Arthropods – Insects – Selected Flies *	0	0	0	1	294	883	9	1,187	0	3
Arthropods – Insects – Stoneflies	0	0	0	0	5	32	0	37	0	1
Arthropods – Insects – Caddisflies	0	0	0	0	10	112	0	122	0	0
Arthropods – Insects – Mayflies	0	0	0	0	17	68	0	85	0	2
Arthropods – Insects – True bugs	0	0	0	0	58	315	18	391	0	2
Arthropods – Insects – Butterflies and Moths	0	0	0	4	145	467	3	619	3	3
Arthropods – Insects – Dragonflies, Damselflies	0	0	1	2	31	8	0	42	0	11
Arthropods – Insects – Grasshoppers	0	0	0	2	17	6	0	25	0	3
Arthropods – Insects – Fleas	0	0	0	0	3	29	0	32	0	0
Arthropods – Arachnids – Spiders, Ticks, Pseudoscorpions	0	0	0	0	86	242	2	330	0	4
Plants – Vascular Plants	0	1	118	102	732	111	140	1,204	0	32
Plants – Liverworts	0	0	0	0	13	128	0	141	0	5

Species Group 1	Extirpated	At Risk	May be at Risk	Sensitive	Secure	Undetermined	Alien	TOTAL[1]	Vagrant	Presence Expected
Plants – Mosses	0	0	40	63	160	232	0	495	0	1
Lichens	0	0	13	48	190	510	0	761	0	24
Fungi – Mushrooms and Macro-fungi	0	0	0	1	32	268	0	301	0	1
Protozoans – Slime Moulds	0	0	0	0	0	34	0	34	0	10
TOTAL	**0**	**20**	**176**	**273**	**2,300**	**5,010**	**214**	**7,993**	**77**	**158**

[1] Total number of species known to occur regularly in the NWT.

Calculations done on entire species or subspecies, ecotypes or forms as detailed in lists below.

2 Groups marked by * are incomplete, more species groups will be included in future reports.

Percent[1] for each group of species

Group	Extirpated	At Risk	May be at Risk	Sensitive	Secure	Undetermined	Alien		Vagrant[2]	Presence Expected[2]
Vertebrates – Mammals		9.1%	1.3%	10.4%	54.5%	23.4%	1.3%		12.4%	1.1%
Vertebrates – Birds		2.9%	0.8%	14.5%	63.6%	16.9%	1.2%		19.3%	
Vertebrates – Fishes		1.0%		3.8%	30.8%	62.5%	1.9%		4.1%	11.4%
Vertebrates – Amphibians, Reptiles		33.3%	16.7%	16.7%	33.3%					14.3%
Porifera – Sponges						100.0%				
Echinoderms – Sea Cucumbers, Sea Urchins, Starfishes					18.5%	81.5%				3.6%
Cnidarians – Corals						100.0%				
Molluscs – Bivalves, Gastropods, Cephalopods					29.5%	69.9%	0.7%			
Annelids – Earthworms, Leeches					22.7%	77.3%				24.1%
Arthropods – Crustaceans – Decapods						100.0%				
Arthropods – Springtails						98.2%	1.8%			4.3%
Arthropods – Myriapods						100.0%				
Arthropods – Insects – Beetles					17.0%	80.7%	2.3%			1.0%

Group	Extirpated	At Risk	May be at Risk	Sensitive	Secure	Undetermined	Alien		Vagrant[2]	Presence Expected[2]
Arthropods – Insects – Hymenopterans		0.4%	0.0%	0.8%	11.7%	84.0%	2.7%			2.7%
Arthropods – Insects – Lacewings						100.0%				33.3%
Arthropods – Insects – Selected Flies*				0.1%	24.8%	74.4%	0.8%			0.3%
Arthropods – Insects – Stoneflies					13.5%	86.5%				2.6%
Arthropods – Insects – Caddisflies					8.2%	91.8%				
Arthropods – Insects – Mayflies					20.0%	80.0%				2.3%
Arthropods – Insects – True bugs					14.8%	80.6%	4.6%			0.5%
Arthropods – Insects – Butterflies and Moths				0.6%	23.4%	75.4%	0.5%		0.5%	0.5%
Arthropods – Insects – Dragonflies, Damselflies			2.4%	4.8%	73.8%	19.0%				20.8%
Arthropods – Insects – Grasshoppers				8.0%	68.0%	24.0%				10.7%
Arthropods – Insects – Fleas					9.4%	90.6%				
Arthropods – Arachnids – Spiders, Ticks, Pseudoscorpions					26.1%	73.3%	0.6%			1.2%
Plants – Vascular Plants		0.1%	9.8%	8.5%	60.8%	9.2%	11.6%			2.6%
Plants – Liverworts					9.2%	90.8%				3.4%
Plants – Mosses			8.1%	12.7%	32.3%	46.9%				0.2%
Lichens			1.7%	6.3%	25.0%	67.0%				3.1%
Fungi – Mushrooms and Sac Fungi				0.3%	10.6%	89.0%				0.3%
Protozoans – Slime Moulds						100.0%				22.7%
TOTAL	**0%**	**0.3%**	**2.2%**	**3.4%**	**29%**	**63%**	**2.7%**		**0.9%**	**1.9%**

[1] Percent of TOTAL (excluding Vagrant and Presence Expected).

[2] Percent of TOTAL + Vagrant + Presence Expected.

5 Results – What did we learn?

About Changes in Ranks between 2016 and 2021

For species ranked in 2016, reviewed for 2021 and for which the rank was modified, we provided the reason for that modification in a "Reason for change" column in the following lists. See *Changing Ranks – Keeping track of changes in the status of NWT species* for more information.

- Not all species groups included in the 2016 report were re-evaluated in 2021. This is a departure from previous reports where all groups were re-evaluated in each cycle. For this and for future reports, resources and expertise are prioritized to increase the number of new species groups, while leaving enough resources to re-evaluate some groups. Decisions about which groups are re-evaluated are coordinated by the National General Status Ranking Program, based on expertise availability and new studies. Groups not re-evaluated for this report are left blank in the summary of changes table below, and the species lists in the following pages are reproduced from the 2016 report for completeness.
- Groups with most changes in ranks were beetles, mayflies, and moths. Museums hold a rich array of specimens yielding new information with every re-evaluation by experts using new techniques, such as genetic studies, or new taxonomic descriptions. All changes to the mayfly list, for example, are the result of a comprehensive re-examination of all specimens collected during the Mackenzie Valley Pipeline Study (1971-1973).[1]
- New information and new species contributed to most (75%) of the changes between 2016 and 2021. Our adoption of the NatureServe protocol still results in changes in ranks with an improved accounting of uncertainties.
- Changes in extirpation risk for NWT species are tracked using this information in an indicator in the NWT State of the Environment report and is used to study the effect of a changing climate on our ecosystems.

[1] See Further your knowledge, in Mayflies: Giberson and Burian 2017.



Wood Bison

Photo Credit: S. Fochuk

Summary of changes in ranks between 2016 and 2021.[1]

Group[1]	UP Risk	DOWN Risk	Correcting Error	New Species	New Information	Taxonomic Change	TOTAL	Recent Detailed Assessment[2]
Mammals – Terrestrial Mammals	2	0	1	1	5	1	10	11
Mammals – Marine Mammals	0	0	0	0	0	0	0	2
Birds	3	4	4	1	7	0	19	10
Fishes	0	0	3	8	2	1	14	1
Amphibians	0	0	0	0	0	0	0	0
Reptiles	0	0	0	0	0	0	0	0
Corals	0	0	0	0	0	0	0	0
Sponges	0	0	0	0	0	0	0	0
Selected Echinoderms	0	0	0	0	0	0	0	0
Freshwater and Terrestrial Molluscs								0
Decapods	0	0	0	0	0	0	0	0
Beetles	0	0	11	9	31	0	51	0
Bees	1	0	12	6	2	0	21	1
Vespid Wasps	0	0	0	0	0	0	0	0
Ants								0
Lacewings and Relatives	0	0	0	2	0	0	2	0
Biting Flies	0	0	0	3	0	0	3	0
Bee Flies								0
Flowerflies	0	0	1	3	0	0	4	0
Mayflies	0	0	0	0	41	0	41	0
Stoneflies								0
Caddisflies								0
Butterflies	0	0	2	0	14	1	17	0
Macro-Moths	0	0	5	7	48	0	60	0
Dragonflies and Damselflies	0	0	0	0	4	0	4	0
Grasshoppers and Relatives	0	0	0	2	2	0	4	0
Spiders	0	0	3	2	3	0	8	0
Vascular Plants	0	0	1	9	6	12	28	1
Liverworts								
Mosses	0	0	8	1	10	3	22	0
Macro-lichens	0	0	0	4	1	0	5	0
Amanita and Bird's Nest Mushrooms	0	0	0	1	1	0	2	0
Totals	**6**	**4**	**51**	**59**	**177**	**18**	**315**	**26**
%	2%	1%	16%	19%	56%	6%		

[1] Organized based on the NWT Species 2016-2020 report.

[2] Assessments in the past 5 years.

5 Results – What did we learn?

About Monitoring

- The online platform iNaturalist.ca and social media are proving very popular tools to share information on species and add to our knowledge of biodiversity. By October 2021, 13,200 observations for 1,775 species were recorded within the terrestrial boundary of the NWT, by 472 observers! These media allow people with diverse expertise but similar enthusiasm on biodiversity to connect immediately and to quickly identify species they observed just a few minutes ago.
- Digital macro-photography is growing exponentially, especially during the past difficult months when a pandemic nonetheless allowed us to re-discover our own backyard and the world we share with the smallest but fascinating species. Each photograph is a useful documentation that can be used to update the species lists of this report.
- In the section *Further Your Knowledge – How to learn more?* in this report, we included reputable sites where all can exchange information on species. There is a greater demand for NWT-specific field guides and more are produced each year. Instructions on how to obtain these field guides can be found in the section mentioned above. Easy-to-remember e-mail addresses, such as WILDLIFEOBS@gov.nt.ca, NWTBUGS@gov.nt.ca, also facilitated information sharing.
- The NWT General Status Ranking Program became a member of NatureServe Canada in 2011. Our participation in the NatureServe program ensures that the results of our efforts in biodiversity monitoring in the NWT are shared with others in Canada, North America and the world.



Calliphoridae
Photo Credit: A. Sarrazin

6 Ranked Species Lists – What are the details?

The general status ranking process results in lists of species with general status ranks. These are detailed in the following pages. Each list is organized in a similar manner.

Common Names and Scientific Species Names
Each species was listed using the accepted standard nomenclature for each group. Details on exceptions were given in footnotes. Synonyms, old names, and local names can be found online in the *NWT Species Infobase* or are available as a database on request. For some species groups, widely used common names were not available. Common names were developed for this report or for the national report with the help of experts in each species group, based on the scientific names and the species' ecology and distribution.

General Status Ranks
Each species was given a general status rank according to the process described in this report. For some species with very high cultural and economic importance, we also provided a rank for each subspecies, population, stock, or ecotype present in the NWT.

Change Notes
Reasons for changing the rank of a species between 2016 and 2021 are noted in the following pages using the codes described in *Data Sources and Methods*.

Detailed Assessments in Canada and the NWT
One of the main objectives of the *General Status Ranking Program* is to provide a prioritized list of species that 'May be at Risk' and may need to be assessed in a more detailed manner.

COSEWIC conducts this detailed assessment for species in Canada. For your convenience, each table provides the status for all species (subspecies or populations) that occur in the NWT and have already been assessed in a detailed manner by COSEWIC as of December 2021. Please consult current and additional status assessments on the COSEWIC web page. Link to www.cosewic.gc.ca. In Canada, species can be legally listed under the *Species at Risk Act* (SARA). Legal listing is based on the detailed assessments performed by COSEWIC. NWT species listed in Canada under SARA are not noted in this report; please refer to the official SARA registry for more information. Link to www.sararegistry.gc.ca.

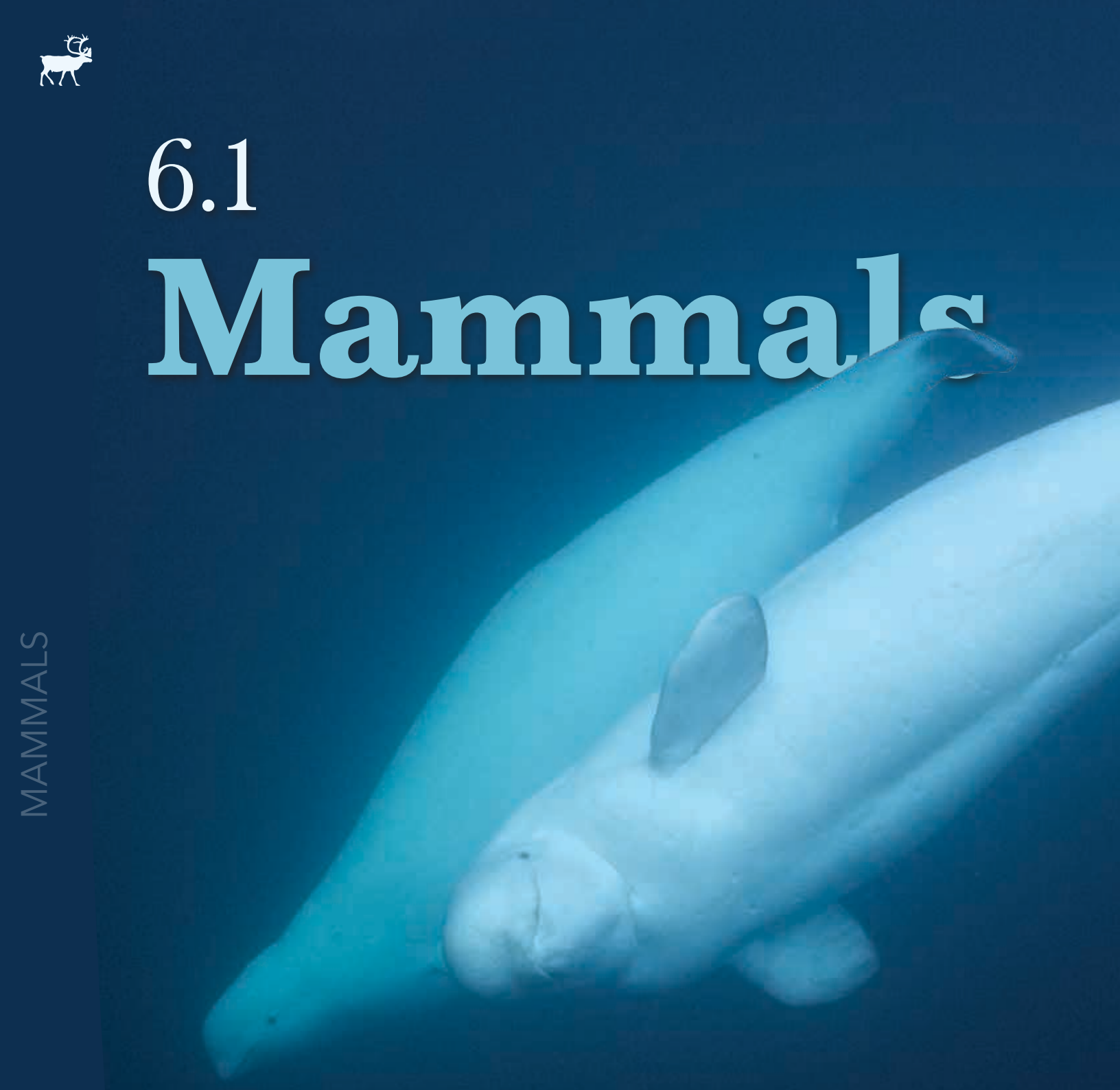
In the NWT, SARC is tasked under the *Species at Risk (NWT) Act* to assess species in more detail. For your convenience, each table provides the status for all species (subspecies or populations) that have already been assessed in a detailed manner by SARC as of December 2021. In the NWT, species can be legally listed under the *Species at Risk (NWT) Act*. Legal listing is based on the detailed assessments performed by SARC. Species listed in the NWT under the Act are not noted in this report; please refer to the official NWT Species At Risk website for more information **Link to www.nwtspeciesatrisk.ca**.

Species Ranking in the Global Level
Species that are in danger of extirpation in the NWT may be quite common in the rest of the world. On the other hand, species that are under threat in other countries may be secure in the NWT. For your convenience, each table provides the Global Rank for species of Global Conservation Concern (G1 - G3) according to NatureServe as of 2021. Please consult current and additional Global Ranks on the NatureServe web page. Link to www.natureserve.org.



Blue Columbine Photo Credit: R. Kennedy

6.1 Mammals



White Whale (Beluga)
Photo Credit: P. Nicklen



Vertebrates

Vertebrates are animals with backbones. They have bilateral symmetry, as well as a circulatory and nervous system. They include the most studied species in the NWT as many are central to human's cultural and economic health. Humans (*Homo sapiens*) are a member of this group.

"Passing on our knowledge about the land and animals to our children is the best gift that we can give them".

Quote from Gwich'in Elders 1997.[1]

Mammals have warm blood, a placenta, and feed their young milk. Some mammals are mostly terrestrial and some have returned to the ocean, and live exclusively in the sea. All the mammal species present in NWT, beside Humans (Family Hominidae, Species Homo sapiens), are included in the list on the next few pages.

Terrestrial Mammals

Terrestrial mammals include some of the most iconic and important species to people's well-being in the NWT. They are central to our cultures and economies as a source of food, clothing and tools, as well as spiritual connections to the land. The importance of mammals to people and to northern ecosystems explains why a substantial amount of time and resources are invested in their study and monitoring.

In the past five years, most detailed assessments were conducted for terrestrial mammals, recording increasing risk of extirpation. Although some herds are now stable in numbers, all ecotypes of caribou in the NWT are at some risk of extirpation. Caribou is the most monitored of all terrestrial mammals in the NWT. In the NWT, many agencies, boards, communities, renewable resources councils and knowledgeable people are working together to monitor species and ensure all mammals remain part of our rich northern biodiversity.

Traditional knowledge studies are conducted every year on mammals. In 2021, the Species at Risk Committee adopted an exciting new way to assess the conservation status of species, including mammals using criteria specifically adapted to be used based on traditional knowledge. Indigenous, community and scientific knowledge provided the basis for all the ranks presented in the next pages.

Genetic studies continue to result in major changes in taxonomy, including in mammal taxonomy. The list follows these new findings and now groups terrestrial and marine mammals, and places whales with their genetic relatives, the ungulates. A new name for artiodactyla to cetartiodactyla reflects this change. More changes in taxonomy are expected with further advances in molecular studies.

Heather Sayine-Crawford
Director
Wildlife and Fish Division
Environment and Natural Resources Yellowknife, NT

[1] See Further Your Knowledge section.

Marine Mammals

Marine mammals are fully adapted for life underwater, are streamlined for swimming and can dive for long periods of time, although they must surface to breathe.

Marine mammals of the NWT have special adaptations for life in the Arctic. For example, beluga whales lack a dorsal ridge and are white in colour, which helps them travel through sea ice and evade their main predator, the killer whale. Belugas winter in the Bering Sea and migrate through leads in sea ice to their summering grounds in the Beaufort Sea. Beluga from the Eastern Beaufort Sea stock form one of the world's largest beluga summering congregations in the Mackenzie Estuary, where they are a key harvested species for the Inuvialuit. Belugas are toothed whales (Family Monodontidae) that feed on a variety of fish and invertebrates and find prey using echolocation. They have a thick layer of blubber that insulates them from the cold. Belugas are highly vocal, social animals that use different types of calls to communicate.

Two groups of marine mammals occur in the NWT portion of the Arctic Ocean – the eastern Beaufort Sea: pinnipeds (infraorder Pinnipedia) and cetaceans (infraorder Cetacea). Pinnipeds are claw-footed carnivores including seals (Family Phocidae), sea lions (Family Otariidae) and Walrus (Family Odobenidae). Ringed seal and bearded seal are year-round residents widely distributed throughout the eastern Beaufort Sea. Other pinnipeds are vagrant and occur infrequently. The only two cetacean species that are regular seasonal migrants to the NWT; these are the beluga and bowhead whales. In addition, gray whales and killer whales have been recorded to occur on occasion in NWT waters and have been observed more frequently in recent years. Narwhals have not been reported from the area in recent decades and are considered to be extremely rare.

Marine mammals are an important cultural and food resource for Inuvialuit hunters and their families. Harvest monitoring and research supports population and ecosystem assessments to ensure that marine mammal stocks are stable and healthy for future generations.

Two Marine Protected Areas in NWT waters are key conservation tools to protect marine mammals and their habitats. Climate change is a significant stressor for ice-associated Arctic marine mammals. Changes in sea ice impact the availability of sea ice habitat, affect whale migration routes and timing, and may lead to changes in prey availability and quality. Increased vessel traffic throughout the Arctic region is increasing underwater noise; this has potential to mask marine mammal communications, lead to hearing damage, and potentially alter behaviour and life history activities. More frequent sightings of killer whales and gray whales may increase predation and competition amongst some marine mammal species. The cumulative ecological impacts of these multiple stressors are not fully known and remain a key area of study.

Marine mammals are considered to be sentinel species for detecting ecosystem change because they are long-lived and near the top of the food chain. In NWT, tissues from beluga whales and ringed seals are collected as part of long-term harvest-based monitoring and provide information on contaminant levels, disease and diet of these key species.

Current research on marine mammals in the NWT includes documenting habitat use, movements and behaviour with satellite tracking and photographic aerial surveys. A growing network of passive acoustic monitoring sites is being used to characterize the underwater soundscape to assess future impacts of anthropogenic noise on marine mammals. Involvement of northerners in co-management, research and monitoring is an important aspect of science. By working together, scientists and Indigenous Knowledge holders are providing much needed information to manage for healthy marine mammal stocks in the NWT.

Shannon MacPhee
Fisheries and Oceans Canada
Winnipeg, MB



Ringed Seal Photo Credit: P. Nicklen

List 1. **Mammals**

There are 77 species of mammals known to occur regularly in the NWT, beside Humans. One species, the European rabbit, is alien. Eleven additional species are vagrant, and another species, the eastern red bat, is expected to occur in the NWT. Species are listed according to the Phylum and Class they belong to, then alphabetically by Order, Infraorder, Family, and scientific species name. Nomenclature including common names follows Burgin et al. (2020) and Mammal Diversity Database (2021).



Collared Pika — Photo Credit: S. Carrière

Common Name	Scientific Species Name	Rank	Habitat Notes[a]	Reason for Change[b]	SARC Status in the NWT[c]	COSEWIC Status in Canada/Global Conservation Concern[d]
Chordata – Mammalia						Chordates – Mammals
Carnivora – Canoidea – Canidae						Carnivores – Dog-like carnivores – Canines
Coyote	*Canis latrans*	Secure	T			
Gray Wolf	*Canis lupus*	Secure	T			
Arctic Fox	*Vulpes lagopus*	Secure	T			
Red Fox	*Vulpes vulpes*	Secure	T			
Carnivora – Feloidea – Felidae						Carnivores – Cat-like carnivores – Felines
Canadian Lynx	*Lynx canadensis*	Secure	T			
Cougar	*Puma concolor*	Undetermined	T			
Carnivora – Musteloidea – Mephitidae						Carnivores – Mustelid-like carnivores – Skunks
Striped Skunk	*Mephitis mephitis*	Undetermined	T			
Carnivora – Musteloidea – Mustelidae						Carnivores – Mustelid-like carnivores – Mustelids
Wolverine	*Gulo gulo*	Sensitive	T		Not at Risk – 2014	Special Concern – 2014
North American River Otter	*Lontra canadensis*	Secure	T, A			
American Marten	*Martes americana*	Secure	T			
Beringian Ermine (Short-tailed Weasel)	*Mustela erminea*	Secure	T			
Least Weasel	*Mustela nivalis*	Secure	T			
Fisher	*Pekania pennanti*	Sensitive	T			
American Mink	*Neogale vison*	Secure	T, A			
Carnivora – Musteloidea – Procyonidae						Carnivores – Mustelid-like carnivores – Raccoons
Northern Raccoon	*Procyon lotor*	Vagrant	T			
Carnivora – Pinnidedia – Odobenidae						Carnivores – Pinnipeds – Walrus
Walrus	*Odobenus rosmarus*[e]	Vagrant	M, I, T			Atlantic subspecies = Special Concern – 2006
Carnivora – Pinnidedia – Otariidae						Carnivores – Pinnipeds – Eared seals
Northern Fur Seal	*Callorhinus ursinus*	Vagrant	M, T			Threatened – 2010
Steller Sea Lion	*Eumetopias jubatus*	Vagrant	M, T			Special Concern – 2013

Common Name	Scientific Species Name	Rank	Habitat Notes[a]	Reason for Change[b]	SARC Status in the NWT[c]	COSEWIC Status in Canada/Global Conservation Concern[d]
Carnivora – Pinnipedia – Phocidae						Carnivores – Pinnipeds – Phocid seals
Hooded Seal	*Cystophora cristata*	Vagrant	M, I			
Bearded Seal	*Erignathus barbatus*	Undetermined	M, I			
Spotted Seal	*Phoca largha*	Vagrant	M, T	ⓘ[6]		
Ringed Seal	*Pusa hispida*	Secure	M, I			Special Concern – 2019
Carnivora – Ursoidea – Ursidae						Carnivores – Bear-like carnivores – Bears
American Black Bear	*Ursus americanus*	Secure	T			
Grizzly Bear	*Ursus arctos*	Sensitive	T		Special Concern – 2017	Special Concern – 2012
Polar Bear	*Ursus maritimus*	Sensitive	I, M, T		Special Concern – 2012	Special Concern – 2018
Cetartiodactyla – Cetacea – Balaenidae						Cetacians and ungulates – Whales – Baleen whales
Bowhead Whale	*Balaena mysticetus*	Secure	M, I			Bering-Chukchi-Beaufort population = Special Concern – 2009
Cetartiodactyla – Cetacea – Balaenopteridae						Cetacians and ungulates – Whales – Rorquals
Gray Whale	*Eschrichtius robustus*	Undetermined	M, I			Not At Risk – 2017
Cetartiodactyla – Cetacea – Delphinidae						Cetacians and ungulates – Whales – Dolphins and realtives
Killer Whale	*Orcinus orca*	Vagrant	M			
Cetartiodactyla – Cetacea – Monodontidae						Cetacians and ungulates – Whales – White whales
White Whale (Beluga)	*Delphinapterus leucas*	Secure	M, I			
Narwhal	*Monodon monoceros*	Vagrant	M, I			Special Concern – 2004
Cetartiodactyla – Cetacea – Phocoenidae						Cetacians and ungulates – Whales – Porpoises
Harbor Porpoise	*Phocoena phocoena*	Vagrant	M	∃[6]		
Cetartiodactyla – Ruminantia – Bovidae						Cetacians and ungulates – Ruminants – Bovids
Wood Bison	*Bos bison athabascae*[f]	At Risk	T		Threatened – 2016	Special Concern – 2013
Mountain Goat	*Oreamnos americanus*	May be at Risk	T			
Muskox	*Ovibos moschatus*	Sensitive	T	↗[4]		
Dall's Sheep	*Ovis dalli dalli*[g]	Secure	T			
Cetartiodactyla – Ruminantia – Cervidae						Cetacians and ungulates – Ruminants – Deers
Moose	*Alces alces*	Secure	T			
Elk (Wapiti)	*Cervus canadensis*	Vagrant	T	ⓘ[5]		
Mule Deer	*Odocoileus hemionus*	Vagrant	T	ⓘ[5]		
White-tailed Deer	*Odocoileus virginianus*	Secure	T			
Boreal Caribou	*Rangifer tarandus caribou*[h]	At Risk	T		Threatened – 2012	Threatened – 2014
Northern Mountain Caribou	*Rangifer tarandus caribou*[h]	Sensitive	T		Special Concern – 2020	Special Concern – 2014
Barrenground Caribou	*Rangifer tarandus groenlandicus*[h]	At Risk	T		Threatened – 2017	Threatened – 2016



Northern Mountain Caribou

Photo Credit: J. Lancaster

Common Name	Scientific Species Name	Rank	Habitat Notes[a]	Reason for Change[b]	SARC Status in the NWT[c]	COSEWIC Status in Canada/Global Conservation Concern[d]
Porcupine Caribou	*Rangifer tarandus groenlandicus*[h]	Sensitive	T	A, T	Not at Risk – 2017	Threatened – 2016
Dolphin-Union Caribou	*Rangifer tarandus groenlandicus x pearyi*[h]	At Risk	T, I	A, ↗[3]	Special Concern – 2013	Endangered – 2017
Peary Caribou	*Rangifer tarandus pearyi*[h]	At Risk	T, I		Threatened – 2012	Threatened – 2015
Chiroptera – Vespertilionoidea – Vespertilionidae					Hand-winged mammals – Micro-bats – Vesper bats	
Big Brown Bat	*Eptesicus fuscus*	Undetermined	T	A, ⓘ[2]	Data Deficient – 2017	
Silver-haired Bat	*Lasionycteris noctivagans*	Undetermined	T			
Northern Hoary Bat	*Aeorestes cinereus*	Undetermined	T			
Eastern Red Bat	*Lasiurus borealis*	Presence Expected	T			
Long-eared Myotis	*Myotis evotis*	Undetermined	T	A, ⓘ[2]	Data Deficient – 2017	
Eastern Little Brown Myotis	*Myotis lucifugus*	At Risk	T		Special Concern – 2017	Endangered – 2013
Northern Myotis	*Myotis septentrionalis*	At Risk	T		Special Concern – 2017	Endangered – 2013/G2G3 – 2021
Long-legged Myotis	*Myotis volans*	Undetermined	T	A, ⓘ[2]	Data Deficient – 2017	



Boreal Caribou

Photo Credit: P. Vecsei

Common Name	Scientific Species Name	Rank	Habitat Notes[a]	Reason for Change[b]	SARC Status in the NWT[c]	COSEWIC Status in Canada/Global Conservation Concern[d]
Eulipotyphla – Soricidae						Shrew-like mammals – Shrews
Arctic Shrew	*Sorex arcticus*	Secure	T			
Masked Shrew (Cinereus Shrew)	*Sorex cinereus*	Secure	T			
Western Pigmy Shrew	*Sorex eximius*	Secure	T			
Western Water Shrew	*Sorex navigator*	Undetermined	A			
Northern Montane Shrew	*Sorex obscurus*	Secure	T			
American Water Shrew	*Sorex palustris*	Secure	A			
Tundra Shrew	*Sorex tundrensis*	Undetermined	T			
Barren Ground Shrew	*Sorex ugyunak*	Undetermined	T			



Grizzly Bears Photo Credit: C. Graydon



American Mink Photo Credit: D. Dooley

Common Name	Scientific Species Name	Rank	Habitat Notes[a]	Reason for Change[b]	SARC Status in the NWT[c]	COSEWIC Status in Canada/Global Conservation Concern[d]
Lagomorpha – Leporidae						Hares-like mammals – Hares
Snowshoe Hare	*Lepus americanus*	Secure	T			
Arctic Hare	*Lepus arcticus*	Secure	T			
European Rabbit	*Oryctolagus cuniculus*	Alien	T	#		
Lagomorpha – Ochotonidae						Hares-like mammals – Pikas
Collared Pika	*Ochotona collaris*	Sensitive	T			Special Concern – 2011
Rodentia – Castomorpha – Castoridae						Rodents – Beaver-like rodents – Beavers
North American Beaver	*Castor canadensis*	Secure	A			
Rodentia – Dipodoidea – Dipodidae						Rodents – Dipodids – Jumping Mice
Meadow Jumping Mouse	*Zapus hudsonius*	Undetermined	T			
Rodentia – Hystricomorpha – Erethizontidae						Rodents – Porcupine-like rodents – New World Porcupines
North American Porcupine	*Erethizon dorsatum*	Secure	T			
Rodentia – Muroidea – Cricetidae						Rodents – Murids – Cricetid Mice
Root Vole	*Alexandromys oeconomus*	Secure	T			
Southern Red-backed Vole	*Clethrionomys gapperi*	Secure	T			
Northern Red-backed Vole	*Clethrionomys rutilus*	Secure	T			
Nearctic Collared Lemming	*Dicrostonyx groenlandicus*	Secure	T			
Richardson's Collared Lemming	*Dicrostonyx richardsoni*	Undetermined	T			
Nearctic Brown Lemming	*Lemmus trimucronatus*	Secure	T			

Common Name	Scientific Species Name	Rank	Habitat Notes[a]	Reason for Change[b]	SARC Status in the NWT[c]	COSEWIC Status in Canada/Global Conservation Concern[d]
Singing Vole	*Microtus abbreviatus (miurus)*	Undetermined	T			
Long-tailed Vole	*Microtus longicaudus*	Undetermined	T			
Eastern Meadow Vole	*Microtus pennsylvanicus*	Secure	T			
Taiga Vole	*Microtus xanthognathus*	Secure	T			
Bushy-tailed Woodrat	*Neotoma cinerea*	Undetermined	T			
Common Muskrat	*Ondatra zibethicus*	Secure	A			
North American Deer Mouse	*Peromyscus maniculatus*	Secure	T			
Eastern Heather Vole	*Phenacomys ungava*	Secure	T			
Northern Bog Lemming	*Synaptomys borealis*	Secure	T			



Arctic Ground Squirrel

Photo Credit: S. Carrière

Common Name	Scientific Species Name	Rank	Habitat Notes[a]	Reason for Change[b]	SARC Status in the NWT[c]	COSEWIC Status in Canada/Global Conservation Concern[d]
Rodentia – Sciuromorpha – Sciuridae						Rodents – Squirrel-like rodents – Squirrels
Northern Flying Squirrel	*Glaucomys sabrinus*	Secure	T			
Hoary Marmot	*Marmota caligata*	Undetermined	T			
Woodchuck	*Marmota monax*	Secure	T			
Least Chipmunk	*Neotamias minimus*	Secure	T			
North American Red Squirrel	*Tamiasciurus hudsonicus*	Secure	T			
Arctic Ground Squirrel	*Urocitellus parryii*	Secure	T			

[a] Typical habitats: **T** = Terrestrial, **A** = Aquatic (freshwater), **M** = Marine (oceanic), **I** = Sea ice.

[b] Describes reasons for a change in status rank between 2016 and 2021. ↗: Increasing Risk, ↘: Decreasing Risk, ∃: Error correction, **#**: Species new to the NWT, **T**: Taxonomic change, ⓘ: Information added, **A**: Changed due to detailed assessment by COSEWIC since 2016. See Data Sources and Methods for more details.

[c] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. SARC Status: Status for a species in the NWT if it ihas already been assessed in detail by SARC as of December 2021.

[d] COSEWIC Status: Status for a species in Canada if it has already been assessed in a detailed manner by COSEWIC as of December 2021. The year of each assessment is given with each status. After 2021, please consult current and additional status assessments using references given at the end of this report. Rank of a species in the world as designated by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org.

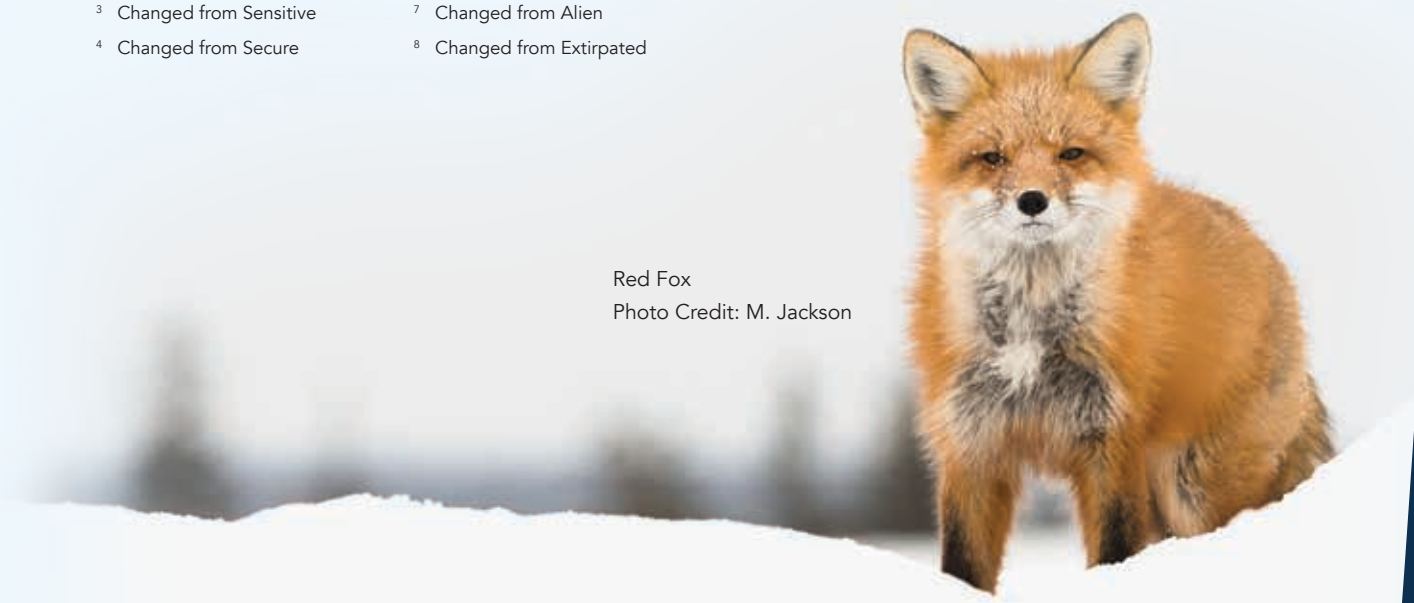
[e] Two subspecies of walrus are vagrant in NWT waters. The Atlantic Walrus (*O.r. rosmarus*) is seen in the water of the High Arctic Archipelago and the Pacific walrus (*O.r. divergens*) is seen nearer the Beaufort Sea coast. Local knowledge indicates that the Pacific subspecies having long tusks is seen most recently.

[f] General Status Rank is given for Wood Bison only. The subspecies Plains Bison (*B.b. bison*), including suspected hybrids of Plains-Wood Bison (*B.b. bison x athabascae*) are "not ranked".

[g] General Status Rank is given for Dall's Sheep only. No other subspecies are present in the NWT.

[h] General Status Ranks are given for five subspecies/ecotypes of caribou separately. A separate rank is also assigned on one population of *R.t. groenlandicus* (Porcupine Caribou) as this population (herd) was assessed separately by SARC. Porcupine Caribou was assessed as part of Barrenground Caribou by COSEWIC. The species caribou (*Rangifer tarandus*) as a whole is assigned a rank of "sensitive".

[1] Changed from At Risk
[2] Changed from May Be at Risk
[3] Changed from Sensitive
[4] Changed from Secure
[5] Changed from Undetermined
[6] Changed from Not Ranked
[7] Changed from Alien
[8] Changed from Extirpated
[9] Changed from Vagrant
[10] Changed from Presence Expected



Red Fox
Photo Credit: M. Jackson

6.2 Birds



Boreal Owl
Photo Credit: WildKnifePhotography



Surf Scoter

Photo Credit: WildKnife Photography

Birds are feathered vertebrates capable of flight, though some species have lost this adaptation. Eighty-seven percent of the bird species breeding in the NWT are migratory. The remaining 13% are year-round residents. Many species that breed in the Arctic will winter in South America, travelling thousands of kilometers. The Arctic Tern, for example, has the longest migration of any bird and flies 40,000 km from its Arctic breeding grounds to winter in Antarctica. Other Arctic birds, such as the islandica sub-species of the Red Knot, undertake a different route altogether. These birds nest in our northern-most islands and in Nunavut, travel to Iceland then reach their wintering grounds in Europe. Others stay relatively nearby: the Yellow-billed Loon flies west to the north Pacific and back to nest on the mainland tundra and our southern Arctic islands.

Population declines of migratory birds

In the NWT, responsibility for bird management is shared amongst renewable resources boards set up under land claim settlements, involving governments, Indigenous users and beneficiaries. This co-management system provides direct involvement for Indigenous governments and organizations in the management of all bird species occurring in their land claim area or region.

All migratory bird species included in Schedule I of *Migratory Birds Convention Act* 1994 are co-managed with the federal government. All other bird species are co-managed with the Government of the Northwest Territories.

Since 1970, monitoring programs have shown that Canadian breeding bird populations have declined on average[1]. Certain groups, like grassland birds, aerial insectivores and shorebirds, are experiencing the steepest declines. For example, the aerial insectivores, such as the Olive-sided Flycatcher, have declined by 59% since 1970, and shorebird populations have declined by 40%. Populations are thought to be decreasing due to a variety of reasons such as habitat loss, pesticide use resulting in declining insect populations, and climate change.

[1] See *The State of Canada's Birds 2019* in Further Your Knowledge section.

Landbird research

CWS coordinates multiple programs to monitor waterfowl in the NWT. Many of these programs generate population trend estimates. The Yellowknife Study Area program has been monitoring waterfowl and waterbirds for over 25 years. Some surveys, like the Cape Perry Thick-billed Murre seabird survey, or the Pacific Common Eider survey, census all individuals in an area and provide population estimates for a region.

CWS coordinates the Arctic Program for Regional and International Shorebird Monitoring (Arctic PRISM), a program designed to address concerns about shorebird population declines. The program is in collaboration with the Government of the United States and is conducted across the North American Arctic. Arctic PRISM is in its 20th year and provides data on population size and trends, as well as shorebird distribution, abundance and habitat use. Although the focus is shorebirds, all bird species are recorded. The data collected through Arctic PRISM is some of the first bird and habitat data ever collected in many areas of the Arctic and is integral to the General Status Rank review.

CWS coordinates a number of programs to monitor songbirds in the NWT. The main objective is to understand species distribution, habitat associations, and responses to forest fires. The plan is to continue these programs to monitor bird populations and provide long-term trend information. CWS also coordinates the North American Breeding Bird Survey (BBS), an avian survey used to collect long-term data on bird population status and trends throughout North America. The BBS has been running for more than 50 years and is the primary source for terrestrial bird status and trends in Canada. The Liard Valley Long-term Monitoring Program has been running for almost 25 years in the south-western NWT and is an important data source to inform the General Status Rank review.

BBS trends were a primary resource and the volunteer-based global online bird observation tool "eBird" also provided information on distribution where studies are not currently conducted. Please consider submitting any observations you can, of any bird species, from any season, to www.ebird.ca.
Over the next five years, through long-term monitoring programs and new initiatives, we hope to gather more information to help inform bird status ranks in the NWT.



Peregrine Falcon
Photo Credit: G. Court

Continued monitoring and working collaboratively on conservation priorities are important to the preservation of bird populations within the NWT. In addition, international collaboration is the key to truly preserving our feathered friends, which spend time across many international borders.

Cindy Wood
Canadian Wildlife Service
Environment and Climate Change Canada
Yellowknife, NT

Raptor monitoring

Raptor monitoring was conducted extensively in the 1980s and 1990s all over the NWT. Most surveys have not been repeated systematically since then, except for Peregrine Falcons. Intensive falcon surveys are done on the barrenlands, in Tuktut Nogait National Park and Wood Buffalo National Park. These surveys are conducted in collaboration with Parks Canada, industry and by the GNWT. The GNWT is also tracking location and visit data on all known raptor sites in the NWT. This information is often provided from NWT resident's incidental observations during a trip on the land, or provided by industry during impact assessment work. This data is stored in the Nunavut-Northwest Territories Raptor Database, the largest database on birds of prey in North America.

Dr. Suzanne Carrière
Environment and Natural Resources
Government of the Northwest Territories
Yellowknife, NT

List 2. **Birds**

A total of 242 species of birds can be observed regularly in the NWT. Of these, three species are alien to the NWT. An additional 58 species are vagrant and have been observed irregularly, sometimes only once. Species are listed alphabetically according to the Family and organized taxonomically according to the 7th North American bird list and supplements published by the American Ornithologist Union (AOU). Nomenclature follows AOU (2020). Common names are from AOU (2020).



Snowy Owl
Photo Credit: G. Court

Common Name	Scientific Species Name	Rank	Life History Note[a]	Reason for Change[b]	COSEWIC Status in Canada/Global Conservation Concern[c]
Chordata – Aves					Chordates – Birds
Anseriformes – Anatidae					Waterfowl – Ducks and geese
Northern Pintail	*Anas acuta*	Sensitive	B		
Green-winged Teal	*Anas crecca*	Secure	B		
Mallard	*Anas platyrhynchos*	Secure	B		
American Black Duck	*Anas rubripes*	Vagrant			
Greater White-fronted Goose	*Anser albifrons*	Secure	B		
Snow Goose	*Anser caerulescens*	Secure	B		
Ross's Goose	*Anser rossii*	Secure	B		
Lesser Scaup	*Aythya affinis*	Sensitive	B		
Redhead	*Aythya americana*	Secure	B		
Ring-necked Duck	*Aythya collaris*	Secure	B		
Greater Scaup	*Aythya marila*	Secure	B		
Canvasback	*Aythya valisineria*	Secure	B		
Brant	*Branta bernicla*	Sensitive	B		
Canada Goose	*Branta canadensis*	Secure	B		
Cackling Goose	*Branta hutchinsii*	Secure	B		
Bufflehead	*Bucephala albeola*	Secure	B		
Common Goldeneye	*Bucephala clangula*	Secure	B		
Barrow's Goldeneye	*Bucephala islandica*	Secure	B		
Long-tailed Duck	*Clangula hyemalis*	Sensitive	B		
Trumpeter Swan	*Cygnus buccinator*	Secure	B		
Tundra Swan	*Cygnus columbianus*	Secure	B		
Harlequin Duck	*Histrionicus histrionicus*	May be at Risk	B		
Hooded Merganser	*Lophodytes cucullatus*	Secure	B		
American Wigeon	*Mareca americana*	Secure	B		
Eurasian Wigeon	*Mareca penelope*	Vagrant			
Gadwall	*Mareca strepera*	Undetermined	B		
Black Scoter	*Melanitta americana*	Sensitive	B		
White-winged Scoter	*Melanitta deglandi*	Sensitive	B		

Common Name	Scientific Species Name	Rank	Life History Note[a]	Reason for Change[b]	COSEWIC Status in Canada/Global Conservation Concern[c]
Surf Scoter	*Melanitta perspicillata*	Sensitive	B		
Common Merganser	*Mergus merganser*	Secure	B		
Red-breasted Merganser	*Mergus serrator*	Secure	B		
Ruddy Duck	*Oxyura jamaicensis*	Secure	B		
Spectacled Eider	*Somateria fischeri*	Vagrant			
Common Eider	*Somateria mollissima*	Sensitive	B		
King Eider	*Somateria spectabilis*	Sensitive	B, W		
Northern Shoveler	*Spatula clypeata*	Secure	B		
Cinnamon Teal	*Spatula cyanoptera*	Vagrant			
Blue-winged Teal	*Spatula discors*	Secure	B		
Galliformes – Phasianidae					Chickens – Grouse and relatives
Ruffed Grouse	*Bonasa umbellus*	Secure	B,W		
Spruce Grouse	*Canachites canadensis*	Secure	B,W		
Dusky Grouse	*Dendragapus obscurus*	Undetermined	B,W		
Willow Ptarmigan	*Lagopus lagopus*	Secure	B,W		
White-tailed Ptarmigan	*Lagopus leucura*	Undetermined	B,W		
Rock Ptarmigan	*Lagopus muta*	Secure	B,W		
Sharp-tailed Grouse	*Tympanuchus phasianellus*	Secure	B,W		
Podicipediformes – Podicipedidae					Grebes – Grebes
Horned Grebe	*Podiceps auritus*	Sensitive	B		Special Concern – 2009
Red-necked Grebe	*Podiceps grisegena*	Secure	B		
Eared Grebe	*Podiceps nigricollis*	Undetermined	B		
Pied-billed Grebe	*Podilymbus podiceps*	Undetermined	B		
Columbiformes – Columbidae					Dove-like birds – Pigeons and doves
Rock Pigeon	*Columba livia*	Vagrant		ⓘ[6]	
Eurasian Collared-Dove	*Streptopelia decaocto*	Alien		∃[9]	
White-winged Dove	*Zenaida asiatica*	Vagrant			
Mourning Dove	*Zenaida macroura*	Vagrant			
Caprimulgiformes – Caprimulgidae					Night birds – Nighthawks
Common Nighthawk	*Chordeiles minor*	Sensitive	B	A, ↘[1]	Special Concern – 2018
Apodiformes – Trochilidae					Swift-like birds – Hummingbirds
Calliope Hummingbird	*Selasphorus calliope*	Vagrant			
Rufous Hummingbird	*Selasphorus rufus*	Vagrant			
Gruiformes – Rallidae					Crane-like birds – Rails
Yellow Rail	*Coturnicops noveboracensis*	Sensitive	B	ⓘ[2]	Special Concern – 2009
American Coot	*Fulica americana*	Secure	B		
Sora	*Porzana carolina*	Secure	B		
Gruiformes – Gruidae					Crane-like birds – Cranes
Sandhill Crane	*Antigone canadensis*	Secure	B		
Whooping Crane	*Grus americana*	At Risk	B		Endangered – 2010/G1 2016
Charadriiformes – Recurvirostridae					Shore birds – Avocets
American Avocet	*Recurvirostra americana*	Undetermined	B		

Common Name	Scientific Species Name	Rank	Life History Note[a]	Reason for Change[b]	COSEWIC Status in Canada/Global Conservation Concern[c]
Charadriiformes – Charadriidae					Shore birds – Plovers
Semipalmated Plover	*Charadrius semipalmatus*	Secure	B		
Killdeer	*Charadrius vociferus*	Secure	B		
American Golden Plover	*Pluvialis dominica*	Sensitive	B		
Pacific Golden Plover	*Pluvialis fulva*	Vagrant			
Black-bellied Plover	*Pluvialis squatarola*	Sensitive	B		
Charadriiformes – Scolopacidae					Shore birds – Waders
Spotted Sandpiper	*Actitis macularius*	Secure	B		
Ruddy Turnstone	*Arenaria interpres*	Sensitive	B		
Black Turnstone	*Arenaria melanocephala*	Vagrant			
Upland Sandpiper	*Bartramia longicauda*	Undetermined	B		
Sanderling	*Calidris alba*	Sensitive	B		
Dunlin	*Calidris alpina*	Sensitive	B		
Baird's Sandpiper	*Calidris bairdii*	Secure	B		
Red Knot	*Calidris canutus*	At Risk	B		Endangered – 2020 (rufa, Gulf of Mexico wintering population); Not at Risk – 2020 (islandica)
White-rumped Sandpiper	*Calidris fuscicollis*	Secure	B		
Stilt Sandpiper	*Calidris himantopus*	Secure	B		
Purple Sandpiper	*Calidris maritima*	Undetermined	B		
Western Sandpiper	*Calidris mauri*	Vagrant			
Pectoral Sandpiper	*Calidris melanotos*	Secure	B		
Least Sandpiper	*Calidris minutilla*	Secure	B		
Semipalmated Sandpiper	*Calidris pusilla*	Sensitive	B		
Buff-breasted Sandpiper	*Calidris subruficollis*	Sensitive	B		Special Concern – 2012
Surfbird	*Calidris virgata*	Vagrant		ⓘ[6]	
Wilson's Snipe	*Gallinago delicata*	Secure	B		
Short-billed Dowitcher	*Limnodromus griseus*	Undetermined	B		
Long-billed Dowitcher	*Limnodromus scolopaceus*	Undetermined	B		
Hudsonian Godwit	*Limosa haemastica*	At Risk	B	A, ↗[3]	Threatened – 2019
Long-billed Curlew	*Numenius americanus*	Vagrant			
Eskimo Curlew	*Numenius borealis*	At Risk	B, H		Endangered – 2009/GH – 2002
Whimbrel	*Numenius phaeopus*	Sensitive	B	ⓘ[4]	
Red Phalarope	*Phalaropus fulicariux*	Secure	B		
Red-necked Phalarope	*Phalaropus lobatus*	Sensitive	B		Special Concern – 2014
Wilson's Phalarope	*Phalaropus tricolor*	Undetermined	B		
Lesser Yellowlegs	*Tringa flavipes*	Sensitive	B		Threatened – 2020
Wandering Tattler	*Tringa incana*	Undetermined	B		
Greater Yellowlegs	*Tringa melanoleuca*	Undetermined	B		
Willet	*Tringa semipalmata*	Vagrant			
Solitary Sandpiper	*Tringa solitaria*	Secure	B		

Common Name	Scientific Species Name	Rank	Life History Note[a]	Reason for Change[b]	COSEWIC Status in Canada/Global Conservation Concern[c]
Charadriiformes – Stercorariidae					Shore birds – Jeagers
Long-tailed Jaeger	*Stercorarius longicaudus*	Secure	B		
Parasitic Jaeger	*Stercorarius parasiticus*	Secure	B		
Pomarine Jaeger	*Stercorarius pomarinus*	Secure	B		
Charadriiformes – Alcidae					Sea birds – Auks
Least Auklet	*Aethia pusilla*	Vagrant			
Dovekie	*Alle alle*	Vagrant		∃[6]	
Black Guillemot	*Cepphus grylle*	Undetermined	B		
Common Murre	*Uria aalge*	Vagrant			
Thick-billed Murre	*Uria lomvia*	Sensitive	B		
Charadriiformes – Laridae					Shore birds – Gulls
Black Tern	*Chlidonias niger*	Sensitive	B		
Bonaparte's Gull	*Chroicocephalus philadelphia*	Secure	B		
Black-headed Gull	*Chroicocephalus ridibundus*	Vagrant			
Little Gull	*Hydrocoloeus minutus*	Vagrant			
Caspian Tern	*Hydroprogne caspia*	Sensitive	B		
Herring Gull	*Larus argentatus*	Secure	B		
California Gull	*Larus californicus*	Secure	B		
Common Gull (Mew Gull)	*Larus canus*	Secure	B		
Black-tailed Gull	*Larus crassirostris*	Vagrant			
Ring-billed Gull	*Larus delawarensis*	Secure	B		
Lesser Black-backed Gull	*Larus fuscus*	Vagrant			
Glaucous-winged Gull	*Larus glaucescens*	Vagrant			
Thayer's Gull	*Larus thayeri*	Sensitive	B		
Glaucous Gull	*Larus hyperboreus*	Secure	B		
Slaty-backed Gull	*Larus schistisagus*	Vagrant			
Franklin's Gull	*Leucophaeus pipixcan*	Undetermined	B		
Ivory Gull	*Pagophila eburnea*	At Risk	B, H		Endangered – 2006
Black-legged Kittiwake	*Rissa tridactyla*	Undetermined	B		
Common Tern	*Sterna hirundo*	Secure	B		
Arctic Tern	*Sterna paradisaea*	Secure	B		
Sabine's Gull	*Xema sabini*	Secure	B		
Gaviiformes – Gaviidae					Loons – Loons
Yellow-billed Loon	*Gavia adamsii*	Sensitive	B		
Common Loon	*Gavia immer*	Secure	B		
Pacific Loon	*Gavia pacifica*	Secure	B		
Red-throated Loon	*Gavia stellata*	Secure	B		
Procellariiformes – Procellariidae					Shearwaters – Shearwaters
Short-tailed Shearwater	*Ardenna tenuirostris*	Vagrant			
Northern Fulmar	*Fulmarus glacialis*	Vagrant		∃[6]	
Suliformes – Sulidae					Gannets – Gannets
Northern Gannet	*Morus bassanus*	Vagrant		∃[6]	

Common Name	Scientific Species Name	Rank	Life History Note[a]	Reason for Change[b]	COSEWIC Status in Canada/Global Conservation Concern[c]
Suliformes – Phalacrocoracidae					Cormorants – Cormorants
Double-crested Cormorant	*Nannopterum auritum*	Vagrant			
Pelecaniformes – Pelecanidae					Pelican-like birds – Pelicans
American White Pelican	*Pelecanus erythrorhynchos*	May be at Risk	B		
Pelecaniformes – Ardeidae					Pelican-like birds – Herons
Great Egret	*Ardea alba*	Vagrant			
Great Blue Heron	*Ardea herodias*	Vagrant			
American Bittern	*Botaurus lentiginosus*	Sensitive	B		
Cattle Egret	*Bubulcus ibis*	Vagrant			
Snowy Egret	*Egretta thula*	Vagrant			
Cathartiformes – Cathartidae					Hawk-like birds of prey – American vultures
Turkey Vulture	*Cathartes aura*	Vagrant			
Black Vulture	*Coragyps atratus*	Vagrant		#	
Accipitriformes – Pandionidae					Hawk-like birds of prey – Osprey
Osprey	*Pandion haliaetus*	Secure	B		
Accipitriformes – Accipitridae					Hawk-like birds of prey – Hawks
Cooper's Hawk	*Accipiter cooperii*	Vagrant			
Northern Goshawk	*Accipiter gentilis*	Secure	B,W		
Sharp-shinned Hawk	*Accipiter striatus*	Secure	B		
Golden Eagle	*Aquila chrysaetos*	Secure	B		
Red-tailed Hawk	*Buteo jamaicensis*	Secure	B		
Rough-legged Hawk	*Buteo lagopus*	Secure	B		
Broad-winged Hawk	*Buteo platypterus*	Undetermined	B		
Swainson's Hawk	*Buteo swainsoni*	Undetermined	B		
Northern Harrier	*Circus hudsonius*	Secure	B		
Bald Eagle	*Haliaeetus leucocephalus*	Secure	B		
Strigiformes – Strigidae					Owls – Owls
Boreal Owl	*Aegolius funereus*	Secure	B, W		
Short-eared Owl	*Asio flammeus*	At Risk	B	A, ↗[3]	Threatened – 2021
Long-eared Owl	*Asio otus*	Undetermined	B		
Snowy Owl	*Bubo scandiacus*	Secure	B, W		
Great Horned Owl	*Bubo virginianus*	Secure	B, W		
Great Grey Owl	*Strix nebulosa*	Secure	B, W		
Barred Owl	*Strix varia*	Undetermined	B		
Northern Hawk Owl	*Surnia ulula*	Secure	B, W		
Coraciiformes – Alcedinidae					Roller-like birds – Kingfishers
Belted Kingfisher	*Megaceryle alcyon*	Secure	B		
Piciformes – Picidae					Woodpeckers – Woodpeckers
Northern Flicker	*Colaptes auratus*	Secure	B		
Downy Woodpecker	*Dryobates pubescens*	Secure	B		
Hairy Woodpecker	*Dryobates villosus*	Secure	B		
Pileated Woodpecker	*Dryocopus pileatus*	Secure	B		
Black-backed Woodpecker	*Picoides arcticus*	Secure	B		



Willow Ptarmigan

Photo Credit: R. Hildebrandt

Common Name	Scientific Species Name	Rank	Life History Note[a]	Reason for Change[b]	COSEWIC Status in Canada/Global Conservation Concern[c]
American Three-toed Woodpecker	*Picoides dorsalis*	Secure	B		
Yellow-bellied Sapsucker	*Sphyrapicus varius*	Secure	B		
Falconiformes – Falconidae					Falcon-like birds of prey – Falcons
Merlin	*Falco columbarius*	Secure	B		
Peregrine Falcon	*Falco peregrinus*	Sensitive	B		
Gyrfalcon	*Falco rusticolus*	Secure	B		
American Kestrel	*Falco sparverius*	Secure	B		
Passeriformes – Tyrannidae					Perching birds – Tyrant flycatchers
Olive-sided Flycatcher	*Contopus cooperi*	Sensitive	B	A, ↘[1]	Special Concern – 2018
Western Wood-Pewee	*Contopus sordidulus*	Secure	B		
Alder Flycatcher	*Empidonax alnorum*	Secure	B		
Yellow-bellied Flycatcher	*Empidonax flaviventris*	Secure	B		
Hammond's Flycatcher	*Empidonax hammondii*	Secure	B		
Least Flycatcher	*Empidonax minimus*	Secure	B		
Dusky Flycatcher	*Empidonax oberholseri*	Undetermined	B		
Ash-throated Flycatcher	*Myiarchus cinerascens*	Vagrant			
Great Crested Flycatcher	*Myiarchus crinitus*	Vagrant			
Eastern Phoebe	*Sayornis phoebe*	Secure	B		
Say's Phoebe	*Sayornis saya*	Undetermined	B		
Eastern Kingbird	*Tyrannus tyrannus*	Secure	B		
Western Kingbird	*Tyrannus verticalis*	Vagrant			

Common Name	Scientific Species Name	Rank	Life History Note[a]	Reason for Change[b]	COSEWIC Status in Canada/Global Conservation Concern[c]
Passeriformes – Vireonidae					Perching birds – Vireos
Warbling Vireo	*Vireo gilvus*	Secure	B		
Red-eyed Vireo	*Vireo olivaceus*	Secure	B		
Philadelphia Vireo	*Vireo philadelphicus*	Undetermined	B		
Blue-headed Vireo	*Vireo solitarius*	Secure	B		
Passeriformes – Laniidae					Perching birds – Shrikes
Northern Shrike	*Lanius borealis*	Secure	B		
Passeriformes – Corvidae					Perching birds – Corvids
American Crow	*Corvus brachyrhynchos*	Secure	B, W		
Common Raven	*Corvus corax*	Secure	B, W		
Canada Jay	*Perisoreus canadensis*	Secure	B, W		
Black-billed Magpie	*Pica hudsonia*	Secure	B, W		
Passeriformes – Paridae					Perching birds – Chickadees
Black-capped Chickadee	*Poecile atricapillus*	Secure	B, W		
Gray-headed Chickadee	*Poecile cinctus*	Undetermined	B, W		
Boreal Chickadee	*Poecile hudsonicus*	Secure	B, W		
Passeriformes – Alaudidae					Perching birds – Larks
Horned Lark	*Eremophila alpestris*	Secure	B		
Passeriformes – Hirundinidae					Perching birds – Swallows
Barn Swallow	*Hirundo rustica*	Sensitive	B	A, ↘[1]	Special Concern – 2021
Cliff Swallow	*Petrochelidon pyrrhonota*	Secure	B		
Bank Swallow	*Riparia riparia*	At Risk	B		Threatened – 2013
Tree Swallow	*Tachycineta bicolor*	Secure	B		
Violet-green Swallow	*Tachycineta thalassina*	Undetermined	B		
Passeriformes – Phylloscopidae					Perching birds – Leaf warbers
Kamchatka Leaf Warbler	*Phylloscopus examinandus*	Vagrant			
Passeriformes – Regulidae					Perching birds – Kinglets
Ruby-crowned Kinglet	*Corthylio calendula*	Secure	B		
Golden-crowned Kinglet	*Regulus satrapa*	Undetermined	B		
Passeriformes – Bombycillidae					Perching birds – Waxwings
Cedar Waxwing	*Bombycilla cedrorum*	Secure	B		
Bohemian Waxwing	*Bombycilla garrulus*	Secure	B		
Passeriformes – Sittidae					Perching birds – Nuthatches
Red-breasted Nuthatch	*Sitta canadensis*	Secure	B		
Passeriformes – Certhidae					Perching birds – Creepers
Brown Creeper	*Certhia americana*	Undetermined	B		
Passeriformes – Troglodytidae					Perching birds – Wrens
Marsh Wren	*Cistothorus palustris*	Undetermined	B		
Rock Wren	*Salpinctes obsoletus*	Vagrant			
House Wren	*Troglodytes aedon*	Vagrant		ⓘ[6]	
Winter Wren	*Troglodytes hiemalis*	Secure	B		

Common Name	Scientific Species Name	Rank	Life History Note[a]	Reason for Change[b]	COSEWIC Status in Canada/Global Conservation Concern[c]
Passeriformes – Mimidae					Perching birds – Mockingbirds
Grey Catbird	*Dumetella carolinensis*	Vagrant			
Northern Mockingbird	*Mimus polyglottos*	Vagrant			
Passeriformes – Sturnidae					Perching birds – Starlings
European Starling	*Sturnus vulgaris*	Alien	B		
Passeriformes – Cinclidae					Perching birds – Dippers
American Dipper	*Cinclus mexicanus*	Undetermined	B		
Passeriformes – Turdidae					Perching birds – Thrushes
Hermit Thrush	*Catharus guttatus*	Secure	B		
Gray-cheeked Thrush	*Catharus minimus*	Secure	B		
Swainson's Thrush	*Catharus ustulatus*	Secure	B		
Varied Thrush	*Ixoreus naevius*	Undetermined	B		
Townsend's Solitaire	*Myadestes townsendi*	Secure	B		
Mountain Bluebird	*Sialia currucoides*	Undetermined	B		
American Robin	*Turdus migratorius*	Secure	B		
Passeriformes – Muscicapidae					Perching birds – Wheatears
Northern Wheatear	*Oenanthe oenanthe*	Undetermined	B		
Passeriformes – Motacillidae					Perching birds – Wagtails
American Pipit	*Anthus rubescens*	Undetermined	B		
Gray Wagtail	*Motacilla cinerea*	Vagrant			
Eastern Yellow Wagtail	*Motacilla tschutschensis*	Undetermined	B		
Passeriformes – Fringillidae					Perching birds – Finches
Common Redpoll	*Acanthis flammea*	Secure	B, W		
Hoary Redpoll	*Acanthis hornemanni*	Secure	B, W	ⓘ[5]	
Evening Grosbeak	*Coccothraustes vespertinus*	Secure	B, W		Special Concern – 2016
Brambling	*Fringilla montifringilla*	Vagrant			
House Finch	*Haemorhous mexicanus*	Vagrant			
Purple Finch	*Haemorhous purpureus*	Secure	B		
Gray-crowned Rosy Finch	*Leucosticte tephrocotis*	Undetermined	B, W		
Red Crossbill	*Loxia curvirostra*	Secure	B		
White-winged Crossbill	*Loxia leucoptera*	Secure	B, W		
Pine Grosbeak	*Pinicola enucleator*	Secure	B, W		
Pine Siskin	*Spinus pinus*	Secure	B		
American Goldfinch	*Spinus tristis*	Vagrant			
Passeriformes – Calcariidae					Perching birds – Longspurs
Lapland Longspur	*Calcarius lapponicus*	Secure	B		
Smith's Longspur	*Calcarius pictus*	Undetermined	B		
Snow Bunting	*Plectrophenax nivalis*	Secure	B		
Passeriformes – Passeridae					Perching birds – Weaver finches
House Sparrow	*Passer domesticus*	Alien	B, W		
Passeriformes – Passerellidae					Perching birds – Sparrows
Le Conte's Sparrow	*Ammospiza leconteii*	Secure	B		
Nelson's Sparrow	*Ammospiza nelsoni*	Undetermined	B		



Long-tailed Jeager Photo Credit: R. Hildebrandt



Lapland Longspur Photo Credit: K. Martin-Smith

Common Name	Scientific Species Name	Rank	Life History Note[a]	Reason for Change[b]	COSEWIC Status in Canada/Global Conservation Concern[c]
Lark Sparrow	*Chondestes grammacus*	Vagrant			
Dark-eyed Junco	*Junco hyemalis*	Secure	B		
Swamp Sparrow	*Melospiza georgiana*	Secure	B		
Lincoln's Sparrow	*Melospiza lincolnii*	Secure	B		
Song Sparrow	*Melospiza melodia*	Undetermined	B		
Savannah Sparrow	*Passerculus sandwichensis*	Secure	B		
Fox Sparrow	*Passerella iliaca*	Secure	B		
Vesper Sparrow	*Pooecetes gramineus*	Undetermined	H		
Clay-colored Sparrow	*Spizella pallida*	Secure	B		
Chipping Sparrow	*Spizella passerina*	Secure	B		
American Tree Sparrow	*Spizelloides arborea*	Secure	B		
White-throated Sparrow	*Zonotrichia albicollis*	Secure	B		
Golden-crowned Sparrow	*Zonotrichia atricapilla*	Undetermined	B		
White-crowned Sparrow	*Zonotrichia leucophrys*	Secure	B		
Harris's Sparrow	*Zonotrichia querula*	Sensitive	B	A, ↗[5]	Special Concern – 2017
Passeriformes – Icteridae					Perching birds – Blackbirds
Red-winged Blackbird	*Agelaius phoeniceus*	Secure	B		
Bobolink	*Dolichonyx oryzivorus*	Vagrant			Threatened – 2010
Rusty Blackbird	*Euphagus carolinus*	Sensitive	B		Special Concern – 2017
Brewer's Blackbird	*Euphagus cyanocephalus*	Sensitive	B	ⓘ[5]	
Baltimore Oriole	*Icterus galbula*	Vagrant			
Brown-headed Cowbird	*Molothrus ater*	Secure	B		
Common Grackle	*Quiscalus quiscula*	Secure	B		
Western Meadowlark	*Sturnella neglecta*	Vagrant			
Yellow-headed Blackbird	*Xanthocephalus xanthocephalus*	Vagrant	(T)		

Common Name	Scientific Species Name	Rank	Life History Note[a]	Reason for Change[b]	COSEWIC Status in Canada/Global Conservation Concern[c]
Passeriformes – Parulidae					Perching birds – Warblers
Canada Warbler	*Cardellina canadensis*	Sensitive	B	A, ↘[1]	Special Concern – 2020
Wilson's Warbler	*Cardellina pusilla*	Secure	B		
Mourning Warbler	*Geothlypis philadelphia*	Secure	B		
Common Yellowthroat	*Geothlypis trichas*	Secure	B		
Orange-crowned Warbler	*Leiothlypis celata*	Secure	B		
Tennessee Warbler	*Leiothlypis peregrina*	Secure	B		
Black-and-white Warbler	*Mniotilta varia*	Secure	B		
Connecticut Warbler	*Oporornis agilis*	Undetermined	B		
Northern Waterthrush	*Parkesia noveboracensis*	Secure	B		
Ovenbird	*Seiurus aurocapilla*	Secure	B		
Bay-breasted Warbler	*Setophaga castanea*	Secure	B		
Yellow-rumped Warbler	*Setophaga coronata*	Secure	B		
Magnolia Warbler	*Setophaga magnolia*	Secure	B		
Palm Warbler	*Setophaga palmarum*	Secure	B		
Yellow Warbler	*Setophaga petechia*	Secure	B		
American Redstart	*Setophaga ruticilla*	Secure	B		
Blackpoll Warbler	*Setophaga striata*	Secure	B		
Cape May Warbler	*Setophaga tigrina*	Secure	B		
Townsend's Warbler	*Setophaga townsendi*	Vagrant			
Black-throated Green Warbler	*Setophaga virens*	Vagrant			
Passeriformes – Cardinalidae					Perching birds – Cardinals
Lazuli Bunting	*Passerina amoena*	Vagrant			
Blue Grosbeak	*Passerina caerulea*	Vagrant			
Indigo Bunting	*Passerina cyanea*	Vagrant			
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	Secure	B		
Western Tanager	*Piranga ludoviciana*	Secure	B		
Summer Tanager	*Piranga rubra*	Vagrant			

[a] Life history notes: **B** = species known to breed in the NWT, **W** = species known to reside in the NWT during winter, i.e., year-round residents. **?** = denodes uncertainties and lack of evidence. **H** = historical breeding evidence for a species known to breed in the NWT in the past but not there is no evidnence in the past 10 years. No vagrant bird species breeds in the NWT. The vast majority of them were observed outside the winter season, except Spectacled eider and Steller's eider. These species are occasionally seen in winter in polynyas (openings in the sea ice) in the NWT waters of Beaufort Sea.

[b] Describes reasons for a change in status rank between 2016 and 2021. **↗**: Increasing Risk, **↘**: Decreasing Risk, **∃**: Error correction, **#**: Species new to the NWT, **T**: Taxonomic change, **ⓘ**: Information added, **A**: Changed due to detailed assessment by COSEWIC since 2016. See Data Sources and Methods for more details.

[c] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. COSEWIC Status for a species in Canada if it has already been assessed in a detailed manner by COSEWIC as of December 2021. The year of each assessment is given with each status. After 2021, please consult current and additional status assessments using references given at the end of this report. Rank of a species in the world as designated by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org. As of 2021, no bird species has been assessed by SARC. Note that SARC does not have the legislated authority to assess a bird species under federal jurisdiction. For more information consult https://ec.gc.ca/nature/default.asp?lang=En&n=496E2702-1#_004.

[1] Changed from At Risk
[2] Changed from May Be at Risk
[3] Changed from Sensitive
[4] Changed from Secure
[5] Changed from Undetermined
[6] Changed from Not Ranked
[7] Changed from Alien
[8] Changed from Extirpated
[9] Changed from Vagrant
[10] Changed from Presence Expected



Mountain Bluebird
Photo Credit: A. Hill

6.3 Fishes



Fishes are vertebrates with gills that live in water. Three major groups of fishes are recognized: the cartilaginous fishes (e.g., sharks and skates), the jawless fishes (e.g., lampreys), and all the others, the bony fishes (e.g., chars, whitefishes, herring).

Fishes are excellent indicators of water quality and ecosystem health. The presence or absence of certain species can provide immediate clues about the conditions within a given area. Fish are one of the most important food and economic resources in the NWT. We are known for our trophy-sized fishes, for healthy populations, and for delicacies.

For this report, we reviewed all ranks for freshwater species and updated the list of all marine fishes known to occur in the NWT's section of the Western Arctic Ocean.



Lake Whitefish and Cisco
Photo Credit: P. Vecsei

Research on Great Slave Lake

Great Slave Lake is the 11th largest lake in the world and the deepest lake in North America. Since 2018, Fisheries and Oceans Canada (DFO) implemented a project on lake trout stock assessment, genetic discrimination and sustainable yield estimation in Great Slave Lake. This project is done in collaboration with the NWT Cumulative Impact Program (NWT-CIMP), local communities and commercial fishermen. It aims to answer questions regarding the cumulative impact of activities on lake trout population dynamics in Great Slave Lake. The results will promote the proper management of Great Slave Lake trout stocks to ensure their conservation and sustainability by establishing defensible, biologically-based management reference points and providing scientific advice for its future management to reduce the cumulative impact of activities.

Lake Whitefish is one of the dominant benthivorous salmonids in Great Slave Lake, sustaining the largest commercial freshwater fishery in the NWT since the 1950s. Despite the recent downturn in commercial market value, Lake Whitefish is still one of the staple subsistence fish resources for the communities around the lake. Since the inception of the commercial fishery, Lake Whitefish has been a focus of research and monitoring activities. Long-term data collection includes fish biology, fishing capture efficiency, tag-recapture data, trophic ecology and fisheries stock assessment. The recent focus of research has been to establish a community-based eco-monitoring framework through a multidisciplinary research design and depth-stratified sampling approach. The overarching objectives are to better incorporate community-specific traditional knowledge into the fisheries management system and to enhance the capacities of research and management of Arctic freshwater fisheries.

Inconnu is a top predator that serves as an indicator species of ecosystem health. This species is harvested in subsistence and commercial fisheries in Great Slave Lake. Inconnu are highly vulnerable to human activities. As a result of overharvest in the 1970s, stocks declined significantly in Great Slave Lake, particularly the Buffalo River stock. Inconnu are vulnerable because they are highly migratory. This leads to a concentration of fish both spatially and temporally which in turn makes these populations especially susceptible to exploitation. During the last few years there has been an increase in the commercial harvest of Inconnu and local water levels have decreased. A second phase of a comprehensive study on Inconnu genetic stocks discrimination is ongoing in collaboration with local communities. This phase is focused on identifying spawning sites and other critical habitats in lotic systems using eDNA snapshots and mixed stock analysis. Other research on Inconnu includes collecting long-term abundance index and biological data for Buffalo River and short term for Slave River Inconnu.

Details on Lake Whitefish, lake trout and inconnu spawning locations and rearing, feeding, overwintering areas and other critical areas in Great Slave Lake watershed remain largely unknown. This information is necessary for the sustainable management of these species. Habitat use patterns may change over time due to changes in the ecosystem resulting from development or climate change. Inconnu also exhibit a high degree of population variation.

An acoustic tagging study is being conducted in Great Slave Lake watershed to assess the overall health of these species in relation to human impacts. The initial focus of this study is on the Buffalo River system. Acoustic transmitters will be surgically implanted in the Inconnu and receivers will be installed in Great Slave Lake and tributary rivers to track fish movement. This will be coupled with genetic sampling and assessments of parasites as natural tags for stock discrimination. As a result, new information on Inconnu seasonal movements, spawning and stock discrimination will be gathered which will aid in the study of the cumulative impacts of human activities and natural processes on these stocks and their habitat. Additionally, ongoing research on Inconnu includes the collection of long-term abundance index data (since the late 1960s), biological characteristics and harvest data (since 1947) and tag-recapture data (since 1995). These long term datasets have contributed greatly to the management of this species.

DFO is leading a study in the Great Bear Lake to assess trends in water quality and primary productivity, demographic traits and current status of harvested species, with a focus on evaluating sustainable harvest levels of lake trout, a cold-adapted species with a



Northern Pike Photo Credit: P. Vecsei

relatively narrow thermal niche. Analyses will be conducted using information collected over the past two decades through previous DFO-led studies with comparisons to historical studies from the 1960's and 1980's. Project results will provide updated information on the population trends and status of key harvested fish stocks and climate-related changes in water quality and productivity together with further extending baseline datasets to provide information on trends in water quality, invertebrate and fish assemblages, and biological traits of harvested fish species. These data contribute to better our understanding of cumulative impacts due to climate change and harvest on the functioning of large northern lakes ecosystems, in particular, on fish production. The study will provide a benchmark for monitoring further change. Results will assist decision makers including DFO Fisheries and Aquaculture Management (FAM), SRRB, DRRC, and the Tsa Tue Biosphere Reserve Stewardship Council in developing effective strategies for maintaining community-led aquatic monitoring and managing natural resources, particularly fish. The project will maintain a strong level of community involvement, including youth through the Guardian Program, to facilitate capacity building and community-leadership in long-term monitoring of Great Bear Lake fisheries and the aquatic ecosystem.

Karine Robert
Science Advisor, Ecosystem Science
Fisheries and Oceans Canada

Salmon program

The Arctic Salmon program operates at the community level and monitors the relative abundances and geographic distributions of salmon species in the NWT and, more broadly, throughout the entire Canadian Arctic. This is accomplished by outreach, training, and awareness delivered by DFO staff to community members and the voluntary reporting and provision of samples from subsistence harvests from community fishers.

In recent years the number of salmon reported to the program has increased exponentially from over 760 salmon in 2017 to over 2400 in 2019. There is also high inter-annual variability. All five species of Pacific salmon have been harvested in the NWT (see list in the following pages). Chum salmons are the most numerous in any given year. Since 2016, the number of sockeye salmon harvested has increased, especially from coastal Beaufort Sea communities such as Sachs Harbour and Ulukhaktok, NT.

Salmon are not invasive, meaning they are not introduced by humans outside known distributions; rather, salmon can be characterized as natural colonizers possibly expanding their ranges as a result of the ecosystem effects of climate change. Thus, their presence potentially represents new harvest opportunities, as well as possible risks and benefits to native species. The following questions are a priority for the program. Where might salmon possibly spawn? Is spawning successful and if so, where do juveniles rear? Do salmon compete with native fishes, and to what extent do salmon expand in range each year? The answers will have implications for salmon management and subsistence fishes in future years. Potential salmon colonization represents a tangible example of recent aquatic biodiversity shifts likely associated with changing environmental conditions in northern freshwater and marine ecosystems.

Arctic Coast is a community-based monitoring framework that assesses coastal and near shore shelf ecosystems across trophic levels in a standardized and transferrable way. Once established through consultation with relevant communities, followed by outreach, training and guidance delivered by DFO staff, the program transitions to a locally-led, year-round initiative delivered by community members in the Canadian Arctic. Information and samples across multiple trophic

levels of the coastal ecosystems are utilized in follow-on analyses derived from the "Arctic Coast" framework for key coastal areas as identified by local and scientific knowledge which provide the context and document change in important local ecosystems. The field protocols of this program were developed and tested in Darnley Bay, NT, in the Anguniaqvia niqiqyuam Marine Protected Area (ANMPA) since 2014, and have been applied to other communities in the western Arctic (Kugluktuk, NU in 2017 and Sachs Harbour, NT in 2018) as well as in Hudson Bay in 2020 (Igloolik, NU, Kinngait, NU, and Whapmagoostui, QC).

The field program in the ANMPA has been community-led since 2018, and has now expanded to include both summer and winter sampling. Fishes and habitat association information has been gathered for all these programs to gather key baseline information regarding local biodiversity of fishes and benthos, habitat characteristics, natural variability, trophic structure and ecological linkages. These baselines provide the initial context from which ongoing monitoring can be established and change documented. Recent projects have documented new occurrence information for coastal fishes in the Beaufort Sea (Bering Wolffish *Anarhichas orientalis* and Banded Gunnel *Pholis fasciata*) as well as novel information on co-occurring invertebrates and their biodiversity. By coordinating, sharing, and building upon local, traditional, and scientific knowledge in a rapidly changing environment, we can better predict the ecosystem impacts in a future Arctic and thus foster better adaptation to changes.

Darcy McNicholl
Dr. Karen Dunmall
Fisheries and Oceans Canada

Research on Marine Fishes

Research to understand diversity and distributions of Marine Fishes in Arctic Canada has been ongoing for many decades; however, the first complete overview from museum specimens with additional data from the 2011-2015 Beaufort Offshore Marine Fishes Project was published in 2018[1]. Species of marine fish were added to the list based on these studies but the number of fish species present in NWT waters are still likely under-estimated because sampling of some habitats such as deep offshore waters under ice, distant areas, and unique habitats like kelp forests has been limited to date, and occurrences of larger, pelagic species are rare. For example, a Pacific Salmon Shark (*Lamna ditropis*) originating from North Pacific waters was documented in Kitikmeot waters, NU in 2019 (however, it must have passed through NT waters to get to that area so is included in our list). Ongoing environmental shifts associated with climate variability and change in the Arctic will likely result in additional re-distributions of fish species from the western Arctic and perhaps also eastern Arctic, thus ongoing regular monitoring is highly relevant.

Chantelle Sawatzky
Dr. Jim Reist
Fisheries and Oceans Canada

[1] See Further Your Knowledge section.



Arctic Char
Photo Credit: P. Vecsei

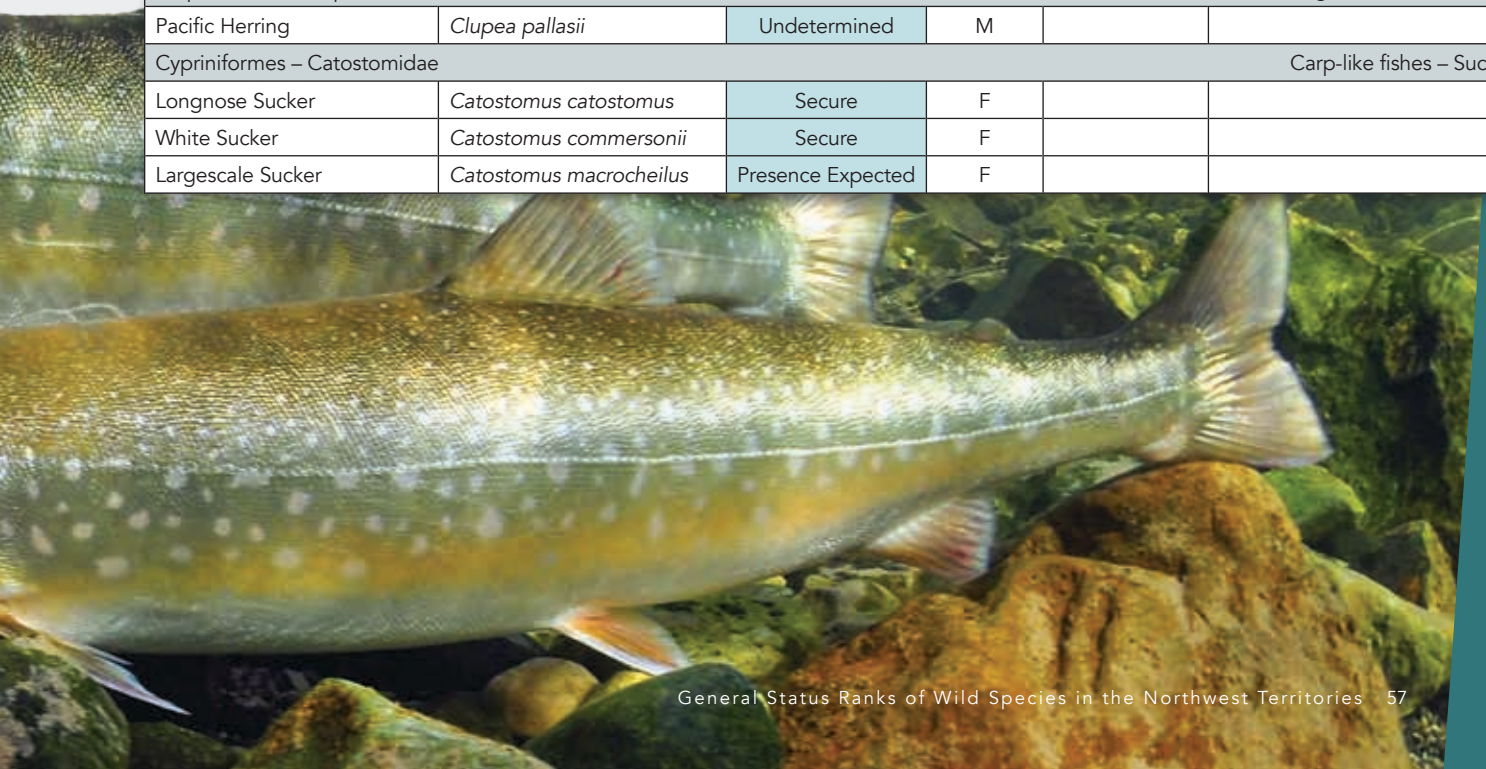
List 3. **Fishes**

A total of 104 species of fish can be found regularly in our rivers and lakes, and in the NWT's section of the Western Arctic Ocean. An additional 5 species are vagrant and may be seen in the NWT irregularly and an additional 14 species of marine fishes are expected to be present. Two species were introduced (alien) in the NWT. Life forms and habitat preferences are described in the Habitat Note column. Species are listed according to the Phylum and Class they belong to, then alphabetically by Order, Family, and scientific species name. Taxonomy follows the standard from the American Fisheries Society (Page et al. 2013), except for whitefish (see footnote).



Arctic Grayling Photo Credit: P. Vecsei

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Reason for Change[b]	COSEWIC Status in Canada/Global Conservation Concern[c]
Chordata – Chondrichthyes – Elasmobranchii					Chordates – Cartilaginous fishes – Flattened-gilled fishes
Rajiformes – Rajidae					Skate-like fishes – Skates
Thorny Skate	*Amblyraja radiata*	Presence Expected	M		
Arctic Skate	*Amblyraja hyperborea*	Undetermined	M		
Lamniformes – Lamnidae					Mackerel sharks – White sharks
Salmon Shark	*Lamna ditropis*	Vagrant	M	#	
Squaliformes – Dalatiidae					Dogfish sharks – Sleeper sharks
Pacific Sleeper Shark	*Somniosus pacificus*	Presence Expected	M		
Chordata – Cephalaspidomorphi					Chordates – Jawless fishes
Petromyzontiformes – Petromyzontidae					Lamprey-like fishes – Lampreys
Alaskan Brook Lamprey	*Lethenteron alaskense*[d]	Undetermined	F		G3Q – 2012
Arctic Lamprey	*Lethenteron camtschaticum*	Undetermined	F, A		
Chordata – Osteichthyes – Actinopterygii					Chordates – Bony fishes – Ray-finned fishes
Clupeiformes – Clupeidae					Herring-like fishes – Herrings
Pacific Herring	*Clupea pallasii*	Undetermined	M		
Cypriniformes – Catostomidae					Carp-like fishes – Suckers
Longnose Sucker	*Catostomus catostomus*	Secure	F		
White Sucker	*Catostomus commersonii*	Secure	F		
Largescale Sucker	*Catostomus macrocheilus*	Presence Expected	F		



Common Name	Scientific Species Name	Rank	Habitat Note[a]	Reason for Change[b]	COSEWIC Status in Canada/Global Conservation Concern[c]
Cypriniformes – Cyprinidae					Carp-like fishes – Minnows
Northern Redbelly Dace	*Chrosomus eos*	Secure	F		
Finescale Dace	*Chrosomus neogaeus*	Secure	F		
Lake Chub	*Couesius plumbeus*	Secure	F		
Northern Pearl Dace	*Margariscus nachtriebi*	Secure	F		
Emerald Shiner	*Notropis atherinoides*	Secure	F		
Spottail Shiner	*Notropis hudsonius*	Secure	F		
Fathead Minnow	*Pimephales promelas*	Undetermined	F		
Flathead Chub	*Platygobio gracilis*	Secure	F		
Esociformes – Esocidae					Pike-like fishes – Pikes
Northern Pike	*Esox lucius*	Secure	F		
Gadiformes – Gadidae					Cod-like fishes – Cods
Polar Cod	*Arctogadus glacialis*	Undetermined	M		
Arctic Cod	*Boreogadus saida*	Secure	M		
Saffron Cod	*Eleginus gracilis*	Undetermined	M		
Ogac (Greenland Cod)	*Gadus ogac*	Undetermined	M		
Burbot (Loche)	*Lota lota*	Secure	F, A		
Pacific Tomcod	*Microgadus proximus*	Undetermined	M		
Gasterosteiformes – Gasterosteidae					Stickleback-like fishes – Sticklebacks
Brook Stickleback	*Culaea inconstans*	Secure	F		
Three-spine Stickleback	*Gasterosteus aculeatus*	Secure	A, M		
Ninespine Stickleback	*Pungitius pungitius*	Secure	F, A		
Myctophiformes – Myctophidae					Lanternfish-like fishes – Lanterfishes
Glacier Lanterfish	*Benthosema glaciale*	Undetermined	M	#	
Osmeriformes – Osmeridae					Smelt-like fishes – Smelts
Pond Smelt	*Hypomesus olidus*	Undetermined	F		
Capelin	*Mallotus villosus*	Undetermined	M		
Pacific Rainbow Smelt	*Osmerus dentex*	Undetermined	F, A		
Osteoglossiformes – Hiodontidae					Bonytongues – Goldeyes
Goldeye	*Hiodon alosoides*	Secure	F		
Perciformes – Ammodytidae					Perch-like fishes – Lances
Northern Sand Lance	*Ammodytes dubius*	Undetermined	M		
Pacific Sand Lance	*Ammodytes hexapterus*	Undetermined	M		
Perciformes – Anarhichadidae					Perch-like fishes – Wolffishes
Northern Wolffish	*Anarhichas denticulatus*	At Risk	M		Threatened – 2012
Perciformes – Percidae					Perch-like fishes – Perches
Iowa Darter	*Etheostoma exile*	Presence Expected	F		
Yellow Perch	*Perca flavescens*	Undetermined	F		
Walleye	*Sander vitreus*	Secure	F		
Perciformes – Stichaeidae					Perch-like fishes – Shannies
Blackline Prickleback	*Acantholumpenus mackayi*	Undetermined	M		
Stout Eelblenny	*Anisarchus medius*	Undetermined	M		
Fourline Snakeblenny	*Eumesogrammus praecisus*	Undetermined	M		

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Reason for Change[b]	COSEWIC Status in Canada/Global Conservation Concern[c]
Daubed Shanny	*Leptoclinus maculatus*	Undetermined	M		
Slender Eelblenny	*Lumpenus fabricii*	Undetermined	M		
Arctic Shanny	*Stichaeus punctatus*	Undetermined	M		
Perciformes – Zoarcidae					Perch-like fishes – Eelpouts
Bigeye Unernak	*Gymnelus hemifasciatus*	Undetermined	M		
Fish Doctor	*Gymnelus viridis*	Undetermined	M		
Checkered Wolf Eel	*Lycenchelys kolthoffi*	Undetermined	M	#	
Adolf's Eelpout	*Lycodes adolfi*	Undetermined	M	#	
Doubleline Eelpout	*Lycodes eudipleurostictus*	Undetermined	M	#	
Glacial Eelpout	*Lycodes frigidus*	Undetermined	M		
Shulupaoluk	*Lycodes jugoricus*	Undetermined	M		
White Sea Eelpout	*Lycodes marisalbi*	Undetermined	M		
Saddled Eelpout	*Lycodes mucosus*	Secure	M		
Wattled Eelpout	*Lycodes palearis*	Presence Expected	M		
Canadian Eelpout	*Lycodes polaris*	Undetermined	M		
Arctic Eelpout	*Lycodes reticulatus*	Undetermined	M		
Threespot Eelpout	*Lycodes rossii*	Undetermined	M	∃[4]	
Archer Eelpout	*Lycodes sagittarius*	Undetermined	M		
Longear Eelpout	*Lycodes seminudus*	Undetermined	M		
Scalebelly Eelpout	*Lycodes squamiventer*	Undetermined	M	ⓘ[10]	
Turner Eelpout	*Lycodes turneri*	Presence Expected	M		
Percopsiformes – Percopsidae					Trout-perches – Trout-perches
Trout-Perch	*Percopsis omiscomaycus*	Secure	F		
Pleuronectiformes – Pleuronectidae					Flatfishes – Flounders
Bering Flounder	*Hippoglossoides robustus*	Undetermined	M		
Longhead Dab	*Limanda proboscidea*	Undetermined	M		
Starry Flounder	*Platichthys stellatus*	Undetermined	M		
Arctic Flounder	*Pleuronectes glacialis*	Undetermined	M		
Alaska Plaice	*Pleuronectes quadrituberculatus*	Presence Expected	M		
Greenland Halibut	*Reinhardtius hippoglossoides*	Undetermined	M	ⓘ[4]	
Salmoniformes – Salmonidae					Salmon-like fishes – Salmonids
Cisco	*Coregonus artedi*	Secure	F, A		
Arctic Cisco	*Coregonus autumnalis*	Sensitive	F, A		
Lake Whitefish	*Coregonus clupeaformis*[e]	Secure	F, A		
Bering Cisco	*Coregonus laurettae*	Presence Expected	F, A		
European Whitefish	*Coregonus lavaretus*[e]	Undetermined	F, A		
Broad Whitefish	*Coregonus nasus*	Secure	F, A		
Least Cisco	*Coregonus sardinella*	Secure	F, A		
Shortjaw Cisco	*Coregonus zenithicus*	Undetermined	F	T[1]	Threatened – 2003/ G3 – 2015
Pink Salmon	*Oncorhynchus gorbuscha*	Vagrant	A		
Chum Salmon	*Oncorhynchus keta*	Undetermined	A		

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Reason for Change[b]	COSEWIC Status in Canada/Global Conservation Concern[c]
Coho Salmon	*Oncorhynchus kisutch*	Vagrant	A		
Rainbow Trout	*Oncorhynchus mykiss*	Alien	F		
Sockeye Salmon/ Kokanee	*Oncorhynchus nerka*	Vagrant	F, A		
Chinook Salmon	*Oncorhynchus tshawytscha*	Vagrant	A		
Longnose Dace	*Rhinichthys cataractae*	Secure	F		
Pygmy Whitefish	*Prosopium coulterii*	Undetermined	F		
Round Whitefish	*Prosopium cylindraceum*	Secure	F, A		
Mountain Whitefish	*Prosopium williamsoni*	Undetermined	F, A	∃[4]	
Arctic Char	*Salvelinus alpinus*	Secure	F, A		
Bull Trout	*Salvelinus confluentus*	Sensitive	F		Special Concern – 2012
Brook Trout	*Salvelinus fontinalis*	Alien	F		
Dolly Varden	*Salvelinus malma*	Sensitive	F, A		Special Concern – 2010
Lake Trout	*Salvelinus namaycush*	Secure	F		
Inconnu	*Stenodus leucichthys*	Sensitive	F, A		
Arctic Grayling	*Thymallus arcticus*	Secure	F	∃[4]	
Scorpaeniformes – Agonidae					Scorpionfishes – Poachers
Arctic Alligatorfish	*Aspidophoroides olrikii*	Undetermined	M		
Atlantic Poacher	*Leptagonus decagonus*	Undetermined	M		
Veteran Poacher	*Podothecus veternus*	Presence Expected	M		
Scorpaeniformes – Cottidae					Scorpionfishes – Cottids
Hamecon	*Artediellus scaber*	Undetermined	M		
Slimy Sculpin	*Cottus cognatus*	Secure	F		
Spoonhead Sculpin	*Cottus ricei*	Secure	F		
Antlered Sculpin	*Enophrys diceraus*	Presence Expected	M		
Arctic Staghorn Sculpin	*Gymnocanthus tricuspis*	Undetermined	M		
Twohorn Sculpin	*Icelus bicornis*	Undetermined	M		
Spatulate Sculpin	*Icelus spatula*	Undetermined	M		
Belligerent sculpin	*Megalocottus platycephalus*	Presence Expected	M		
Plain Sculpin	*Myoxocephalus jaok*	Presence Expected	M		
Fourhorn Sculpin	*Myoxocephalus quadricornis*[f]	Secure	F, M		Landlocked freshwater form: Data Deficient – 2003; Marine form: Not at Risk – 2003
Arctic Sculpin	*Myoxocephalus scorpioides*	Undetermined	M		
Shorthorn Sculpin	*Myoxocephalus scorpius*	Undetermined	M		
Deepwater Sculpin	*Myoxocephalus thompsonii*	Secure	F		Western Arctic: Not at Risk – 2017
Bigeye Sculpin	*Triglops nybelini*	Undetermined	M		
Ribbed Sculpin	*Triglops pingelii*	Undetermined	M		
Scorpaeniformes – Cyclopteridae					Scorpionfishes – Lumpsuckers
Pimpled Lumpsucker	*Eumicrotremus andriashevi*	Presence Expected	M		
Leathernfin Lumpsucker	*Eumicrotremus derjugini*	Undetermined	M		
Atlantic Spiny Lumpsucker	*Eumicrotremus spinosus*	Undetermined	M		



Lake Trout Photo Credit: P. Vecsei



Cisco Photo Credit: P. Vecsei

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Reason for Change[b]	COSEWIC Status in Canada/Global Conservation Concern[c]
Scorpaeniformes – Hexagrammidae					Scorpionfishes – Greenlings
Whitespotted Greenling	*Hexagrammos stelleri*	Presence Expected	M		
Scorpaeniformes – Liparidae					Scorpionfishes – Snailfishes
Sea Tadpole	*Careproctus reinhardti*	Undetermined	M		
Gelatinous Snailfish	*Liparis fabricii*	Undetermined	M		
Variegated Snailfish	*Liparis gibbus*	Undetermined	M		
Kelp Snailfish	*Liparis tunicatus*	Undetermined	M		
Threadfin Snailfish	*Rhodichthys regina*	Undetermined	M	#	
Scorpaeniformes – Psychrolutidae					Scorpionfishes – Fatheads
Polar Sculpin	*Cottunculus microps*	Undetermined	M	#	
Giant Blob Sculpin	*Psychrolutes phrictus*	Undetermined	M	#	

[a] Habitat Note: **F** = Species (form) lives exclusively in freshwater. **A** = Species (form) lives in both marine and freshwater. **M** = Species (form) lives in marine water exclusively.

[b] Describes reasons for a change in status rank between 2016 and 2021. ↗: Increasing Risk, ↘: Decreasing Risk, ∃: Error correction, **#**: Species new to the NWT, **T**: Taxonomic change, ⓘ: Information added, **A**: Changed due to detailed assessment by COSEWIC since 2016. See Data Sources and Methods for more details.

[c] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. COSEWIC Status for a species in Canada if it has already been assessed in a detailed manner by COSEWIC as of December 2021. The year of each assessment is given with each status. After 2021, please consult current and additional status assessments using references given at the end of this report. Rank of a species in the world as designated by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org. As of 2021, no fish species has been assessed by SARC. Note that SARC does not have the legislated authority to assess a species under federal jurisdiction.

[d] The taxonomy of the non-parasitic, Alaskan Brook Lamprey (*Lethenteron alaskense*) is under review. This taxon is found nowhere else in the world but in Martin River, NWT.

[e] General Status Ranks are given for Lake Whitefish (*Coregonus clupeaformis*, including *C. pidschian*, *C. nelsonnii*) and for European Whitefish (*C. lavaretus*). However, these species cannot easily be distinguished using standard morphometric methods. The relative distribution of each species in the NWT is still unclear. Taxonomy for these species follows Mee et al. (2016).

[f] Fourhorn Sculpin (*Myoxocephalus quadricornis*) is a marine species, but a lake form exists in some Arctic Islands of NWT (and Nunavut). The rank is given for the whole species.

[1] Changed from At Risk
[2] Changed from May Be at Risk
[3] Changed from Sensitive
[4] Changed from Secure
[5] Changed from Undetermined
[6] Changed from Not Ranked
[7] Changed from Alien
[8] Changed from Extirpated
[9] Changed from Vagrant
[10] Changed from Presence Expected

6.4 Amphibians & Reptiles



Northern Leopard Frog
Photo Credit: K. Kendell

Globally, amphibians and reptiles are experiencing precipitous declines due to a suite of all-too-familiar causes including habitat loss and degradation, invasive species, and infectious diseases. Compounding these causes of declines are human behaviours such as persecution (especially snakes) and collection for the pet trade. Amphibians and reptiles are mostly found in the forested areas of the NWT although, as with many northern species, much remains to be learned about their ecology. We have not observed any new species of amphibians and reptiles in the NWT since 2016 but new information about their biology continues to come to light, and in 2017, a multi-species amphibian management plan was implemented in the NWT.

In 2019, amphibian surveys in the Fort Liard area detected previously undocumented boreal toad (*Anaxyrus boreas*) breeding sites. The 2019 surveys also detected several breeding populations of wood frogs (*Lithobates sylvaticus = Rana sylvatica*). Interestingly, no boreal chorus frogs (*Pseudacris maculata*) of any life stage were detected during the surveys although the species is known to occur in the area. It is possible that the time of year and local weather conditions at the time of the surveys may have interfered with detecting the small, secretive species.

Boreal chorus frogs in the NWT are the focus of an ongoing collaborative project that will allow a more complete understanding of the ecology of the species at the northern edge of its expansive, poorly resolved range. The project involves information on population demographics, development rates, and breeding site characteristics, as well as information serendipitously collected by automated recording units that were deployed for unrelated projects across the NWT. Tissue samples collected from boreal chorus frogs in the Fort Smith area 2015 – 2017 have also been included in a phylogenetic study that is investigating the evolutionary relationships among populations across the species' range.

Two amphibian pathogens linked with global amphibian declines have been detected in the NWT: the chytrid fungus *Batrachochytrium dendrobatidis* (*Bd*), and ranaviruses. *Batrachochytrium dendrobatidis* was first detected in multiple amphibian species in the Dehcho and South Slave in 2007 and 2009, respectively. Subsequent work in the South Slave 2015 – 2016 confirmed *Bd* is persistently present there, although at relatively low prevalences. Amphibian health surveys in the Sahtu 2007 – 2008 did not detect *Bd* but the region has not been surveyed for the pathogen since.

No amphibian die-offs attributable to *Bd* have been documented in the NWT, which is consistent with other findings of *Bd* in Canadian amphibian populations. Sublethal effects of *Bd* infections (ie, fitness costs) have not been examined in northern amphibian populations although they are well documented in species in the southern USA and elsewhere.

Ranaviruses were first documented in wood frogs in the Dehcho and Sahtu in 2007, and the South Slave in 2009. Amphibian surveys in 2019 in the Fort Liard area encountered wood frog mortalities that were attributed to ranaviruses, indicating ranaviruses are also persistent in northern amphibian populations. Intensive field work 2015 – 2017 focussed on the ecology and evolution of amphibian ranaviruses in the Fort Smith area. That research detected at least two distinct strains of lethal ranaviruses circulating among wood frogs, boreal chorus frogs, and Canadian toads. There is also evidence that the particular composition of amphibian species present in an ecological community affects infection dynamics. Although it is unknown precisely how long ranaviruses have been circulating in northern amphibian populations, multiple lines of evidence suggest it has been less than 100 years.

One aspect of ranavirus ecology that remains relatively unexplored is the role of reptiles. Several ranavirus strains originally isolated from North American amphibians, including wood frogs, can cause lethal infections in multiple species of snakes and turtles.



Boreal Chorus Frog Photo Credit: D. Schock

As a first attempt at examining the role of reptiles in ranavirus ecology in boreal ecosystems, road-killed red-sided garter snakes that were encountered in the Fort Smith area 2015 – 2017 were tested for ranavirus infection. Although all snake carcasses tested negative, the small sample size and opportunistic nature of the sampling precluded drawing any broad conclusions about ranavirus disease in snakes in the NWT.

An additional infectious disease, Snake Fungal Disease (caused by *Ophidiomyces ophiodiicola*), is of potential concern with respect to snakes in the NWT. The fungus is capable of causing debilitating and lethal infections in several North American snake species, including members of *Thamnophis*, and its range appears to be expanding. Wood frog tissue and wetland water samples were collected from several wetlands in the South Slave Region (Fort Smith and Fort Resolution areas) in 2012 and 2015 to test for metals including mercury and arsenic, and organic contaminants (polycyclic aromatic hydrocarbons and naphthenic acids). Water analyses were completed shortly after each year's respective collection, but tissue analyses were not completed until early 2018 for various technical reasons. Statistical analyses and interpretation of these data are underway.

Information that may be helpful for amphibian monitoring initiatives includes that amphibians begin calling very soon after ice melts from pond edges in the spring and does not continue all spring/summer. Any methodology that relies on detecting breeding calls should begin no later than 15 May (earlier if possible) and should recognize that most individuals of all species will have stopped calling before 15 June.

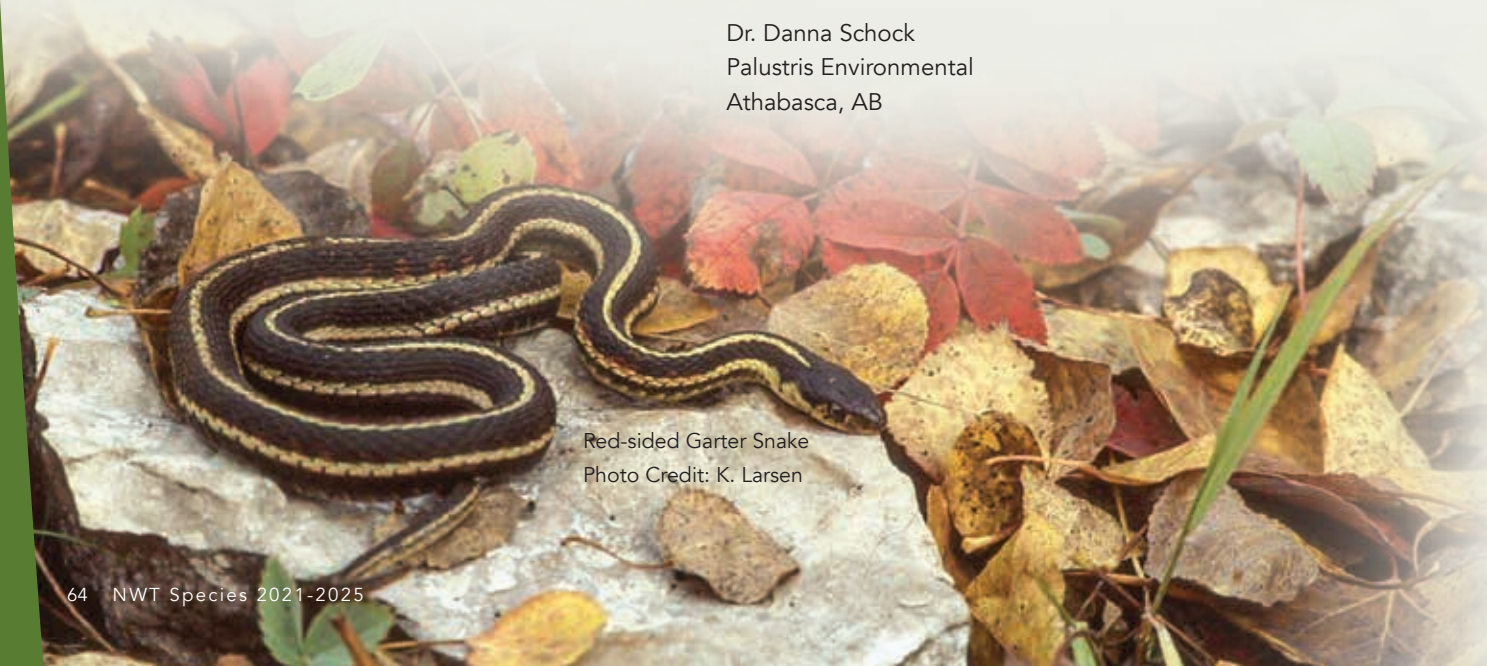
Another important aspect of northern amphibian biology is that northern populations of amphibians tend to be more colourful and have more diverse patterns than conspecifics farther south and east in their respective ranges. Wood frogs have particularly diverse, spotted colour patterns in the north and may be misidentified as northern leopard frogs or toads so care must be taken with identification.

Comment is warranted about the growing use of eDNA to detect rare/hard-to-locate species as well as wildlife pathogens. Although this important methodology solves many logistical issues associated with field sampling, it is not a panacea and its limitations must be recognized. For example, poorly timed and improperly handled samples, cross-contamination in the field, and rampant PCR inhibitors in natural wetland waters can completely negate the utility of test results. Biologists are encouraged to consult with experts well in advance of incorporating eDNA into any study and should also anticipate the ramifications of false positives and/or false negatives in their study.

Finally, it's important to practice good field hygiene to prevent accidentally moving the propagules of invasive species and pathogens among locations – a person needn't be studying them, or even aware of them, to do a very good job of accidentally spreading them across the landscape.

Anyone can help gather meaningful information about amphibians and reptiles in the NWT by learning how to identify species and by reporting their observations on user-friendly websites such as iNaturalist or to their nearest ENR office. Mass mortality events should be immediately reported to the nearest ENR office.

Dr. Danna Schock
Palustris Environmental
Athabasca, AB



Red-sided Garter Snake
Photo Credit: K. Larsen

List 4. **Amphibians and Reptiles**

Five species of amphibians and one species of reptile are confirmed to occur in the NWT. One additional species of amphibian is expected to be present. Species are listed according to the Phylum and Class they belong to, then alphabetically by Order, Family, and scientific species name. Taxonomy follows Crother (2017). Common names are from Crother (2017).



Juvenile Wood Frog — Photo Credit: D. Schock

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[c]
Chordata – Amphibia					Chordates – Amphibians
Anura – Bufonidae					Frog-like amphibians – Toads
Western Toad (Boreal Toad)	*Anaxyrus boreas*	At Risk		Threatened – 2014	Special Concern – 2012
Canadian Toad	*Anaxyrus hemiophrys*	Sensitive			
Anura – Hylidae					Frog-like amphibians – Tree frogs
Boreal Chorus Frog	*Pseudacris maculata*	Secure			
Anura – Ranidae					Frog-like amphibians – True frogs
Northern Leopard Frog	*Lithobates pipiens*	At Risk		Threatened – 2013	Special Concern – 2009
Wood Frog	*Lithobates sylvaticus*	Secure			
Caudata – Ambystomidae					Salamander-like amphibians – Salamanders
Long-Toed Salamander	*Ambystoma macrodactylum*	Presence Expected			
Chordata – Reptilia					Chordates – Reptiles
Serpentes – Colubridae					Serpent-like reptiles – Garter snakes
Red-sided Garter Snake	*Thamnophis sirtalis*	May Be At Risk			

[a] There has been no change in ranks since the last report.

[b] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. SARC Status: Status for a species in the NWT if it has already been assessed in detail by SARC as of December 2021.

[c] COSEWIC Status: Status for a species in Canada if it has already been assessed in a detailed manner by COSEWIC as of December 2021. The year of each assessment is given with each status. After 2021, please consult current and additional status assessments using references given at the end of this report. Rank of a species in the world as designated by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org. As of 2021, no species known to be present in the NWT are of global conservation concern.

[1] Changed from At Risk
[2] Changed from May Be at Risk
[3] Changed from Sensitive
[4] Changed from Secure
[5] Changed from Undetermined
[6] Changed from Not Ranked
[7] Changed from Alien
[8] Changed from Extirpated
[9] Changed from Vagrant
[10] Changed from Presence Expected



Haliclona
Photo Credit: J. Eilers

6.5 Sponges

Porifera

Porifera diverged early off the evolutionary tree from the last common ancestor of all other animals. Porifera are multicellular organisms with bodies full of pores and channels allowing water to circulate through them, thus removing wastes, and obtaining food and oxygen. They do not have any organized nervous, digestive or circulatory systems but they sport "do-it-all" cells that can move around their body and become any types required for living processes.

Sponges

Although seemingly bizarre creatures, sponges are actually very simple multi-celled organisms. Their basic structure lacks any nervous, digestive, or circulatory systems; but instead consists of densely porous flesh and a series of inner "tubes" working together to pump water through the organism. By this means, the sponge is able to filter feed very effectively. They may consume any number of items found in the water they filter, from microscopic bacteria to larger plant particles.

This simple structure is supported by a "skeleton", a series of spine-like projections that form a loose network throughout the organism. These skeletons are highly important in identifying the various species of sponges, and are often the only way to distinguish them correctly. In the NWT there are few species of sponges. All are ocean-dwelling except the freshwater lake sponge (*Spongilla lacustris*), so far found in a lake near Inuvik and expected to be present in other lakes in the NWT.

No new species or changes in ranks have occurred since 2016. Many of the common names have been updated to match names used across Canada.

Updated from original text by K Heisler
Dr. Suzanne Carrière
Environment and Natural Resources
Government of the Northwest Territories
Yellowknife, NT

List 5. **Sponges**

A total of eight species of sponges are known to occur in the NWT's section of the Beaufort Sea. An unknown number of additional species may be present. Species are listed according to the Phylum and Class they belong to, then alphabetically by Order, Family, and scientific species name. Taxonomy follows WoRMS (2021). Common names are from various sources.



Common Freshwater Sponge Photo Credit: B. Bennett

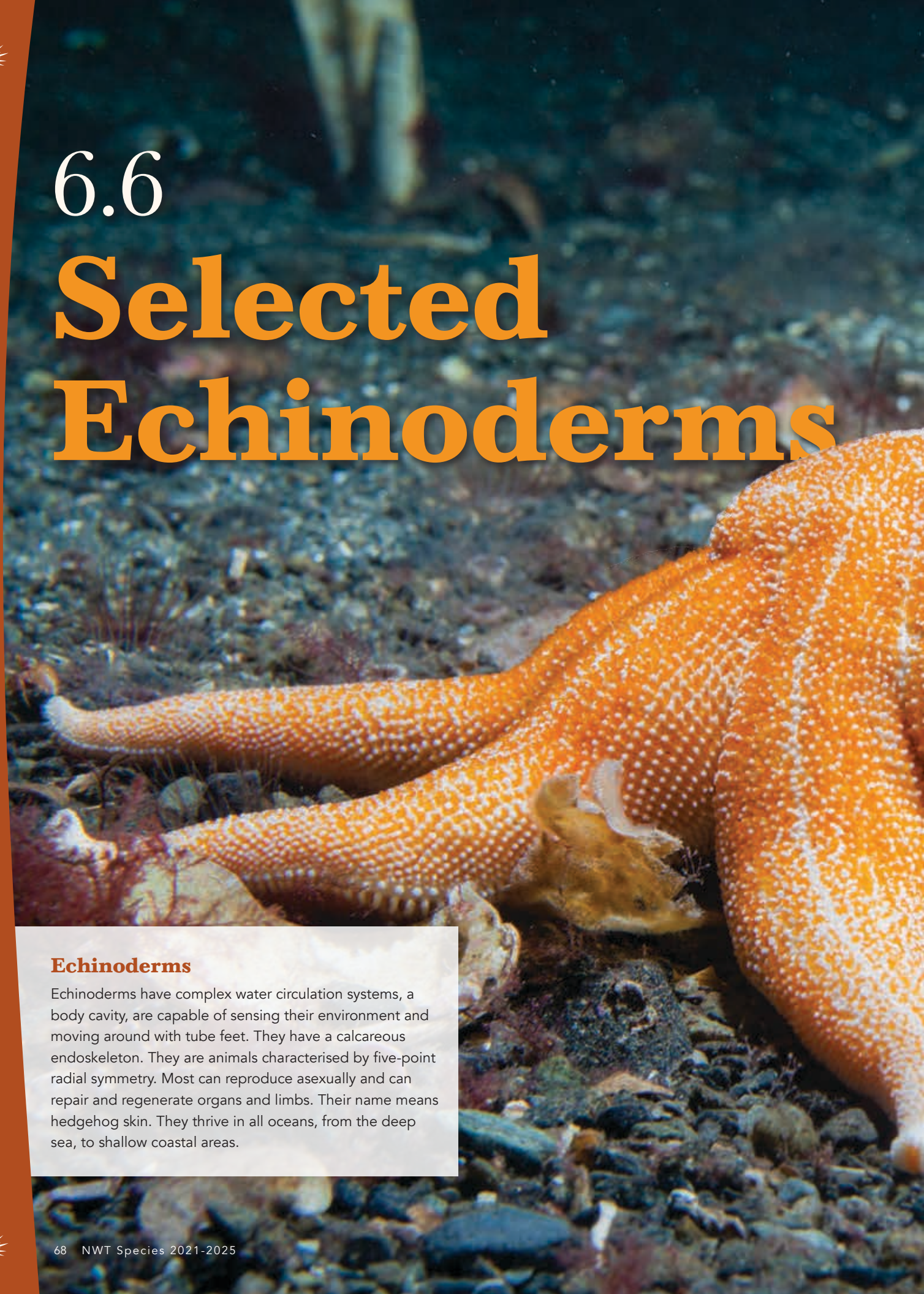
Common Name	Scientific Species Name	Rank	Habitat Notes[a]	Reason for Change[b]	Global Conservation Concern[b]
Porifera – Demospongiae					Sponges – Demosponges
Axinellida – Axinellidae					Axinellids – Axinellid sponges
Small Lens Horned Sponge	*Phakellia bowerbanki*	Undetermined	M		
Hadromerida – Chalinidae					Hadromerids – Chalinid sponges
Slender Sponge	*Haliclona gracilis*	Undetermined	M		
Polymastiida – Polymastiidae					Polymastids – Pimpled sponges
White Teated Sponge	*Polymastia mamillaris*	Undetermined	M		
Hemispherical Round Sponge	*Radiella hemisphaerica*	Undetermined	M		
Sun Round Sponge	*Radiella sol*	Undetermined	M		
Spongillida – Spongillidae					Spongillids – Freshwater sponges
Common Freshwater Sponge	*Spongilla lacustris*	Undetermined	F		
Suberitida – Suberitidae					Suberitids – Suberitid sponges
Hollow-cork Sponge	*Suberites suberia*	Undetermined	M		
Tetractinellida – Theneidae					Tetratinellids – Tetratinellid sponges
Abysmal Sea Sponge	*Thenea abyssorum*	Undetermined	M		

[a] Habitat Note: **F** = Species (form) lives excusively in freshwater. **M** = Species (form) lives in marine water exclusively.

[b] There has been no change in ranks since the last report.

[c] For your convenience, the global conservation rank of a species is given. These ranks are assigned by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org. As of 2021, no species known to be present in the NWT are of global conservation concern.

6.6 Selected Echinoderms



Echinoderms

Echinoderms have complex water circulation systems, a body cavity, are capable of sensing their environment and moving around with tube feet. They have a calcareous endoskeleton. They are animals characterised by five-point radial symmetry. Most can reproduce asexually and can repair and regenerate organs and limbs. Their name means hedgehog skin. They thrive in all oceans, from the deep sea, to shallow coastal areas.



Northern Sunstar
Photo Credit: K. Telnes

Echinoderms include sea cucumbers, sea urchins, starfishes, brittlestars and others. The first two groups were presented in the previous report. No new species or changes in ranks have occurred since 2016. Many of the common names have been updated to match names used across Canada. Starfishes are presented in the list below for the first time. Additional groups will be included in future reports.

Sea cucumbers

Sea cucumbers (subclass Holothuroidea) have leathery skin, a cylindrical body, tube feet, and a mouth equipped with tentacles. Some sea cucumbers have feet, long pipe-like projections that can be inflated by pumping water into them to enable movement. Some species are feetless but will move using muscle undulations. The type of oral tentacles will also vary. All sea cucumbers have a ring of calcareous plates that form the only substantial "endoskeletal" structure in the animal. This structure acts as an anchor for major muscles and also allows the cucumber to retract its tentacles into its body for protection.

Sea cucumbers are typically found in lower depths where they tend to sift through sediment in search of food. Their diet consists largely of plankton, detritus and organic debris. Some species filter such a significant amount of sand that they play important ecological roles in maintaining healthy sea bed ecosystems.



Orange-footed Sea Cucumber
Photo Credit: K. Telnes

Sea urchins

Sea urchins (subclass Echinoidea) are the spiniest echninoderms. They are usually small with a spherical appearance. Their bodies consist of a shell (called test) with a protective spiny camouflage. They also have a central toothy month and can be quite mobile. They are highly effective at grasping, scraping, pulling and tearing food off hard surfaces. They will feed on algae, plankton, kelp, barnacles, and molluscs. Urchins are such effective grazers that in some areas they can play a key role in preventing algae outbreaks. However, if urchin populations become abundant they may also have negative impacts on coral growth and sea floor biomass coverage.

Starfishes

Starfishes (subclass Asteroidea) have five-point symmetry typically of echinoderms. Their body consist of central disc, plates, and five arms with surface that can be spiny, bumpy, or smooth, granular or spiny. They have a central mouth and will feed on anything they can find on the bottom of oceans or even on coastal areas. Starfishes can reproduce both sexually and asexually and can regenerate damaged body parts.

Updated from original text by K Heisler,
Dr. Suzanne Carrière
Environment and Natural Resources
Government of the Northwest Territories
Yellowknife, NT



Rose Sunstar
Photo Credit: K. Telnes

List 6. **Echinoderms**

A total of nine species of sea cucumbers, three of sea urchins, 15 of starfishes are known to occur in the NWT's portion of the Western Arctic Ocean. One additional species of starfish is expected to be present, but an unknown number of additional species may be discovered with more monitoring. Species are listed according to the Phylum and Class they belong to, then alphabetically by Order, Infraorder, Family, and scientific species name. Taxonomy follows WoRMS (2021). Common names are from various sources.

Common Name	Scientific Species Name	Rank	Habitat Notes[a]	Reason for Change[b]	Global Conservation Concern[c]
Echinodermata – Holothuroidea					Echinoderms – Sea cucumbers
Apodida – Chiridotidea					Apodid cucumbers – Silky cucumbers
Silky Footless Sea Cucumber	*Chiridota laevis*	Undetermined	M		
Apodida – Myriotrochidae					Apodid cucumbers – Abyssal cucumbers
Rink's Footless Sea Cucumber	*Myriotrochus rinkii*	Undetermined	M		
Dendrochirotida – Cucumariidae					Tentacular cucumbers – True sea cucumbers
Orange-footed Sea Cucumber	*Cucumaria frondosa*	Undetermined	M		
Dendrochirotida – Phyllophoridae					Tentacular cucumbers – Phyllophorid sea cucumbers
Stony Sea Cucumber	*Pentamera calcigera*	Undetermined	M		
Dendrochirotida – Psolidae					Tentacular cucumbers – Psolus
Scarlet Sea Cucumber	*Psolus fabricii*	Undetermined	M		
Fuzzy Sea Cucumber	*Psolus phantapus*	Undetermined	M		
Elasipodida – Elpidiidae					Appendaged cucumbers – Elpid sea cucumbers
Cold-water Sea Cucumber	*Elpidia glacialis*	Undetermined	M		
Molpadida – Gephyrothuriidae					Tailed cucumbers – Gephyrothurid sea cucumbers
Alcock's Deep Sea Cucumber	*Gephyrothuria alcocki*	Undetermined	M		
Molpadida – Molpadiidae					Tailed cucumbers – Molpadid sea cucumbers
Arctic Fusiform Sea Cucumber	*Molpadia arctica*	Undetermined	M		
Echinodermata – Echinoidea					Echinoderms – Sea urchins
Camarodonta – Strongylocentrotidae					Globular sea urchins – Strongylocentrotids
Green Sea Urchin	*Strongylocentrotus droebachiensis*	Undetermined	M		
Pale Urchin	*Strongylocentrotus pallidus*	Undetermined	M		
Clypeasteroida – Echinarachniidae					Burrowing sea urchins – Sand dollars
Common Sand Dollar	*Echinarachnius parma*	Undetermined	M		
Echinodermata – Asteroidea					Equinoderms – Starfishes
Forcipulatida – Asteriidae					Sea stars – Asteriid sea stars
Red Spiky Seastar	*Icasterias panopla*	Secure	M		
Kamchatha Six-rayed Star	*Leptasterias camtschatica*	Presence Expected	M		
Arctic Seastar	*Leptasterias groenlandica*	Undetermined	M		
Polar Six-rayed Star	*Leptasterias polaris*	Undetermined	M		
Rayed Seastar	*Stephanasterias albula*	Secure	M		
Linck's Seastar	*Urasterias lincki*	Secure	M		

Common Name	Scientific Species Name	Rank	Habitat Notes[a]	Reason for Change[b]	Global Conservation Concern[c]
Notomyotida – Benthopectinidae					Deep stars – Benthopectinid deep stars
Small-spiked Deep Star	*Pontaster tenuispinus*	Secure	M		
Paxillosida – Ctenodiscidae					Plated stars – Ctenodisc plated stars
Cookie-cutter Seastar	*Ctenodiscus crispatus*	Secure	M		
Spinulosida – Echinasteridae					Spine stars – Spine stars
Atlantic Henricia	*Henricia eschrichti*	Undetermined	M		
Valvatida – Poraniidae					Valve stars – Red stars
Atlantic Red Star	*Poraniomorpha bidens*	Undetermined	M		
Embossed Red Star	*Poraniomorpha tumida*	Undetermined	M		
Valvatida – Solasteridae					Valve stars – Sunstars
Rose Sunstar	*Crossaster papposus*	Undetermined	M		
Rogue Sunstar	*Lophaster furcifer*	Undetermined	M		
Northern Sunstar	*Solaster endeca*	Undetermined	M		
Valvatida – Pterasteridae					Valve stars – Slimestars
Arctic Slimestar	*Hymenaster pellucidus*	Undetermined	M		
Dark Slimestar	*Pteraster obscurus*	Undetermined	M		

[a] Habitat Note: M = Species (form) lives in marine water exclusively.

[b] There has been no change in ranks since the last report.

[c] For your convenience, the global conservation rank of a species is given. These ranks are assigned by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org. As of 2021, no species known to be present in the NWT are of global conservation concern.



Green Sea Urchin

Photo Credit: K. Telnes

6.7 Corals



Cnidarians

Cnidarian animals have varied body forms, living as single polyps or as complex colonies, but with a single suspected evolutionary origin. All cnidarians produce small intercellular stinging capsules, called cnidae.



Scarlet Sea Anemone
Photo Credit: K. Telnes

Corals

The Anthozoans (Class Anthozoa) included in the list in this report are members of the phylum Cnidaria. Other cnidarians not included in the list are the hydrazoans (e.g., hydras and Portuguese man o' war), the scyphozoans (true jellyfishes), and the cubozoans (box jellyfishes). These species groups will be included in future reports.

The best known anthozoans are the reef forming corals, or stony corals (in subclass Hexacorallia). Formation of reef systems begins as one polyp (a body form of some cnidarians) secures to a structure and reproduces. A new polyp joins the first and so on until a large interconnected system of polyps develops. In reef forming corals, polyps have a small limestone skeleton located at the base of their bodies. This structure remains after a polyp dies and acts as a surface for new polyps to build from. Polyps can build and stack in this fashion for thousands of years, eventually constructing massive systems such as the Great Barrier Reef in Australia.

Like stony corals, the sea anemones (Order Actiniaria in subclass Hexacorallia) are formed of polyps. However, these organisms tend to be solitary and much larger. Their anatomy consists of a sac like structure firmly attached to the ocean substrate or other structure. The mouth is located at the top of the organism and is surrounded by one or more whorls of tentacles that help grasp and draw in food.

Tube-dwelling anemones are very similar in appearance to sea anemones, but are in fact a separate and distinct subclass (Ceriantharia). As their common name describes, these organisms live in a tube structure made from a fibrous secretion. They are able to draw themselves into these tubes for protection.

The soft corals (subclass Octocorallia) known to be present in the NWT waters of the Western Arctic Ocean, including the Beaufort Sea, have a wide variety of structures and appearances but do not form large reefs.

Updated from original text by K Heisler
Dr. Suzanne Carrière
Environment and Natural Resources
Government of the Northwest Territories
Yellowknife, NT



Dahlia Red Anemone
Photo Credit: K. Telnes

List 7. **Corals**

There are ten species of anthozoan corals confirmed present in the NWT section of the Western Arctic Ocean. Species are listed according to the Phylum and Class they belong to, then alphabetically by Subclass, Order, Family, and scientific species name. Taxonomy follows WoRMS (2021). Common names are from various sources.



Orb Carnation Coral — Photo Credit: K. Telnes

Common Name	Scientific Species Name	Rank	Habitat Notes[a]	Reason for Change[b]	Global Conservation Concern[c]
Cnidaria – Anthozoa					Cnidarians – Anthozoans
Ceriantharia – Spirularia – Cerianthidae					Tube-dwelling anemones – Spirularids – Cerianthids
Northern Tube Anemone	*Pachycerianthus borealis*	Undetermined	M		
Frilly Tube Anemone	*Pachycerianthus fimbriatus*	Undetermined	M		
Hexacorallia – Actiniaria – Actiniidae					Hexacorals – Sea anemones – Actinid anemones
Dahlia Red Anemone	*Urticina felina*	Undetermined	M		
Hexacorallia – Actiniaria – Actinostolidae					Hexacorals – Sea anemones – Actinostolid anemones
Spitsbergen Sea Anemone	*Glandulactis spetsbergensis*	Undetermined	M		
Scarlet Sea Anemone	*Stomphia coccinea*	Undetermined	M		
Hexacorallia – Actiniaria – Bathyphelliidae					Hexacorals – Sea anemones – Bathyphelid amenomes
Scarlet Sea Anemone	*Bathyphellia margaritacea*	Undetermined	M		
Hexacorallia – Actiniaria – Hormathiidae					Hexacorals – Sea anemones – Hormathid anemones
Parasitic Sea Anemone	*Allantactis parasitica*	Undetermined	M		
Nodular Anemone	*Hormathia nodosa*	Undetermined	M		
Octocorallia – Alcyonacea – Nephtheidae					Octocorals – Soft corals – Tree corals
Orb Carnation Coral	*Drifa glomerata*	Undetermined	M		
Strawberry Carnation Coral	*Gersemia rubiformis*	Undetermined	M		

[a] Habitat Note: **F** = Species (form) lives exclusively in freshwater. **M** = Species (form) lives in marine water exclusively.

[b] There has been no change in ranks since the last report.

[c] For your convenience, the global conservation rank of a species is given. These ranks are assigned by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org. As of 2021, no species known to be present in the NWT are of global conservation concern.

6.8 Molluscs



Molluscs

Molluscs are highly diverse invertebrates. In terms of global abundance and diversity, molluscs are only surpassed by arthropods. About a quarter of all living marine species are molluscs. All molluscs have a mantle, a cavity for breathing and excretion, and a nervous system. Within this basic design, molluscs have wonderful diversity in body form. Many molluscs are important food sources and culturally important.



Blue Mussel
Photo Credit: K. Telnes

Molluscs are subdivided into at least seven classes: bivalves, cephalopods, gastropods, the polyplacophora (marine chitons), scaphopoda (marine tusk shells), aplacophora (marine worm-like animals), and monoplacophorans (limpet-like animals). Of these, the first five classes live in the NWT.

Freshwater and terrestrial molluscs were included in the previous report. Their ranks have not been reviewed: these are included in the list below with no change. Some marine molluscs are included for the first time in this report. Marine molluscs mostly live below the lowest tides, away from shoreline ice scour. Deep-water species are little known. NWT species of marine molluscs belong to one of five classes: Bivalvia, Cephalopoda, marine Gastropoda, Polyplacophora, Scaphopoda. Only the first two classes are included here. The other classes will be included in future reports.

Bivalves

Bivalves are so named because they have two "valves" that are similar in shape and face each other, forming a two-part shell. The two valves come together at the "hinge". Freshwater bivalves include the strictly aquatic unionids (freshwater mussels), and the pea and fingernail clams, some of which can survive extended periods of time being dry.

Freshwater mussels feed by filtering water and eating plankton and other fine particulate organic matter. Mussels use their foot to anchor or half bury themselves at the bottom of water bodies. Mussels often live together in a group. Because they filter large quantities of water and spend a large portion of their life in one area, mussels are excellent indicators of aquatic ecosystem quality. The sudden disappearance or a decline in growth rate of a species of freshwater mussel could indicate declining aquatic ecosystem health. Mussels are also food for muskrats, river otters, and humans, among others. Separate male and female mussels produce sperm and eggs with the male releasing his sperm into the water. The female filters the sperm out of the water and transports it to a specialized area of her gills where her eggs are fertilized and develop into larvae (called "glochidia").



Blunt Gaper Photo Credit: K. Telnes

All except for a couple of species, freshwater mussels produce parasitic glochidia that attach to the gills or fins of fish. The larvae of some mussels are species-specific and can live only if they attach to the appropriate host-fish species. All larvae eventually detach from their host and, if they fall in suitable habitat, will develop into adult mussels. The Fat Mucket has 14 known host fish species, including Yellow Perch and Walleye. It is found in southern NWT where it is considered abundant. New records for 2015 extend its previously known range to the Johnny Hoe River, just south of Great Bear Lake. The Giant Floater may be found across the NWT along the Mackenzie River watershed, but its host fish is unknown and there is no information on numbers or population health. The best-known and most studied population of giant floater can be found at the aptly named Shell Lake, near Inuvik. These two species can easily be told apart. The Fat Mucket has protuberances or teeth on the hinge inside the shell whereas the Giant Floater's hinge is toothless.

Marine bivalves are mostly filter-feeders, but some of the deep-water groups are predators. The Arctic Ocean, including the Beaufort Sea is rich in marine bivalves. These mollucks are the preferred food of Walrus.

Cephalopods

The most advanced molluscs are Cephalopods. They are highly evolved marine molluscs with a prominent head and eight arms and, in squids, two additional tentacles, which are positioned around the mouth. They are

excellent swimmers, using water expelled from the body to propel themselves. The arms, provided with suckers, capture prey and bring it to the mouth where a beak, similar in shape to that of a bird, takes bites of the prey. Cephalopods are well known for their remarkably high intelligence among invertebrates, their ability to learn and to communicate using changes in skin pigmentation, skin texture, and bioluminescence. They are also known for the complex structure of their eyes.



Arctic Spoonarm Octopus Photo Credit: J. Wood

Freshwater gastropods

Two major types of freshwater gastropods occur in the NWT: those that can breathe air (pulmonates) and those with gills (prosobranchs) used to extract oxygen from the water, much like fish. All have shells that are either cone-shaped or flat with all except one species group having a spiral shell. The prosobranchs have a trap door (called operculum), which they can close to seal their bodies into their shells. All except one family of freshwater snails in Canada (Physidae) have shells that twist to the right.

Most freshwater prosobranchs have separate sexes (only members of the family Valvatidae are hermaphroditic), whereas all pulmonates are hermaphrodites, having both female and male sex organs. They are micro- and macro-herbivores, scavengers, and detritivores, scraping their food from surfaces using a multi-toothed "tongue" called a radula. Some can even filter-feed using their gills as do the mussels. They are found in all types of water bodies, from large lakes and rivers to small ponds, streams, and marshes with or without permanent standing water. Birds, fish, and small mammals eat them. Some birds even eat empty snail shells to gain the calcium that is then used for the development of their own eggs. Shells range in size from a diameter of only 3 mm to a shell length of over 5 cm.

Only one species of freshwater gastropods is currently known to be endemic to northern Canada. The Western Arctic Stagnicola (*Stagnicola kennicotti*) is found no-where else in the world except in the NWT and Nunavut. Surveys of several hot springs in Nahanni National Park Reserve in 2003 found some of the springs to be inhabited by at least three species of freshwater snails. One species was originally thought to be a common freshwater snail found throughout much of Canada but in 2015 DNA barcoding results from specimens collected in 2003 suggest it may be a different and potentially new species. Two other thermal spring snails were not fully identified and could either be new species or closely related to other species found in thermal springs in Kamchatka, Russia. They have not yet been subject to DNA barcoding or thorough analysis.

Many of the records of freshwater snails in the NWT come from historical museum collections. The first large survey of Canadian freshwater molluscs occurred from 1959 until 1969 with this collection being held in the Canadian Museum of Nature, Ottawa. While most of the collection sites were in southern Canada, there are also collections from the NWT by the Fisheries Research Board.

The entire NWT has not been adequately surveyed for freshwater snails, but progress is being made. For example, the Mollusc Species Specialist Subcommittee of COSEWIC had the opportunity for two days of surveys around Hay River in 2013. This brief survey added one previously unknown species to the list of NWT freshwater snails. Additional survey and work on already collected specimens could very well increase the size of the list and provide data for further status ranking.

Terrestrial gastropods

Terrestrial snails and slugs belong to the class Gastropoda, which is also represented in marine and freshwater environments, and have adapted to life on land. Gastropods are the most diverse class in terms of numbers of species, morphology, and adaptation to varied aquatic and terrestrial environments.

Terrestrial snails have a single, spiral, external calcareous shell that serves as protection against predators and desiccation. Slugs have evolved from snail-like ancestors in separate lineages and are simply snails in which the shell is much reduced in size and usually internal or sometimes altogether absent. Semislugs, such as the Western Glass-snail, have a body form and shell that are intermediate between slugs and snails.

There are just about 200 species, counting both native and introduced ones, of terrestrial snails and slugs in Canada.

Most, if not all the NWT species of snails and slugs have expansive ranges, likely across much of the Arctic, boreal North America, or beyond, into northern Eurasia. At least one species, Grey Fieldslug, is introduced to the NWT. Knowledge of the presence of this species in NWT was the result of a 2013 Hay River survey. Specimens collected, or vouchered, years ago have been re-identified using very recently published taxonomic revisions. Species unrecorded from the NWT continue to be discovered.

In 2018, the northernmost terrestrial mollusc population in Canada was recorded on Banks Island. The presence of Meadow Slug, a species native to Canada and the NWT but usually found further south, is important as it is an intermediate host of lungworm parasites that infect Caribou and Muskox.

Little is known about the natural history of most NWT terrestrial snails and slugs. In general, terrestrial species need moisture to survive and seek shelter within loose accumulations of fallen leaves, under logs, rocks, and other objects. Worldwide, terrestrial snails occur in almost every imaginable habitat, some not generally thought to be ideal for snails. In the NWT they should be expected in boreal, subarctic, and tundra ecosystems, as well as in modified habitats in towns. Habitats include a wide variety of wetlands and forests, tundra, and coastal beach ridges/dunes.

Terrestrial snails and slugs are mostly herbivores and scavengers and feed on dead and living plant material, fungi, and carrion. A few are active predators on invertebrates, including other snails. In general, NWT terrestrial snails and slugs are simultaneous hermaphrodites, like all the air-breathing freshwater snails. That is, both male and female reproductive organs are present at the same time in all individuals. Cross-fertilization between individuals, however, is still usually required, although self-fertilization is known to be common in some species. All NWT species are probably short-lived, under one or two years.

With a few exceptions, all species in the NWT are tiny, less than 6 mm. The small size of most NWT land snails has likely contributed to the lack of knowledge on these animals in the NWT, as has the remoteness of many parts of the territory. Taxonomic difficulties, the absence of accessible reference books, and the presence of just a few experts on terrestrial molluscs in all of Canada have also prevented better knowledge of this group.

Little of the NWT has been surveyed for terrestrial snails and slugs. While most or perhaps all species in the territory are predicted to be secure based on what we know about them elsewhere, we have few data on which to base territorial ranks. New records, in the form of vouchered, expertly identified collections are needed. For example, NWT's tundra areas and various kinds of wetlands are almost unsampled for terrestrial molluscs, and the Mackenzie Mountains may be of interest. Additional species known from Yukon and elsewhere in Canada probably also occur in NWT but need "discovering".

However, casual searches are unlikely to find most species, and collections of minute snails may be best made by gathering accumulations of fallen leaves and dead grasses, drying and screening to remove large material, and finally picking though the remaining debris for snails.

If you would like to collect snails or slugs and add to our knowledge of this group in the NWT, follow contact instructions in the Monitoring Information section of this report.

Dwayne Lepitzki
Co-chair, Mollusc SSC of COSEWIC
Wildlife Systems Research
Banff, AB

Robert Forsyth
Research Associate
New Brunswick Museum

Gerry Mackie
Professor Emeritus
University of Guelph
Guelph, ON

List 8. **Molluscs**

There are 57 species of marine bivalves, 22 species of freshwater bivalves, five species of cephalopods, 37 species of freshwater gastropods, and 25 species of terrestrial gastropods confirmed present in the NWT. One species of terrestrial snail is alien to the NWT. The classification system for molluscs is under review and no single system has been universally adopted. The higher taxonomy in the list below follows NatureServe (2021). Species are listed according to the Phylum and Class they belong to, then alphabetically by Order, Family, and scientific species name. Common names are from various sources.



Fat Mucket Photo Credit: R. Forsyth

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Global Conservation Concern[b]
Mollusca – Bivalva				Molluscs – Bivalves
Adapedonta – Hiatellidae				Marine digger clams – Hiatellid clams
Wrinkled Rock-borer	*Hiatella arctica*	Secure	M	
Kurr Propeller Clam	*Cyrtodaria kurriana*	Undetermined	M	
Anomalodesmata – Cuspidariidae				Marine anomalodesmate bivalves – Spout clams
Arctic Spout Clam	*Cuspidaria arctica*	Undetermined	M	
Round Spout Clam	*Cuspidaria obesa*	Undetermined	M	
Curvy Spout Clam	*Cuspidaria subtorta*	Undetermined	M	
Anomalodesmata – Lyonsiellidae				Marine anomalodesmate bivalves – Small Lyonsid clams
Deep Little Lyonsid Clam	*Lyonsiella abyssicola*	Undetermined	M	
Anomalodesmata – Lyonsiidae				Marine anomalodesmate bivalves – Lyonsid clams
Sand Lyonsid Clam	*Lyonsia arenosa*	Undetermined	M	
Anomalodesmata – Pandoridae				Marine anomalodesmate bivalves – Pandorid clams
Glacial Pandora	*Pandora glacialis*	Undetermined	M	
Anomalodesmata – Periplomatidae				Marine anomalodesmate bivalves – Periplomatid clams
Aleutian Periploma	*Periploma aleuticum*	Undetermined	M	
Anomalodesmata – Periplomatidae				Marine anomalodesmate bivalves – Thraciid clams
Sloping Thracia	*Thracia devexa*	Undetermined	M	
Truncated Thracia	*Thracia myopsis*	Undetermined	M	
Arcida – Arcidae				Marine arcid bivalves – Ark clams
Boreal Bathyark	*Bathyarca frielei*	Undetermined	M	
Glacial Bathyark	*Bathyarca glacialis*	Secure	M	
Cardiida – Cardiidae				Marine cardiid bivalves – Cockles
Hairy Cockle	*Ciliatocardium ciliatum*	Secure	M	
Greenland Smoothcockle	*Serripes groenlandicus*	Secure	M	
Cardiida – Tellinidae				Marine cardiid bivalves – Tellins
Balthic Limecola	*Limecola balthica*	Undetermined	M	
Heavy Macoma	*Macoma brota*	Undetermined	M	
Chalky Macoma	*Macoma calcarea*	Undetermined	M	
Lama Macoma	*Macoma lama*	Undetermined	M	

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Global Conservation Concern[b]
Inflated Macoma	*Macoma loveni*	Undetermined	M	
Flat Macoma	*Macoma moesta*	Secure	M	
Triangular Macoma	*Macoma torelli*	Undetermined	M	
Carditida – Astartidae				Marine carditid bivalves – Astartes
Arctic Astarte	*Astarte acuticostata*	Undetermined	M	
Boreal Astarte	*Astarte borealis*	Secure	M	
Crenulate Astarte	*Astarte crenata*	Secure	M	
Elliptical Astarte	*Astarte elliptica*	Undetermined	M	
Narrow-hinge Astarte	*Astarte montagui*	Secure	M	
Warham's Astarte	*Astarte warhami*	Secure	M	
Galeommatida – Lasaeidae				Marine galeommatid bivalves – Kellyclams
Dawson's Kellyclam	*Altenaeum dawsoni*	Undetermined	M	
Northern Kellyclam	*Boreacola maltzani*	Undetermined	M	
Swollen Kellyclam	*Kurtiella tumidula*	Undetermined	M	
Limida – Limidae	Marine limid bivalves – Fileclams			
Small-ear Fileclam	*Limatula subauriculata*	Undetermined	M	
Lucinida – Thyasiridae	Marine lucinid bivalves – Cleft clams			
Dunbar's Thyasira	*Parathyasira dunbari*	Undetermined	M	
Myida – Myidae				Marine myoid bivalves – Gapers
False Softshell	*Mya pseudoarenaria*	Undetermined	M	
Blunt Gaper	*Mya truncata*	Secure	M	
Myida – Mytilidae				Marine mtilid bivalves – Mytilid mussels
Cross-scuptured Crenella	*Crenella decussata*	Undetermined	M	
Arctic Glassy-mussel	*Dacrydium vitreum*	Undetermined	M	
Discordant Mussel	*Musculus discors*	Secure	M	
Corrugate Mussel	*Musculus glacialis*	Undetermined	M	
Black Mussel	*Musculus niger*	Secure	M	
Blue Mussel	*Mytilus edulis*	Undetermined	M	
Nuculanida – Nuculanidae				Marine nuculanid bivalves – Small nutclams
Minute Nutclam	*Nuculana minuta*	Undetermined	M	
Northern Nutclam	*Nuculana pernula*	Undetermined	M	
Nuculanida – Tindariidae				Marine nuculanid bivalves – Small tindariid clams
Polar Abyss Tindaria	*Tindaria derjugini*	Undetermined	M	
Nuculanida – Yoldiidae				Marine nuculanid bivalves – Small yoldiid clams
Arctic Yoldia	*Portlandia arctica*	Secure	M	
Cold-water Yoldia	*Yoldiella frigida*	Undetermined	M	
Intermediate Yoldia	*Yoldiella intermedia*	Undetermined	M	
Freckled Yoldia	*Yoldiella lenticula*	Secure	M	
Sibling Yoldia	*Yoldiella nana*	Undetermined	M	
Tamara Yoldia	*Yoldiella tamara*	Undetermined	M	
Nuculida – Nuculidae				Marine nuculid bivalves – Nuclams
Siberian Nutclam	*Ennucula siberutensis*	Undetermined	M	
Smooth Nutclam	*Ennucula tenuis*	Undetermined	M	
Deep-gloom Nutclam	*Nucula zophos*	Undetermined	M	



Grey Fieldslug
Photo Credit: R. Forsyth

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Global Conservation Concern[b]
Pectinida – Propeamussiidae				Marine pectinid bivalves – Mud scallops
Shingle Glass-scallop	*Cyclopecten hoskynsi*	Undetermined	M	
Greenland Scallop	*Similipecten greenlandicus*	Secure	M	
Unionoida – Unionidae				Freshwater unionid bivalves – Freshwater mussels
Fat Mucket	*Lampsilis siliquoidea*	Secure	F	
Giant Northern Floater	*Pyganodon grandis*	Undetermined	F	
Venerida – Veneridae				Marine venerid bivalves – Venerid clams
Wavy Clam	*Liocyma fluctuosa*	Undetermined	M	
Minute Turton	*Turtonia minuta*	Undetermined	M	
Veneroida – Sphaeriidae				Freshwater veneroid bivalves – Sphaeriid pea clams
Ubiquitous Pea Clam	*Euglesa casertana*	Secure	F	
Ridged-Beak Pea Clam	*Euglesa compressa*	Secure	F	
Arctic-Alpine Pea Clam	*Euglesa conventus*	Secure	F	
Lilljeborg's Pea Clam	*Euglesa lilljeborgii*	Secure	F	
Short-ended Pea Clam	*Euglesa subtruncata*	Secure	F	
Lake Fingernail Clam	*Musculium lacustre*	Secure	F	
Swamp Fingernail Clam	*Musculium partumeium*	Undetermined	F	
Pond Fingernail Clam	*Musculium securis*	Undetermined	F	
Long Fingernail Clam	*Musculium transversum*	Undetermined	F	
River Pea Clam	*Pisidium fallax*	Undetermined	F	
Rusty Pea Clam	*Pisidium ferrugineum*	Secure	F	
Giant Northern Pea Clam	*Pisidium idahoense*	Secure	F	
Quadrangular Pill Clam	*Pisidium milium*	Undetermined	F	
Shiny Pea Clam	*Pisidium nitidum*	Secure	F	
Fat Pea Clam	*Pisidium rotundatum*	Undetermined	F	
Triangular Pea Clam	*Pisidium variabile*	Secure	F	
Globular Pea Clam	*Pisidium ventricosum*	Secure	F	
Walker's Pea Clam	*Pisidium walkeri*	Undetermined	F	
Arctic Fingernail Clam	*Sphaerium nitidum*	Secure	F	
Striated Fingernail Clam	*Sphaerium striatinum*	Secure	F	
Mollusca – Cephalopoda				Molluscs – Cephalopods
Octopoda – Bathypolypodidae				Octopods – Deepsea polypods
Arctic Spoonarm Octopus	*Bathypolypus arcticus*	Undetermined	M	
Oegopsida – Gonatidae				Oegopsid squids – Armhook squids
Boreoatlantic Armhook Squid	*Gonatus fabricii*	Undetermined	M	
Sepiida – Sepiolidae				Sepiid squids – Bobtail squids
Northern Bobtail Squid	*Rossia moelleri*	Undetermined	M	
Warty Bobtail Squid	*Rossia palpebrosa*	Undetermined	M	
Dwarf Bobtail Squid	*Sepiola rondeletii*	Undetermined	M	

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Global Conservation Concern[b]
Mollusca – Gastropoda				Molluscs – Gastropods
Basommatophora – Lymnaeidae				Air-breathing aquatic snails – Pond snails
Shouldered Northern Galba	*Galba galbana*	Undetermined	F	
Modest Galba	*Galba modicella*	Undetermined	F	
Golden Fossaria	*Galba obrussa*	Undetermined	F	
Amphibious Galba	*Galba parva*	Undetermined	F	
Rustic Galba	*Galba rustica*	Undetermined	F	
Alaskan Pond Snail	*Lymnaea atkaensis*	Undetermined	F	
Great Pond Snail	*Lymnaea stagnalis*	Secure	F	
Muskeg Stagnicola	*Stagnicola arctica*	Secure	F	
Blade-ridged Stagnicola	*Stagnicola caperata*	Undetermined	F	
Lake Stagnicola	*Stagnicola catascopium*	Undetermined	F	
Common Stagnicola	*Stagnicola elodes*	Secure	F	
Western Arctic Stagnicola	*Stagnicola kennicotti*	Undetermined	F	
Basommatophora – Physidae				Air-breathing aquatic snails – Bubble snails
Polished Tadpole Snail	*Aplexa elongata*	Undetermined	F	
Blunt Arctic Physa	*Physa jennessi*	Undetermined	F	
Frigid Physa	*Physa sibirica*	Undetermined	F	
Glass Physa	*Physa skinneri*	Undetermined	F	
Tadpole Snail	*Physella gyrina*	Undetermined	F	
Basommatophora – Planorbidae				Air-breathing aquatic snails – Ramshorn snails
Creeping Ancylid	*Ferrissia rivularis*	Undetermined	F	
Flatly Coiled Gyraulus	*Gyraulus circumstriatus*	Undetermined	F	
Tiny Tautilus Snail	*Gyraulus crista*	Undetermined	F	
Irregular Gyraulus	*Gyraulus deflectus*	Secure	F	
Tuba Gyraulus	*Gyraulus hornensis*	Undetermined	F	
Modest Gyraulus	*Gyraulus parvus*	Undetermined	F	
Two-ridged Ramshorn	*Helisoma anceps*	Undetermined	F	
File Ramshorn	*Planorbella pilsbryi*	Undetermined	F	
Larger Prairie Ramshorn	*Planorbella subcrenata*	Undetermined	F	
Larger Eastern Ramshorn	*Planorbella trivolvis*	Undetermined	F	
Say's Toothed Planorbid	*Planorbula armigera*	Undetermined	F	
Prairie Toothed Planorbid	*Planorbula campestris*	Undetermined	F	
Keeled Promenetus	*Promenetus exacuous*	Secure	F	
Heterostropha – Valvatidae				Different-gilled snails – Valve snails
Fringed Valvata	*Valvata lewisi*	Undetermined	F	
Rams-horn Valvata	*Valvata mergella*	Undetermined	F	G1G2 – 2015
Mossy Valvata	*Valvata sincera*	Undetermined	F	
Three-keeled Valvata	*Valvata tricarinata*	Undetermined	F	
Neotaenioglossa – Amnicolidae				Littoral snails – Gilled snails
Mud Amnicola	*Amnicola limosus*	Undetermined	F	
Neotaenioglossa – Hydrobiidae				Littoral snails – Mud snails
Boreal Marstonia	*Marstonia lustrica*	Undetermined	F	
Delta Hydrobe	*Probythinella emarginata*	Undetermined	F	

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Global Conservation Concern[b]
Pulmonata – Agriolimacidae				Land snails – Slugs
Meadow Slug	*Deroceras laeve*	Secure	T	
Grey Fieldslug	*Deroceras reticulatum*	Alien	T	
Pulmonata – Cochlicopidae				Land snails – Pillar snails
Glossy Pillar	*Cochlicopa lubrica*	Undetermined	T	
Pulmonata – Discidae				Land snails – Disc snails
Striate Disc	*Discus shimekii*	Secure	T	
Forest Disc	*Discus whitneyi*	Secure	T	
Pulmonata – Euconulidae				Land snails – Hive snails
Brown Hive	*Euconulus fulvus*	Secure	T	
March Hive	*Euconulus alderi*	Undetermined	T	
Pulmonata – Gastrodontidae				Land snails – Gastrodontid snails
Quick Gloss	*Zonitoides arboreus*	Secure	T	
Black Gloss	*Zonitoides nitidus*	Undetermined	T	
Pulmonata – Oxychilidae				Land snails – Oxychilid snails
Blue Glass	*Nesovitrea binneyana*	Undetermined	T	
Amber Glass	*Nesovitrea electrina*	Undetermined	T	
Pulmonata – Pupillidae				Land snails – Pupillid snails
Hudsonian Column	*Pupilla hudsoniana*	Secure	T	
Pulmonata – Succineidae				Land snails – Ambersnails
Suboval Ambersnail	*Mediappendix vermeta*	Undetermined	T	
Striate Ambersnail	*Novisuccinea strigata*	Secure	T	
Blunt Ambersnail	*Oxyloma retusum*	Undetermined	T	
Santa Rita Ambersnail	*Succinea grosvenorii*	Undetermined	T	
Pulmonata – Valloniidae				Land snails – Vallonid snails
Multirib Vallonia	*Vallonia gracilicosta*	Secure	T	
Boreal Top	*Zoogenetes harpa*	Undetermined	T	
Pulmonata – Vertiginidae				Land snails – Whorl snails
Mellow Column	*Columella columella*	Undetermined	T	
Callus Vertigo	*Vertigo arthuri*	Undetermined	T	
Cristate Vertigo	*Vertigo cristata*	Undetermined	T	
Tapered Vertigo	*Vertigo ventricosa*	Undetermined	T	
Cross Vertigo	*Vertigo modesta*	Secure	T	
Ovate Vertigo	*Vertigo ovata*	Undetermined	T	
Pulmonata – Vitrinidae				Land snails – Glass snails
Western Glass-snail	*Vitrina pellucida*	Undetermined	T	

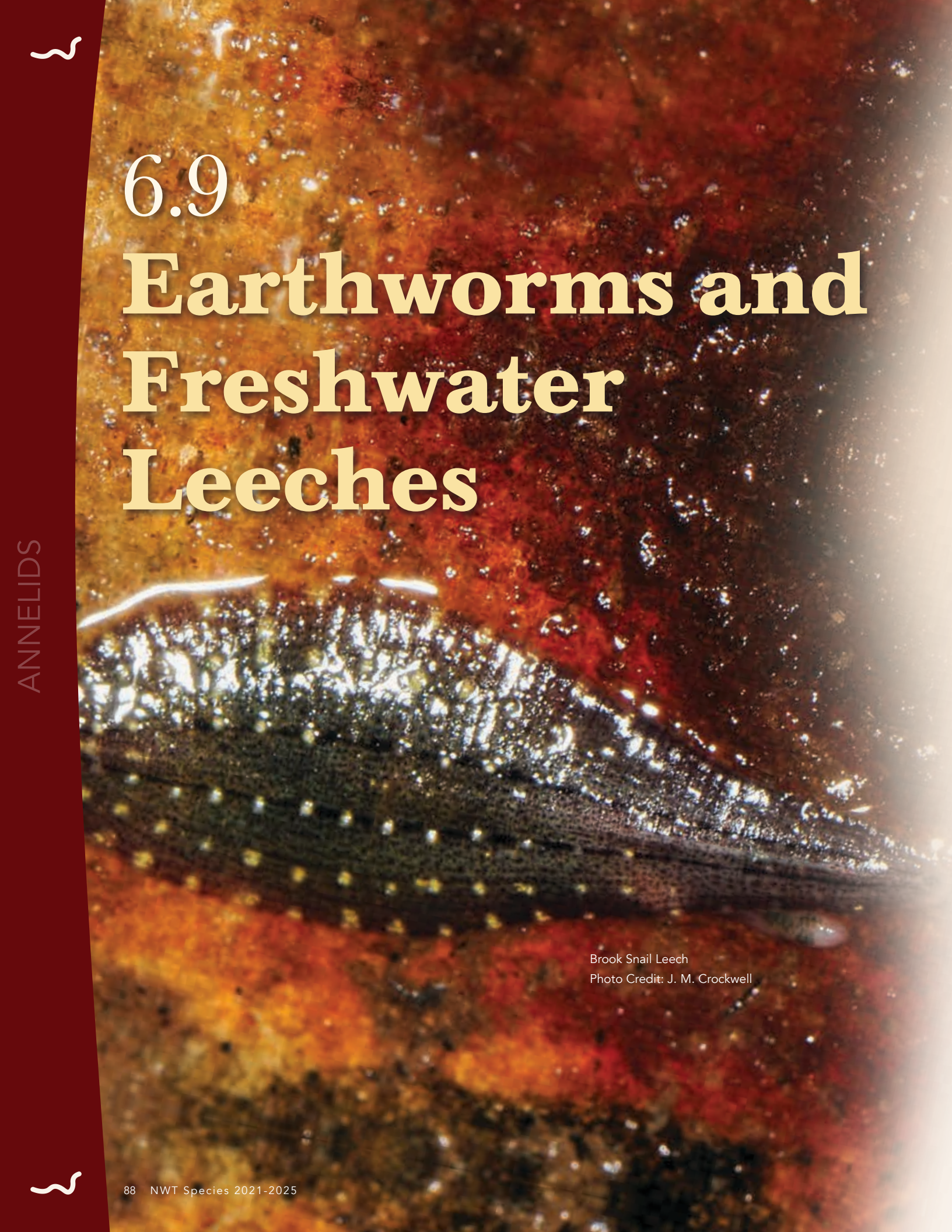
[a] Habitat Note: **F** = Species lives in freshwater. **T** = Species lives on land. **M** = Species lives in marine water exclusively.

[b] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. Rank of a species in the world as designated by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org. As of 2021, no species known to be present in the NWT are of global conservation concern.



Meadow Slug
Photo Credit: R. Forsyth

6.9 Earthworms and Freshwater Leeches



Brook Snail Leech
Photo Credit: J. M. Crockwell

Annelids

Member of the Phylum Annelida (Annelids or ringed worms) are more complex than they seem. They have an elongated body; the vast majority have external segmentations, a body cavity, and complex excretory and nervous systems.

The Annelids included in this report are members of the class Clitellata (Segmented worms) characterised by the presence of a girdle (a clitellum), a set of modified body segments that secretes mucus that helps during copulation then forms a protective pocket around the fertilised eggs. Other members of the Phylum Annelida, mostly marine species, will be included in future reports.



Canadian Earthworm Photo Credit: J. Hollett

Earthworms

Earthworms (Subclass Oligochaeta) are familiar to almost everyone. In North America, they are one of the most popular forms of live bait for fishing: gardeners hold them in high esteem as nature's ploughmen; folklore and scientific accounts tell of their medicinal uses and soil inhabiting vertebrates (moles, voles, etc.) store them as a source of food. The role of some species in organic matter decomposition and mineral cycling may be important, and a great deal has been written concerning earthworm farming. Biology students all over the world study their anatomy (mainly *Lumbricus terrestris*) in great detail. The great amount of literature that has been devoted to a group of organisms that are not sources of human nutrition is truly amazing, yet their biology and distribution are still relatively unknown.

Many of the world's thousands of megadriles (terrestrial oligochaetes) species are known only from a limited series of one or a few specimens.

In Canada there are currently 36 species found in three Families: Lumbricidae, Megascolecidae and Sparganophilidae. Of these, 18 are considered rare and eight of these are native to Canada, whereas the others are introduced species from Europe or Asia. The first species reported from the NWT was *Eisenia foetida* from Yellowknife in 1996 and the second was *Eiseniella tetraedra* in 2002. Collections in 2018 yielded *Eiseniella tetraedra* again and *Dendrobaena octaedra* for the first time. With such limited collecting, reporting so few species is not surprising, but based on recent records from the Yukon and northern Alberta and British Columbia; it is expected with additional sampling several other species found elsewhere in Canada will be located in the NWT.

The following conditions are required in a habitat in order for earthworms to survive: 1) adequate and suitable food supplies, 2) adequate moisture, 3) adequate dissolved oxygen, 4) protection from sunlight, 5) suitable pH, 6) absence of toxic substances, and 7) suitable temperatures.

Although earthworms may be found in the soil and adjacent habitats, there is considerable diversity in their activities and functions in these habitats. The following list of functions includes the main ones: 1) organic matter decomposition, 2) soil neutralization, 3) soil aggregation, 4) soil aeration, 5) Infiltration of water into the soil, 6) percolation of water within the soil, and 7) soil turnover.



Octagonal-tail Worm Photo Credit: E. Pike

The terrestrial earthworms based on their location in soil layers are categorized ecologically as epigeic, endogeic and anecic earthworms. Epigeic (épigée) are smaller to medium sized worms which mainly feed on plant litter and dwell on the soil surface or in litter layers. Endogeic (endogée) are medium sized worms, soil feeders, which live in horizontal burrows. Anecic (anécique) worms are large size and live in vertical burrows, mainly feeding on plant litter and soil. There are two other categories that have been used for years – corticolous and limicolous. The corticolous (corticole) species are those which live under the bark of downed trees in the frass (the sawdust-like material under the bark) between the bark and the tree-wood. Limicolous (limicoles) species are those which live in very wet habitats, often in saturated soils on stream or river banks, flood plains, or saturated tree-wood. Many of these species are also found in the litter. Their habitat usage depends on geographical location and the other earthworm species present.

The method of reproduction by most earthworms is amphimixis (cross fertilization, biparental) preceding cocoon production; this is the classical/original case. Beginning in the 1930s reports began in the literature illustrating parthenogenesis (uniparental) in earthworms. Since that time, many species and some genera have exhibited this type of reproduction.



Canadian Earthworm Photo Credit: J. Hollett

Earthworms along with leeches and other less popular groups are understudied. Recent DNA techniques have had a profound effect of earthworm taxonomy: creation of new species, synonomy of species, genera and families, and resurrection of those taxa. Northern Canada is essentially under-surveyed and climate change may allow for new and unreported species not previously located in our areas.

Freshwater leeches

Leeches (subclass Hirudinea) are closely related to earthworms, and are similar in having soft, muscular, segmented bodies that can lengthen and contract. The NWT species range from 1 – 15 cm in length. They differ from earthworms in a number of ways: they have suckers at both ends and are more or less flattened from top to bottom. One of the leeches that is expected to be found in NWT, the Fish Hooking Leech (*Acanthobdella peledina*), has some characteristics of earthworms including small hairs on the anterior portion of its body. A fish parasite, known from Alaska, it is likely to be found in NWT on the dorsal fins of Grayling. Over a long time leeches are believed to have evolved from worms so the primitive Fish Hooking Leech is often called "a living relict".

An individual leech is both male or female, but only one or the other during any particular mating event. The eggs are fertilized internally, before they are laid. Some leeches attach their eggs directly onto their belly and use their body to protect the developing embryos and the young. This advanced behaviour is not characteristic of most species which excrete their eggs in a protective cocoon. The cocoon is attached to a hard surface. The cocoons of some marine leeches are found on crabs where they benefit from dispersal and perhaps protection.

Many people are afraid of leeches because some kinds will suck on mammalian blood. They are not dangerous to people. They do not transmit infectious diseases like mosquitos and some other bloodsucking organisms, especially if removed carefully. Simply try to stop screaming… This may seem funny but the truth is that there are many phobias, and many are difficult to control, so nobody afraid of leeches should be made to feel bad. Do not pull them off, or use a lighter flame or



Slough Snail Leech
Photo Credit: P. Catling



Spotted Predaceous Leech
Photo Credit: P. Catling

salt to remove them. This may cause them to regurgitate intestinal bacteria into an open wound. The best thing to do is simply use a fingernail (or a credit card) to break the seal on the suckers with which they hold on. Then they can easily be removed.

Worldwide there may be 700 species of leeches. In Canada we estimate that there are 75 kinds, of which about 50 occur in freshwater and 25 are marine. In the NWT, many species already have been documented and additional species are expected. The Arctic Marine Leech (*Notostomum leave*) is expected to occur in the NWT. It is known from the eastern Canadian Arctic where it is a parasite of several species of bottom-dwelling fish including Greenland Halibut.

Although many species are parasitic by sucking blood or consuming soft tissue, others attack and eat whole organisms. Some species feed only on the blood of ducks and live inside the nasal region of the duck's bill, the trachea and beneath the nictitating membrane of the eyes. Nasal leeches, including the Duck Leech (*Theromyzon rude*), are most frequent on swans and ducks. Within North America, infestations of these leeches on waterfowl are most frequent in the northwest including the prairie region and particularly the NWT.

The so-called "predaceous Leeches" are scavengers on dead material as well as predators of living snails and aquatic insects. The Northern Fish Leech (*Piscicola geometra*) is an external parasite confined to fish and mostly found on Northern Pike and Lake Trout. The only leeches so far reported on mammals in the NWT were on muskrats, and their identity was not determined.

In the NWT, leeches can be widespread and generally abundant, such as the Spotted Predacious Leech (*Erpobdella punctate*), to the very rare, like the Side-marked Leech (*Haemopis lateromaculata*) so far found only at Chan Lake. Not many rare species are so rare that they have only been found once in one place in North America. That is the case with the Burbot Leech (*Cystobranchus mammillatus*), an external parasite of Eurasian Burbot found at Aklavik, NWT. The host subspecies does not occur in North America east of the Mackenzie Delta. More study is required to understand the status in of this species in North America!

So why are leeches interesting? They are part of the food chain as predators, parasites and prey. Although leeches are of limited direct value to people, there are some interesting uses. Leeches are highly regarded for fishing as bait as they are tough, and will stay alive wriggling on a hook for much longer than earthworms. Leeches are used in medicine to gently treat liquid imbalance in injured limbs by drawing excess blood. Substances, such as anticoagulant called Hirudin, originated from them and are used in modern medicine. Future discoveries may be still more beneficial, leading to treatments of cancer and bacterial infection.

Leeches are one of the most understudied groups of organisms. More remarkable discoveries will be made. Recently DNA studies have revealed new species for which distinctive morphological characters are still unknown. More species will be discovered in NWT, especially marine species that are associated with fish that are expanding north into the Beaufort Sea. To help to develop our knowledge of NWT leeches, follow instructions in the Monitoring Information section of this report.

Dr. John W. Reynolds
Oligochaetology Laboratory
Kitchener, ON
Research Associate
New Brunswick Museum
Saint John, NB

Dr. Paul Catling
Brenda Kostiuk
Leech Specialists
Ottawa, ON

List 9.
Earthworms and Freshwater Leeches

There are five species of earthworms and 17 species of freshwater leeches confirmed present in the NWT. An additional four species of earthworms and three species of freshwater leeches are expected to be present. Most species are earthworms may be alien to the NWT, but more studies are required to determine the origin of our populations in the NWT. The classification system for annelids is under review. Taxonomy for earthworms follows Reynolds and Wetzel. 2008.
Taxonomy for freshwater leeches follows Wetzel et al. 2021. Species are listed according to their Phylum, Class and Subclass, then alphabetically by Order, Family, and scientific species name. Common names are from various sources.



Canadian Earthworm Photo Credit: Jozien

Common Name	Scientific Species Name	Rank	Habitat Notes[a]	Global Conservation Concern[b]
Annelida – Clitellata – Oligochaeta				Annelids – Clitellates – Earthworms
Opistohopora – Lumbricidae				Earthworms – Lumbricid earthworms
Canadian Earthworm	*Aporrectodea tuberculata*	Presence Expected	T	
Pasture Worm	*Aporrectodea turgida*	Presence Expected	T	
North American Bark Earthworm	*Bimastos parvus*	Undetermined	T	
Octagonal-tail Worm	*Dendrobaena octaedra*	Undetermined	T	
European Bark Worm	*Dendrodrilus rubidus*	Presence Expected	T	
Red Wiggler Worm	*Eisenia foetida*	Undetermined	T	
Square-tailed Worm	*Eiseniella tetraedra*	Undetermined	T	
Red Marsh Earthworm	*Lumbricus rubellus*	Undetermined	T	
Night Crawler	*Lumbricus terrestris*	Presence Expected	T	
Annelida – Clitellata – Hirudinea				Annelids – Clitellates – Leeches
Acanthobdellida – Acanthobdellidae				Leech-like worms – Primitive leeches
Fish Hooking Leech	*Acanthobdella peledina*	Presence Expected	F	
Arhynchobdellida – Erpobdellidae				Proboscisless leeches – Predaceous leeches
Brown Predaceous Leech	*Erpobdella dubia*	Undetermined	F	
Dark Predaceous Leech	*Erpobdella obscura*	Secure	F	
Little Predaceous Leech	*Erpobdella parva*	Undetermined	F	
Spotted Predaceous Leech	*Erpobdella punctata*	Secure	F	
Arhynchobdellida – Haemopidae				Proboscisless leeches – Haemopid leeches
Side-marked Leech	*Haemopis lateromaculata*	Undetermined	F	
Marbled Leech	*Haemopis marmorata*	Undetermined	F	

Common Name	Scientific Species Name	Rank	Habitat Notes[a]	Global Conservation Concern[b]
Arhynchobdellida – Macrobdellidae				Proboscisless leeches – Medicinal leeches
Decorated Leech	*Macrobdella decora*	Presence Expected	F	
Rhynchobdellida – Glossiphoniidae				Sucking leeches – Freshwater leeches
Brook Snail Leech	*Glossiphonia elegans*	Secure	F	
Husky Snail Leech	*Helobdella fusca*	Undetermined	F	
Lined Snail Leech	*Helobdella lineata*	Undetermined	F	
Slough Snail Leech	*Helobdella stagnalis*	Secure	F	
Clam Leech	*Marvinmeyeria lucida*	Undetermined	F	
Mammal Sucking Leech	*Placobdella kwetlumye*	Undetermined	F	
Pimpled Sucking Leech	*Placobdella papillifera*	Presence Expected	F	
Waterfowl Leech	*Theromyzon bifarium*	Undetermined	F	
Duck Leech	*Theromyzon rude*	Undetermined	F	
Bill Leech	*Theromyzon trizonare*	Undetermined	F	
Rhynchobdellida – Piscicolidae				Sucking leeches – Fish leeches
Burbot Leech	*Cystobranchus mammillatus*	Undetermined	F	
Northern Fish Leech	*Piscicola geometra*	Secure	F	

[a] Habitat Note: **F** = Species lives in freshwater. **T** = Species lives on land.

[b] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. Rank of a species in the world as designated by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org. As of 2021, no species known to be present in the NWT are of global conservation concern.



Waterfowl Leech
Photo Credit: P. Catling

6.10 Decapods



Arthropods

Arthropoda is the most diverse group of animals on the planet. They are invertebrate animals with an exoskeleton, a segmented body, and jointed legs. To grow, arthropods need to shed their external skeleton and form or find a new one. Their respiratory systems are varied, from cutaneous osmotic transfer of oxygen, gills, or lungs. Arthropods have complex eyes, nervous systems and behaviours.



Aesop Shrimp
Photo Credit: K. Telnes



Hairy Hermit Crab
Photo Credit: K. Telnes

Decapods

Decapods are crustacean animals, a group separated from other arthropods by their double set of antennas and by their typical larval forms. Other groups of arthropods, insects and spiders, are included in this report in the next pages.

Most crustaceans live in a marine habitat, but some are found in freshwater or even terrestrial habitats. Crustaceans are diverse and include Branciopods (freshwater clam shrimps), Thecostracans (barnacles), the Malacostracans (including the best known crustaceans such as the lobsters, shrimps, prawns, crabs, and krill), and others groups such as the Copepods. Parasitic crustaceans include woodlice (Class Malacostraca, Order Isopoda), a plant parasite and fish lice (Class Branchiura) living on fish.

As their name implies, decapods (Class Malacostraca) have ten feet (five pairs of legs). All species of decapods known to be present in the NWT are marine, living in the NWT portion of the Western Arctic Ocean. No freshwater decapods, such as the freshwater crayfish, are known to occur in the NWT.

Decapod shrimps have elongated abdomens, two pairs of long antennae, and slender legs. The most numerous family of decapod shrimps in the NWT is the Hippolytidae (broken-back shrimps otherwise known as cleaner shrimp). All freshwater "shrimps" found in lakes and rivers of the NWT are not decapods.

So far, all crabs seen in the NWT are from two families, members of separate infraorders, the true crabs and anomurans. The only true crabs found here are large Oregonids: the snow crab and Arctic lyre crab. Anomurans are called "crabs" but, unlike the true crabs, they seem to have only eight legs, as one pair is very small or sometimes hidden. These specialised legs are used to clean gills. The only anomuran found in the NWT is a member of the hermit crab family. These have a soft abdomen protected by a construction of discarded shells, typically from gastropods (snails). With a curved body and modified hind limbs, hermit crabs are specially adapted to fit and secure themselves to the inner whirls of such shells, until a time when they become too large and must move to a new home.



Circumpolar Eualid Photo Credit: K. Telnes

List 10. **Decapods**

There are 20 known species of decapods confirmed present in the NWT. Species are listed according to their Phylum, Class and Order they belong to, then alphabetically by infraorder, Family, and scientific species name. Taxonomy follows WoRMS (2021). Common names are from various sources.

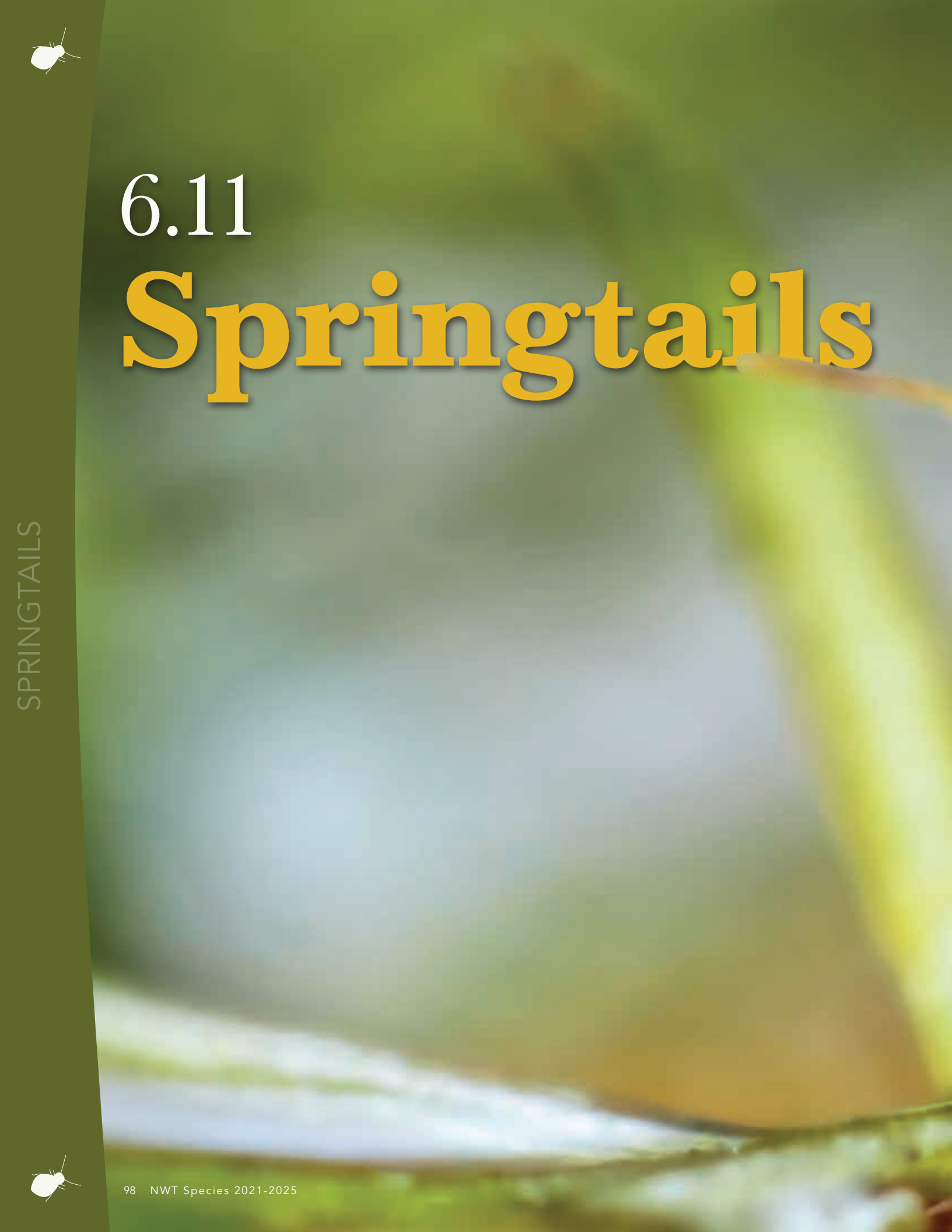
Common Name	Scientific Species Name	Rank	Habitat Notes[a]	Reason for Change[b]	Global Conservation Concern[c]
Arthropoda – Crustacea – Malacostraca					Arthropods – Crustaceans – Malacostracan crustaceans
Decapoda – Anomura – Paguridae					Decapods – Anomurans – Hermit crabs
Hairy Hermit Crab	*Pagurus pubescens*	Undetermined	M		
Decapoda – Oregoniidae					Decapods – Oregonid crabs
Snow Crab	*Chionoecetes opilio*	Undetermined	M		
Arctic Lyre Crab	*Hyas coarctatus*	Undetermined	M		
Decapoda – Acanthephyridae					Decapods – Acanthephyrid shrimps
Northern Deep-sea Shrimp	*Hymenodora glacialis*	Undetermined	M		
Decapoda – Crangonidae					Decapods – Crangonid shrimps
Arctic Shrimp	*Argis dentata*	Undetermined	M		
Norwegian Shrimp	*Pontophilus norvegicus*	Undetermined	M		
Sevenline Shrimp	*Sabinea septemcarinata*	Undetermined	M		
Northern Sculptured Shrimp	*Sclerocrangon boreas*	Undetermined	M		
Polar Shrimp	*Sclerocrangon ferox*	Undetermined	M		
Decapoda – Hippolytidae					Decapods – Broken-back shrimps
Frozen Islands Shrimp	*Bythocaris cryonesus*	Undetermined	M		
Arctic Eualid Shrimp	*Eualus fabricii*	Undetermined	M		
Circumpolar Eualid Shrimp	*Eualus gaimardii*	Undetermined	M		
Greenland Eualid Shrimp	*Eualus macilentus*	Undetermined	M		
Greenland Shrimp	*Lebbeus groenlandicus*	Undetermined	M		
Polar Shrimp	*Lebbeus polaris*	Undetermined	M		
Curved Blade Shrimp	*Spirontocaris arcuata*	Undetermined	M		
Punctate Blade Shrimp	*Spirontocaris phippsii*	Undetermined	M		
Parrot Blade Shrimp	*Spirontocaris spinus*	Undetermined	M		
Decapoda – Pandalidae					Decapods – Pandalid shrimps
Great Northern Prawn	*Pandalus borealis*	Undetermined	M		
Aesop Shrimp	*Pandalus montagui*	Undetermined	M		

[a] **M** = Marine Habitat

[b] Describes reasons for a change in status rank between 2016 and 2021. ↗: Increasing Risk, ↘: Decreasing Risk, ∃: Error correction, **#**: Species new to the NWT, **T**: Taxonomic change, ⓘ: Information added, **A**: Changed due to detailed assessment by COSEWIC since 2011. See Data Sources and Methods for more details.

[c] For your convenience, the global conservation rank of a species is given. These ranks are assigned by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org. As of 2021, no species known to be present in the NWT are of global conservation concern.

[1] Changed from At Risk
[2] Changed from May Be at Risk
[3] Changed from Sensitive
[4] Changed from Secure
[5] Changed from Undetermined
[6] Changed from Not Ranked
[7] Changed from Alien
[8] Changed from Extirpated
[9] Changed from Vagrant
[10] Changed from Presence Expected



6.11 Springtails



Water Skimming Springtail
Photo Credit: A. Murray



Globular Springtail
Photo Credit: C. Singer

Springtails

Springtails (Class Collembola) are small, wingless soil-dwelling arthropods. They vary in body shape, size and colour, and dwell in various terrestrial habitats both above and below the surface. They can also be found in riparian areas, on the surfaces of lakes, the intertidal zone and on snow fields during spring thaw where they can be easily seen gathering in large groups[1]. In forest soils, Collembola are an abundant group of soil arthropods, with densities ranging from 45,000 to 340,000 individuals per metre-square[2]. Densities of Collembola can be extremely high in colder climates and they can represent a significant proportion of the animal biomass below ground[3]. As a result of these high numbers, Collembola are easily found in most habitats.

The general collembolan body is composed of three parts; the head, the thorax, with three segments and three pairs of legs, and the abdomen, with five segments. In some species the thoracic and abdominal segments can be fused, giving the body a more globular appearance. The head bears the mouthparts, one pair of antennae and a pair of compound eyes that may be absent in some species. On the bottom of the fourth abdominal segment is a spring-loaded furca that is responsible for the Collembola's common name, springtail[4].

Juveniles develop directly into adult males and females differing in size, colour and proportions[4]. Collembola moult throughout their life with four to more than 50 instars (larval stages)[3]. Collembola feed on various organic materials including decomposing plants and animals, bacteria, fungi and pollen as well as being predators or even cannibalistic[1].

This is an ancient group with specimens from fossil records dating back to the Devonian[1]. There are approximately 9,000 species worldwide[1]. There are more than 500 documented species in Canada, with an estimated number to be closer to 675 species.[5,6] The difference in numbers reflects the inconsistent sampling across the diverse Canadian landscape and an increase in genetic assessment of specimens.

The list in the next few pages was based on a preliminary literature review completed in 2017. While Babenko and colleagues[5] reported only 105 species, they also suggested that species known to occure in Alaska could be found in the northern parts of Canada.

This could boost collembolan diversity by a few hundred additional species. The proximity to other landscapes and limited survey work makes this a low estimate of the true species diversity of Collembola within the NWT. The list of springtails provided in this report is the result of various historical sampling programs in the region and provides a hint to the distribution and considerable diversity of Collembola in the NWT. The list presented here is a good starting point towards increasing our understanding of this fanscinating group of arthropods. The general status of all collembolan species in Canada will be reviewed for the next report.

Dr. Jeff Battigelli
University of Alberta
Edmonton, AB

[1] See References in Further Your Knowledge section: Bellinger et al 2021.

[2] Battigelli et al. 1994; Battigelli et al. 2004.

[3] Christiansen 1990.

[4] Hopkin 1997.

[5] Babenko et al 2019.

[6] Turnbull and Stebaeva 2019.



Globular Springtail

Photo Credit: K. Poitras

List 11. **Springtails**

There are 111 species of springtails confirmed present in the NWT. Many more species are expected to be present: the expected species in the list are a bare minimum. Species are listed according to the Phylum and Class they belong to, then alphabetically by Order, Family, and scientific species name. Taxonomy follows Bellinger et al. (2021). Common names are from various sources.



Tiny Springtail — Photo Credit: A. Murray

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Arthropoda – Collembola			Arthropods – Springtails
Entomobryomorpha – Entomobryidae			Elongated springtails – Slender springtails
Banded Slender Springtail	*Entomobrya comparata*	Undetermined	
Wandering Slender Springtail	*Entomobrya erratica*	Undetermined	
Four-lined Slender Springtail	*Entomobrya quadrilineata*	Undetermined	
White-tailed Slender Springtail	*Lepidocyrtus albicaudatus*	Undetermined	
Violet Slender Springtail	*Lepidocyrtus violaceus*	Undetermined	
Clear Cave Springtail	*Pseudosinella candida*	Undetermined	
Domestic Springtail	*Seira domestica*	Undetermined	
Entomobryomorpha – Isotomidae			Elongated springtails – Isotomid springtails
Dentilled Agrenia	*Agrenia bidenticulata*	Undetermined	
Northern Pale Springtail	*Anurophorus septentrionalis*	Undetermined	
Bessels' Springtail	*Archisotoma besselsi*	Undetermined	
Polar Springtail	*Archisotoma polaris*	Undetermined	
White Blissia	*Blissia glabra*	Undetermined	
Ogilvie Mountain Blissia	*Blissia robusta*	Presence Expected	
Sphagnum Bog-piglet	*Cryptopygus sphagneticolus*	Undetermined	
Canadian Springtail	*Desoria canadensis*	Undetermined	
Northern Springtail	*Desoria neglecta*	Undetermined	
Striped Springtail	*Desoria tigrina*	Undetermined	
Violet Springtail	*Desoria violacea*	Undetermined	
Agrell's Folsomia	*Folsomia agrelli*	Undetermined	
Bristled Folsomia	*Folsomia bisetosa*	Undetermined	
Blue-grey Folsomia	*Folsomia coeruleogrisea*	Undetermined	
Diplophtalmic Folsomia	*Folsomia diplophthalma*	Undetermined	
Elongated Folsomia	*Folsomia elongata*	Undetermined	
Dung Folsomia	*Folsomia fimetaria*	Undetermined	

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Microseta Folsomia	*Folsomia microchaeta*	Undetermined	
Snow Folsomia	*Folsomia nivalis*	Undetermined	
Four-eyed Folsomia	*Folsomia quadrioculata*	Undetermined	
Regular Folsomia	*Folsomia regularis*	Undetermined	
Star Folsomia	*Folsomia stella*	Undetermined	
Slight Folsomia	*Folsomides parvulus*	Undetermined	
Mackenzie Isotoma	*Isotoma mackenziana*	Undetermined	
Variable Isotoma	*Isotoma viridis*	Undetermined	
Small Isotoma	*Isotomiella minor*	Undetermined	
Shore Springtail	*Isotomurus palustris*	Undetermined	
Predatory Springtail	*Metisotoma grandiceps*	Undetermined	
Ekman's Springtail	*Parisotoma ekmani*	Undetermined	
Notable Springtail	*Parisotoma notabilis*	Undetermined	
Beta Springtail	*Proisotoma beta*	Undetermined	
Immersed Springtail	*Proisotoma immersa*	Undetermined	
Northshore Springtail	*Pseudisotoma sensibilis*	Presence Expected	
Tolerant Springtail	*Scutisotoma tolerans*	Undetermined	
Arctic Springtail	*Tetracanthella arctica*	Undetermined	
Hairy Springtail	*Tetracanthella pilosa*	Undetermined	
Hanson's Uzelia	*Uzelia hansoni*	Undetermined	
Tree Springtail	*Vertagopus arboreus*	Alien	
Tundra Springtail	*Vertagopus brevicaudus*	Presence Expected	
Octa Springtail	*Weberacantha octa*	Undetermined	
Entomobryomorpha – Orchesellidae			Elongated springtails – Orchesellid springtails
Boreal Springtail	*Corynothrix borealis*	Undetermined	
Belted Springtail	*Orchesella cincta*	Undetermined	
Entomobryomorpha – Tomoceridae			Elongated springtails – Tomocerid springtails
Yellow Slender Springtail	*Pogonognathellus flavescens*	Undetermined	
Neelipleona – Neelidae			Bulbous springtails – Neelid springtails
Tiny Springtail	*Megalothorax minimus*	Undetermined	
Poduromorpha – Hypogastruridae			Stout-bodied springtails – Hypogastrurid springtails
Armed Springtail	*Ceratophysella armata*	Undetermined	
Czuczor Springtail	*Ceratophysella czukczorum*	Undetermined	
Mushroom Springtail	*Ceratophysella denticulata*	Undetermined	
Gibbous Springtail	*Ceratophysella gibbomucronata*	Undetermined	
Glance's Springtail	*Ceratophysella glancei*	Undetermined	
Amber Springtail	*Ceratophysella succinea*	Undetermined	
Unique Springtail	*Hypogastrura assimilis*	Undetermined	
Ground Springtail	*Hypogastrura humi*	Undetermined	
Tuberculated Springtail	*Hypogastrura macrotuberculata*	Undetermined	
Brown-handle Springtail	*Hypogastrura manubrialis*	Presence Expected	

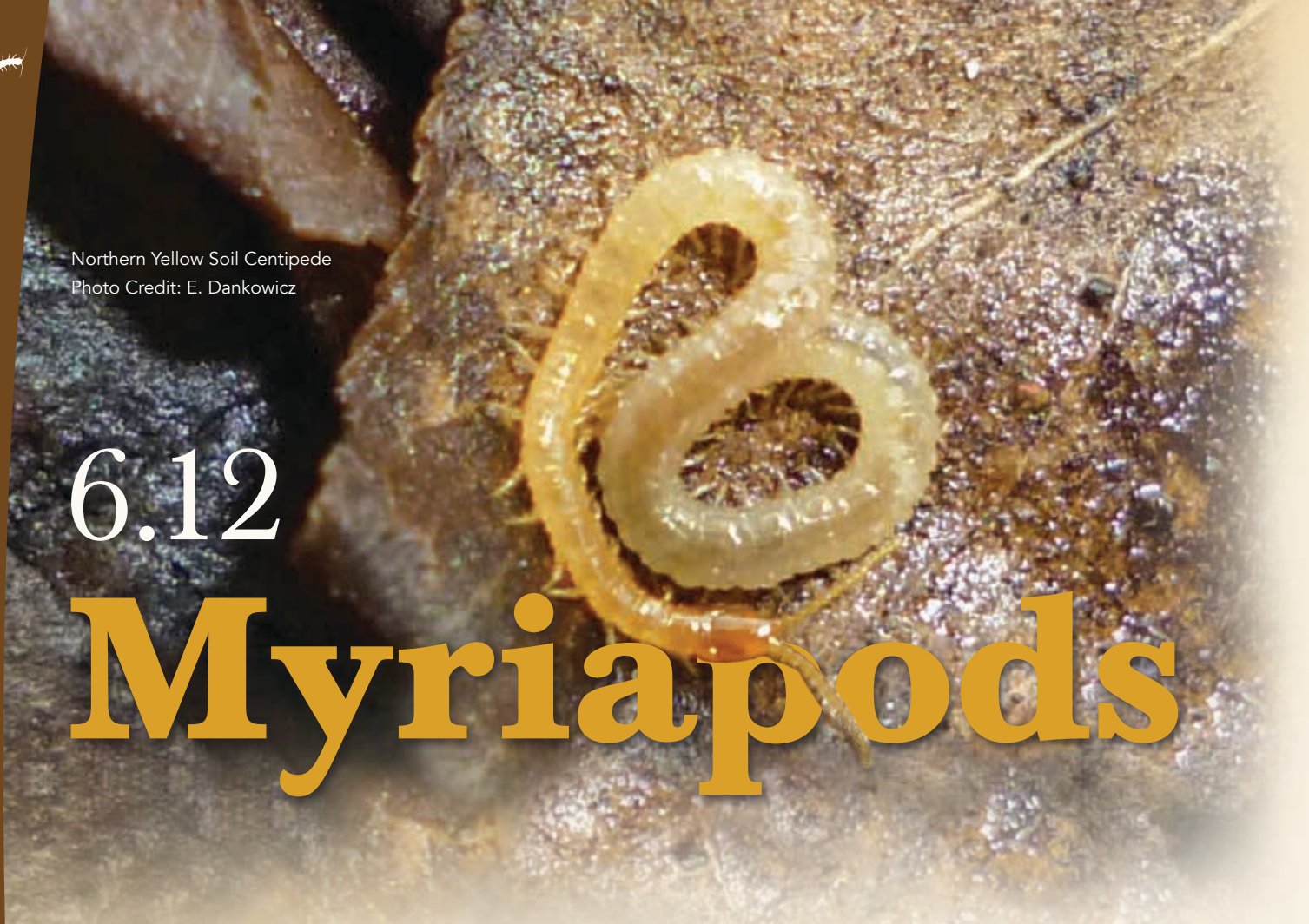
Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Ragged Springtail	*Hypogastrura pannosa*	Undetermined	
Sensitive Springtail	*Hypogastrura sensilis*	Undetermined	
Trybom's Springtail	*Hypogastrura trybomi*	Undetermined	
Tullberg's Springtail	*Hypogastrura tullbergi*	Undetermined	
Travelling Springtail	*Hypogastrura viatica*	Undetermined	
Blind Willemia	*Willemia anophthalma*	Undetermined	
Denis's Willemia	*Willemia denisi*	Undetermined	
Similar Willemia	*Willemia similis*	Undetermined	
Canadian Xenylla	*Xenylla canadensis*	Undetermined	
Poduromorpha – Neanuridae			Stout-bodied springtails – Neanurid springtails
Marked Short-legged Springtail	*Anurida decemoculata*	Undetermined	
Granary Short-legged Springtail	*Anurida granaria*	Undetermined	
Hammer Short-legged Springtail	*Anurida hammerae*	Undetermined	
Pimple Short-legged Springtail	*Anurida papillosoides*	Undetermined	
Tullberg's Short-legged Springtail	*Anurida tullbergi*	Undetermined	
Weber's Short-legged Springtail	*Anurida weberi*	Undetermined	
Sublime Pudgy Springtail	*Friesea sublimis*	Undetermined	
Pygmy Springtail	*Micranurida pygmaea*	Undetermined	
Tufted Pudgy Springtail	*Micranurida spirillifera*	Undetermined	
Large Morulina	*Morulina gigantea*	Undetermined	
Mackenzie Morulina	*Morulina mackenziana*	Undetermined	
Thule Morulina	*Morulina thulensis*	Undetermined	
Bark Springtail	*Neanura muscorum*	Undetermined	
Quadrilobed Short-legged Springtail	*Paranura quadrilobata*	Undetermined	
Poduromorpha – Odontellidae			Stout-bodied springtails – Odontellid springtails
Armoured Springtail	*Xenyllodes armatus*	Undetermined	
Poduromorpha – Onychiuridae			Stout-bodied springtails – Onychiurid springtails
Yellow Pale Springtail	*Allonychiurus flavescens*	Undetermined	
Delicate Pale Springtail	*Heteraphorura subtenuis*	Undetermined	
Absolon's Springtail	*Oligaphorura absoloni*	Undetermined	
Greenland Springtail	*Oligaphorura groenlandica*	Undetermined	
Naked Root Springtail	*Oligaphorura nuda*	Undetermined	
Grass Root Springtail	*Paronychiurus ramosus*	Undetermined	
Armed White Springtail	*Protaphorura armata*	Undetermined	
Churchill White Springtail	*Protaphorura churchilliana*	Undetermined	
Dotted White Springtail	*Protaphorura duodecimpunctata*	Undetermined	
Toothed White Springtail	*Protaphorura macrodentata*	Undetermined	
Bristled White Springtail	*Protaphorura paucisetosa*	Undetermined	
Blind White Springtail	*Protaphorura pseudarmata*	Undetermined	
Small Seashore Springtail	*Thalassaphorura debilis*	Undetermined	

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Poduromorpha – Poduridae			Stout-bodied springtails – Podurid springtails
Water Springtail	*Podura aquatica*	Undetermined	
Poduromorpha – Tullbergiidae			Stout-bodied springtails – Tullbergiid springtails
Iowa Glass Springtail	*Mesaphorura iowensis*	Undetermined	
Krausbauer's Glass Springtail	*Mesaphorura krausbaueri*	Undetermined	
Simple Glass Springtail	*Mesaphorura simplex*	Undetermined	
Dolomite Glass Springtail	*Multivesicula dolomitica*	Undetermined	
California Hills Tullbergia Springtail	*Tullbergia collis*	Undetermined	
Symphypleona – Bourletiellidae			Globular springtails – Bourletiellid springtails
Aquatic Globular Springtail	*Bourletiella hortensis*	Undetermined	
Garden Springtail	*Heterosminthurus aquaticus*	Presence Expected	
Lined Globular Springtail	*Heterosminthurus bilineatus*	Undetermined	
Smeared Globular Springtail	*Heterosminthurus undulatus*	Undetermined	
Symphypleona – Katiannidae			Globular springtails – Katiannid springtails
Marked Globular Springtail	*Sminthurinus quadrimaculatus*	Undetermined	
Symphypleona – Mackenziellidae			Globular springtails – Mackenzie springtails
Rugged Mackenzie Springtail	*Mackenziella psocoides*	Undetermined	
Symphypleona – Sminthurididae			Globular springtails – Sminthuridid springtails
Water Skimming Springtail	*Sminthurides aquaticus*	Undetermined	
Malmgren's Skimming Springtail	*Sminthurides malmgreni*	Undetermined	
Dark Breathing Springtail	*Sminthurides occultus*	Undetermined	
Clover Springtail	*Sminthurus viridis*	Alien	
Small Globular Springtail	*Sphaeridia pumilis*	Undetermined	

[a] For your convenience, the global conservation rank of a species is given. These ranks are assigned by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org. As of 2021, no species known to be present in the NWT are of global conservation concern.



Garden Springtail Photo Credit: C. Singer



Northern Yellow Soil Centipede
Photo Credit: E. Dankowicz

6.12 Myriapods

Myriapods (Subphylum Myriapoda) are many-legged terrestrial arthropods that include centipedes, millipedes and two small groups of relatives, the pauropods and symphylans. Unlike most other arthropods, such as insects (Class Insecta) and spiders (Class Arachnida) that have 3 or 4 pairs of legs respectively, myriapods usually have more than 10 pairs of legs. Surprisingly, some millipede species, *Illacme* plenipes, found in Northern California has up to 750 legs in its less than 3-cm-long body, setting it to the world record for the leggiest creature on earth.

Centipedes and millipedes look so similar to each other, having many legs on an elongated body. However, millipedes (Class Diplopoda) have two pairs of legs per body segment, while centipedes (Class Chilopoda) have only one pair of leg per segment. Also, the length of each leg is longer in centipedes than in millipedes. The body of centipedes is more flattened, compared to millipedes, which have a cylindrical body although some millipedes are somewhat flattened. Both centipedes and millipedes can be easily found under rocks, logs and dead leaves, and can be collected by using pitfall traps, sifters and Berlese funnels.

Centipedes are fast-moving predators, hunting small animals at night. Most species of centipedes have venom in their pincer-like appendage originated from the first pair of limbs, and it can be hazardous to humans. The world's largest centipede, *Scolopendra gigantea*, grows over 30 cm in length, and this species is known to hunt frogs, lizards, and even small birds and bats. However, all Canadian species are quite small and harmless to people, feeding mainly on small invertebrates. Centipedes generally do not copulate, instead, adult males leave a spermatophore on the ground for females to find and engulf it for reproduction.

Millipedes are slow-moving decomposers, generally eating decaying plant material. However, some millipedes found in greenhouses often cause serious damages to plant seedlings. Many species of millipedes have defensive glands along the sides of their bodies to repel other predators. Millipedes also can curl their body into the coil to protect relatively soft underside when disturbed. Most millipedes involve copulation, although some species have an indirect mating system. In the direct mating system, males can transfer sperms to the female through gonopods, modified legs located in the seventh segment for most species.

Pauropods (Class Pauropoda) and symphylans (Class Symphyla) are inconspicuous and tiny groups of myriapods that live in the soil and leaf litter. Pauropods have forked antennae, while symphylans have long bead-like antennae. Members of both groups have no eyes, and body colour is often translucent.

In Canada, a total of 145 species of myriapods have been recorded. In the NWT, however, only a few species of centipedes have been documented (see the list below) and no species have been identified for the rest of the three classes. Considering such serious knowledge gaps on diversity and ecology of myriapods in the NWT, sampling and studying these many-legged creatures can greatly overcome the current situation. Myriapods are most common in leaf litters and soils in wet forests. Thus, there are huge potentials to discover new myriapod species by searching under rocks, logs and dead leaves, using above mentioned trapping methods.

Dr. Seung-Il Lee
Faculty of Natural Resources Management
Lakehead University



Notched Stone Centipede

Photo Credit: C. Lee

List 12. **Myriapods**

There are two species of centipedes confirmed present in the NWT. There are no species of millipedes, pauropods, and symphylans yet known to occur in the NWT. An unknown number of additional species of myriapods are expected to be present.

Species are listed according to the Phylum, Subphylum, and Class they belong to, then alphabetically by Order, Family, and scientific species name. Taxonomy follows Langor et al. (2019). Common names are from various sources.

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Arthropoda – Myriapoda – Chilopoda			Arthropods – Myriapods – Centipedes
Geophilomorpha – Striadiidea			Soil centipedes – Geophilid centipedes
Northern Yellow Soil Centipede	*Strigamia chionophila*	Undetermined	
Lithobiomorpha – Henicopidae			Stone centipedes – Henicopid centipedes
Notched Stone Centipede	*Lamyctes emarginatus*	Undetermined	

[a] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. COSEWIC Status for a species in Canada if it has already been assessed in a detailed manner by COSEWIC as of December 2021. The year of each assessment is given with each status. After 2021, please consult current and additional status assessments using references given at the end of this report. Rank of a species in the world as designated by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org. As of 2021, no species known to be present in the NWT are of global conservation concern.

6.13 Beetles



Fake Leaf Beetle
Photo Credit: J. Meikle

Beetles (Order Coleoptera) are the most diverse order of the insects (Phylum Arthropods, Class Insecta). Beetles are, in fact, the most diverse group of animals in the world.

Beetles are easily recognized by their hardened fore-wing covers (elytra), which can be very colourful… or not, and in some cases can be shortened as in rove beetles. They are commonly seen living around us, both indoors and outdoors.

The majority of beetle diversity in the NWT occurs in the boreal forest, but there are many species found north of the treeline. For example the aquatic predaceous diving beetles (Dytiscidae) are particularly common in tundra ponds and at lake edges.

Beetles are extremely important members of terrestrial and freshwater ecosystems in the North, as they act as predators, detritivores, herbivores, fungivores, scavengers, and prey for other animals.

Studying insects in northern habitats is important for addressing ecological and environmental questions critical in our understanding of northern ecosystems. Our region is experiencing the effects of climate change at a very high rate, so it is crucial to understand how a warming North will affect animal diversity and the general "health" of northern ecosystems.

Studying insects also can help identify effects of human activity on the environment. For example, insects can be bioindicators for pollution. We can also address questions about evolution and how northern biodiversity developed over time, and also in light of past variations in the environment.

The list of beetles presented in the next few pages was constructed from both historical records from decades of concerted effort by people interested in understanding biodiversity in the NWT and recent biodiversity monitoring projects.

Early beetle surveys in the North were conducted by highly productive professional entomologists such as Carl Lindroth and George E. Ball in the late 1950's and 1960's. These studies were included in the publication of seminal "The Ground Beetles of Canada and Alaska" in 1969. Since then, research projects have increased our understanding of northern beetle diversity and biology. We are continually updating information.

Citizen scientists (including amateur naturalists to professional entomologists) have a very important place in insect monitoring. Every record of insects in the NWT is informative: species newly described and wider species ranges can results from these efforts.

Refer to the section "Monitoring Information" at the end of this report for good online applications and identification keys that can help with species identification from photographs.

Collecting insects can be very rewarding. If you do collect beetles, be sure to include information on the collection location, time, date, and habitat where you collected the insect. Specimens can be identified using identification keys – many of these are available online or take your specimens to an elder or an entomologist.

The entire list of beetles known to be in the NWT is presented in the following pages. This list was first presented in 2016, and has been reviewed here for 2021. The biology and ecology of some families of beetles are summarized below.

The rove beetles (Family Staphylinidae) are the most diverse family of beetles in the NWT. Rove beetles range in size from about 1 mm to almost 4 cm. They are easily distinguished from other beetles by their short elytra – causing them to initially appear similar to earwigs (minus the cerci, or "pincers" on the abdomen, characteristic of earwigs). The short elytra leave most of the abdomen exposed, but still function as covers for the hind wings, which are tucked up under them.

Many species are Holarctic (occur in the Palearctic (Northern Europe and Russia) as well as the Nearctic (Northern Canada and Alaska). Although the family is easy to identify on sight due to their elytra, identifying the species often requires the dissection of genitalia – which necessitates a good microscope and a steady hand. Many rove beetles can fly, but there are also species that have lost the ability.

Regardless, they are active predators of other insects. They prefer moist habitats, and are commonly found on or in leaf litter, and on many different substrates in most ecosystems. Rove beetles are even found in the far north and above the tree line. Once you can recognize a rove beetle, and know what to look for, you will see them everywhere.

Predaceous diving beetles (Family Dytiscidae) are some of the most common beetles in our freshwater habitats. They are typically oval in shape, with a flattened streamlined body, well adapted for swimming. They range in size from 1 mm to over 4 cm.

As with all insect, they are under-studied and the current species diversity is underestimated. Also, there are likely undescribed species and more species are expected with our warming climate. Predaceous diving beetles are fast swimmers and are predatory, sometimes even cannibalistic. Adults are capable flyers, making dispersal to new water bodies easy, and a possible reason for their abundance in the North where there are lots of lakes and tundra ponds to inhabit. Many species can co-exist in a single pond, possibly in part due to their different habitat preferences for example: shallow versus deeper water, and body sizes (which dictates prey size and type) of the various species. Like the adults, the larvae – known also as "water dragons" – are highly effective predators. The larvae can be found in the shallow waters of many ponds, waiting and watching for movement and possible prey items. They watch but not with real "eyes" but rather with simple photo receptors, or eye spots. Predaceous diving beetles can be found in almost any freshwater body, providing they can avoid other predators such as fish and dragonfly larvae, and there are food resources available.

Possible threats to the dytiscids of the NWT include climate change and the ecology of the arctic and sub-arctic is also changing. Permafrost thaw, increasing water temperatures and change in snow cover is affecting their habitat. Naturally rare species, such as the Aurora Water Beetle (*Hydroporus aurora*) and the Pale Agabus Beetle (*Agabus pallens*) may be more sensitive to these habitat changes as they are only live in northern North America.

Whirligig beetles (Family Gyrinidae) are found on the calm waters of lakes and ponds where they can be seen feverishly swimming in tight circles and other intricate patterns. In fact, their name "gyrinid" refers to these gyrations. Similar to predaceous diving beetles, adult whirligigs are capable of diving, breathing via an air bubble held under their elytra (hardened front wings), their bodies are smooth, oval, generally black, or dark coloured, and streamlined. If you are able to collect a whirligig beetle and you can take a close look, you will notice that in addition to legs well adapted for swimming, their eyes are divided into an above water, and a below water "eye". What is amazing about these physical adaptations is that they appear on ancient whirligig beetle fossils dated to the mid-Jurassic (~175-163 million years ago)! Both whirligig swimming behaviour, and visual adaptations make them excellent predators of other aquatic invertebrates. Like predaceous diving beetles, whirligig beetles rely on ponds and lakes (or slow moving waters), and a loss of tundra pond and lake habitats could greatly affect the abundance of these fascinating beetles.

Blister beetles (Family Meloidae) are also called oil beetles, because they will extrude oil from their joints when threatened. This oil contains the poison cantharidin, which can burn and cause blisters on contact. Members of the genus Meloe are eye-catching and unmistakable. They are characterized by a very large abdomen relative to their head and thorax. Their forewings (elytra) sit at the top of the abdomen so that the shape is reminiscent of an 18th century ladies dress with a bustle. The species found in the NWT are black in colour. All species of blister beetles have "hypermetamorphic" larvae, meaning that the immature beetles go through several stages before pupating and reaching maturity. Meloid larvae are mobile: they attach themselves to pollinating bees to get carried back to the bee's nest where they feed on bee larvae, or the resources available in the nest. These beetles are dependent on health pollinating bee populations.

Hide beetles (Family Trogidae) are scavengers and tend to be one of the last types of scavenging insect to visit carrion – where they feed on the dried remains of skin, feathers, or fur – giving their name "hide" as in animal hide – beetles. Both adults and larvae feed on keratin, making them the only members of the super-family Scarabaeoidea to have this capability, and certainly making them integral for recycling nutrients into the soil. Hide beetles are small, and lumpy in appearance. They tend to cover themselves in soil and sit very still when disturbed – making them very difficult to detect.

Dr. Chandra Venables
University of Calgary
Calgary, AB

Charlene Wood
LGL Limited
Sidney, BC

List 13. **Beetles**

There are 1,140 species of beetles confirmed present in the NWT, and of these, 26 species are alien to the NWT. An additional 12 species are expected to be present. Species are listed according to the Phylum and Class they belong to, then alphabetically by Order, Family, and scientific species name. Taxonomy follows Bousquet et al. (2013). Common names are from various sources.



Square Flower Longhorn Beetle Photo Credit: D. McCorquodale

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Arthropoda – Insecta				Arthropods – Insects
Coleoptera – Agyrtidae				Beetles – Primitive carrion beetles
Bearing Agyrtid Beetle	*Ipelates latus*	Undetermined		
Coleoptera – Anthicidae				Beetles – Ant-like beetles
Raven Antlike Flower Beetle	*Anthicus coracinus*	Undetermined		
Golden Antlike Flower Beetle	*Anthicus flavicans*	Undetermined		
Leconte's Antlike Flower Beetle	*Anthicus lecontei*	Undetermined		
Black Antlike Flower Beetle	*Anthicus nigritus*	Undetermined		
Grappling Antlike Flower Beetle	*Notoxus anchora*	Undetermined		
Coleoptera – Anthribidae				Beetles – Fungus weevils
Birch Fungus Weevil	*Gonotropis dorsalis*	Undetermined		
Smut Fungus Weevil	*Trigonorhinus sticticus*	Undetermined		
Coleoptera – Artematopodidae				Beetles – Soft-bodied plant beetles
Pitchblack Soft-bodied Beetle	*Macropogon piceus*	Undetermined		
Coleoptera – Attelabidae				Beetles – Leaf-rolling beetles
Eastern Rose Curculio	*Merhynchites bicolor*	Undetermined		
Western Rose Curculio	*Merhynchites wickhami*	Undetermined		
Copper-blue Leaf-rolling Weevil	*Temnocerus cyanellus*	Undetermined		
Coleoptera – Boridae				Beetles – Conifer bark beetles
Burnt Conifer Bark Beetle	*Lecontia discicollis*	Undetermined		
Coleoptera – Bostrichidae				Beetles – Auger beetles
Apple Twig Borer	*Amphicerus bicaudatus*	Undetermined		
Sifting Powderpost Beetle	*Stephanopachys cribratus*	Undetermined		
Pine Powderpost Beetle	*Stephanopachys substriatus*	Undetermined		
Coleoptera – Brachyceridae				Beetles – Brachycerid snout beetles
Horsetail Weevil	*Grypus equiseti*	Presence Expected		
Aethiops Grey Weevil	*Notaris aethiops*	Undetermined		
Pale-spotted Grey Weevil	*Notaris puncticollis*	Undetermined		
LeConte's Brachycerid Weevil	*Procas lecontei*	Undetermined		
Two-spotted Brachycerid Weevil	*Tournotaris bimaculata*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Coleoptera – Brentidae				Beetles – Straight-snouted weevils
Alaskan Pear-shaped Weevil	*Eutrichapion viciae*	Undetermined		
Blue Milkvetch Weevil	*Loborhynchapion cyanitinctum*	Undetermined		
Coleoptera – Buprestidae				Beetles – Jewel beetles
Willow Gall Limb Borer	*Agrilus politus*	Undetermined		
Dandelion Anthaxia Beetle	*Anthaxia inornata*	Secure		
Spotted-belly Buprestid	*Buprestis maculativentris*	Undetermined		
Nuttall's Buprestid	*Buprestis nuttalli*	Secure		
Wrinkled-neck Buprestid	*Buprestis sulcicollis*	Undetermined		
Sifting Metallic Wood-borer	*Chrysobothris cribraria*	Undetermined		
Spurred Metallic Wood-borer	*Chrysobothris dentipes*	Undetermined		
Larch Metallic Wood-borer	*Chrysobothris laricis*	Undetermined		
Rough Metallic Wood-borer	*Chrysobothris scabripennis*	Undetermined		
Coniferous Metallic Wood-borer	*Chrysobothris trinervia*	Secure		
Pitted Jewel Borer	*Dicerca callosa*	Undetermined		
Tailed Jewel Borer	*Dicerca caudata*	Undetermined		
Lugubrious Jewel Borer	*Dicerca lugubris*	Undetermined		
Dusky Jewel Borer	*Dicerca tenebrica*	Secure		
Dark Jewel Beetle	*Dicerca tenebrosa*	Secure	①[5]	
Black Fire Beetle	*Melanophila acuminata*	Secure		
Drummond's Flathead Fir Borer	*Phaenops drummondi*	Secure		
Hemlock Borer	*Phaenops fulvoguttata*	Undetermined		
Eastern Poplar Buprestid	*Poecilonota cyanipes*	Undetermined		
Coleoptera – Byrrhidae				Beetles – Pill beetles
Arctic Grey Pill Beetle	*Arctobyrrhus subcanus*	Undetermined		
Two-coloured Pill Beetle	*Byrrhus concolor*	Undetermined		
Ringed Pill Beetle	*Byrrhus cyclophorus*	Undetermined		
Superb Pill Beetle	*Byrrhus eximius*	Undetermined		
Kirby's Pill Beetle	*Byrrhus kirbyi*	Undetermined		
Prickly Pill Beetle	*Curimopsis echinata*	Undetermined		
Mount Moosilauke Pill Beetle	*Curimopsis moosilauke*	Undetermined		
Hairy Pill Beetle	*Curimopsis setulosa*	Undetermined		
Alternate Pill Beetle	*Cytilus alternatus*	Undetermined		
Mimic Pill Beetle	*Cytilus mimicus*	Undetermined		
Brass Pill Beetle	*Morychus aeneolus*	Undetermined		
Long Pill Beetle	*Simplocaria elongata*	Undetermined		
Metallic Pill Beetle	*Simplocaria metallica*	Alien		
Coleoptera – Byturidae				Beetles – Fruitworm beetles
Raspberry Fruitworm Beetle	*Byturus unicolor*	Undetermined		
Coleoptera – Cantharidae				Beetles – Soldier beetles
Mountaineer Cantharid Beetle	*Cantharis alticola*	Undetermined		
Deceptive Soldier Beetle	*Dichelotarsus deceptus*	Undetermined		
Extreme Soldier Beetle	*Dichelotarsus extremus*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Yellow-handed Soldier Beetle	*Dichelotarsus flavimanus*	Secure	ⓘ[5]	
Furtive Soldier Beetle	*Dichelotarsus furtivus*	Undetermined		
Crookedjaw Soldier Beetle	*Dichelotarsus heteronychus*	Secure	ⓘ[5]	
Softnecked Soldier Beetle	*Dichelotarsus laevicollis*	Secure	ⓘ[5]	
Dark-striped Soldier Beetle	*Dichelotarsus obscurevittatus*	Undetermined		
Obscure Soldier Beetle	*Dichelotarsus perplexus*	Secure	ⓘ[5]	
Treehugger Soldier Beetle	*Dichelotarsus piniphilus*	Undetermined		
Flour-plated Soldier Beetle	*Dichelotarsus tetragonoderus*	Undetermined		
Curtis's Pacific Soldier Beetle	*Pacificanthia curtisi*	Secure	ⓘ[5]	
Bigjaw Soldier Beetle	*Rhagonycha mandibularis*	Secure	ⓘ[5]	
Hardy Soldier Beetle	*Silis difficilis*	Undetermined		
Coleoptera – Carabidae				Beetles – Ground beetles
Svelte Ground Beetle	*Agonum affine*	Secure	ⓘ[5]	
Beige Ground Bettle	*Agonum anchomenoides*	Undetermined		
Two-coloured Ground Beetle	*Agonum bicolor*	Undetermined		
Consimile Ground Beetle	*Agonum consimile*	Secure	ⓘ[5]	
Copper Ground Beetle	*Agonum cupreum*	Undetermined		
Elegant Purple-green Ground Beetle	*Agonum cupripenne*	Undetermined		
Painted Ground Beetle	*Agonum exaratum*	Secure		
Gracious Ground Beetle	*Agonum gratiosum*	Secure	ⓘ[5]	
Brown-prothorax Ground Beetle	*Agonum lutulentum*	Undetermined		
Metallic Ground Beetle	*Agonum metallescens*	Undetermined		
Variable Ground Beetle	*Agonum mutatum*	Undetermined		
Black-headed Sedge Beetle	*Aganum nigriceps*	Undetermined		
Close Ground Beetle	*Agonum propinquum*	Undetermined		
Five-spotted Ground Beetle	*Agonum quinquepunctatum*	Undetermined		
Forest-litter Ground Beetle	*Agonum retractum*	Undetermined		
Sordens Ground Beetle	*Agonum sordens*	Undetermined		
Superior Ground Beetle	*Agonum superioris*	Undetermined		
Thorey's Ground Beetle	*Agonum thoreyi*	Secure		
Shining Sun Beetle	*Amara aeneopolita*	Undetermined		
Tundra Sun Beetle	*Amara alpina*	Secure		
Exposed Sun Beetle	*Amara alpina*	Alien		
Bokor's Sun Beetle	*Amara bokori*	Secure		
Brown's Sun Beetle	*Amara browni*	Undetermined		
Copper Sun Beetle	*Amara brunnea*	Undetermined		
Baikal Sun Beetle	*Amara daurica*	Undetermined		
Erratic Sun Beetle	*Amara erratica*	Undetermined		
Gibbous Sun Beetle	*Amara gibba*	Undetermined		
Glacier Sun Beetle	*Amara glacialis*	Undetermined		
Hicks' Sun Beetle	*Amara hicksi*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Taiga Sun Beetle	*Amara hyperborea*	Undetermined		
Idaho Sun Beetle	*Amara idahoana*	Undetermined		
Intertitialis Sun Beetle	*Amara interstitialis*	Secure	ⓘ[5]	
Kurnakow's Sun Beetle	*Amara kurnakowi*	Undetermined		
Lake-loving Sun Beetle	*Amara lacustris*	Undetermined		
Smooth-winged Sun Beetle	*Amara laevipennis*	Undetermined		
Shore-lover Sun Beetle	*Amara littoralis*	Undetermined		
Moon-collar Sun Beetle	*Amara lunicollis*	Undetermined		
Large Sun Beetle	*Amara obesa*	Undetermined		
Pale-footed Sun Beetle	*Amara pallipes*	Undetermined		
Neighbouring Sun Beetle	*Amara patruelis*	Undetermined		
Brass Sun Beetle	*Amara pseudobrunnea*	Undetermined		
Quensel's Ground Beetle	*Amara quenseli*	Undetermined		
Schwarz's Ground Beetle	*Amara schwarzi*	Undetermined		
Marked Ground Beetle	*Amara sinuosa*	Undetermined		
Spurred Ground Beetle	*Amara spuria*	Secure	ⓘ[5]	
Tough Ground Beetle	*Amara tenax*	Undetermined		
Torrid Ground Beetle	*Amara torrida*	Undetermined		
Trans-beringian Ground Beetle	*Amara transberingiensis*	Undetermined		
Alaska Ground Beetle	*Asaphidion alaskanum*	Secure		
Red-black Spotted Beetle	*Badister neopulchellus*	Undetermined		
Short Spotted Beetle	*Badister obtusus*	Undetermined		
Sharp-nosed Bembidion Beetle	*Bembidion acutifrons*	Undetermined		
Arctic Bembidion Beetle	*Bembidion arcticum*	Undetermined		
Bispotted Bembidion Beetle	*Bembidion bimaculatum*	Undetermined		
Brachythorax Bembidion Beetle	*Bembidion brachythorax*	Undetermined		
Canadian Bembidion Beetle	*Bembidion canadianum*	Undetermined		
Sand-loving Bembidion Beetle	*Bembidion carinula*	Undetermined		
Brass Bembidion Beetle	*Bembidion chalceum*	Undetermined		
Colorado Bembidion Beetle	*Bembidion coloradense*	Undetermined		
Compressed Bembidion Beetle	*Bembidion compressum*	Undetermined		
One-colour Bembidion Beetle	*Bembidion concolor*	Secure	ⓘ[5]	
Concrete Bembidion Beetle	*Bembidion concretum*	Undetermined		
Short Bembidion Beetle	*Bembidion curtulatum*	Undetermined		
Diligent Bembidion Beetle	*Bembidion diligens*	Undetermined		
Baikal Bembidion Beetle	*Bembidion dauricum*	Undetermined		
Striated Bembidion Beetle	*Bembidion fortestriatum*	Undetermined		
Pitted Bembidion Beetle	*Bembidion foveum*	Undetermined		
Marked Bembidion Beetle	*Bembidion graphicum*	Undetermined		
Grap's Bembidion Beetle	*Bembidion grapii*	Secure		
Hast's Bembidion Beetle	*Bembidion hastii*	Undetermined		
Taiga Bembidion Beetle	*Bembidion hyperboraeorum*	Undetermined		
Longer Bembidion Beetle	*Bembidion incrematum*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Salt Bembidion Beetle	*Bembidion insulatum*	Undetermined		
Bling Bembidion Beetle	*Bembidion interventor*	Undetermined		
Kuprianov's Bembidion Beetle	*Bembidion kuprianovii*	Undetermined		
Lapland Bembidion Beetle	*Bembidion lapponicum*	Undetermined		
Lena River Bembidion Beetle	*Bembidion lenae*	Undetermined		
Sandy-beach Bembidion Beetle	*Bembidion levettei*	Undetermined		
Manning Bembidion Beetle	*Bembidion manningense*	Undetermined		
Mulberry Bembidion Beetle	*Bembidion morulum*	Undetermined		
Changing Bembidion Beetle	*Bembidion mutatum*	Undetermined		
Black-legged Bembidion Beetle	*Bembidion nigripes*	Secure		
Brillant Bembidion Beetle	*Bembidion nitidum*	Undetermined		
Dry-field Bembidion Beetle	*Bembidion obscurellum*	Undetermined		
Clay-beach Bemdidion Beetle	*Bembidion patruele*	Undetermined		
Oily Bembidion Beetle	*Bembidion petrosum*	Undetermined		
Flat Bembidion Beetle	*Bembidion planatum*	Undetermined		
Pseudocautum Bembidion Beetle	*Bembidion pseudocautum*	Undetermined		
Dotted-lined Bembidion Beetle	*Bembidion punctatostriatum*	Undetermined		
Quadri-pitted Bembidion Beetle	*Bembidion quadrifoveolatum*	Undetermined		
Garden Bembidion Beetle	*Bembidion quadrimaculatum*	Undetermined		
Field Bembidion Beetle	*Bembidion rupicola*	Undetermined		
Salebratum Bembidon Beetle	*Bembidion salebratum*	Undetermined		
Two-spotted Bembidion Beetle	*Bembidion scopulinum*	Undetermined		
Saline Bembidion Beetle	*Bembidion sejunctum*	Undetermined		
Semipunctuated Bembidion Beetle	*Bembidion semipunctatum*	Undetermined		
Dark Bembidion Beetle	*Bembidion sordidum*	Undetermined		
Grooved Bembidion Beetle	*Bembidion sulcipenne*	Undetermined		
Timid Bembidion Beetle	*Bembidion timidum*	Undetermined		
Transparent Bembidion Beetle	*Bembidion transparens*	Undetermined		
Rocky-creek Bembidion Beetle	*Bembidion transversale*	Undetermined		
Shadow Bembidion Beetle	*Bembidion umbratum*	Undetermined		
Umiat Bembidion Beetle	*Bembidion umiatense*	Undetermined		
Multicolour Bembidion Beetle	*Bembidion versicolor*	Undetermined		
Green-necked Bembidion Beetle	*Bembidion viridicolle*	Undetermined		
Yukon Bembidion Beetle	*Bembidion yukonum*	Undetermined		
Chain-link Blethisa Beetle	*Blethisa catenaria*	Undetermined		
Marsh Blethisa Beetle	*Blethisa hudsonica*	Undetermined		
Bog Blethisa Beetle	*Blethisa julii*	Undetermined		
Many-pits Blethisa Beetle	*Blethisa multipunctata*	Undetermined		
Large Blethisa Beetle	*Blethisa quadricollis*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Leconte's Blethisa Beetle	*Bradycellus lecontei*	Undetermined		
Basket Ground Beetle	*Calathus ingratus*	Undetermined		
Meadow Caterpillar Hunter Beetle	*Calosoma calidum*	Undetermined		
Worn-out Hunter Ground Beetle	*Calosoma obsoletum*	Undetermined		
Chamisson Ground Beetle	*Carabus chamissonis*	Secure	ⓘ[5]	
Meander Ground Beetle	*Carabus maeander*	Undetermined		
Meadow Ground Beetle	*Carabus taedatus*	Undetermined		
Short-necked Ground Beetle	*Carabus truncaticollis*	Undetermined		
Vietinghoff's Ground Beetle	*Carabus vietinghoffii*	Secure		
Dark-copper Stinking Beetle	*Chlaenius alternatus*	Undetermined		
Small-green Stinking Beetle	*Chlaenius lithophilus*	Undetermined		
Black Stinking Beetle	*Chlaenius niger*	Undetermined		
Prairie Stinking Beetle	*Chlaenius purpuricollis*	Undetermined		
Twelve-Spotted Tiger Beetle	*Cicindela duodecimguttata*	Secure		
Common Claybank Tiger Beetle	*Cicindela limbalis*	Secure		
Sandy Tiger Beetle	*Cicindela limbata*	Undetermined	∃[3]	
Boreal Long-lipped Tiger Beetle	*Cicindela longilabris*	Secure		
Western Tiger Beetle	*Cicindela oregona*	Secure		
Oblique-lined Tiger Beetle	*Cicindela tranquebarica*	Secure		
Sand Cymindis Beetle	*Cymindis cribricollis*	Undetermined		
Flat Cymindis Beetle	*Cymindis planipennis*	Undetermined		
Tundra Cymindis Beetle	*Cymindis unicolor*	Undetermined		
Old-world Cymindis Beetle	*Cymindis vaporariorum*	Undetermined		
Cold-seep Ground Beetle	*Diacheila arctica*	Undetermined		
Moss-loving Ground Beetle	*Diacheila polita*	Undetermined		
Kindred Ground Beetle	*Dicheirotrichus cognatus*	Secure		
Mannerheim's Ground Beetle	*Dicheirotrichus mannerheimii*	Undetermined		
Blunt Ground Beetle	*Diplocheila obtusa*	Undetermined		
Striped Ground Beetle	*Diplocheila striatopunctata*	Undetermined		
Aterrimus Ground Beetle	*Diplous aterrimus*	Undetermined		
Golden-green Ground Beetle	*Dyschirius aeneolus*	Undetermined		
Dejean's Ground Beetle	*Dyschirius dejeanii*	Undetermined		
Globular Ground Beetle	*Dyschirius globulosus*	Undetermined		
Winter Ground Beetle	*Dyschirius hiemalis*	Undetermined		
Melancholic Ground Beetle	*Dyschirius melancholicus*	Undetermined		
Shiny Ground Beetle	*Dyschirius politus*	Undetermined		
Subarctic Ground Beetle	*Dyschirius subarcticus*	Undetermined		
Truncated Ground Beetle	*Dyschirius truncatus*	Undetermined		
Anceps Ground Beetle	*Elaphropus anceps*	Undetermined		
Boreal Elaphrus Beetle	*Elaphrus americanus*	Secure		
Old-world Elaphrus Beetle	*Elaphrus angusticollis*	Undetermined		
Clay-loving Elaphrus Beetle	*Elaphrus californicus*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Clairville's Elaphrus Beetle	*Elaphrus clairvillei*	Secure		
Sooty Elaphrus Beetle	*Elaphrus fuliginosus*	Undetermined		
Lapland Elaphrus Beetle	*Elaphrus lapponicus*	Secure		
Salt-marsh Elaphrus Beetle	*Elaphrus lecontei*	Undetermined		
Olive Elaphrus Beetle	*Elaphrus olivaceus*	Undetermined		
Mountain-creek Elaphrus Beetle	*Elaphrus purpurans*	Secure		
Tundra Elaphrus Beetle	*Elaphrus trossulus*	Undetermined		
Subarctic-river Elaphrus Beetle	*Elaphrus tuberculatus*	Secure		
Olympian Small Beetle	*Gehringia olympica*	Undetermined		
Sand-blowout Harpaline Beetle	*Harpalobrachys leiroides*	Undetermined		
Lame Harpaline Beetle	*Harpalus amputatus*	Undetermined		
Fulvia Harpaline Beetle	*Harpalus fulvilabris*	Undetermined		
Brown Harpaline Beetle	*Harpalus fuscipalpis*	Undetermined		
Inoffensive Harpaline Beetle	*Harpalus innocuus*	Undetermined		
Left-footed Harpaline Beetle	*Harpalus laevipes*	Undetermined		
Large-headed Harpaline Beetle	*Harpalus laticeps*	Undetermined		
Lewis' Harpaline Beetle	*Harpalus lewisii*	Undetermined		
Black-legged Harpaline Beetle	*Harpalus nigritarsis*	Undetermined		
Opaque Harpaline Beetle	*Harpalus opacipennis*	Undetermined		
Plenalis Harpaline Beetle	*Harpalus plenalis*	Undetermined		
Solitary Harpaline Beetle	*Harpalus solitaris*	Undetermined		
Field Harpaline Beetle	*Harpalus somnulentus*	Undetermined		
Flower Lebia Beetle	*Lebia viridis*	Undetermined		
Litter Loricera Beetle	*Loricera pilicornis*	Undetermined		
Arctic Smooth Beetle	*Miscodera arctica*	Undetermined		
Beringian Nebria Beetle	*Nebria frigida*	Undetermined	∃[4]	
Gyllenhal's Nebria Beetle	*Nebria gyllenhali*	Secure		
Hudson Nebria Beetle	*Nebria hudsonica*	Undetermined		
Snow-loving Nebria Beetle	*Nebria nivalis*	Undetermined	∃[4]	
Oblique Nebria Beetle	*Nebria obliqua*	Undetermined		
Sahlberg's Nebria Beetle	*Nebria sahlbergii*	Undetermined		
Moraine Curious Beetle	*Notiophilus aquaticus*	Undetermined		
Boreal Curious Beetle	*Notiophilus borealis*	Secure	ⓘ[5]	
Intermediate Curious Beetle	*Notiophilus intermedius*	Undetermined		
Striated Curious Beetle	*Notiophilus semistriatus*	Undetermined		
Ocellate Creek Beetle	*Opisthius richardsoni*	Undetermined		
Pitted Patrobus Beetle	*Patrobus foveocollis*	Undetermined		
Long-horned Patrobus Beetle	*Patrobus longicornis*	Undetermined		
Northern Patrobus Beetle	*Patrobus septentrionis*	Undetermined		
Styx Patrobus Beetle	*Patrobus stygicus*	Undetermined		
Boreal Marsh Beetle	*Pelophila borealis*	Secure		
Tussock Marsh Beetle	*Pelophila rudis*	Undetermined		
Proper Platynus Beetle	*Platynus decentis*	Undetermined		
Mannerheim's Platynus Beetle	*Platynus mannerheimii*	Undetermined		



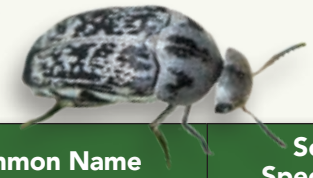
Pine Bole Weevil
Photo Credit: L. Leclerc

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Beaver-house Ground Beetle	*Platypatrobus lacustris*	Undetermined		
Gardener Ground Beetle	*Poecilus lucublandus*	Undetermined		
Russian Ground Beetle	*Poecilus nearcticus*	Undetermined		
Pitted Ground Beetle	*Pterostichus adstrictus*	Secure		
Agonus Ground Beetle	*Pterostichus agonus*	Undetermined		
Arctic Ground Beetle	*Pterostichus arcticola*	Secure	ⓘ[5]	
Barryorum Ground Beetle	*Pterostichus barryorum*	Secure	ⓘ[5]	
Small-horned Ground Beetle	*Pterostichus brevicornis*	Secure	ⓘ[5]	
Bryant's Ground Beetle	*Pterostichus bryanti*	Undetermined		
Caribou Ground Beetle	*Pterostichus caribou*	Secure	ⓘ[5]	
Wood Ground Beetle	*Pterostichus caudicalis*	Undetermined		
Chipewyan Ground Beetle	*Pterostichus chipewyan*	Undetermined		
Raven Ground Beetle	*Pterostichus corvinus*	Undetermined		
Beaufort Ground Beetle	*Pterostichus costatus*	Undetermined		
Female Ground Beetle	*Pterostichus empetricola*	Undetermined		
Hudson Ground Beetle	*Pterostichus hudsonicus*	Secure	ⓘ[5]	
Mandibulate Ground Beetle	*Pterostichus mandibularoides*	Secure		
Cousin Ground Beetle	*Pterostichus patruelis*	Undetermined		
Deciduous Ground Beetle	*Pterostichus pensylvanicus*	Undetermined		
Pingo Ground Beetle	*Pterostichus pinguedineus*	Secure		
Elegant Ground Beetle	*Pterostichus punctatissimus*	Undetermined		
Riparian Ground Beetle	*Pterostichus riparius*	Undetermined		
Soper's Ground Beetle	*Pterostichus soperi*	Undetermined		
Almost-smooth Ground Beetle	*Pterostichus sublaevis*	Undetermined		
Tareumuit Ground Beetle	*Pterostichus tareumiut*	Secure		
Belly Ground Beetle	*Pterostichus ventricosus*	Secure		
Grub Ground Beetle	*Pterostichus vermiculosus*	Undetermined		
Burning Forest Ground Beetle	*Sericoda bembidioides*	Undetermined		
Campfire Ground Beetle	*Sericoda obsoleta*	Undetermined		
Burnt-wood Ground Beetle	*Sericoda quadripunctata*	Undetermined		
Tundra Ground Beetle	*Stereocerus haematopus*	Secure	ⓘ[5]	
Sunshine Ground Beetle	*Syntomus americanus*	Secure		
Rusty Ground Beetle	*Trechus apicalis*	Undetermined		
Coleoptera – Cerambycidae				Beetles – Longhorn beetles
Little Flatface Longhorn Beetle	*Acanthocinus pusillus*	Undetermined		
Shapeless Flower Longhorn Beetle	*Acmaeops proteus*	Undetermined		
Bloody Flower Longhorned Beetle	*Anastrangalia sanguinea*	Undetermined		
Pitted Bark Longhorn Beetle	*Arhopalus foveicollis*	Undetermined		
Striated Bark Longhorn Beetle	*Asemum striatum*	Undetermined		
Vancouver Flower Longhorn Beetle	*Evodinus vancouveri*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Meadow Flower Longhorn Beetle	*Gnathacmaeops pratensis*	Undetermined		
Silver Flower Longhorn Bettle	*Grammoptera subargentata*	Undetermined		
Fickle Flower Longhorn Beetle	*Judolia instabilis*	Undetermined	∃[6]	
Mountain Flower Longhorn Beetle	*Judolia montivagans*	Undetermined		
Square Flower Longhorn Beetle	*Judolia quadrata*	Undetermined		
Golden Flower Longhorn Beetle	*Lepturobosca chrysocoma*	Undetermined		
Bareland Longhorned Beetle	*Megasemum asperum*	Undetermined		
Shape-shifter Longhorn Beetle	*Meriellum proteus*	Undetermined		
Spotted Pine Sawyer	*Monochamus maculosus*	Undetermined		
Northeastern Pine Sawyer	*Monochamus notatus*	Undetermined		
White-spotted Sawyer	*Monochamus scutellatus*	Secure		
Epaulette Longhorn Beetle	*Neoclytus leucozonus*	Undetermined		
Lamed Flower Longhorn Beetle	*Pachyta lamed*	Undetermined		
Scribbling Flower Longhorn Beetle	*Pidonia scripta*	Undetermined		
Mixed-spotted Flatface Sawyer	*Pogonocherus mixtus*	Undetermined		
Tufted Flatface Sawyer	*Pogonocherus penicillatus*	Undetermined		
Marked Flatface Sawyer	*Pogonocherus pictus*	Undetermined	ⓘ[6]	
Redneck Longhorn Beetle	*Pronocera collaris*	Undetermined		
Rusty Flower Longhorn Beetle	*Pygoleptura nigrella*	Undetermined		
Ribbed Pine Borer	*Rhagium inquisitor*	Undetermined		
Terminal Borer	*Semanotus terminatus*	Undetermined	ⓘ[6]	
Cinnamon Bark Longhorn Beetle	*Tetropium cinnamopterum*	Undetermined		
Orange Bark Longhorn Beetle	*Tetropium parvulum*	Undetermined		
Rough Flower Longhorn Beetle	*Trachysida aspera*	Undetermined		
Variable Flower Longhorn Beetle	*Trachysida mutabilis*	Undetermined		
Harris's Gladiator Longhorn Beetle	*Tragosoma harrisii*	Undetermined		
Grizzled Zebra Borer	*Xylotrechus annosus*	Undetermined		
Schaeffer's Zebra Beetle	*Xylotrechus schaefferi*	Undetermined		
Spruce Zebra Beetle	*Xylotrechus undulatus*	Undetermined		
Coleoptera – Cerylonidae				Beetles – Minute bark beetles
Unicolour Minute Bark Beetle	*Cerylon unicolor*	Undetermined		
Coleoptera – Chrysomelidae				Beetles – Leaf beetles
Little-brother Pea Beetle	*Acanthoscelides fraterculus*	Undetermined		
Sand Willow Flea Beetle	*Altica bimarginata*	Undetermined		
Dogwood Flea Beetle	*Altica corni*	Undetermined		
Lazy Flea Beetle	*Altica inaerata*	Undetermined		
Bronzed Flea Beetle	*Altica tombacina*	Undetermined		
Western Grape Rootworm	*Bromius obscurus*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Calfornian Caligraphy Leaf Beetle	*Calligrapha californica*	Undetermined		
Spotted Caligraphy Leaf Beetle	*Calligrapha multipunctata*	Undetermined		
Embossed Caligraphy Leaf Beetle	*Calligrapha verrucosa*	Undetermined		
Pale Tortoise Beetle	*Cassida flaveola*[c]	Alien		
Erratic Flea Beetle	*Chaetocnema irregularis*	Undetermined		
Long Flea Beetle	*Chaetocnema protensa*	Presence Expected		
Hudsonian Leaf Beetle	*Chrysolina hudsonica*	Undetermined		
Blaisdel's Leaf Beetle	*Chrysomela blaisdelli*	Undetermined		
Aspen Leaf Beetle	*Chrysomela crotchi*	Undetermined		
Fake Leaf Beetle	*Chrysomela falsa*	Undetermined		
St. Lawrence Leaf Beetle	*Chrysomela laurentia*	Undetermined		
Linear-spotted Leaf Beetle	*Chrysomela lineatopunctata*	Undetermined		
Maine Leaf Beetle	*Chrysomela mainensis*	Undetermined		
Separated Leaf Beetle	*Chrysomela semota*	Undetermined		
Our Lord Leaf Beetle	*Coleothorpa dominicana*	Undetermined		
Shining Flea Beetle	*Crepidodera digna*	Undetermined		
Heikertinger's Flea Beetle	*Crepidodera heikertingeri*	Undetermined		
Small Flea Beetle	*Crepidodera nana*	Undetermined		
Poplar Flea Beetle	*Crepidodera populivora*	Undetermined		
Alternate Flea Beetle	*Disonycha alternata*	Undetermined		
Tall Flea Beetle	*Disonycha procera*	Undetermined		
Pinpoint Flea Beetle	*Disonycha punctigera*	Undetermined		
Spinach Flea Beetle	*Disonycha xanthomelas*	Undetermined		
Cazier's Water Leaf Beetle	*Donacia cazieri*	Undetermined		
Beautiful Swimming Leaf Beetle	*Donacia distincta*	Undetermined		
Hairy Swimming Leaf Beetle	*Donacia hirticollis*	Undetermined		
Aquatic Sedge Leaf Beetle	*Donacia porosicollis*	Undetermined		
Shoreline Water Leaf Beetle	*Donacia proxima*	Undetermined		
Red Turnip Beetle	*Entomoscelis americana*	Secure	ⓘ[5]	
Waterlily Leaf Beetle	*Galerucella nymphaeae*	Undetermined		
Seablue Leaf Beetle	*Gastrophysa cyanea*	Undetermined		
Peerless Leaf Beetle	*Gastrophysa dissimilis*	Undetermined		
American Aspen Beetle	*Gonioctena americana*	Undetermined		
Snow Leaf Beetle	*Gonioctena nivosa*	Undetermined		
Notman's Leaf Beetle	*Gonioctena notmani*	Secure	ⓘ[5]	
Horsetail Flea Beetle	*Hippuriphila canadensis*	Undetermined		
Mourning Flea Beetle	*Kuschelina lugens*	Undetermined		
Red-lined Flea Beetle	*Kuschelina vians*	Undetermined		
Wide Bean Beetle	*Kytorhinus prolixus*	Undetermined		
Longlegged Flea Beetle	*Longitarsus erro*	Undetermined		
Stefansson's Arctic Leaf Beetle	*Neogalerucella stefanssoni*	Undetermined		
Arctic Ophrarella Beetle	*Ophraella arctica*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Dark-marked Casebearer Beetle	*Pachybrachis melanostictus*	Undetermined		
Wetland Phaedon Beetle	*Phaedon armoraciae*	Alien		
Light Phaedon Beetle	*Phaedon laevigatus*	Alien		
Mustard Phaedon Beetle	*Phaedon oviformis*	Undetermined		
Sprout Phaedon Beetle	*Phaedon viridis*	Undetermined		
Birch Leaf Beetle	*Phratora hudsonia*	Undetermined		
Beringian Willow Leaf Beetle	*Phratora interstitialis*	Undetermined		
Aspen Skeletonizer	*Phratora purpurea*	Undetermined		
Decorated Leaf Beetle	*Phyllobrotica decorata*	Undetermined		
Oblong Flea Beetle	*Phyllotreta oblonga*	Undetermined		
Striated Flea Beetle	*Phyllotreta striolata*	Alien		
Zimmerman's Flea Beetle	*Phyllotreta zimmermanni*	Undetermined		
Mountain Flea Beetle	*Phyllotreta ramosoi*	Undetermined		
Golden Swimming Leaf Beetle	*Plateumaris aurifera*	Undetermined		
Yellowfooted Swimming Leaf Beetle	*Plateumaris flavipes*	Undetermined		
Frost's Aquatic Leaf Beetle	*Plateumaris frosti*	Undetermined		
Tawny-legged Aquatic Leaf Beetle	*Plateumaris fulvipes*	Undetermined		
Germar's Swimming Leaf Beetle	*Plateumaris germari*	Undetermined		
Shining Aquatic Leaf Beetle	*Plateumaris nitida*	Undetermined		
Tiny Swimming Leaf Beetle	*Plateumaris pusilla*	Undetermined		
Strong Aquatic Leaf Beetle	*Plateumaris robusta*	Undetermined		
Northern Leaf Beetle	*Prasocuris boreella*	Undetermined		
Marsh Leaf Beetle	*Prasocuris phellandrii*	Undetermined		
Banded Leaf Beetle	*Prasocuris vittata*	Undetermined		
Hop Flea Beetle	*Psylliodes punctulatus*	Undetermined		
Hairy Leaf Beetle	*Syneta pilosa*	Undetermined		
Grey Willow Leaf Beetle	*Tricholochmaea decora*	Undetermined		
Pierced-winged Leaf Beetle	*Tricholochmaea punctipennis*	Undetermined		
Coleoptera – Ciidae				Beetles – Minute tree-fungus beetles
Darkfooted Cis Beetle	*Cis fuscipes*	Undetermined		
Shaggy Cis Beetle	*Cis horridulus*	Undetermined		
Miller Cis Beetle	*Cis pistorius*	Undetermined		
Groovy Cis Beetle	*Cis striatulus*	Undetermined		
Manitoba Tree-fungus Beetle	*Dolichocis manitoba*	Undetermined		
Pitted Fungus Beetle	*Orthocis punctatus*	Undetermined		
Coleoptera – Cleridae				Beetles – Checkered beetles
Violet Checkered Beetle	*Necrobia violacea*	Alien		
Leconte's Checkered Beetle	*Phyllobaenus lecontei*	Undetermined		
Wavering Checkered Beetle	*Thanasimus dubius*	Undetermined		
Wavy Checkered Beetle	*Thanasimus undatulus*	Undetermined		
Ornate Checkered Beetle	*Trichodes ornatus*	Undetermined		



Tumbling Ragdoll Flower Beetle
Photo Credit: T. Fandre

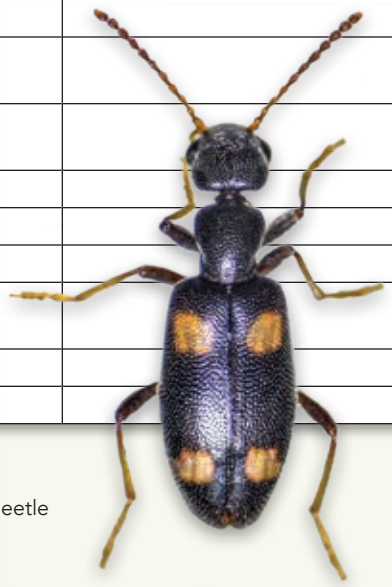
Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Coleoptera – Coccinellidae				Beetles – Lady beetles
Two-spotted Lady Beetle	*Adalia bipunctata*	Secure		
Eye-spotted Lady Beetle	*Anatis mali*	Undetermined		
Marsh Lady Beetle	*Anisosticta bitriangularis*	Secure		
Boreal Lady Beetle	*Anisosticta borealis*	Undetermined		
White-fronted Lady Beetle	*Brachiacantha albifrons*	Undetermined		
Winter Lady Beetle	*Brumoides septentrionis*	Undetermined		
Cream-spotted Lady Beetle	*Calvia quatuordecimguttata*	Secure		
Ulke's Lady Beetle	*Ceratomegilla ulkei*	Undetermined		
Nice Lady Beetle	*Coccidula lepida*	Undetermined		
Shining Lady Beetle	*Coccinella fulgida*	Undetermined		
Hieroglyphic Lady Beetle	*Coccinella hieroglyphica*	Undetermined		
Tamarack Lady Beetle	*Coccinella monticola*	Undetermined		
Seven-spotted Lady Beetle	*Coccinella septempunctata*	Alien		
Transverse Lady Beetle	*Coccinella transversoguttata*	Secure		Special Concern – 2016
Three-banded Lady Beetle	*Coccinella trifasciata*	Secure		
Angular Lady Beetle	*Didion longulum*	Undetermined		
Twice-stained Lady Beetle	*Didion punctatum*	Undetermined		
American Lady Beetle	*Hippodamia americana*	Undetermined		
Arctic Lady Beetle	*Hippodamia arctica*	Undetermined		
Convergent Lady Beetle	*Hippodamia convergens*[d]	Presence Expected		
Waterside Lady Beetle	*Hippodamia falcigera*	Undetermined	∃[4]	
Glacial Lady Beetle	*Hippodamia glacialis*	Undetermined		
Parenthesis Lady Beetle	*Hippodamia parenthesis*	Secure		
Five-marked Lady Beetle	*Hippodamia quinquesignata*	Secure		
Sinuate Lady Beetle	*Hippodamia sinuata*	Undetermined		
Thirteen-spotted Lady Beetle	*Hippodamia tredecimpunctata*	Secure		
Poorly-known Lady Beetle	*Hyperaspis consimilis*	Undetermined		
Jasper Lady Beetle	*Hyperaspis jasperensis*	Undetermined		
Episcopalian Lady Beetle	*Macronaemia episcopalis*	Undetermined		
Hudsonian Lady Beetle	*Mulsantina hudsonica*	Undetermined		
Painted Lady Beetle	*Mulsantina picta*	Presence Expected		
Streaked Lady Beetle	*Myzia pullata*	Undetermined	ⓘ[10]	
Farmer's Lady Beetle	*Nephus georgei*	Undetermined		
Twenty-Spotted Lady Beetle	*Psyllobora vigintimaculata*	Undetermined		
Lacustrine Lady Beetle	*Scymnus lacustris*	Undetermined		
Gloomy Lady Beetle	*Scymnus tenebrosus*	Undetermined		
Coleoptera – Corylophidae				Beetles – Hooded beetles
Lugubrious Hooded Beetle	*Clypastraea lugubris*	Undetermined		
Small-salver Hooded Beetle	*Orthoperus scutellaris*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Coleoptera – Cryptophagidae				Beetles – Fungus beetles
Saddle Cloth Fungus Beetle	*Atomaria ephippiata*	Undetermined		
Rusty Silk Fungus Beetle	*Caenoscelis ferruginea*	Undetermined		
Angel Silk Fungus Beetle	*Cryptophagus jakowlewi*	Undetermined		
Thick Silk Fungus Beetle	*Henotiderus centromaculatus*	Undetermined		
Coleoptera – Cucujidae				Beetles – Flat bark beetles
Dark Flat Bark Beetle	*Pediacus fuscus*	Undetermined		
Coleoptera – Curculionidae				Beetles – Snout beetles
Carpin's Snout Beetle	*Acalyptus carpini*	Undetermined		
Potato Bud Weevil	*Anthonomus nigrinus*	Undetermined		
Fireweed Weevil	*Auleutes epilobii*	Undetermined		
Anderson's Bark Beetle	*Carphoborus andersoni*	Undetermined		
Carr's Bark Beetle	*Carphoborus carri*	Undetermined		
American Weevil	*Ceutorhynchus americanus*	Undetermined		
Howden Weevil	*Ceutorhynchus howdenae*	Undetermined	#	
Quercetin Weevil	*Ceutorhynchus querceti*	Undetermined		
Hairy Weevil	*Ceutorhynchus subpubescens*	Undetermined		
Leconte's Weevil	*Cnemogonus lecontei*	Undetermined		
Artemisia Broad-nosed Weevil	*Connatichela artemisiae*	Presence Expected		
Boreal Cryptic Bark Beetle	*Crypturgus borealis*	Undetermined		
Mountain Pine Beetle	*Dendroctonus ponderosae*	Undetermined		
Boreal Spruce Beetle	*Dendroctonus punctatus*	Undetermined		
Red-winged Spruce Beetle	*Dendroctonus rufipennis*	Secure		
Eastern Larch Beetle	*Dendroctonus simplex*	Undetermined		
Red Turpentine Beetle	*Dendroctonus valens*	Undetermined		
Frost's Willow Weevil	*Dorytomus frostii*	Undetermined		
Innocent Willow Weevil	*Dorytomus imbecillus*	Undetermined		
Whitemarked Willow Weevil	*Dorytomus leucophyllus*	Undetermined		
Lurid Willow Beetle	*Dorytomus luridus*	Undetermined		
Mannerheim's Willow Weevil	*Dorytomus mannerheimi*	Undetermined		
Reddish Willow Beetle	*Dorytomus rufulus*	Undetermined		
Poplar Bud Weevil	*Dorytomus vagenotatus*	Undetermined		
Faber Spruce Bark Beetle	*Dryocoetes affaber*	Undetermined		
Hairy Spruce Bark Beetle	*Dryocoetes autographus*	Secure		
Scaled Broad-nosed Weevil	*Evotus naso*	Undetermined		
Douglas Fir Root Bark Beetle	*Hylastes nigrinus*	Undetermined		
Red Bark Beetle	*Hylastes ruber*	Undetermined		
Seedling Debarking Weevil	*Hylobius congener*	Undetermined		
Pine Debarking Weevil	*Hylobius pinicola*	Undetermined		
Pore-making Hylurgops Beetle	*Hylurgops porosus*	Undetermined		
Net-making Hylurgops Beetle	*Hylurgops reticulatus*	Undetermined		
Steppe Weevil	*Hypera diversipunctata*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Three-lined Weevil	*Hypera trivittata*	Undetermined		
Boreal Engraver	*Ips borealis*	Secure		
Northern Spruce Engraver	*Ips perturbatus*	Undetermined		
Pine Engraver	*Ips pini*	Undetermined		
Western Engraver	*Ips tridens*	Undetermined		
Arctic Flea Weevil	*Isochnus arcticus*	Undetermined	ⓘ[10]	
Whipping Flea Weevil	*Isochnus flagellum*	Undetermined		
Tundra Broad-nosed Weevil	*Lepidophorus lineaticollis*	Secure		
Hooded Lepyrus Weevil	*Lepyrus capucinus*	Undetermined		
Twin Lepyrus Weevil	*Lepyrus gemellus*	Undetermined		
Labrador Lepyrus Weevil	*Lepyrus labradorensis*	Undetermined		
Nordenskiold's Lepyrus Weevil	*Lepyrus nordenskioeldi*	Undetermined		
Wetland Lepyrus Weevil	*Lepyrus palustris*	Undetermined		
Stefansson's Lepyrus Weevil	*Lepyrus stefanssoni*	Undetermined		
Skinny Weevil	*Listronotus filiformis*	Undetermined		
Scattered Weevil	*Listronotus sparsus*	Undetermined		
Knotweed Weevil	*Lixus rubellus*	Undetermined		
Spruce Magdalid Weevil	*Magdalis alutacea*	Undetermined		
Saltbush Broad-nosed Weevil	*Ophryastes sulcirostris*	Undetermined		
Carving Bark Beetle	*Orthotomicus caelatus*	Undetermined		
Strawberry Root Weevil	*Otiorhynchus ovatus*	Alien		
Pine Bark Beetle	*Phloeosinus pini*	Undetermined		
White Spruce Engraver	*Phloeotribus piceae*	Undetermined		
European Water Milfoil Weevil	*Phytobius leucogaster*	Alien		
Pine Bole Weevil	*Pissodes affinis*	Undetermined		
Small Spruce Weevil	*Pissodes rotundatus*	Undetermined		
Schwarz's Yosemite Bark Weevil	*Pissodes schwarzi*	Undetermined		
White Spruce Weevil	*Pissodes strobi*	Undetermined		
Lodgepole Terminal Weevil	*Pissodes terminalis*	Undetermined		
Fir Twig Beetle	*Pityophthorus balsameus*	Undetermined		
Bassett's Twig Beetle	*Pityophthorus bassetti*	Undetermined		
Red Spruce Twig Beetle	*Pityophthorus cascoensis*	Undetermined		
Lodgepole Pine Twig Beetle	*Pityophthorus murrayanae*	Undetermined		
Pinales Twig Beetle	*Pityophthorus nitidus*	Undetermined		
Opaque Twig Weevil	*Pityophthorus opaculus*	Undetermined		
Eastern Pine Twig Beetle	*Pityophthorus pulchellus*	Undetermined		
Four-eyed Spruce Bark Beetle	*Polygraphus rufipennis*	Undetermined		
Armoured Willow Beetle	*Proctorus armatus*	Undetermined		
Grabbing Willow Beetle	*Proctorus decipiens*	Undetermined		
Knotweed Weevil	*Rhinoncus pyrrhopus*	Undetermined		
Brown Bark Weevil	*Rhyncolus brunneus*	Undetermined		
Fanclub Bark Beetle	*Scierus annectans*	Undetermined		
Spruce Engraver	*Scolytus piceae*	Undetermined		
Sweetpea Broad-nosed Weevil	*Sitona aquilonius*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Sweet Clover Weevil	*Sitona cylindricollis*	Alien		
Clover Root Weevil	*Sitona hispidulus*	Alien		
Alfalfa Curculio	*Sitona lineellus*	Secure		
Mixed Cleonid Weevil	*Stephanocleonus confusus*	Undetermined		
Immaculate Cleonid Weevil	*Stephanocleonus immaculatus*	Undetermined		
Parshus Cleonid Weevil	*Stephanocleonus parshus*	Undetermined		
Black Miner Weevil	*Tachyerges niger*	Undetermined		
Willow Miner Weevil	*Tachyerges salicis*	Undetermined		
Bristled-brush Broad-nosed Weevil	*Tanymecus confusus*	Undetermined		
Simple Broad-nosed Weevil	*Trichalophus simplex*	Undetermined		
Birch Ambrosia Beetle	*Trypodendron betulae*	Undetermined		
Striped Ambrosia Beetle	*Trypodendron lineatum*	Undetermined	ⓘ[10]	
Willow Bark Beetle	*Trypophloeus striatulus*	Undetermined		
Coleoptera – Dermestidae				Beetles – Skin beetles
Larder Beetle	*Dermestes lardarius*	Alien		
Hide and Tallow Dermestid	*Dermestes talpinus*	Undetermined		
Corn Carpet Beetle	*Megatoma cylindrica*	Undetermined		
Undertaker Carpet Beetle	*Reesa vespulae*	Undetermined		
Odd Beetle	*Thylodrias contractus*	Alien		
Sinister Granary Beetle	*Trogoderma sinistrum*	Undetermined		
Coleoptera – Dytiscidae				Beetles – Predaceous diving beetles
Athabascan Predaceous Diving Beetle	*Acilius athabascae*	Undetermined		
Woods Predaceous Diving Beetle	*Acilius semisulcatus*	Secure		
Rockshore Agabus Beetle	*Agabus adpressus*	Undetermined		
Ajax Agabus Beetle	*Agabus ajax*	Undetermined		
Ambiguous Agabus Beetle	*Agabus ambiguus*	Undetermined		
Antenna Agabus Beetle	*Agabus antennatus*	Secure		
Coal-like Agabus Beetle	*Agabus anthracinus*	Secure		
Arctic Agabus Beetle	*Agabus arcticus*	Secure		
Auden's Agabus Beetle	*Agabus audeni*	Secure		
Austin's Agabus Beetle	*Agabus austinii*	Undetermined		
Two-colour Agabus Beetle	*Agabus bicolor*	Secure		
Twofold Agabus Beetle	*Agabus bifarius*	Secure		
Clubbed Agabus Beetle	*Agabus clavicornis*	Secure		
Shielded Agabus Beetle	*Agabus clypealis*	Undetermined		
Cousin Agabus Beetle	*Agabus confinis*	Secure		
Hipped Agabus Beetle	*Agabus coxalis*	Undetermined		
Thick-footed Diving Beetle	*Agabus crassipes*	Undetermined		
Coloured Agabus Beetle	*Agabus discolor*	Secure		
Long Agabus Beetle	*Agabus elongatus*	Secure		
Dark-winged Agabus Beetle	*Agabus fuscipennis*	Secure		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Brown Agabus Beetle	*Agabus infuscatus*	Secure		
Graffiti Agabus Beetle	*Agabus inscriptus*	Secure		
Mackenzie Agabus Beetle	*Agabus mackenziensis*	Undetermined		
Sad Agabus Beetle	*Agabus moestus*	Secure		
Pale Agabus Beetle	*Agabus pallens*	Undetermined		
Dusky-winged Agabus Beetle	*Agabus phaeopterus*	Secure		
Comma Agabus Beetle	*Agabus semipunctatus*	Secure		
Lean Agabus Beetle	*Agabus strigulosus*	Undetermined		
Thomson's Agabus Beetle	*Agabus thomsoni*	Secure		
Drab Agabus Beetle	*Agabus tristis*	Undetermined		
Swift Agabus Beetle	*Agabus velox*	Undetermined		
Zetterstedt's Agabus Beetle	*Agabus zetterstedti*	Undetermined		
Greystriate Predaceous Diving Beetle	*Boreonectes griseostriatus*	Secure		
Bigdot Diving Beetle	*Coelambus impressopunctatus*	Secure		
Dark-brown Diving Beetle	*Coelambus infuscatus*	Secure		
Laccophilinus Diving Beetle	*Coelambus laccophilinus*	Undetermined		
Marklin's Diving Beetle	*Coelambus marklini*	Secure		
Patruelis Diving Beetle	*Coelambus patruelis*	Undetermined	∃[4]	
Halophilic Diving Beetle	*Coelambus salinarius*	Secure		
Saddled Diving Beetle	*Coelambus sellatus*	Undetermined		
Stitched Diving Beetle	*Coelambus suturalis*	Secure		
Bulging Diving Beetle	*Coelambus tumidiventris*	Undetermined	∃[4]	
Mud Predaceous Diving Beetle	*Coelambus turbidus*	Secure		
Nail Diving Beetle	*Coelambus unguicularis*	Secure		
Dahuria Predaceous Diving Beetle	*Colymbetes dahuricus*	Secure		
Axe-like Predaceous Diving Beetle	*Colymbetes dolabratus*	Secure		
Hollowed Predaceous Diving Beetle	*Colymbetes exaratus*	Undetermined		
Paykull's Predaceous Diving Beetle	*Colymbetes paykulli*	Secure		
Sculptured Predaceous Diving Beetle	*Colymbetes sculptilis*	Undetermined		
Convex Predaceous Diving Beetle	*Desmopachria convexa*	Secure		
Alaska Dytiscid Diving Beetle	*Dytiscus alaskanus*	Secure		
Ringed Dytiscid Diving Beetle	*Dytiscus circumcinctus*	Secure		
Dauria Dytiscid Diving Beetle	*Dytiscus dauricus*	Secure		
Understriped Dytiscid Diving Beetle	*Dytiscus fasciventris*	Undetermined		
Harris's Dytiscid Diving Beetle	*Dytiscus harrisii*	Secure		
Free Predaceous Diving Beetle	*Graphoderus liberus*	Undetermined		



Leconte's Antlike Flower Beetle
Photo Credit: D. Loarie

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Occidental Predaceous Diving Beetle	*Graphoderus occidentalis*	Undetermined		
Complex Predaceous Diving Beetle	*Graphoderus perplexus*	Secure		
Haruspex Predaceous Diving Beetle	*Hydaticus aruspex*	Secure		
Paugus Predaceous Diving Beetle	*Hydrocolus paugus*	Secure		
Ruby Predaceous Diving Beetle	*Hydrocolus rubyae*	Undetermined		
Stagnalis Predaceous Diving Beetle	*Hydrocolus stagnalis*	Undetermined		
Appalachian Water Beetle	*Hydroporus appalachius*	Secure		
Aurora Water Beetle	*Hydroporus aurora*	Undetermined		
Badielus Water Beetle	*Hydroporus badiellus*	Secure		
Taiga Water Beetle	*Hydroporus boraeorum*	Undetermined		
Columbia Water Beetle	*Hydroporus columbianus*	Secure		
Lace Water Beetle	*Hydroporus dentellus*	Secure		
Belittled Water Beetle	*Hydroporus despectus*	Undetermined		
Brownish Water Beetle	*Hydroporus fuscipennis*	Secure		
Mountain Boreal Water Beetle	*Hydroporus geniculatus*	Undetermined		
Lapland Water Beetle	*Hydroporus lapponum*	Secure		
Larson's Water Beetle	*Hydroporus larsoni*	Secure		
Mannerheim's Water Beetle	*Hydroporus mannerheimi*	Undetermined		
Morio Water Beetle	*Hydroporus morio*	Secure		
High Boreal Water Beetle	*Hydroporus nigellus*	Secure		
Noble Water Beetle	*Hydroporus notabilis*	Secure		
Dark Water Beetle	*Hydroporus obscurus*	Secure		
Western Water Beetle	*Hydroporus occidentalis*	Undetermined		
Polar Water Beetle	*Hydroporus polaris*	Secure		
Hairy Water Beetle	*Hydroporus puberulus*	Secure		
Strait Water Beetle	*Hydroporus rectus*	Secure		
Reddish Water Beetle	*Hydroporus rufinasus*	Secure		
Siberian Water Beetle	*Hydroporus sibiricus*	Undetermined		
Marked Water Beetle	*Hydroporus signatus*	Undetermined		
Common Boreal Water Beetle	*Hydroporus striola*	Secure		
Mixed Boreal Water Beetle	*Hydroporus tartaricus*	Undetermined		
Bronzed Water Beetle	*Hydroporus tenebrosus*	Secure		
Plain Water Beetle	*Hydroporus tristis*	Secure		
Pied Diving Beetle	*Hygrotus picatus*	Undetermined	∃[4]	
Say's Diving Beetle	*Hygrotus sayi*	Secure		
Dotlined Predaceous Diving Beetle	*Ilybiosoma seriatum*	Undetermined		
Narrow Predaceous Diving Beetle	*Ilybius angustior*	Undetermined		
Churchill Predaceous Diving Beetle	*Ilybius churchillensis*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Boreal Predaceous Diving Beetle	*Ilybius discedens*	Secure		
Erichson's Predaceous Diving Beetle	*Ilybius erichsoni*	Secure		
Prairie Predaceous Diving Beetle	*Ilybius fraterculus*	Undetermined		
Opaque Predaceous Diving Beetle	*Ilybius opacus*	Undetermined		
Pitch Predaceous Diving Beetle	*Ilybius picipes*	Secure		
Ribbed Predaceous Diving Beetle	*Ilybius pleuriticus*	Secure		
Copper-tinged Predaceous Diving Beetle	*Ilybius subaeneus*	Secure		
Striped Predaceous Diving Beetle	*Ilybius vittiger*	Undetermined		
Wasastjerna's Predaceous Diving Beetle	*Ilybius wasastjernae*	Secure		
Two-spotted Predaceous Diving Beetle	*Laccophilus biguttatus*	Secure		
Common Laccornis Diving Beetle	*Laccornis conoideus*	Secure		
Oblong Laccornis Diving Beetle	*Laccornis oblongus*	Undetermined		
Dark Predaceous Diving Beetle	*Liodessus obscurellus*	Secure		
Small Predaceous Diving Beetle	*Nebrioporus depressus*	Undetermined		
Lake Superior Predaceous Diving Beetle	*Neoporus superioris*	Secure		
Twisted Predaceous Diving Beetle	*Neoporus undulatus*	Undetermined		
Horn's Predaceous Diving Beetle	*Neoscutopterus hornii*	Secure		
Lefty Predaceous Diving Beetle	*Oreodytes laevis*	Secure		
Sanmark's Predaceous Diving Beetle	*Oreodytes sanmarkii*	Undetermined	#	
Elegant Predaceous Diving Beetle	*Oreodytes scitulus*	Undetermined		
Double-marked Swimming Beetle	*Rhantus binotatus*	Undetermined		
Grassland Swimming Beetle	*Rhantus consimilis*	Undetermined		
Satiny Swimming Beetle	*Rhantus sericans*	Secure		
Signed Swimming Beetle	*Rhantus sinuatus*	Undetermined		
Sutured Swimming Beetle	*Rhantus suturellus*	Secure		
Wallis's Swimming Beetle	*Rhantus wallisi*	Secure		
Cool Predaceous Diving Beetle	*Sanfilippodytes compertus*	Undetermined		
Striate Predaceous Diving Beetle	*Stictotarsus striatellus*	Undetermined		
Coleoptera – Elateridae				Beetles – Click beetles
Sweet Click Beetle	*Aeolus mellillus*	Undetermined		
Muddy Click Beetle	*Agriotes limosus*	Undetermined		

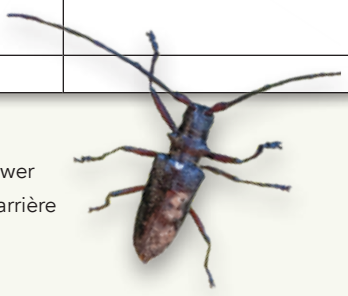
Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Poplar Click Beetle	*Ampedus apicatus*	Undetermined		
Evan's Click Beetle	*Ampedus evansi*	Undetermined		
Fuscous Click Beetle	*Ampedus fusculus*	Undetermined		
Laurentian Click Beetle	*Ampedus laurentinus*	Undetermined		
Sorrowful Click Beetle	*Ampedus luctuosus*	Undetermined		
Small Click Beetle	*Ampedus miniipennis*	Undetermined		
Sad Click Beetle	*Ampedus moerens*	Undetermined		
Black Click Beetle	*Ampedus nigrinus*	Undetermined		
Chick Click Beetle	*Ampedus pullus*	Undetermined		
Quebec Click Beetle	*Ampedus quebecensis*	Undetermined		
Castle Click Beetle	*Ampedus varipilis*	Undetermined		
Sanborn's Click Beetle	*Ascoliocerus sanborni*	Undetermined		
Beringian Click Beetle	*Berninelsonius hyperboreus*	Undetermined		
Open Heart Click Beetle	*Cardiophorus fenestratus*	Undetermined		
Alaskan Click Beetle	*Corymbitodes lobatus*	Undetermined		
Pygmy Click Beetle	*Corymbitodes pygmaeus*	Undetermined		
Kendall's Click Beetle	*Ctenicera kendalli*	Undetermined		
Short-horned Click Beetle	*Danosoma brevicorne*	Undetermined		
Covered Click Beetle	*Danosoma obtectum*	Undetermined		
Toothed Click Beetle	*Denticollis denticornis*	Undetermined		
Variable Click Beetle	*Denticollis varians*	Undetermined		
Decorated Click Beetle	*Eanus decoratus*	Undetermined		
Estriate Click Beetle	*Eanus estriatus*	Undetermined		
Extricated Click Beetle	*Fleutiauxellus extricatus*	Undetermined		
Bicolour Click Beetle	*Hypnoidus bicolor*	Undetermined		
Large-necked Click Beetle	*Hypnoidus impressicollis*	Undetermined		
Mountain Click Beetle	*Hypnoidus rivularius*	Undetermined		
Dark Click Beetle	*Ligmargus funebris*	Undetermined		
Troublesome Click Beetle	*Limonius aeger*	Undetermined		
Chesty Click Beetle	*Limonius pectoralis*	Undetermined		
Strickland's Click Beetle	*Liotrichus stricklandi*	Undetermined		
Western Gentle Click Beetle	*Neohypdonus gentilis*	Undetermined		
Restricted Click Beetle	*Neohypdonus restrictulus*	Undetermined		
Swelling Click Beetle	*Neohypdonus tumescens*	Undetermined		
Resplendent Click Beetle	*Nitidolimonius resplendens*	Undetermined		
Kindred Heart Click Beetle	*Paracardiophorus propinquus*	Presence Expected		
Needle-duff Click Beetle	*Prosternon medianum*	Undetermined		
Ochre Click Beetle	*Pseudanostirus ochreipennis*	Undetermined		
Propelling Click Beetle	*Pseudanostirus propolus*	Undetermined		
Three-spotted Click Beetle	*Pseudanostirus triundulatus*	Undetermined		
Watson's Click Beetle	*Pseudanostirus watsoni*	Undetermined		
Grass Click Beetle	*Selatosomus aeripennis*	Undetermined		

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Prairie Grain Wireworm	*Selatosomus destructor*	Undetermined		
Festive Click Beetle	*Selatosomus festivus*	Undetermined		
Sombre Click Beetle	*Selatosomus morulus*	Undetermined		
Noble Click Beetle	*Selatosomus pulcher*	Undetermined		
Strange Click Beetle	*Sericus incongruus*	Undetermined		
Plowing Click Beetle	*Setasomus aratus*	Undetermined		
Trim Click Beetle	*Setasomus nitidulus*	Undetermined		
Mendax Click Beetle	*Sylvanelater mendax*	Undetermined		
Coleoptera – Elmidae				Beetles – Riffle beetless
Fastidious Riffle Beetle	*Optioservus fastiditus*	Undetermined		
Coleoptera – Endomychidae				Beetles – Handsome fungus beetles
Two-spotted Handsome Fungus Beetle	*Endomychus biguttatus*	Undetermined		
Coleoptera – Eucinetidae				Beetles – Plate-thigh beetles
Bloody Plate-thigh Beetle	*Eucinetus haemorrhoidalis*	Undetermined		
Punctured Plate-thigh Beetle	*Nycteus punctulatus*	Undetermined		
Tiled Plate-thigh Beetle	*Nycteus testaceus*	Undetermined		
Coleoptera – Gyrinidae				Beetles – Whirligig beetles
Brass Whirligig Beetle	*Gyrinus aeratus*	Secure		
Neighbour's Whirligig Beetle	*Gyrinus affinis*	Undetermined		
Double Whirligig Beetle	*Gyrinus bifarius*	Undetermined		
Carved Whirligig Beetle	*Gyrinus cavatus*	Undetermined		
Cousin's Whirligig Beetle	*Gyrinus confinis*	Undetermined		
Dubius Whirligig Beetle	*Gyrinus dubius*	Undetermined		
Bordered Whirligig Beetle	*Gyrinus latilimbus*	Undetermined		
Spotted-belly Whirligig Beetle	*Gyrinus maculiventris*	Undetermined		
Minute Whirligig Beetle	*Gyrinus minutus*	Secure		
Dark Whirligig Beetle	*Gyrinus opacus*	Secure		
Pectoral Whirligig Beetle	*Gyrinus pectoralis*	Secure		
Black-footed Whirligig Beetle	*Gyrinus picipes*	Undetermined		
Say's Whirligig Beetle	*Gyrinus sayi*	Undetermined		
Wallis' Whirligig Beetle	*Gyrinus wallisi*	Secure		
Coleoptera – Haliplidae				Beetles – Crawling water beetles
Saltmarsh Crawling Water Beetle	*Haliplus apicalis*	Undetermined		
Canadian Crawling Water Beetle	*Haliplus canadensis*	Undetermined		
Columbian Crawling Water Beetle	*Haliplus columbiensis*	Undetermined		
Sieve Maker Crawling Water Beetle	*Haliplus cribrarius*	Undetermined		
Fall's Crawling Water Beetle	*Haliplus falli*	Undetermined		
Yellow Crawling Water Beetle	*Haliplus fulvus*	Undetermined		
Clearneck Crawling Water Beetle	*Haliplus immaculicollis*	Undetermined		

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Leech's Crawling Water Beetle	*Haliplus leechi*	Undetermined		
Long Crawling Water Beetle	*Haliplus longulus*	Undetermined		
Sleek Crawling Water Beetle	*Haliplus nitens*	Undetermined		
Stagnant Water Crawling Beetle	*Haliplus stagninus*	Undetermined		
Coleoptera – Heteroceridae				Beetles – Variegated mud-loving beetles
Canadian Mud-loving Explorator	*Explorator canadensis*	Undetermined		
Brown Mud-loving Beetle	*Lanternarius brunneus*	Undetermined		
Parrot Mud-loving Beetle	*Lanternarius parrotus*	Undetermined		
Sinuous Mud-loving Beetle	*Lanternarius sinuosus*	Undetermined		
Sad Mud-loving Beetle	*Lapsus tristis*	Undetermined		
Coleoptera – Histeridae				Beetles – Clown beetles
Rotund Clown Beetle	*Paromalus teres*	Undetermined		
Spruce Clown Beetle	*Platysoma coarctatum*	Undetermined		
Leconte's Clown Beetle	*Platysoma leconti*	Undetermined		
Distinguished Clown Beetle	*Saprinus distinguendus*	Undetermined		
Coleoptera – Hydraenidae				Beetles – Minute moss beetles
Minute Gleaming Moss Beetle	*Gymnochthebius nitidus*	Undetermined		
Minute Sphagnum Beetle	*Hydraena angulicollis*	Undetermined		
Minute Boreal Moss Beetle	*Ochthebius costatellus*	Undetermined		
Minute Winter Moss Beetle	*Ochthebius hibernus*	Undetermined		
Coleoptera – Hydrophilidae				Beetles – Water scavenger beetles
Hatch's Water Scavenger	*Berosus hatchi*	Undetermined		
Striated Sandy Lake Scavenger	*Berosus sayi*	Undetermined		
Compost Pile Scavenger	*Cercyon analis*	Alien		
Girded Shore Scavenger	*Cercyon cinctus*	Undetermined		
Herceus Shore Scavenger	*Cercyon herceus*	Undetermined		
Manure Scavenger	*Cercyon lateralis*	Alien		
Debris Shore Scavenger	*Cercyon limbatus*	Undetermined		
Mariner Shore Scavenger	*Cercyon marinus*	Secure		
Rosen's Sphagnum Shore Scavenger	*Cercyon roseni*	Undetermined		
Civilized Water Scavenger	*Crenitis morata*	Undetermined		
Marsh Water Scavenger	*Cymbiodyta acuminata*	Secure		
Beaver Pond Scavenger	*Cymbiodyta vindicata*	Undetermined		
Western Pond Scavenger	*Enochrus diffusus*	Undetermined		
Hamilton's Water Scavenger	*Enochrus hamiltoni*	Undetermined		
Ochre Eastern Water Scavenger	*Enochrus ochraceus*	Undetermined		
Beringian Water Scavenger	*Helophorus browni*	Undetermined		
Columbian Lake Scavenger	*Helophorus columbianus*	Undetermined		
Sculpted Pool Scavenger	*Helophorus eclectus*	Undetermined		
Fierce Brook Scavenger	*Helophorus furius*	Undetermined		
Lake Water Scavenger	*Helophorus lacustris*	Secure		
Speckled Water Scavenger	*Helophorus nitiduloides*	Secure		

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Oblong Pool Scavenger	*Helophorus oblongus*	Secure		
Oriental Water Scavenger	*Helophorus orientalis*	Undetermined		
Tundra Water Scavenger	*Helophorus parasplendidus*	Undetermined		
Forest Water Scavenger	*Helophorus sempervarians*	Secure		
Siberian Water Scavenger	*Helophorus sibiricus*	Undetermined		
Splendid Arctic Water Scavenger	*Helophorus splendidus*	Undetermined	ⓘ[10]	
Swampy Water Scavenger	*Hydrobius fuscipes*	Undetermined	∃[4]	
Weedy Pond Scavenger	*Hydrochara obtusata*	Undetermined		
Agile Laccobius Scavenger	*Laccobius agilis*	Undetermined		
Boreal Laccobius Scavenger	*Laccobius borealis*	Undetermined		
Ashen Laccobius Scavenger	*Laccobius cinereus*	Secure		
Punctuated Laccobius Scavenger	*Laccobius reflexipenis*	Undetermined		
Parkland Laccobius Scavenger	*Laccobius truncatipenis*	Undetermined		
Copper Water Scavenger	*Paracymus subcupreus*	Undetermined	∃[4]	
Coleoptera – Kateretidae				Beetles – Short-winged flower beetles
Short-winged Marked Sedge Beetle	*Kateretes pusillus*	Undetermined		
Coleoptera – Lampyridae				Beetles – Firefly beetles
Winter Firefly	*Ellychnia corrusca*	Secure		
Long-range Firefly	*Pyractomena dispersa*	Undetermined		
Dark Firefly	*Pyropyga nigricans*	Undetermined		
Coleoptera – Latridiidae				Beetles – Minute brown fungus beetles
Northern Brown Scavenger	*Corticaria cavicauda*	Undetermined	#	
Inuvik Brown Scavenger	*Corticaria cylindracea*	Undetermined	#	
Toothed Brown Scavenger	*Corticaria dentiventris*	Undetermined		
Fiery Brown Scavenger	*Corticaria ferruginea*	Undetermined		
Printed Brown Scavenger	*Corticaria impressa*	Alien	?[5]	
Round-necked Brown Scavenger	*Corticaria orbicollis*	Undetermined	#	
Flat Brown Scavenger	*Corticaria planula*	Undetermined	#	
Golden State Brown Scavenger	*Corticaria prionodera*	Undetermined	#	
Western Boreal Brown Scavenger	*Corticaria pseudovicollis*	Undetermined	#	
Ruddy-legged Brown Scavenger	*Corticaria rubripes*	Undetermined		
Serrate Brown Scavenger	*Corticaria serrata*	Alien	#	
Small Brown Scavenger	*Corticarina minuta*	Undetermined		
Mould Brown Scavenger	*Enicmus fictus*	Undetermined		
Very Minute Brown Scavenger	*Enicmus mimus*	Undetermined		
Montane Brown Scavenger	*Stephostethus montanus*	Undetermined		
Coleoptera – Leiodidae				Beetles – Round fungus beetles
Alpine Carrion Scavenger	*Catops alpinus*	Undetermined		
Cold-wary Carrion Scavenger	*Catops alsiosus*	Undetermined		
Basilar Carrion Scavenger	*Catops basilaris*	Undetermined		

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Needy Carrion Scavenger	*Catops egenus*	Undetermined		
Lurid-winged Carrion Scavenger	*Catops luridipennis*	Undetermined		
Magricolle Fungus Scavenger	*Colon magnicolle*	Undetermined		
Oblong Fungus Scavenger	*Colon oblongum*	Undetermined		
Polished Fungus Scavenger	*Colon politum*	Undetermined		
Striated Round Fungus Beetle	*Hydnobius substriatus*	Undetermined		
Close Round Fungus Beetle	*Leiodes assimilis*	Undetermined		
Merkelian Round Fungus Beetle	*Leiodes merkeliana*	Undetermined		
Striated Round Fungus Beetle	*Leiodes punctostriata*	Undetermined		
Polkadot Round Fungus Beetle	*Leiodes punctulata*	Undetermined		
Red-legged Round Fungus Beetle	*Leiodes rufipes*	Undetermined		
Triepke's Round Fungus Beetle	*Leiodes triepkei*	Presence Expected		
Valid Round Fungus Beetle	*Leiodes valida*	Undetermined		
Beaver Nest Scavenger	*Leptinillus validus*	Undetermined		
Smoky Cholevine Scavenger	*Sciodrepoides terminans*	Undetermined		
Blunt Sogda Scavenger	*Sogda obtusa*	Undetermined		
Coleoptera – Lucanidae				Beetles – Stag beetles
Aspen Stag Beetle	*Platycerus depressus*	Undetermined		
Marginal Stag Beetle	*Platycerus marginalis*	Undetermined		
Coleoptera – Lycidae				Beetles – Net-winged beetles
Golden Net-winged Beetle	*Dictyoptera aurora*	Undetermined		
Coleoptera – Megalopodidae				Beetles – Magalopodid leaf beetles
Strange Megalopodid Leaf Beetle	*Zeugophora abnormis*	Undetermined		
Black Megalopodid Leaf Beetle	*Zeugophora atra*	Undetermined		
Poplar Blackmine Beetle	*Zeugophora scutellaris*	Alien		
Variable Megalopodid Leaf Beetle	*Zeugophora varians*	Undetermined		
Coleoptera – Melandryidae				Beetles – False darkling beetles
Knife-like False Darkling Beetle	*Orchesia cultriformis*	Undetermined		
Collared False Darkling Beetle	*Phryganophilus collaris*	Undetermined		
Striated False Darkling Beetle	*Serropalpus substriatus*	Undetermined		
Coleoptera – Meloidae				Beetles – Blister beetles
Impressive Meloine Beetle	*Meloe impressus*	Undetermined		
Black Meloine Beetle	*Meloe niger*	Undetermined		
Stansbury's Blister Beetle	*Tricrania stansburii*	Undetermined		
Coleoptera – Melyridae				Beetles – Soft-winged flower beetles
Hairy Soft-winged Flower Beetle	*Collops hirtellus*	Undetermined		
Banded Soft-winged Flower Beetle	*Collops vittatus*	Undetermined		
Hudsonian Dasytine	*Hoppingiana hudsonica*	Undetermined		



White-spotted Saywer
Photo Credit: S. Carrière

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Coleoptera – Micropeplidae				Beetles – Micropeplid rove beetles
Tessera Micropeplid Beetle	*Arrhenopeplus tesserula*	Undetermined		
Coleoptera – Mordellidae				Beetles – Tumbling flower beetles
Tumbling Mourner Flower Beetle	*Mordella atrata*	Undetermined		
Tumbling Ragdoll Flower Beetle	*Mordella marginata*	Undetermined		
Tumbling Nun Flower Beetle	*Mordella melaena*	Undetermined		
Tumbling Little-maid Flower Beetle	*Mordellina ancilla*	Undetermined		
Tumbling Orphan Flower Beetle	*Mordellistena marginalis*	Undetermined		
Tumbling Lawyer Flower Beetle	*Mordellistena unicolor*	Undetermined		
Tumbling Cloak Flower Beetle	*Mordellochroa scapularis*	Undetermined		
Coleoptera – Nitidulidae				Beetles – Sap beetles
Nettle Pollen Beetle	*Brachypterus urticae*	Alien		
Lined Sap Beetle	*Epuraea linearis*	Undetermined		
Truncated Sap Beetle	*Epuraea truncatella*	Undetermined		
Black Sap Beetle	*Fabogethes nigrescens*	Undetermined		
Siepmann's Sap Beetle	*Glischrochilus siepmanni*	Undetermined		
Two-dots Sap Beetle	*Nitidula bipunctata*	Undetermined		
Red-leg Sap Beetle	*Nitidula rufipes*	Alien		
Ziczac Sap Beetle	*Nitidula ziczac*	Undetermined		
Pitted Golden Sap Beetle	*Pocadius helvolus*	Undetermined		
Coleoptera – Orsodacnidae				Beetles – Ravenous leaf beetles
Silver-backed Orsodacnid Beetle	*Orsodacne atra*	Undetermined		
Coleoptera – Ptinidae				Beetles – Spider beetles
Cub Buffball Beetle	*Caenocara scymnoides*	Undetermined		
Confused Xyletine Beetle	*Xyletinus confusus*	Undetermined		
Coleoptera – Pyrochroidae				Beetles – Fire-coloured beetles
Flaming-pillow Beetle	*Schizotus cervicalis*	Undetermined		
Coleoptera – Pythidae				Beetles – Dead log beetles
American Pythid Beetle	*Pytho americanus*	Undetermined		
Black Pythid Beetle	*Pytho niger*	Undetermined		
Seidlitz's Pythid Beetle	*Pytho seidlitzi*	Undetermined		
Coleoptera – Salpingidae				Beetles – Narrow-waisted bark beetle
Greenish Narrow-waisted Bark Beetle	*Sphaeriestes virescens*	Undetermined		
Coleoptera – Scarabaeidae				Beetles – Scarab beetles
Beachrover Scarab Beetle	*Aegialia lacustris*	Secure		
Edged Scarab Beetle	*Aegialia terminalis*	Undetermined		
Alberta Dung Beetle	*Agoliinus albertanus*	Undetermined		
Leopard Dung Beetle	*Agoliinus leopardus*	Undetermined		
Europeen Aphodiine Dung Beetle	*Aphodius fimetarius*	Alien		
Northern Litter Beetle	*Diapterna hyperborea*	Secure		

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Pond Litter Beetle	*Diapterna omissa*	Secure		
Rich Litter Beetle	*Diapterna pinguis*	Presence Expected		
Green Rose Chafer	*Dichelonyx backii*	Undetermined		
Bronzed Chafer	*Dichelonyx subvittata*	Undetermined		
Burrow Dung Beetle	*Melinopterus consentaneus*	Undetermined		
Forest-ogre June Beetle	*Phyllophaga anxia*	Undetermined		
Mouse Dung Beetle	*Planolinoides borealis*	Secure		
Shadow Dung Beetle	*Planolinus tenellus*	Undetermined		
Full June Beetle	*Serica curvata*	Undetermined		
Mid-June Beetle	*Serica intermixta*	Undetermined		
Harvest June Beetle	*Serica sericea*	Undetermined		
Bee-mimic Beetle	*Trichiotinus assimilis*	Secure		
Coleoptera – Scirtidae				Beetles – Marsh beetles
Little Marsh Beetle	*Cyphon pusillus*	Undetermined		
Brown Marsh Beetle	*Cyphon variabilis*	Undetermined		
Coleoptera – Silphidae				Beetles – Carrion beetles
Spinach Carrion Beetle	*Aclypea bituberosa*	Undetermined		
Beet Carrion Beetle	*Aclypea opaca*	Undetermined		
Parkland Carrion Beetle	*Heterosilpha ramosa*	Undetermined		
Boreal Burying Beetle	*Nicrophorus defodiens*	Undetermined		
Banded Burying Beetle	*Nicrophorus investigator*	Undetermined		
Bog Burying Beetle	*Nicrophorus vespilloides*	Secure		
Lapland Carrion Beetle	*Thanatophilus lapponicus*	Secure		
Ice Carrion Beetle	*Thanatophilus sagax*	Secure		
Cold-shore Carrion Beetle	*Thanatophilus trituberculatus*	Secure		
Coleoptera – Silvanidae				Beetles – Silvanid flat bark beetles
Peaceful Silvan Beetle	*Cathartosilvanus imbellis*	Undetermined		
Coleoptera – Staphylinidae				Beetles – Rove beetles
Square Acidote Beetle	*Acidota quadrata*	Undetermined		
Stooping Rove Beetle	*Acylophorus pronus*	Undetermined		
Assiniboine Aleochara Beetle	*Aleochara assiniboin*	Undetermined		
Twice-marked Aleochara Beetle	*Aleochara bimaculata*	Undetermined		
Chestnut-winged Aleochara Beetle	*Aleochara castaneipennis*	Undetermined		
Slender-horned Aleochara Beetle	*Aleochara gracilicornis*	Undetermined		
Sekana's Aleochara Beetle	*Aleochara sekanai*	Undetermined		
Tahoe Aleochara Beetle	*Aleochara tahoensis*	Undetermined		
Little-cousin Rove Beetle	*Anotylus sobrinus*	Undetermined		
Altai Athetine Beetle	*Atheta altaica*	Undetermined		
Granulated Athetine Beetle	*Atheta graminicola*	Secure		
Munster's Athetine Beetle	*Atheta munsteri*	Undetermined		
Beringian Athetine Beetle	*Atheta nearctica*	Undetermined		

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Smetana's Athetine Beetle	*Atheta smetanai*	Undetermined		
Arctic Philonthine Beetle	*Bisnius hyperboreus*	Undetermined		
Siegwald's Philonthine Beetle	*Bisnius siegwaldii*	Undetermined		
Ringed Borrow Rove Beetle	*Bledius annularis*	Undetermined		
Northern Borrow Rove Beetle	*Bledius aquilonarius*	Undetermined		
Confusing Borrow Rove Beetle	*Bledius confusus*	Undetermined		
Abundant Borrow Rove Beetle	*Bledius gravidus*	Undetermined		
Stitched Borrow Rove Beetle	*Bledius suturalis*	Undetermined		
Beach Borrow Rove Beetle	*Bledius tarandus*	Undetermined		
Torrent Borrow Rove Beetle	*Bledius turgidus*	Secure		
Robust Borrow Rove Beetle	*Bledius viriosus*	Secure		
Belted Rove Beetle	*Bolitobius cingulatus*	Alien		
Casey's Rove Beetle	*Boreophilia caseyi*	Presence Expected		
Husky Boreal-athetine Beetle	*Boreophilia fusca*	Undetermined		
Icy Boreal-athetine Beetle	*Boreophilia gelida*	Undetermined		
Northern Boreal-athetine Beetle	*Boreophilia hyperborea*	Undetermined		
Icelandic Boreal-athetine Beetle	*Boreophilia islandica*	Undetermined		
Beringian Boreal-athetine Beetle	*Boreophilia subplana*	Undetermined		
Northern Boreostiba Beetle	*Boreostiba frigida*	Presence Expected		
Rounded Boreostiba Beetle	*Boreostiba parvipennis*	Undetermined		
Siberian Boreostiba Beetle	*Boreostiba sibirica*	Undetermined		
Helena Brachyusa Rove Beetle	*Brachyusa helenae*	Undetermined		
Arctic Bryophacis Beetle	*Bryophacis arcticus*	Undetermined		
Smetana's Bryophacis Beetle	*Bryophacis smetanai*	Undetermined		
Ventrose Crab-like Rove Beetle	*Coproporus ventriculus*	Undetermined		
Hairy Rove Beetle	*Creophilus maxillosus*	Alien		
Eccentric Ant-loving Beetle	*Decarthron abnorme*	Undetermined		
Prosper Devia Beetle	*Devia prospera*	Undetermined		
Iron-Grey Dianous Beetle	*Dianous chalybaeus*	Undetermined		
Rough-bellied Athetine Beetle	*Dochmonota rudiventris*	Undetermined		
Long Ocellate Rove Beetle	*Dropephylla longula*	Undetermined		
Dwarf Rove Beetle	*Erichsonius nanus*	Undetermined		
American Litter Rove Beetle	*Euaesthetus americanus*	Undetermined		
Smoothbum Rove Beetle	*Euaesthetus laeviusculus*	Undetermined		
Pribilof Rove Beetle	*Eucnecosum brachypterum*	Secure		
Brownish Rove Beetle	*Eucnecosum brunnescens*	Secure		
Delicate Rove Beetle	*Eucnecosum tenue*	Secure		
Malkin's Small-winged Gabrius Beetle	*Gabrius brevipennis*	Undetermined		
Black-winged Gabius Beetle	*Gabrius picipennis*	Secure		
Straight Ocellate Rove Beetle	*Geodromicus plagiatus*	Undetermined		
Caribou Sickle Beetle	*Gnathusa caribou*	Undetermined		
Ashe's Tundra Rove Beetle	*Gnypeta ashei*	Undetermined		
Brinck's Tundra Rove Beetle	*Gnypeta brincki*	Undetermined		

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Cerulean Rove Beetle	*Gnypeta caerula*	Undetermined		
Charcoal Rove Beetle	*Gnypeta carbonaria*	Undetermined		
Toothed Rove Beetle	*Gnypeta dentata*	Undetermined		
Sellman's Rove Beetle	*Gnypeta sellmani*	Undetermined		
Dark Gymnusa Beetle	*Gymnusa atra*	Undetermined		
Campbell's Gymnusa Beetle	*Gymnusa campbelli*	Undetermined		
Konopack's Gymnusa Beetle	*Gymnusa konopackii*	Undetermined		
Variable Gymnusa Beetle	*Gymnusa pseudovariegata*	Secure		
Smetana's Gymnusa Beetle	*Gymnusa smetanai*	Undetermined		
Minor Rove Beetle	*Heterothops minor*	Undetermined		
Flood-drift Rove Beetle	*Heterothops sordidus*	Undetermined		
Nordenskiôld's Ocellate Rove Beetle	*Holoboreaphilus nordenskioldi*	Secure		
Ocher Hylota Beetle	*Hylota ochracea*	Undetermined		
Fringed Crab-like Rove Beetle	*Ischnosoma fimbriatum*	Secure		
Splendid Crab-like Rove Beetle	*Ischnosoma splendidum*	Secure		
Vancouver's Rove Beetle	*Lathrobium washingtoni*	Undetermined		
Colorado Rove Beetle	*Lobrathium coloradense*	Undetermined		
Fungi-loving Lordithon Rove Beetle	*Lordithon fungicola*	Undetermined		
Bolete Lordithon Rove Beetle	*Lordithon poecilus*	Undetermined		
Breastplated Crab-like Rove Beetle	*Lordithon thoracicus*	Undetermined		
Franclemont's Athetine Beetle	*Lypoglossa franclemonti*	Undetermined		
Squarenecked Rove Beetle	*Megarthrus angulicollis*	Undetermined		
River-rafting Rove Beetle	*Megarthrus smetanai*	Undetermined		
Polar Ocellate Rove Beetle	*Micralymma brevilingue*	Undetermined		
Northern Mocyta Beetle	*Mocyta amblystegii*	Undetermined		
Black Crab-like Rove Beetle	*Mycetoporus nigrans*	Undetermined		
Rough Crab-like Rove Beetle	*Mycetoporus rugosus*	Secure		
Smetana's Crab-like Rove Beetle	*Mycetoporus smetanai*	Undetermined		
Audacious River Rove Beetle	*Myllaena audax*	Undetermined		
Sleepless River Rove Beetle	*Myllaena insomnis*	Undetermined		
Hooked Rove Beetle	*Neohypnus hamatus*	Undetermined		
Shining Crab-like Rove Beetle	*Nitidotachinus tachyporoides*	Undetermined		
Kephalos Rove-hunter Beetle	*Nudobius cephalus*	Undetermined		
Bighead Bark Rove Beetle	*Olisthaerus megacephalus*	Undetermined		
Striped Bark Rove Beetle	*Olisthaerus substriatus*	Undetermined		
Boreal Ocellate Rove Beetle	*Olophrum boreale*	Secure		
Shrub-loving Ocellate Rove Beetle	*Olophrum consimile*	Undetermined		
Tundra-dwelling Ocellate Rove Beetle	*Olophrum latum*	Secure		
Chubby Ocellate Rove Beetle	*Olophrum rotundicolle*	Secure		
Foraminous Rove Beetle	*Omalium foraminosum*	Undetermined		

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Gold-brown Rove Beetle	*Ontholestes cingulatus*	Undetermined		
Canadian Oxypoda Beetle	*Oxypoda canadensis*	Undetermined		
Cool Oxypoda Beetle	*Oxypoda frigida*	Undetermined		
Wintery Oxypoda Beetle	*Oxypoda hiemalis*	Undetermined		
Unfriendly Oxypoda Beetle	*Oxypoda inimica*	Undetermined		
Lakeside Oxypoda Beetle	*Oxypoda lacustris*	Undetermined		
Shining Oxypoda Beetle	*Oxypoda lucidula*	Undetermined		
Volker's Oxypoda Beetle	*Oxypoda volkeri*	Undetermined		
Western Cross-toothed Rove Beetle	*Oxyporus occipitalis*	Undetermined		
Paneled Spiny-legged Rove Beetle	*Oxytelus laqueatus*	Alien		
Shore Rove Beetle	*Paederus littorarius*	Undetermined		
Dempster Rove Beetle	*Parocalea nearctica*	Undetermined		
Baikal-like Rove Beetle	*Parocalea pseudobaicalica*	Undetermined		
Leech's Shore Athetine Beetle	*Philhygra leechi*	Undetermined		
Imiq Shore Athetine Beetle	*Philhygra malleoides*	Undetermined		
Polar Shore Athetine Beetle	*Philhygra pseudopolaris*	Undetermined		
Kuuk Shore Athetine Beetle	*Philhygra ripicola*	Undetermined		
Beaked Shore Atheline Beetle	*Philhygra rostrifera*	Undetermined		
Golden Philonthine Beetle	*Philonthus aurulentus*	Undetermined		
Boreal Philontine Beetle	*Philonthus boreas*	Secure		
Coulee Philonthine Beetle	*Philonthus couleensis*	Undetermined		
Double Philonthine Beetle	*Philonthus duplicatus*	Secure		
Dark Philonthine Beetle	*Philonthus furvus*	Undetermined		
Hudsonian Philonthine Beetle	*Philonthus hudsonicus*	Undetermined		
Arctic Philonthine Beetle	*Philonthus hyperboreus*	Undetermined		
Kaszab's Philonthine Beetle	*Philonthus kaszabi*	Secure		
Leechen Philonthine Beetle	*Philonthus leechensis*	Undetermined		
Lindroth's Philonthine Beetle	*Philonthus lindrothi*	Undetermined		
Lomatus Philonthine Beetle	*Philonthus lomatus*	Undetermined		
Western Philonthine Beetle	*Philonthus occidentalis*	Secure		
Opaque-winged Philonthine Beetle	*Philonthus opacipennis*	Undetermined		
Polished Philonthine Beetle	*Philonthus politus*	Alien		
Lightgreen Philonthine Beetle	*Philonthus subvirescens*	Secure		
Arctic Ocellate Rove Beetle	*Phloeopora arctica*	Undetermined		
Lapland Ocellate Rove Beetle	*Phloeostiba lapponica*	Undetermined		
Tacoma Tunnel Rove Beetle	*Placusa tacomae*	Undetermined		
Rambling Tunnel Rove Beetle	*Placusa vaga*	Undetermined		
Open Ocellate Rove Beetle	*Porrhodites fenestralis*	Secure		
Brown-winged Quedius Beetle	*Quedius brunnipennis*	Secure		
Criddle's Quedius Beetle	*Quedius criddlei*	Undetermined		
Fellman's Quedius Beetle	*Quedius fellmani*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Cold-loving Quedius Beetle	*Quedius frigidus*	Undetermined		
Labrador Quedius Beetle	*Quedius labradorensis*	Undetermined		
Bark-stalker Quedius Beetle	*Quedius plagiatus*	Undetermined		
Rustic Quedius Beetle	*Quedius rusticus*	Undetermined		
Simulator Quedius Beetle	*Quedius simulator*	Secure		
Bramble Quedius Beetle	*Quedius sublimbatus*	Secure		
Casey's Quedius Beetle	*Quedius uteanus*	Undetermined		
Bumpy Philonthine Beetle	*Rabigus laxellus*	Undetermined		
Lacustrine Philonthine Beetle	*Rabigus laxellus*	Undetermined		
Barred Rove Beetle	*Rybaxis transversa*	Undetermined		
Castan Shining Fungus Beetle	*Scaphium castanipes*	Undetermined		
Blatchley's Atherine Beetle	*Schistoglossa blatchleyi*	Undetermined		
Unskilled Water Skater	*Stenus advena*	Undetermined		
Aegean Water Skater	*Stenus ageus*	Undetermined		
Overtaking Water Skater	*Stenus assequens*	Undetermined		
Austin's Water Skater	*Stenus austini*	Undetermined		
Doubly-lined Water Skater	*Stenus bilineatus*	Undetermined		
Brivio's Water Skater	*Stenus brivioi*	Undetermined		
Groovy Water Skater	*Stenus canaliculatus*	Undetermined		
Marked Water Skater	*Stenus comma*	Undetermined		
Leathery Water Skater	*Stenus coriaceus*	Undetermined		
Short Water Skater	*Stenus curtus*	Undetermined		
Cunning Water Skater	*Stenus dolosus*	Undetermined		
Needy Water Skater	*Stenus egenulus*	Secure	ⓘ[5]	
Fasciculated Water Skater	*Stenus fasciculatus*	Undetermined		
Taiga Water Skater	*Stenus hyperboreus*	Secure	ⓘ[5]	
Unbounded Water Skater	*Stenus immarginatus*	Undetermined		
Shoving Water Skater	*Stenus intrusus*	Undetermined		
Jacuticus Water Skater	*Stenus jacuticus*	Undetermined		
Juno Water Skater	*Stenus juno*	Undetermined		
Kryzhanovski's Water Skater	*Stenus kryzhanovskii*	Undetermined		
Slipping Water Skater	*Stenus labilis*	Undetermined		
Wet Water Skater	*Stenus laccophilus*	Undetermined		
Large-winged Water Skater	*Stenus latipennis*	Undetermined		
Mammops Water Skater	*Stenus mammops*	Undetermined		
Black Water Skater	*Stenus melanarius*	Undetermined		
Clown Water Skater	*Stenus morio*	Undetermined		
Snow-loving Water Skater	*Stenus niveus*	Undetermined		
Western Water Skater	*Stenus occidentalis*	Undetermined		
Twisted Water Skater	*Stenus plicipennis*	Undetermined		
Mighty Water Skater	*Stenus pollens*	Undetermined		
Hairy Water Skater	*Stenus pubescens*	Undetermined		
Dwarf Water Skater	*Stenus pumilio*	Undetermined		
Quebec Water Skater	*Stenus quebecensis*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Concealed Water Skater	*Stenus reconditus*	Undetermined		
Ross's Water Skater	*Stenus rossi*	Undetermined		
Mangy Water Skater	*Stenus scabiosus*	Undetermined		
Rocky Water Skater	*Stenus scrupeus*	Undetermined		
Scratched Water Skater	*Stenus semicolon*	Undetermined		
Siberian Water Skater	*Stenus sibiricus*	Undetermined		
Poor Water Skater	*Stenus sordidus*	Undetermined		
Styx Water Skater	*Stenus stygicus*	Undetermined		
Shy Water Skater	*Stenus umbratilis*	Undetermined		
Lovely Water Skater	*Stenus vinnulus*	Undetermined		
Beaufort Crab-like Rove Beetle	*Tachinus brevipennis*	Undetermined		
Long Crab-like Rove Beetle	*Tachinus elongatus*	Undetermined		
Cool Crab-like Rove Beetle	*Tachinus frigidus*	Undetermined		
Beringian Crab-like Rove Beetle	*Tachinus jacuticus*	Undetermined		
Quebec Crab-like Rove Beetle	*Tachinus quebecensis*	Undetermined		
Flood Crab-like Rove Beetle	*Tachyporus abdominalis*	Secure		
Boreal Crab-like Rove Beetle	*Tachyporus borealis*	Secure		
Canada Crab-like Rove Beetle	*Tachyporus canadensis*	Presence Expected		
Flawless Crab-like Rove Beetle	*Tachyporus flavipennis*	Undetermined		
Inornate Crab-like Rove Beetle	*Tachyporus inornatus*	Undetermined		
Jocose Crab-like Rove Beetle	*Tachyporus jocosus*	Undetermined		
Tundra Crab-like Rove Beetle	*Tachyporus nimbicola*	Presence Expected		
Elegant Crab-like Rove Beetle	*Tachyporus nitidulus*	Secure		
Hummock Crab-like Rove Beetle	*Tachyporus rulomus*	Secure		
American Rove Beetle	*Tachyusa americanoides*	Undetermined		
Pitted Wetland Rove Beetle	*Tetartopeus captiosus*	Undetermined		
Boreal Wetland Rove Beetle	*Tetartopeus furvulus*	Undetermined		
Black Wetland Rove Beetle	*Tetartopeus niger*	Undetermined		
Reddish Ant-loving Beetle	*Tyrus semiruber*	Undetermined		
Coleoptera – Stenotrachelidae				Beetles – False longhorn beetles
Canadian False Long-horned Beetle	*Anelpistus canadensis*	Undetermined		
Brassy False Long-horned Beetle	*Stenotrachelus aeneus*	Undetermined		
Coleoptera – Tenebrionidae				Beetles – Darkling beetles
Overlooked Darkling Beetle	*Corticeus praetermissus*	Undetermined		
Conk-loving Darkling Beetle	*Eleates depressus*	Undetermined		
Brownish Darkling Beetle	*Paratenetus fuscus*	Undetermined		
Variegated Darkling Beetle	*Phaleromela variegata*	Undetermined		
Roughened Darkling Beetle	*Upis ceramboides*	Secure		
Coleoptera – Throscidae				Beetles – Throscid beetles
Fake Californian Throscid Beetle	*Trixagus mendax*	Undetermined		
Silken Throscid Beetle	*Trixagus sericeus*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC Status in Canada/ Global Conservation Concern[b]
Coleoptera – Trachypachidae				Beetles – Trachypachid beetles
Unarmed False Ground Beetle	*Trachypachus inermis*	Undetermined		
Coleoptera – Trogidae				Beetles – Lumpy hide beetles
Sonor Lumpy Hide Beetle	*Trox sonorae*	Undetermined		
Coleoptera – Trogossitidae				Beetles – Bark-gnawing beetles
Rough Bark-gnawing Beetle	*Calitys scabra*	Undetermined		
Brotherly Bark-gnawing Beetle	*Peltis fraterna*	Undetermined		
Northern Bark-gnawing Beetle	*Peltis septentrionalis*	Undetermined		
Pine Trogossitid Beetle	*Temnoscheila chlorodia*	Undetermined		
Twisted Bark-living Beetle	*Tenebroides corticalis*	Undetermined		
Coleoptera – Zopheridae				Beetles – Ironglad beetles
Boreal Ironclad Beetle	*Lasconotus borealis*	Undetermined		
Intricate Ironclad Beetle	*Lasconotus intricatus*	Undetermined		

[a] Describes reasons for a change in status rank between 2016 and 2021. ↗: Increasing Risk, ↘: Decreasing Risk, ∃: Error correction, #: Species new to the NWT, T: Taxonomic change, ⓘ: Information added, A: Changed due to detailed assessment by COSEWIC since 2016. See Data Sources and Methods for more details.

[b] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. COSEWIC Status for a species in Canada if it has already been assessed in a detailed manner by COSEWIC as of December 2021. The year of each assessment is given with each status. After 2021, please consult current and additional status assessments using references given at the end of this report. Rank of a species in the world as designated by NatureServe. GH: Possibly Extinct, G1: Critically Imperilled, G2: Imperilled, G3: Vulnerable. Definitions and more information can be found at www.natureserve.org. As of 2021, no beetle species has been assessed by SARC.

[c] It is unclear if populations of Pale Tortoise Beetle have been introduced, or are native to the NWT.

[d] *Hippodamia convergens* is imported for aphid control and released in some greenhouses in the NWT. It is not known if the species is present and has viable populations in the wild and should be ranked as Alien.

[1] Changed from At Risk
[2] Changed from May Be at Risk
[3] Changed from Sensitive
[4] Changed from Secure
[5] Changed from Undetermined
[6] Changed from Ranked
[7] Changed from Alien
[8] Changed from Extirpated
[9] Changed from Vagrant
[10] Changed from Presence Expected



Parenthesis Lady Beetle Photo Credit: S. Carrière



Silver Flower Longhorn Beetle Photo Credit: J. D. Reynolds

6.14 Hymenopterans



Arctic Aerial Yellowjacket
Photo Credit: M. Muir

Hymemopterans (Class Insecta, Order Hymenoptera) have two pairs of wings, chewing mouthparts, well developed compound eyes and most females have an ovipositor, which may be modified into a sting. Three superfamilies, bees (Apoidea), ants (Formicoidea), and vespid wasps (Vespoidea) were included in the previous report. Hymenopterans are fourth in species richness on the planet, behind beetles, flies, and lepidopterans (butterflies and moths)[1].

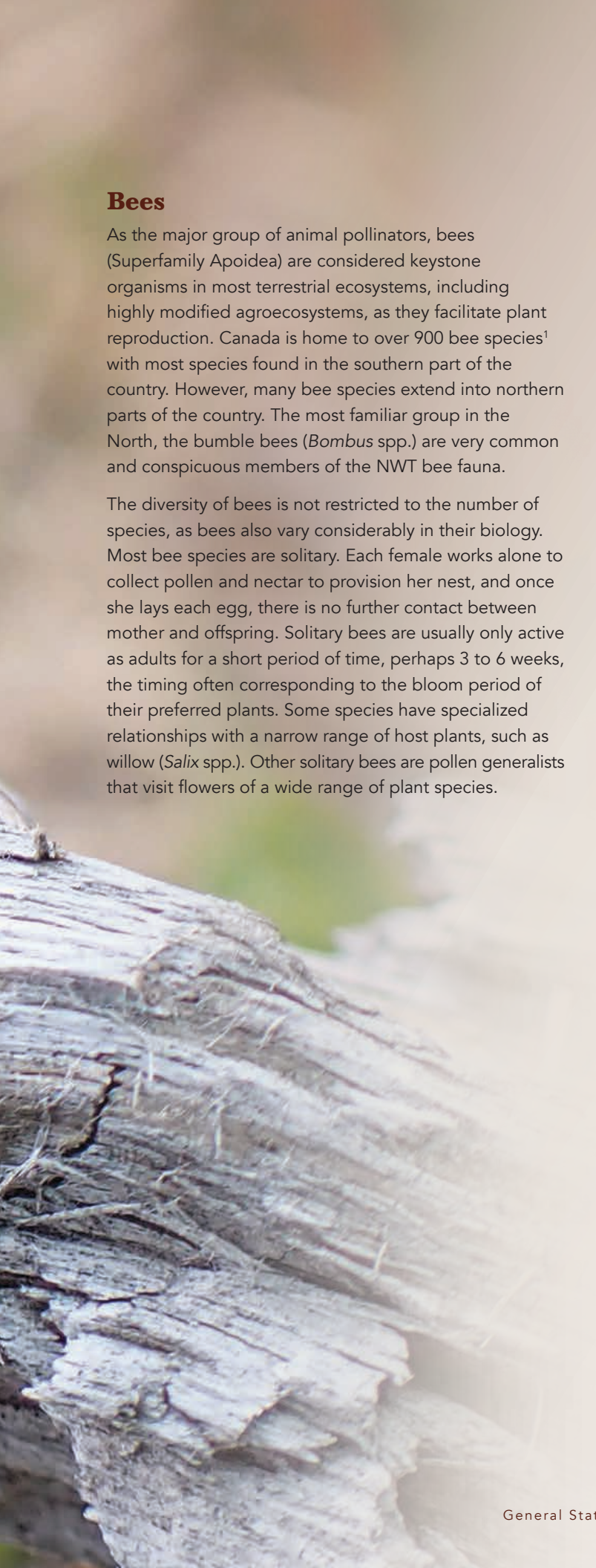
Ranks for bees and vespid wasps were reviewed since 2016, but not for the ants. A fourth group of hymenopterans, the sawflies (suborder Symphyta) is now added to the list below. Additional groups will be included in future reports.

[1] See resources in Further Your Knowledge section.

Bees

As the major group of animal pollinators, bees (Superfamily Apoidea) are considered keystone organisms in most terrestrial ecosystems, including highly modified agroecosystems, as they facilitate plant reproduction. Canada is home to over 900 bee species[1] with most species found in the southern part of the country. However, many bee species extend into northern parts of the country. The most familiar group in the North, the bumble bees (*Bombus* spp.) are very common and conspicuous members of the NWT bee fauna.

The diversity of bees is not restricted to the number of species, as bees also vary considerably in their biology. Most bee species are solitary. Each female works alone to collect pollen and nectar to provision her nest, and once she lays each egg, there is no further contact between mother and offspring. Solitary bees are usually only active as adults for a short period of time, perhaps 3 to 6 weeks, the timing often corresponding to the bloom period of their preferred plants. Some species have specialized relationships with a narrow range of host plants, such as willow (*Salix* spp.). Other solitary bees are pollen generalists that visit flowers of a wide range of plant species.



In contrast, some bees, including most bumble bees and many sweat bees (Family Halictidae) are social for part of their life cycle – although they all start each year as a mated solitary female (potential queen) as the summer progresses workers are produced, after which time the queen becomes a full time egg layer. Bumble bee colonies are thus active from the early spring until the autumn, and colony growth depends on floral resources being available throughout the season.

Another group of bees are called cuckoo bees. Female cuckoo bees sneak into the nests of other bees and lay their eggs on the food provisions collected by the host species. Thus, these bees do not collect pollen themselves and must rely on the stores of their host species.

At present, not much is known about the status of most of the NWT's bees, largely because sampling events are relatively rare compared to most parts of the country, and much of the territory has not been sampled at all.

Four bumble bee species occurring in the NWT have been assessed as at risk in Canada (see list in the next pages). The conservation of Canada's pollinators is a vital concern. At present it appears that the bee fauna of the NWT is facing less severe threats than in southern Canada – habitat loss, pesticide use, and for bumble bees, increased pressure from pathogens. Though the western bumble bee and yellow-banded bumble bee populations in the North may have relatively high pathogen loads, the additive pressures of land use practices seen in the southern parts of the country seem to be absent for most of the NWT.

Interest in bees has increased in the NWT over the past five years. We have seen more inventories by enthusiastic insect collectors. To learn more about what all NWT residents can do to help bees thrive in the North, consult the section Monitoring information at the end of the report.

Dr. Cory S. Sheffield
Royal Saskatchewan Museum
Regina, SK

Jennifer M. Heron
British Columbia Ministry of Environment and Climate Change Strategy
Victoria, BC

[1] See resources in Further Your Knowledge section.



Carpenter Ant Photo Credit: J. Hollett

Ants

Ants (Superfamily Formicoidea) have two characteristic body features that distinguish them from other hymenopterans. First, although like most hymenopterans, the waist of an ant is constricted between the thorax (middle body part) and the abdomen (tail), in ants this constriction has one or two distinct bulbous nodes (bumps) at the waist constriction. Second, ants have distinctively bent or elbowed antennae.

Ants are highly social with different castes or forms within their social organization (i.e., the queen, workers or sterile females, and males), and they live in colonies forming a nest that remains in that fixed location for many years. Most of the ant specimens encountered in any location are the wingless female workers, which are far more numerous and active than the other castes (i.e., males, and the newly emerged winged female queens that later lose their wings).

The actual number of ant species in Canada is not known, although at present there are about two hundred species recorded. Most of these are within the southern parts of the country. The ant fauna of the NWT includes six genera, but the distribution of these species throughout the territory is poorly documented, and there are likely additional species to be recorded. Some of the more common ants include the boreal carpenter ant (*Camponotus herculeanus*). At present this species is the only carpenter ant recorded from the NWT. The species ranges throughout the boreal forests and nests within cavities it excavates from rotten logs, stumps, or from under stones or in old housing timbers. They are also known to tend to aphid colonies living on plants, harvesting and feeding on the aphid's honeydew, and protecting them from predators. This circumpolar species can survive temperatures below -40° C and is considered the most cold-tolerant ant known.

The *Myrmica* ants are distinguished by the long spines on the back of the thorax (middle body part), and range widely throughout the boreal forest, nesting mainly in soil, under rocks, moss mounds and sometimes under lichens.

The most noticeable ant nests encountered in the NWT are created by some of the Formica ants. For example, the podzol mount ant (*Formica podzolica*) nests in acidic infertile podzolic soils and creates large, distinctive mounds. The new world red-bearded ant (*Formica neorufibarbis*) is one of North America's most cold-hardy ant species, ranging up into the taiga.

Ants play vital roles as predators, scavengers and dispersal agents of seeds and fungal spores in terrestrial ecosystems; they aerate and till the soil, have intricate relationships with other flora and fauna, and have been used to monitor and assess environmental change. They are ubiquitous and abundant throughout the terrestrial environments of all continents except Antarctica.

At present, there are no documented occurrences of non-native ants in the NWT, and if these are detected in the future, they will likely be within or near to homes and buildings. Most ant collections within Canadian museums are not databased and there is insufficient survey coverage for ants throughout Canada, particularly in the North, so any observation is very useful to increase our understanding of ants in the NWT.

Jennifer M. Heron
BC Ministry of Environment and Climate Change Strategy
Victoria, BC

Vespid Wasps

When most people think of wasps, they think of the social yellowjackets, which make up only a handful of species, belonging to the family Vespidae. However, most vespid wasps are potter and mason wasps (subfamily Eumeninae) which are a primarily tropical group. In the NWT, only two of the five North American subfamilies of vespid wasps are represented: the yellowjackets (subfamily Vespinae) and the potter and mason wasps (subfamily Eumeninae).

Vespid wasps are aculeate (stinging) wasps. The females have a sting – a modified ovipositor (egg laying tube). The sting may be used to subdue prey, as in potter and mason wasps, or primarily as a defensive weapon, as in the yellowjackets. The sting is retracted within the end of the abdomen in these and other aculeate wasps – if you see a long, obvious ovipositor on a wasp, it is not used to sting, and these wasps are normally harmless.

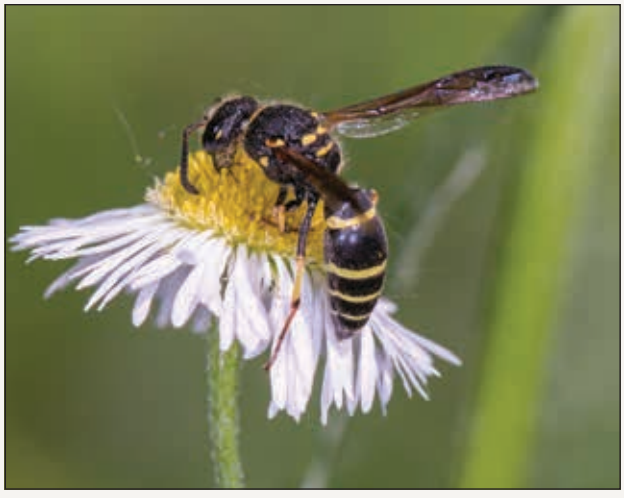
The potter and mason wasps, unlike their yellowjacket cousins, live mostly solitary lives. Females build individual nests, lay an egg in a chamber, or cell, and afterward provide their offspring with food in the form of caterpillars or beetle larvae. The cells, with one egg and enough food to see the wasp larva through development, are then walled off with mud. These prey items are usually paralyzed with a sting from the mother wasp. The mother has no contact with her sons and daughters and proceeds to construct additional cells in the same nest, or another nest.

The type of nest built by these wasps varies depending on the species. In the NWT, most species use abandoned beetle burrows or other holes in wood, including nail holes or hollow pieces of plant material or even aluminum (such as a window frame or lawn chair support), to make a linear series of cells. Each of these is walled off with soil moistened with water, to produce a mortar. Several species use the same technique, carrying water, and possibly nectar, in part of the "stomachs" and flying to a site with suitable soil which they moisten, to construct a separate mud nest. These nests can be unruly collections of cells, as is the case for Walden's Mason Wasp or they can be elegant, pot-like structures with fluted necks, like those made by members of the genus *Eumenes* represented in the NWT by one species, the Cross Potter Wasp. These nests have garnered their makers the name "potter wasps".

Beloved Mason Wasp (*Odynerus dilectus*) is one of two mason wasps found in the NWT so far that is known to dig a nest in soil, removing pellets moistened by water. This species also erects a small curved turret at the nest opening. These nests may have several cells and the stored prey is unusual as well, consisting of both beetle larvae, sometimes including those of alfalfa and clover weevils, and caterpillars. Members of another group, the genus *Symmorphus*, which has a more northerly distribution than most mason wasps, hunt for leaf beetle larvae to stock their larder, including willow-feeding species.

Most potter and mason wasps, however, hunt solely for caterpillars, at least some of which are important pests, including spruce budworm and large aspen tortrix and other defoliators, and so play an important role as natural biological control agents.

Everyone has a story (or three) about yellowjackets, the colonial, conspicuous wasps that share our backyards and picnics. The group to which yellowjackets belong, the subfamily Vespinae, includes true Hornets (the genus *Vespa*), and a generally more tropical group, the "paper wasps" (Polistinae), neither of which occur in NWT. One of the large yellowjackets, black and white in colour, has come to be labelled the bald-faced "hornet", but is not actually a true hornet, despite its larger size.



Catskill Potter Wasp Photo Credit: H. Holm

Our yellowjackets build globular nests out of pulp that they make from strips of wood peeled from dead branches and logs (or untreated porch railings), chewed and mixed with water. The young are raised in paper cells that are held in flat combs suspended within the protected walls of the nest. There are two groups of yellowjackets in the NWT: species in the genus *Vespula* generally build their nests in cavities in the ground (e.g. rodent burrows) or in spaces in old trees or the walls of houses whereas members of the genus *Dolichovespula* generally build their nests above ground, suspended from tree branches or beneath the eaves of houses or cabins. The name *Vespula* means "little hornet" (true Hornets are much larger) and *Dolichovespula* refers to the slightly longer face of these wasps.

Yellowjacket queens begin their new colonies on their own in the spring, and every winter if the temperature is low enough, as it is in the NWT, the entire colony dies except for the newly mated young queens. These individuals overwinter under bark, dead leaves or in crevices, surviving punishing temperatures, protected by the insulation of snow cover and by special "anti-freeze" chemicals in their body fluids. The queens carry sufficient sperm from mating in the fall or spring; these fertilize eggs in their bodies. In May, the queen begins to build a nest of paper, which includes a small comb with perhaps a dozen cells, in each of which she lays an egg. These female larvae will develop into workers. The queen must raise them on her own – this phase is critical to the future productivity of the colony, and many nests fail due to death of the queen, often because of cool, wet weather, or attacks by other queens.

Adult yellowjackets feed almost entirely on nectar and ripe fruit, but their young are fed various solid foods, including predominantly insects and spiders, or in some species, carrion and other meat (e.g. picnic hamburgers). This food is not stung and paralyzed as it is in the solitary vespids but grasped and chewed to produce a sort of bug "pablum". Only a few species scavenge meat; in the NWT the pesky yellowjackets around your table are likely Alaska Yellowjackets (*Vespula alascensis*).

The workers begin rapidly to enlarge the nest, excavating a larger hole in subterranean nests, and building new combs and outside paper envelopes. The first larvae raised by the queen take over all the duties outside and inside the nest, except egg-laying, and themselves raise more workers increasing the size of the colony. Eventually, in mid-summer, combs for new queens and males are built. They leave the nest in late summer and mate, and the fertilized queens search out sites to overwinter, going into torpor, a kind of resting state, often well before the colony begins to senesce. The remaining larvae die of starvation or are eaten by the workers.

There are two rather unusual yellowjackets that occur in the NWT, both of which forego the hard work of establishing their own nests, but rely on the work done by other queens. These "cuckoo" or parasitic yellowjackets (*Vespula infernalis* and *Dolichovespula arctica*) invade the nests of other species of yellowjackets, and either kill or dominate the queen, lay their own eggs, and the host workers raise the "cuckoo" young as if they were their own.

The sting of a yellowjacket worker, unlike those of honey bees, is only microscopically barbed, so it can be used for repeated stings by one individual. Wasp venom contains up to six or seven main components, including histamine, serotonin, kinins and acetylcholine. Histamine initiates the general swelling reaction, while kinins and acetylcholine probably cause the immediate, burning pain. For most people, the pain from a wasp sting subsides quickly, and is soon forgotten, but for those with a true allergic reaction to the venom, stings can be serious. Usually, wasps are quite docile and do not sting unless the nest is threatened or a worker is unknowingly interfered with – caught in clothing or stepped on.

Although we tend to think of yellowjackets as pests to be discouraged from our back yards they, like the solitary potter and mason wasps, are actually highly beneficial. Think of the number of plant-hungry insects several hundred wasps consume each day. Unless you are threatened by a growing colony whose flight path goes by your back door or who live under your front porch, or you are allergic to their stings, it is best to leave the nest alone and let the wasps do their job.

Syd Cannings
Whitehorse, YT

Rob Longair
Mississippi Mills, ON



Yellow Horned Horntail Photo Credit: M. Branigan

Sawflies

Sawflies (including horntails) are a group of insects related to ants, bees and wasps that together comprise the order Hymenoptera.

Almost all sawflies are herbivorous as larvae, when they resemble caterpillars. Most larvae are external feeders on flowering plants, but some feed on conifers or ferns and some are internal plant feeders, for example, horntail larvae (Family Siricidae) live inside wood, whereas some species in other groups feed inside stems or form leaf mines or galls.

As adults, most sawflies feed on pollen and nectar, but some are active predators of other insects. Adult sawflies resemble wasps in that they have four membranous wings and biting mouthparts, but unlike wasps like hornets and yellow jackets, sawflies do not have a narrow constriction in their body (the so-called "wasp-waist").

Most sawflies are not of great consequence to humans, but some can be major pests such as a few species of stem sawflies (Family Cephidae) that feed inside the stems of wheat and other crops, and conifer sawflies (Family Diprionidae) that can be major forest pests. Conversely, some species that have larvae that feed on weeds are considered beneficial. There are just over 8,600 described species of sawflies in the world.

An ongoing series of recently published papers is providing a checklist of all the described species of Hymenoptera recorded in northern North America including lists for all Canadian provinces and territories. The first paper in this series (Goulet and Bennett 2021[1].) dealt with the sawflies. The NWT species represent about 15% of the number of species known in Canada. By far the majority of the species of sawflies in the NWT belong to the family Tenthredinidae. This is the largest family of sawflies in Canada and the world.

The NWT is also home to one web-spinning sawfly (Family Pamphiliidae), a wood wasp (Family Xiphydriidae) and horntails, which get their common name because the females have a long "horn" extending from the posterior of their abdomen.

There are also members of the family Argidae that are distinguished from all other sawflies by having their antenna reduced to only three segments and four species of the family Cimbicidae which can be very large (bodies up to 2 cm in length) and have antennae that are clubbed at the end. Male cimbicids can be commonly found at the top of hills where they congregate for finding and competing for mates.

Species of the family Xyelidae are all small (only 3 to 5 mm in body length) and the larvae develop within male pine cones. Xyelids are the most ancient group of Hymenoptera. Fossils have been found dating back to the Triassic, over 200 million years ago.

Our knowledge of the sawflies of the NWT is good relative to other groups of Hymenoptera. Still, it is clear that there are many unrecorded or even undescribed species of sawflies in our region. This is especially true in some groups within the family Tenthredinidae that are closely associated with willows. There is a high diversity of willows in northern Canada; it is certain that there are many new records and new species of sawflies that await discovery.

Dr. Andrew M.R. Bennett
Dr. Henri Goulet
Canadian National Collection of
Insects, Arachnids and Nematodes
Ottawa, ON

[1] See resources in Further Your Knowledge section.

List 14. **Hymenopterans**

There are 12 species of ants, 110 species of bees, 111 species of sawflies,and 24 species of vespid wasps confirmed present in the NWT. Of these, two species of bees and five species of sawflies are alien. An additional four species of ants and three species of bees are expected to occur in the NWT. Species are listed according to the Phylum and Class they belong to, then alphabetically by Order, Superfamily, Family, Subfamily (if applicable) and scientific species name. Taxonomy follows Bennett et al. (2019). Common names are from various sources.



Bearded Miner Bee Photo Credit: H. Holm

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC status in the NWT[b]	COSEWIC Status in Canada[c]
Arthropoda – Insecta					Arthropods – Insects
Hymenoptera – Apocrita					Hymenopterans – Wasp-waisted hymenopterans
Apoidea – Andrenidae					Bees – Miner bees
Icy Miner Bee	*Andrena algida*	Undetermined	∃[4]		
Bearded Miner Bee	*Andrena barbilabris*	Secure	ⓘ[5]		
Canada Miner Bee	*Andrena canadensis*	Undetermined			
Rustyback Miner Bee	*Andrena clarkella*	Undetermined			
British Columbia Miner Bee	*Andrena columbiana*	Undetermined			
Cold Miner Bee	*Andrena frigida*	Undetermined			
Hippotes Miner Bee	*Andrena hippotes*	Undetermined			
Hirsute Miner Bee	*Andrena hirsutula*	Undetermined	∃[6]		
Willow Miner Bee	*Andrena mariae*	Undetermined			
Milwaukee Miner Bee	*Andrena milwaukeensis*	Undetermined			
Miranda Miner Bee	*Andrena miranda*	Undetermined			
Protruding Miner Bee	*Andrena persimulata*	Undetermined			
Purple Miner Bee	*Andrena prunorum*	Undetermined			
Regular Miner Bee	*Andrena regularis*	Undetermined			
Red-faced Miner Bee	*Andrena rufosignata*	Secure			
Sigmund's Miner Bee	*Andrena sigmundi*	Undetermined			
Parsnip Miner Bee	*Andrena thaspii*	Secure			
Wllesley Miner Bee	*Andrena wellesleyana*	Undetermined			
Inept Miner Bee	*Panurginus ineptus*	Presence Expected			
Apoidea – Apidae					Bees – Honey bees
Bumblebee-like Flower Bee	*Anthophora bomboides*	Undetermined	∃[4]		
Red-tailed Flower Bee	*Anthophora terminalis*	Undetermined	∃[4]		
Western Honey Bee	*Apis mellifera*	Alien			
Gypsy Cuckoo Bumble Bee	*Bombus bohemicus*	At Risk		Data Deficient – 2019	Endangered – 2014
Northern Amber Bumble Bee	*Bombus borealis*	Undetermined			
Cryptic Bumble Bee	*Bombus cryptarum*	Secure			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC status in the NWT[b]	COSEWIC Status in Canada[c]
Yellow Cuckoo Bumble Bee	*Bombus flavidus*	Undetermined			
Yellow-fronted Bumble Bee	*Bombus flavifrons*	Secure			
Winter Bumble Bee	*Bombus frigidus*	Secure			
Common Eastern Bumble Bee	*Bombus impatiens*	Alien	#		
Indiscriminate Cuckoo Bumble Bee	*Bombus insularis*	Undetermined			
Johansen's Bumble Bee	*Bombus johanseni*	Undetermined	#		
Heath Bumble Bee	*Bombus jonellus*	Secure			
Mountain Bumble Bee	*Bombus kirbiellus*	Undetermined	∃[4]		
Red-tailed Bumble Bee	*Bombus lapponicus*	Secure			
Orange-rumped Bumble Bee	*Bombus melanopygus*	Undetermined			
Brown-tailed Bumble Bee	*Bombus mixtus*	Secure			
Subarctic Cuckoo Bumble Bee	*Bombus natvigi*	Undetermined			
American Boreal Bumble Bee	*Bombus neoboreus*	Secure			
Nevada Bumble Bee	*Bombus nevadensis*	Undetermined	#		
McKay's Western Bumble Bee	*Bombus mckayi*	Sensitive		Data Deficient – 2019	Special Concern – 2014
Confusing Bumble Bee	*Bombus perplexus*	Undetermined			
Northern Bumble Bee	*Bombus polaris*	Undetermined	∃[4]		
Red-belted Bumble Bee	*Bombus rufocinctus*	Undetermined	#		
Sanderson's Bumble Bee	*Bombus sandersoni*	Undetermined			
Suckley's Cuckoo Bumble Bee	*Bombus suckleyi*	At Risk	A, ↗[5]		Threatened – 2019/ G2G3 – 2019
Tricoloured Bumble Bee	*Bombus ternarius*	Undetermined			
Yellow-banded Bumble Bee	*Bombus terricola*	Sensitive		Not at Risk – 2019	Special Concern – 2015
Half-black Bumble Bee	*Bombus vagans*	Undetermined	#		
Double Bumble Bee	*Bombus vancouverensis*	Undetermined			
Miniature Cuckoo Nomad Bee	*Epeolus minimus*	Undetermined			
Eagle Cuckoo Nomad Bee	*Nomada aquilarum*	Undetermined			
True Cuckoo Nomad Bee	*Nomada valida*	Undetermined			
Apoidea – Colletidae					Bees – Plasterer bees
Partner Plasterer Bee	*Colletes consors*	Undetermined			
Shiny Plasterer Bee	*Colletes impunctatus*	Undetermined			
Mesil Yellow-faced Bee	*Hylaeus mesillae*	Undetermined	∃[10]		
Black-faced Plasterer Bee	*Colletes nigrifrons*	Undetermined			
Scorpionweed Plasterer Bee	*Colletes phaceliae*	Undetermined			
Ringed Yellow-faced Bee	*Hylaeus annulatus*	Secure			
Basal Yellow-faced Bee	*Hylaeus basalis*	Undetermined			
Apoidea – Halictidae					Bees – Sweat bees
Cinquefoil Sweat Bee	*Dufourea harveyi*	Undetermined			
Confusing Sweat Bee	*Halictus confusus*	Undetermined	#		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC status in the NWT[b]	COSEWIC Status in Canada[c]
Polymorphic Sweat Bee	*Halictus rubicundus*	Undetermined			
Comma Sweat Bee	*Halictus virgatellus*	Undetermined			
Athabasca Sweat Bee	*Lasioglossum athabascense*	Undetermined			
Boreal Sweat Bee	*Lasioglossum boreale*	Undetermined			
Hardy Sweat Bee	*Lasioglossum comagenense*	Undetermined			
Misbehaving Sweat Bee	*Lasioglossum inconditum*	Undetermined			
Very Smooth Sweat Bee	*Lasioglossum laevissimum*	Undetermined			
Nova Scotian Sweat Bee	*Lasioglossum novascotiae*	Undetermined			
Peacock Sweat Bee	*Lasioglossum pavoninum*	Undetermined			
Flattened Sweat Bee	*Lasioglossum planatum*	Undetermined			
Dust Sweat Bee	*Lasioglossum pulveris*	Undetermined			
Quebec Sweat Bee	*Lasioglossum quebecense*	Undetermined			
Red-lipped Sweat Bee	*Lasioglossum rufulipes*	Undetermined	∃[6]		
Blueberry Sweat Bee	*Lasioglossum seillean*	Undetermined			
Alpine Sweat Bee	*Lasioglossum tenax*	Undetermined			
Timothy's Sweat Bee	*Lasioglossum timothyi*	Presence Expected			
Black-tipped Cuckoo Sweat Bee	*Sphecodes prosphorus*	Undetermined			
Shiny-faced Cuckoo Sweat Bee	*Sphecodes solonis*	Undetermined			
Apoidea – Megachilidae					Bees – Leafcutter and mason bees
Saw-faced Carder Bee	*Anthidium clypeodentatum*	Undetermined			
Scurfpea Carder Bee	*Anthidium tenuiflorae*	Undetermined			
Banks' Cuckoo Leafcutter Bee	*Coelioxys banksi*	Undetermined			
Funeral Cuckoo Leafcutter Bee	*Coelioxys funeraria*	Undetermined	∃[4]		
Sad Cuckoo Leafcutter Bee	*Coelioxys moestus*	Undetermined			
Red-legged Cuckoo Leafcutter Bee	*Coelioxys rufitarsis*	Undetermined			
Comrade Cuckoo Leafcutter Bee	*Coelioxys sodalis*	Undetermined			
White-face Summer Mason Bee	*Hoplitis albifrons*	Undetermined	∃[4]		
Bright Green Summer Mason Bee	*Hoplitis fulgida*	Presence Expected			
Unicorn Summer Mason Bee	*Hoplitis robusta*	Undetermined			
Wide-horned Summer Mason Bee	*Hoplitis spoliata*	Undetermined			
Common Leafcutter Bee	*Megachile centuncularis*	Undetermined			
Circumpolar Leafcutter Bee	*Megachile circumcincta*	Undetermined	∃[4]		
Polar Leafcutter Bee	*Megachile frigida*	Secure			
Square-jawed Leafcutter Bee	*Megachile gemula*	Undetermined			
Unarmed Leafcutter Bee	*Megachile inermis*	Undetermined			
Lapland Leafcutter Bee	*Megachile lapponica*	Secure			
Black-bellied Leafcutter Bee	*Megachile melanophaea*	Secure			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC status in the NWT[b]	COSEWIC Status in Canada[c]
Hirsute Leafcutter Bee	*Megachile perihirta*	Secure			
Feisty Leafcutter Bee	*Megachile pugnata*	Undetermined			
Relative Leafcutter Bee	*Megachile relativa*	Undetermined	∃[4]		
Small Black-bellied Mason Bee	*Osmia atriventris*	Undetermined			
Bighead Mason Bee	*Osmia bucephala*	Secure	ⓘ[5]		
Unarmed Mason Bee	*Osmia inermis*	Undetermined			
Marine Mason Bee	*Osmia maritima*	Undetermined			
Nearctic Mason Bee	*Osmia nearctica*	Undetermined			
Large Black-bellied Mason Bee	*Osmia nigriventris*	Undetermined			
Friendly Mason Bee	*Osmia proxima*	Undetermined			
Similar Mason Bee	*Osmia simillima*	Undetermined			
Meridional Mason Bee	*Osmia subaustralis*	Undetermined			
Wide-banded Mason Bee	*Osmia tersula*	Undetermined			
Federal Cuckoo Carder Bee	*Stelis foederalis*	Undetermined			
Healthy Cuckoo Carder Bee	*Stelis nitida*	Undetermined			
Subemarginate Cuckoo Carder Bee	*Stelis subemarginata*	Undetermined			
Formicoidea – Formicidae – Formicinae					Ants – Formicine ants
Boreal Carpenter Ant	*Camponotus herculeanus*	Undetermined			
Silky Mound Ant	*Formica fusca*	Presence Expected			
Jet Black Mound Ant	*Formica gagatoides (Formica fusca var. gagatoides)*	Presence Expected			
Neonbright Mound Ant	*Formica neoclara*	Undetermined			
New World Redbeard Ant	*Formica neorufibarbis*	Undetermined			
Podzol Mound Ant	*Formica podzolica*	Undetermined			
Shadow Field Ant	*Lasius aphidicolus*	Undetermined			
Pale-legged Field Ant	*Lasius pallitarsis*	Undetermined			
Formicidae – Myrmicinae					Ants – Myrmicine ants
Treasured Thin Ant	*Leptothorax acervorum*	Presence Expected			
Mossy Thin Ant	*Leptothorax muscorum*	Undetermined			
Alaskan Ant	*Myrmica alaskensis*	Undetermined			
Short-spined Ant	*Myrmica brevispinosa*	Undetermined			
Detrital Ant	*Myrmica detritinodis*	Undetermined			
Incomplete Ant	*Myrmica incompleta*	Undetermined			
Lobe-fronted Ant	*Myrmica lobifrons*	Undetermined			
Formicidae – Dolichoderinae					Ants – Stingless ants
Odorous House Ant	*Tapinoma sessile*	Presence Expected			
Vespoidea – Vespidae – Eumeninae					Vespid wasps – Potter and mason wasps
Milky Mason Wasp	*Ancistrocerus albolacteus*	Undetermined			
White-banded Mason Wasp	*Ancistrocerus albophaleratus*	Secure			
Catskill Mason Wasp	*Ancistrocerus catskill*	Undetermined			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC status in the NWT[b]	COSEWIC Status in Canada[c]
Walden's Mason Wasp	*Ancistrocerus waldenii*	Secure			
Cross Potter Wasp	*Eumenes crucifera*	Secure			
Black and White Mason Wasp	*Euodynerus leucomelas*	Undetermined			
Flat-footed Mason Wasp	*Euodynerus planitarsis*	Undetermined			
Beloved Mason Wasp	*Odynerus dilectus*	Undetermined			
Kennicott Mason Wasp	*Stenodynerus kennicottianus*	Undetermined			
Clear Mason Wasp	*Stenodynerus lucidus*	Undetermined			
White-bordered Mason Wasp	*Symmorphus albomarginatus*	Undetermined			
Canadian Mason Wasp	*Symmorphus canadensis*	Undetermined			
Tufted Mason Wasp	*Symmorphus cristatus*	Undetermined			
Vespoidea – Vespidae – Vespinae					Vespid wasps – Yellowjackets and hornets
Arctic Aerial Yellowjacket	*Dolichovespula albida*	Secure			
Rocky Mountain Aerial Yellowjacket	*Dolichovespula alpicola*	Undetermined			
Long-cheeked Cuckoo Yellowjacket	*Dolichovespula arctica*	Undetermined			
Common Aerial Yellowjacket	*Dolichovespula arenaria*	Secure			
Bald-faced Hornet	*Dolichovespula maculata*	Secure			
Northern Aerial Yellowjacket	*Dolichovespula norvegicoides*	Secure			
Forest Yellowjacket	*Vespula acadica*	Undetermined			
Alaska Yellowjacket	*Vespula alascensis*	Undetermined			
Cousin Blackjacket	*Vespula consobrina*	Undetermined			
Cuckoo Yellowjacket	*Vespula infernalis*	Undetermined			
Northern Red-spotted Yellowjacket	*Vespula intermedia*	Undetermined			
Hymenoptera – Symphyta					Hymenopterans – Sawfly-like hymenopterans
Pamphilioidea – Pamphiliidae					Leaf-rolling sawflies – Leaf-rollers
Many-marked Sawfly	*Onycholyda multisignata*	Undetermined			
Siricoidea – Siricidae					Siricoid sawflies – Horntails
Spruce Woodwasp	*Sirex nitidus*	Undetermined			
Yellow-horned Horntail	*Urocerus flavicornis*	Secure			
Siricoidea – Xiphydriidae					Siricoid sawflies – Woodwasps
Birch Woodwasp	*Xiphydria mellipes*	Undetermined			
Tenthredinoidea – Argidae					Sawflies – Argid sawflies
Clavicorn Argid Sawfly	*Arge clavicornis*	Undetermined			
Birch Argid Sawfly	*Arge cyra*	Undetermined			
Yellow-legged Argid Sawfly	*Arge onerosa*	Undetermined			
Western Argid Sawfly	*Arge parena*	Undetermined			
Tenthredinoidea – Cimbicidae					Sawflies – Cimbicid sawflies
Thick Club Sawfly	*Abia inflata*	Undetermined			
Elm Sawfly	*Cimbex americanus*	Undetermined			
Plump Club Sawfly	*Trichiosoma crassum*	Undetermined			
Three-cornered Club Sawfly	*Trichiosoma triangulum*	Undetermined			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC status in the NWT[b]	COSEWIC Status in Canada[c]
Tenthredinoidea – Tenthredinidae					Sawflies – Common sawflies
Honey Sawfly	*Allantus mellipes*	Undetermined			
Northwestern Sawfly	*Allantus rahmus*	Undetermined			
Horsetail Sawfly	*Ametastegia equiseti*	Undetermined			
Rock Willow Sawfly	*Ametastegia rocia*	Undetermined			
Pale-legged Sawfly	*Ardis pallipes*	Alien			
Yellowing Sawfly	*Brachythops flavens*	Undetermined			
Wuestner Sawfly	*Brachythops wuestneii*	Undetermined			
Hairy Willow Sawfly	*Cladius simplicornis*	Undetermined			
Rough Sawfly	*Dolerus acidus*	Undetermined			
Robson Sawfly	*Dolerus aeneiceps*	Undetermined			
Sun Sawfly	*Dolerus apricus*	Undetermined			
April Sawfly	*Dolerus aprilis*	Secure			
Spring Sawfly	*Dolerus apriloides*	Undetermined			
Harsh Sawfly	*Dolerus asper*	Undetermined			
Elder's Sawfly	*Dolerus elderi*	Undetermined			
Gessner's Sawfly	*Dolerus gessneri*	Undetermined			
Field Horsetail Sawfly	*Dolerus gilvipes*	Secure			
Reindeer Depot Sawfly	*Dolerus incisus*	Undetermined			
Konow's Sawfly	*Dolerus konowi*	Undetermined			
Speckled-neck Sawfly	*Dolerus maculicollis*	Undetermined			
Native Sawfly	*Dolerus nativus*	Undetermined			
Spin-neck Sawfly	*Dolerus neocollaris*	Undetermined			
Complex Sawfly	*Dolerus similis*	Undetermined			
Early Sawfly	*Dolerus subfasciatus*	Secure			
Legged Sawfly	*Dolerus tibialis*	Secure			
Yukon Sawfly	*Dolerus yukonensis*	Undetermined			
Alpine Sawfly	*Empria alpina*	Undetermined			
White Sawfly	*Empria candidata*	Undetermined			
Strange Sawfly	*Empria ignota*	Undetermined			
Greedy Sawfly	*Empria improba*	Undetermined			
Nordic Sawfly	*Empria nordica*	Undetermined			
Black Sawfly	*Empria obscurata*	Undetermined			
Yellowheaded Spruce Sawfly	*Euura alaskensis*	Undetermined			
Strap Sawfly	*Euura amentorum*	Undetermined			
Large Lined Dock Sawfly	*Euura annulata*	Undetermined			
Sedge Euura Sawfly	*Euura clibrichella*	Undetermined			
Thick-footed Sawfly	*Euura crassipes*	Undetermined			
Greenheaded Spruce Sawfly	*Euura dimmockii*	Undetermined			
Legume Sawfly	*Euura dulichus*	Undetermined			
Digging Sawfly	*Euura excavata*	Undetermined			
Greenland Sawfly	*Euura groenlandica*	Undetermined			
Blunt Sawfly	*Euura hebes*	Undetermined			
Hellen's Sawfly	*Euura helleni*	Undetermined			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC status in the NWT[b]	COSEWIC Status in Canada[c]
Hulten's Sawfly	*Euura hulteni*	Undetermined			
Kamchatka Sawfly	*Euura itelmena*	Undetermined			
Ghostly Sawfly	*Euura leucolena*	Undetermined			
Large Euura Sawfly	*Euura magus*	Undetermined			
Neglected Sawfly	*Euura neglecta*	Undetermined			
Dark-footed Sawfly	*Euura obscuripes*	Undetermined			
Willow Sawfly	*Euura oligospila*	Undetermined			
Polar Euura Sawfly	*Euura polaris*	Undetermined			
Four-banded Sawfly	*Euura quadrifasciata*	Undetermined			
Lined Euura Sawfly	*Euura reticulata*	Undetermined			
Saddled Sawfly	*Euura sagmarius*	Undetermined			
Variable Sawfly	*Euura variator*	Undetermined			
English Sawfly	*Euura vicina*	Undetermined			
Yellow Sawfly	*Euura xantha*	Undetermined			
White-marked Fallocamp Sawfly	*Fallocampus albostigmus*	Undetermined			
Birch Leafminer Sawfly	*Fenusa pumila*	Alien			
Striped Alder Sawfly	*Hemichroa crocea*	Undetermined			
Late Birch Leaf Edgeminer	*Heterarthrus nemoratus*	Alien			
Dark Sawfly	*Monophadnoides atrata*	Undetermined			
Raspberry Sawfly	*Monophadnoides rubi*	Undetermined			
Aster Sawfly	*Pachyprotasis rapae*	Undetermined			
Boreal Sawfly	*Pristiphora borea*	Secure			
Breadalbane Sawfly	*Pristiphora breadalbanensis*	Undetermined			
Girded Blueberry Sawfly	*Pristiphora cincta*	Undetermined			
Coactula Sawfly	*Pristiphora coactula*	Undetermined			
Larch Sawfly	*Pristiphora erichsonii*	Alien			
Northern Sawfly	*Pristiphora frigida*	Undetermined			
Labrador Sawfly	*Pristiphora labradoris*	Undetermined			
Suffered Sawfly	*Pristiphora lativentris*	Undetermined			
Little Spruce Sawfly	*Pristiphora lena*	Undetermined			
Maura Sawfly	*Pristiphora maura*	Undetermined			
Dark Birch Sawfly	*Pristiphora melanocarpa*	Undetermined			
Small Sawfly	*Pristiphora micronematica*	Undetermined			
Mollis Sawfly	*Pristiphora mollis*	Undetermined			
Relative Sawfly	*Pristiphora relativa*	Undetermined			
Siskiyou Mountains Sawfly	*Pristiphora siskiyouensis*	Undetermined			
Staudinger's Sawfly	*Pristiphora staudingeri*	Undetermined			
Sycophant Sawfly	*Pristiphora sycophanta*	Undetermined			
Ambermarked Birch Leafminer	*Profenusa thomsoni*	Alien			
California Rhogogaster Sawfly	*Rhogogaster californica*	Undetermined			
Green Rhogogaster Sawfly	*Rhogogaster viridis*	Secure			
Arctic Tenthredo Sawfly	*Tenthredo arctica*	Undetermined			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC status in the NWT[b]	COSEWIC Status in Canada[c]
Gold Sawfly	*Tenthredo auraria*	Undetermined			
Crown Sawfly	*Tenthredo cinctitibiis*	Undetermined			
Hedgerow Sawfly	*Tenthredo colon*	Undetermined			
Remarkable Sawfly	*Tenthredo eximia*	Undetermined			
Fraternal Sawfly	*Tenthredo fraternalis*	Undetermined			
Pale-nosed Sawfly	*Tenthredo leucostoma*	Undetermined			
Olive Sawfly	*Tenthredo olivacea*	Undetermined			
Original Sawfly	*Tenthredo originalis*	Undetermined			
Pleural Sawfly	*Tenthredo pleuralis*	Undetermined			
Ungava Sawfly	*Tenthredo ungava*	Undetermined			
Yellow Tenthredo Sawfly	*Tenthredo xantha*	Undetermined			
Xyeloidea – Xyelidae					Xyeloid sawflies – Xyelid sawflies
Baker's Xyelid Sawfly	*Xyela bakeri*	Undetermined			
Small Xyelid Sawfly	*Xyela minor*	Undetermined			
Pine Xyelid Sawfly	*Xyela pini*	Undetermined			

[a] Describes reasons for a change in status rank between 2016 and 2021. ↗: Increasing Risk, ↘: Decreasing Risk, ∃: Error correction, #: Species new to the NWT, T: Taxonomic change, ⓘ: Information added, A: Changed due to detailed assessment by COSEWIC since 2016. See Data Sources and Methods for more details.

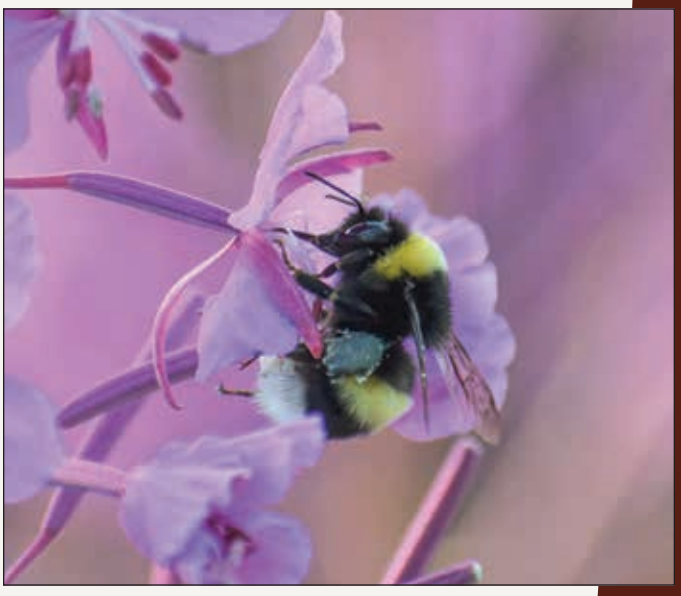
[b] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. SARC Status: Status for a species in the NWT if it has already been assessed in detail by SARC as of December 2021.

[c] COSEWIC Status: Status for a species in Canada if it has already been assessed in a detailed manner by COSEWIC as of December 2021. The year of each assessment is given with each status. After 2021, please consult current and additional status assessments using references given at the end of this report. Rank of a species in the world as designated by NatureServe. GH: Possibly Extinct, G1: Critically Imperilled, G2: Imperilled, G3: Vulnerable. Definitions and more information can be found at www.natureserve.org.

[1] Changed from At Risk
[2] Changed from May Be at Risk
[3] Changed from Sensitive
[4] Changed from Secure
[5] Changed from Undetermined
[6] Changed from Not Ranked
[7] Changed from Alien
[8] Changed from Extirpated
[9] Changed from Vagrant
[10] Changed from Presence Expected

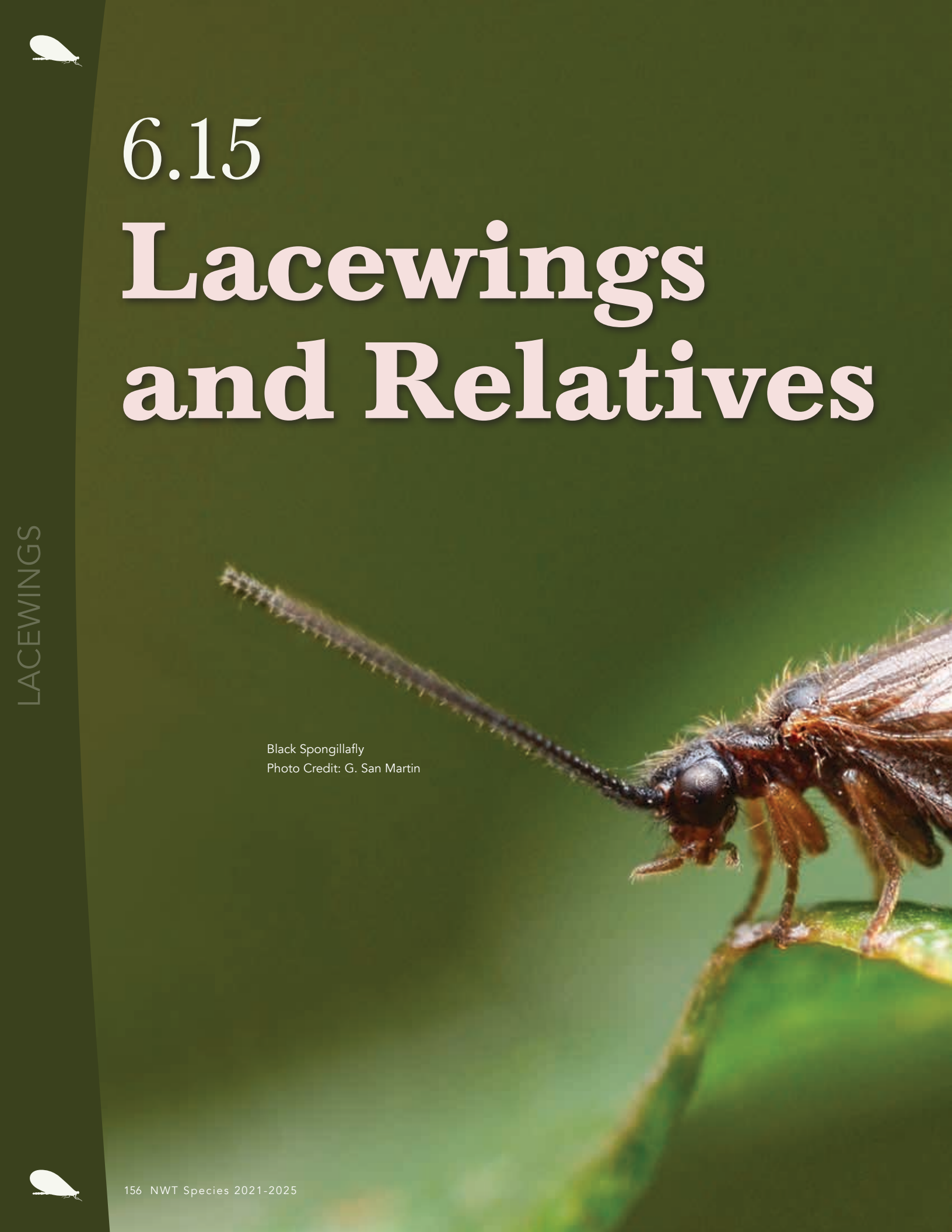


Orange-rumped Bumble Bee Photo Credit: E. D. Hont



Cryptic Bumble Bee Photo Credit: S. Cannings

6.15 Lacewings and Relatives



Black Spongillafly
Photo Credit: G. San Martin

Lacewings and their relatives are insects in the Order Neuroptera (Latin for "net-winged insects"). Neuroptera are a relatively small insect order, mostly found in the tropics. The NWT is home to at least three families: green lacewings (Family Chrysopidae), brown lacewings (Family Hemerobiidae) and spongillaflies (Family Sisyridae). Recent unverified collections indicate that members of another family, the dustywings (Family Coniopterygidae), are also present in the NWT.

Adult Neuroptera typically have narrow, cylindrical bodies, long antennae and long wings held tent-like over the body when at rest. Front and hind wings are similar in size and shape and both have a net-like pattern of veins. The wings resemble those of dragonflies but, unlike those masters of flight, lacewings are generally weak fliers. They are similar to dragonflies in being voracious predators of other insects both as larvae and adults. Some species are important predators of agricultural and forest pests like aphids. Both green and brown lacewings are attracted to lights and often find their way into homes on summer nights.



Typically, lacewing eggs are laid in spring on plants harbouring suitable prey like aphids. The eggs are laid in clusters with each egg suspended above the leaf surface at the end of a long stalk. This isolates the egg from the leaf and nearby eggs thus avoiding predation by its siblings and other insects, like lady beetles, also commonly found feeding on aphids. The young lacewing larvae, often called aphid lions, are equipped with a pair of sickle-shaped mouth parts they use to pierce and inject digestive enzymes into small insects. Then they reverse the flow and imbibe the body fluids and dissolved organs. Some species cover themselves with pieces of debris creating a cloak, which acts as both camouflage and a protective shell. To grow, a lacewing larva must periodically shed its exoskeleton. Once it attains full size the larva spins a small, silken cocoon in which to pupate. After a few days to several weeks it emerges as a winged adult. Adult lacewings range in size from about 6 to 20 mm. The development time from egg to adult varies from a few weeks or months to a year or more depending on the species, abundance of food and temperature. When the adult emerges it will mate and, if early enough in the summer, a female may lay eggs and produce a second generation. The adult lacewing will continue to feed on other insects, pollen and other food sources into fall then seek out a suitable hiding place to spend the winter months.

Green lacewings have very sensitive hearing organs, called tympana, located at the base of the front wings. These tympana are used both to sense the low-frequency mating calls of nearby mates and to detect the ultrasonic calls of bats to avoid predation. These organs might also aid in sensing and locating prey species feeding on plants.

Spongillaflies are so named because the aquatic larva uses its threadlike mouthparts to pierce and ingest the contents of freshwater sponges and bryozoans (moss animals). The larva breathes through gills on the abdomen. When full grown, the larva leaves the water to spin a cocoon in a protected spot then pupates and emerges the next year as an adult that closely resembles a brown lacewing. After mating, the female will lay eggs on leaves overhanging the water. This allows her young to drop in and immediately begin foraging for sponges.

Like most insect groups, the Neuroptera have been collected sporadically from relatively few locations in Canada and are not well represented in museums. What we currently know about Neuroptera in the NWT is based on a recent survey of the literature and specimens held in museums. This survey found approximately 120 specimens from 25 collections from 1922 to 2013 (contrast this number to the 2,900 birds observed during the Yellowknife Christmas bird count in 2013). An additional 154 specimens have been collected from 2014 to 2020 though at present only six have been identified to species level. Identification of the remaining specimens is likely to add at least one additional species record and a number of distribution records.

Most of these specimens have been collected near Great Slave Lake, Fort Smith, Great Bear Lake, and the Mackenzie River valley and delta region near Inuvik and at Tuktoyaktuk, and along the Dempster Highway. The most northerly species record is the lined brown lacewing (*Wesmaelius nervosus*) from Victoria Island. This indicates that some species can be found throughout the territory south of the Arctic Circle and in favourable habitats north of it.

A more intensive and distributed sampling effort should increase the number of species known to occur in the NWT. The forested and topographically diverse region in extreme southwest near Fort Liard and at lower elevations in the Nahanni National Park Reserve are likely to have the highest Neuroptera species richness. Moving northward and eastward from here the likelihood of finding new records or higher diversity diminishes but this does not mean these areas should be neglected. Since the previous report in 2015, two species of brown lacewings have been newly recorded near Great Slave Lake. We know virtually nothing about the distribution of species across the vast expanse of the NWT so any collections provide valuable information about the biodiversity our area. Establishing baseline distributions of species now is critical if we are to assess the effects of changing climate on the fauna of the NWT.

David C.A. Blades
Royal BC Museum
Victoria, BC

List 15. **Lacewings and Relatives**

There are 16 species of lacewings confirmed present in the NWT, including the common green lacewings included in the list below as a single species complex. This taxon needs additional investigations to determine which other additional species are present in the NWT (see footnote).

Eight more species are expected to be present in the NWT. Species are listed according to the Phylum and Class they belong to, then alphabetically by Order, Superfamily, Family and scientific species name. Taxonomy follows Oswald (2021). Common names are from various sources.

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Arthropoda – Insecta				Arthropods – Insects
Neuroptera – Chrysopidae				Net-winged insects – Green lacewings
Cross-eyed Green Lacewing	*Chrysopa chi*	Undetermined		
Golden-eyed Green Lacewing	*Chrysopa oculata*	Undetermined		
Common Green Lacewings	*Chrysoperla sp*[c]	Undetermined		
Black-horned Green Lacewing	*Chrysopa nigricornis*	Presence Expected		
Mourner Green Lacewing	*Chrysoperla plorabunda*	Presence Expected		
Cheated Green Lacewing	*Meleoma emuncta*	Presence Expected		



Golden-eyed Green Lacewing

Photo Credit: D. Blades

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Neuroptera – Coniopterygidae				Net-winged insects – Dustywings
Moth-like Dustywing	*Coniopteryx tineiformis*	Presence Expected		
Neuroptera – Hemerobiidae				Net-winged insects – Brown lacewings
Conjoined Brown Lacewing	*Hemerobius conjunctus*	Undetermined	#[10]	
Ridged Brown Lacewing	*Hemerobius costalis*	Undetermined		
Dorsal Brown Lacewing	*Hemerobius dorsatus*	Undetermined		
Shouldered Brown Lacewing	*Hemerobius humulinus*	Undetermined		
Ovale Brown Lacewing	*Hemerobius ovalis*	Undetermined		
Pacific Brown Lacewing	*Hemerobius pacificus*	Undetermined		
Pine-bush Brown Lacewing	*Hemerobius pinidumus*	Presence Expected		
Imitating Brown Lacewing	*Hemerobius simulans*	Presence Expected		
Marked Brown Lacewing	*Hemerobius stigma*	Presence Expected		
Angular Brown Lacewing	*Megalomus angulatus*	Undetermined		



Discriminating Green Lacewing
Photo Credit: C. and T. Van Loon

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Grooved Brunette Lacewing	*Micromus angulatus*	Undetermined		
Boreal Brown Lacewing	*Micromus borealis*	Presence Expected		
Forked Bronze Lacewing	*Wesmaelius furcatus*	Undetermined		
Intricate Bronze Lacewing	*Wesmaelius involutus*	Undetermined		
Long-faced Brown Lacewing	*Wesmaelius longifrons*	Undetermined	#[10]	
Lined Bronze Lacewing	*Wesmaelius nervosus*	Undetermined		
Neuroptera – Sisyridae				Net-winged insects – Spongillaflies
Black Spongillafly	*Sisyra nigra*	Undetermined		

[a] Describes reasons for a change in status rank between 2016 and 2021. ↗: Increasing Risk, ↘: Decreasing Risk, ∃: Error correction, #: Species new to the NWT, T: Taxonomic change, ⓘ: Information added, A: Changed due to detailed assessment by COSEWIC since 2016. See Data Sources and Methods for more details.

[b] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. Global Conservation Concern: Rank of a species in the world as designated by NatureServe. GH: Possibly Extinct, G1: Critically Imperilled, G2: Imperilled, G3: Vulnerable. Definitions and more information can be found at www.natureserve.org.

[c] Green lacewings (*Chrysoperla* sp.) were once considered a single common species (*Chrysoperla carnea*) present around the northern hemisphere. However, the taxon C. carnea is now considered strictly a European species. The many misidentified specimens in North American collections belong to a complex of species closely related to and virtually indistinguishable from C. *carnea*. Research (Henry et al. 2002) using song analysis and genetics has shown there may be many cryptic (hard to distinguish) species. More research will be needed to determine which and how many species of *Chrysoperla* are actually present in the NWT.

[1] Changed from At Risk
[2] Changed from May Be at Risk
[3] Changed from Sensitive
[4] Changed from Secure
[5] Changed from Undetermined
[6] Changed from Not Ranked
[7] Changed from Alien
[8] Changed from Extirpated
[9] Changed from Vagrant
[10] Changed from Presence Expected



Imitating Brown Lacewing

Photo Credit: D. Blades

6.16 Selected Flies



Wooly-tailed Marsh Fly
Photo Credit: P. Lin



Flies (Order Diptera) are the second-most diverse order of insects (Phylum Arthropoda Class Insecta) in the world, after the beetles. But in our region, flies take the medal for species richness!

Only five families of Diptera (flies) were included in the previous report: Culicidae (mosquitoes), Simuliidae (black flies), Tabanidae (horse flies and deer flies), Syrphidae (flower flies) and Bombyliidae (bee flies). Of these, the ranks of mosquitoes were reviewed since 2016, but not the others.

In this report, efforts were invested in adding new families of flies, now numbering 39 families, to the list for the first time. The biology and ecology of some of these families are summarized below. For more text on the biology of this large insect Order refer to the previous report[1].

[1] See Further your Knowledge Section: Working Group on General Status of NWT Species 2016.

Bombyliidae

Bombyliidae are a diverse group of small to medium-sized flies. Most species are covered with fuzzy hair or colourful scales; some have intricate patterns on their wings.

In the NWT, they are currently known to be from forested parts of the territory.

As larvae, bee flies feed on immature stages of other insects such as bees, solitary wasps, grasshoppers, and moths. Most species seem to specialize on a small number of hosts, although much remains to be learned about host relationships. Females typically hover over patches of ground or near vertical surfaces such as tree trunks where hosts are found and flick their eggs onto the surface or directly into burrows. Most female bee flies have a special chamber near the tip of the abdomen used to collect sand or dust to coat the eggs, which may help disperse the eggs. Larvae hatch rapidly and are initially mobile as they seek out a host. Once they have found one they become immobile and feed either internally or externally until pupating, killing the host in the process.

Adult bee flies feed on flowers, consuming both pollen and nectar. Species with a long proboscis (mouth part) may visit a wide range of flowers, including those often associated with long-tongued bees. They can feed while hovering, and may rapidly visit a series of flowers much like a miniature hummingbird. Other species with a short proboscis must visit flowers with readily accessible nectar; they are particularly fond of yellow and white daisies and asters. More detailed knowledge of the relationships between flowers and bee flies are lacking in most areas, including the NWT.

Adults are most active on warm, sunny days. Males may spend much of their time sitting on open ground, possibly defending territory or waiting for females. They will fly a short distance in response to disturbance, eventually returning to their original spot. Bee flies spend the winter as either larvae or pupae; although their life cycles are not well known. Canadian species seem to have one generation per year. Some species will only be present as adults for a week each year, while others may be present through most of the summer.

Most of the NWT species are widespread across the Canadian boreal forest. One unnamed species, of the genus *Systoechus*, was found at Reindeer Depot near Inuvik, and is currently not known from anywhere else in the world. The status and distribution of most NWT species are poorly known due to limited research.

Dr. Joel Kits
Agriculture and Agri-Food Canada
Ottawa, ON



Sarcophagidae Photo Credit: A. Sarrazin

Calliphoridae

Calliphoridae are among the easiest flies to recognize. Most species have a body partially or entirely metallic blue or green; some are polished black, coppery or without metallic reflections. They are medium-sized to large flies. Many adults like those of the familiar greenbottle flies (subfamily Luciliinae) are flower visitors, where they look for plant nectar, or rest on foliage, usually in bright sunlight. Others, like the bluebottles (subfamily Calliphorinae), particularly those of the genus *Calliphora*, are attracted by fresh or cooked meats and fish. Calliphorids flies can detect odours of decay from quite far away and are able to fly up to twenty kilometers in search of a carcass.

As larvae, most blow flies are scavengers and quickly feed on decaying materials. Those maggots perform a valuable service to humans in helping to remove feces matter and dead animal from landscapes. However, because of this habit to visit dung and dead matter, some Calliphorids can transmit pathogenic microorganisms.

The timing of development of blowflies is predictable when the surrounding temperature is known. Many species are of great interest in forensic entomology in determining the times of death of a corpse.

In contrast, some species of Calliphoridae can be producers of myiasis (the development of dipteran larvae

in a living vertebrate body). Myiasis-producing blow flies are usually attracted to the wounds of humans and domestic animals, where larvae feed on necrotic tissue. Based on this process, maggots of the species *Lucilia sericata* are now often applied as a treatment of infected wounds, a procedure called maggot debridement therapy (MDT).

Another group of Calliphoridae, the bird blow flies of the genus *Protocalliphora*, oviposit in bird nests where their larvae suck blood from the nestlings as ectoparasites. The action of those larvae can negatively influence health and survivorship of brood of many birds including ravens (*Corvus* spp.), and swallows. Others Calliphorids flies, the genus *Pollenia* (Cluster flies) enter houses to overwinter in uninhabited parts, sometimes in large numbers. These flies are neither garbage nor manure-related but parasitoid of earthworm.

There are over 1,525 Calliphorids species distributed all over the world and 62 species are currently recorded in Canada. Of those known to be in the NWT (see the list in the next pages), two, *Protophormia atriceps* and *Calliphora genarum* are rare in North America, and are found only in northern Canada and Alaska. In the same way, *Lucilia magnicornis* is an infrequently collected northern species recorded from Alaska to Labrador.

Dr. Marjolaine Giroux
Montreal Insectarium
Montreal, QC

Sarcophagidae

Sarcophagidae are robust grey and black flies, ranging from 2.5 mm to 20 mm in length. They possess a thorax that usually has three dark stripes and an abdomen that is generally checkered. Adult Sarcophagidae can often be observed basking in the sun on foliage, open ground and the sides of buildings. They have pad-like mouthparts for imbibing liquids like nectar, honeydew, tree sap and juices from damaged fruits. In contrast to their common name – flesh flies – very few larvae exploit larger vertebrate carrion as a food resource. Many of them show a strong trend for saprophagy, mostly in dead insects and other invertebrates or are parasitoids of live insects.

Flies of the Genus *Metopia* and *Phrosinella* (called satellite flies) are cleptoparasites of solitary bees and wasps. They use several strategies to locate their hosts, for example, they trail Sphecid wasp to their nest or search directly for nest entrances. In many cases, the fly larva eats the host egg or larva and feeds on the stored food.

This is a diverse family, and species display a multitude of life habits. Sarcophagidae are mostly beneficial insects. Adults, especially males, visit flowers and some species act as pollinators. Some species, parasites of grasshoppers and locusts, are probably of significance as biological control agents. The species *Sarcophaga aldrichi* (not currently confirmed in the NWT) is a common parasitoid of many pest Lepidoptera, including the forest tent caterpillar (*Malacosoma disstria*) and the spruce budworm (*Choristoneura fumiferana*). Flesh flies also represent a suitable insect for monitoring pollutant groups (e.g. heavy metals, residues of organochlorine pesticides and polychlorinated biphenyls) in various habitats. In this sense, Sarcophagidae used as forensic indicators, i.e. to estimate postmortem intervals, can also be used for the detection of various drugs or toxins present in the remains. Sarcophagids are cosmopolitan in distribution although their numbers decrease rapidly with latitude, with few subarctic species and none living in the treeless tundra. Their diversity is markedly concentrated in tropical regions.

Dr. Marjolaine Giroux
Montreal Insectarium
Montreal, QC

Syrphidae

Syrphidae (called Flower flies, Hover flies or Syrphid) are, true to their name, flower visitors as adults. Some species are among the most adept fliers in the insect world, reminiscent of miniature hummingbirds as they work flowers for their nectar rewards.

Because flower flies are often excellent mimics of bees and wasps, they are harmless but gain protection from predators who mistake them for stinging insects and they are commonly overlooked at flowers. Indeed, many books, advertisements, media articles and literature extolling the benefits of bees mistakenly illustrate flower flies!

In contrast with the relatively uniform adult ecology of syrphids, larval flower fly ecology is amongst the most varied of any insects. Larvae of some species, e.g., genus *Syrphus*, are predatory on aphids, scales and other insects. Many of these species are of critical importance in controlling pest numbers.

The genus *Pipiza* feed on specialized root aphids, whereas the bizarre ant flies, genus *Microdon* are predators and parasitoids of ants.

Other flower fly larvae are predators, filter-feeders of bacteria, and excellent indicators of the health of old growth forest ecosystems, as they live in sap runs under bark, or of aquatic ecosystems, as they live in rivers and wetlands.

Some prefer putrid water such as that found around farms or sewage lagoons (this includes the familiar rat-tailed maggots, *Eristalis tenax*). Species that live in putrid water are often found in the billions and are critical in improving water quality. These species are being investigated for use on a commercial scale in water treatment facilities.

Many species life histories are a mystery. It would be interesting to find out what *Volucella arctica* does for a living in the NWT. Other *Volucella* live in bee nests as larvae where they feed on debris as well as bee eggs and larvae.

The most diverse genus of flower flies found in the NWT is *Platycheirus*, called sedgesitters. Many of these flies have fantastic modifications of the male legs. These species – specific 'flags' are used for sexual display. As the common name implies, many sedgesitters are wetland specialists and can often be seen sitting on sedges and feeding on sedge pollen.

Monitoring Syrphidae can be done with traps such as Malaise traps but the most successful survey work is achieved by learning the group and hand collecting. The best way to find rare species is to look for them at their hill topping sites. Males of most species visit hilltops and other prominent landmarks where they wait for females. Hills need not be large, but the most isolated hills attract the most species. Combining hilltop surveys with flower collecting and some targeted sweeping near wetlands should turn up most of the species in an area.

Dr. Jeffrey H. Skevington
Canadian National Collection of Insects
Ottawa, ON

Dr. Andrew D. Young
University of Guelph
Guelph, ON

Chironomidae

Chironomidae (non-biting midges) are a diverse and vital component of freshwater insect fauna, though their significance extends well into the terrestrial habitats. Chironomidae importance in their environment can be explored in terms of food-web contribution, bio-indicators and medical importance. Subfossil remains of Chironomidae larvae in deposits of lakes and ponds reveal thousands of years of environmental change in freshwater and adjacent terrestrial habitats. For example, some forty years of data on Chironomidae species distribution in European Alpine regions has been used to demonstrate the climatically driven glacier retreats. Environmental disturbances such as flooding and drought can cause the local extinction of many fauna, with recolonization often being delayed.

Chironomidae are usually among the first colonizers of disturbed environment especially in vulnerable regions such as the Arctic. This means that periodicity and cycles of environmental disturbance can be traced using the distribution of Chironomids. Their larva and pupa are in most part aquatic, a few are aquatic or terrestrial and a few species occur in marine environment. Their occurrence in freshwaters ranges from temporary habitats such as ditches, potholes and pitcher plants to springs, streams, rivers and lakes. Adults are terrestrial and usually are found swarming in the vicinity of waters.

Chironomidae is the most diverse family of Diptera in Canada. Large areas of Canada are covered in freshwaters and given that diversity and abundance of Chironomidae usually increases by latitude, it can be expected that northern regions contain a higher portion of this diversity. However, since the Canadian Chironomidae fauna are poorly investigated, a large number of unrecorded and undescribed genera and species remain to be discovered.

Although, interest in the Chironomidae of Northern region of Canada continues, sadly no current Chironomidae work is carried out in NWT, nor has been carried out for the past four decades. Recent investigations in other northern regions have resulted in many discoveries. Integrating the Chironomidae diversity research into the freshwaters ecological and environmental investigation of the Arctic is crucial. The future studies must focus on improving the taxonomy of

different life stages of Chironomidae species in the North along with understanding their geographic distribution. This information will help mangers and regulators make more accurate assessment of the health of the northern aquatic ecosystems.

Dr. Armin Namayandeh
Environmental and Life Sciences
Trent University
Peterborough, ON



Reindeer Warble Fly Photo Credit: S. Petersen

Oestridae

Oestridae (including bot flies and warble flies) are medium-sized to very large heavy-bodied hairy flies. They have a very short adult life – they don't eat and live on reserves accumulated during the larval stages. Adults are rarely encountered except at elevated sites and on hilltops where males actively seek for females. Once they reach the summits, the first males strongly chase latecomers. After mating, females attempt to find hosts, which are almost exclusively mammals that they harass, usually by flying around them. Eggs (or the first instars, in some species) are laid very quickly, in flight, usually on the hair of the host's pelage. As larvae, all Oestridae are obligate parasites in the bodies or tissues of living vertebrates, usually mammals. Their skin, rather thick at late stages, is usually covered with triangular spinules regularly deposited in bands or transverse series along their bodies. Upon reaching maturity larvae of all species leave the host, fall to the ground and pupate into the soil.

Ostrid flies show a high level of host specificity. The genus *Cephenemyia* penetrates the nasal cavities and pharynx of Cervids. The species Reindeer Nose botfly (*Cephenemyia trompe*) will parasitise caribou, deer, moose and several other species. Females of this species do not lay eggs but are able to discharge many first instars and to spray them towards the nose, the mouth or the eye of a host. Those larvae then migrate into the nasal cavities where they feed on mucous. Second and third instars later develop in the pharynx of the host until maturity.

Reindeer Warble Fly (*Hypoderma tarandi*) resembles a bumble bee, presumably to protect it from natural enemies. The females of species lay a batch of up to 15 eggs on the hairs of *Rangifer* (caribou and reindeer), on lower body and legs. After hatching, the first instars penetrate the skin and migrate through the body tissues to overwinter. They pursue migration the following spring and move to the back of the host, where they develop in subcutaneous swellings called 'warble', feeding on cellular debris. Mature larvae exit their warbles after 30 to 60 days, fall to the ground and pupate. Adults live only few days. Warbles are traditionally valued for their nutritional qualities in Inuit culture.

Dr. Marjolaine Giroux
Montreal Insectarium
Montreal, QC

Conopidae

Conopidae is a small, rarely collected family of flies. Many species are noted for their mimicry of wasps and bees. Adult female conopids deposit eggs within living hosts, often in midflight, using modified abdominal structures. The larvae develop within the host until the host succumbs. Following pupation and overwintering, the adult conopid emerges from the host's corpse in spring or summer.

Various species of Hymenoptera are reported as hosts to these parasitoids. Conopids are also regularly collected from flowers but their role as pollinators, or even their degree of plant specificity, is poorly understood. The best way to observe conopids is to wait by sunny patches of flowers frequented by bees. Adults of Conopidae are only present for a few weeks in the late spring or summer. *Thecophora occidensis* is the only species that has been recorded from NWT, and then only from the forested regions in the southwest. This species has been reported from all across Canada and the United States.

Dr. Joel Gibson
Royal BC Museum
Victoria, BC

List 16. **Selected flies**

There are two species of acrocerid flies, 171 species of anthomyiid flies, four species of anthomyzid flies, 13 species of robber flies, one species of march fly, 13 species of bee flies, 12 species of blow files, one species of carnid fly, 14 species of biting midges, five species of silver flies, five species of phantom flies, 212 species of chironomid non-biting midges, five species of chloropid frit flies, one species of thick-headed fly, 39 species of mosquitoes, one species of dryomyzid orange fly, 34 species of shore flies, 25 species of fanniid flies, 11 species of heleomyzid sun flies, five species of lauxaniid flies, three species of spear-winged flies, three species of stilt-legged flies, 199 species of muscid flies, two species of oestrid flies, one species of grass flies, 22 species of cheese flies, 12 species of big-headed flies, one species of flat-footed fly, 17 species of flesh flies, 33 species of dung flies, two species of window flies, 43 species of marsh flies, 62 species of black flies, 10 species of soldier flies, 139 species of flower flies, 25 species of tabanid flies, 14 species of tephritid flies, eight species of stiletto flies, and one species of awl fly confirmed present in the NWT. Species are listed according to the Phylum and Class they belong to, then alphabetically by Order, Superfamily, Family and scientific species name. Taxonomy follows NatureServe (2021). Common names are from various sources.

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Arthropoda – Insecta				Arthropods – Insects
Diptera – Acroceridae				Flies – Acrocerid flies
Top-horned Hunchback Fly	*Acrocera orbicula*	Undetermined		
Adaptable Small-headed Fly	*Ogcodes adaptatus*	Undetermined		
Diptera – Anthomyiidae				Flies – Anthomyiid flies
Grey Adia Fly	*Adia cinerella*	Secure		
White-winged Root Maggot Fly	*Alliopsis albipennis*	Undetermined		
Arles Root Maggot Fly	*Alliopsis arelate*	Undetermined		
Conifer Root Maggot Fly	*Alliopsis conifrons*	Undetermined		
Constrictor Root Maggot Fly	*Alliopsis constrictor*	Undetermined		
Toothed Root Maggot Fly	*Alliopsis denticauda*	Secure		
Prong Root Maggot Fly	*Alliopsis dentiventris*	Undetermined		
Fracturing Root Maggot Fly	*Alliopsis fractiseta*	Secure		
Long-winged Root Maggot Fly	*Alliopsis longipennis*	Secure		
Mourning Root Maggot Fly	*Alliopsis moerens*	Undetermined		
Obese Root Maggot Fly	*Alliopsis obesa*	Undetermined		
Pyre Root Maggot Fly	*Alliopsis sepiella*	Undetermined		
Forest Root Maggot Fly	*Alliopsis silvestris*	Secure		
Grey-waist Anthom Fly	*Anthomyia brevicerca*	Undetermined		
Small-waist Anthom Fly	*Anthomyia cuneicerca*	Undetermined		
Mimic Anthom Fly	*Anthomyia mimetica*	Secure		
Shaggy Phorbia Fly	*Boreophorbia hirtipes*	Secure		
Abitibi Botanophilic Fly	*Botanophila abitibiensis*	Undetermined		
Kindled Botanophilic Fly	*Botanophila adusta*	Secure		
Aklavik Botanophilic Fly	*Botanophila aklavika*	Undetermined		
Betara Botanophilic Fly	*Botanophila betarum*	Secure		
King Botanophilic Fly	*Botanophila bidens*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Barred Botanophilic Fly	*Botanophila biseriata*	Undetermined		
Defector Botanophilic Fly	*Botanophila defector*	Undetermined		
Dull Botanophilic Fly	*Botanophila inornata*	Undetermined		
Pale Botanophilic Fly	*Botanophila leucosa*	Undetermined		
Miniature Botanophilic Fly	*Botanophila miniatura*	Undetermined		
Northern Botanophilic Fly	*Botanophila nordica*	Undetermined		
Roving Botanophilic Fly	*Botanophila profuga*	Secure		
Retreating Botanophilic Fly	*Botanophila recedens*	Undetermined		
Relative Botanophilic Fly	*Botanophila relativa*	Secure		
Red Botanophilic Fly	*Botanophila rubrigena*	Undetermined		
Silky Botanophilic Fly	*Botanophila sericea*	Undetermined		
Spindle Botanophilic Fly	*Botanophila spinidens*	Undetermined		
Thorny Botanophilic Fly	*Botanophila spiniventris*	Undetermined		
Variable Botanophilic Fly	*Botanophila varians*	Undetermined		
Velvety Botanophilic Fly	*Botanophila velutina*	Undetermined		
Cow Dung Anthomyid Fly	*Calythea bidentata*	Undetermined		
Mountain Fern Fly	*Chirosia montana*	Undetermined		
Abstract Delia Fly	*Delia abstracta*	Undetermined		
Aniset Delia Fly	*Delia aniseta*	Secure		
Banks Delia Fly	*Delia banksiana*	Undetermined		
Beringian Delia Fly	*Delia beringiana*	Undetermined		
Fat-cheeked Delia Fly	*Delia bucculenta*	Secure		
Wedged Delia Fly	*Delia cuneata*	Undetermined		
Copper Delia Fly	*Delia cupricrus*	Undetermined		
Dovre Delia Fly	*Delia dovreensis*	Undetermined		
Spinach Maggot Fly	*Delia echinata*	Undetermined		
Yellow-grey Delia Fly	*Delia flavogrisea*	Undetermined		
Turnip Maggot Fly	*Delia floralis*	Alien		
Bean Seed Maggot Fly	*Delia florilega*	Alien		
Garret's Delia Fly	*Delia garretti*	Secure		
Hairy-legged Delia Fly	*Delia hirtitibia*	Undetermined		
Hudson Delia Fly	*Delia hudsonica*	Undetermined		
Shaggy Delia Fly	*Delia lasiosternum*	Undetermined		
Lined Delia Fly	*Delia linearis*	Secure		
Lined-belly Delia Fly	*Delia lineariventris*	Secure		
Long Delia Fly	*Delia longicauda*	Secure		
Tricha Delia Fly	*Delia megatricha*	Secure		
Variable Delia Fly	*Delia mutans*	Undetermined		
Mesican Delia Fly	*Delia neomexicana*	Undetermined		
Nude Delia Fly	*Delia nuda*	Undetermined		
Shade Delia Fly	*Delia opacitas*	Undetermined		
Pectinator Delia Fly	*Delia pectinator*	Undetermined		
Hair-legged Delia Fly	*Delia pilifemur*	Secure		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Flat Maggot Fly	*Delia planipalpis*	Undetermined		
Seedcorn Maggot Fly	*Delia platura*	Alien		
False Rainier's Maggot Fly	*Delia pseudorainieri*	Secure		
Repleted Delia Fly	*Delia repleta*	Secure		
Rondan's Delia Fly	*Delia rondanii*	Secure		
Schist Delia Fly	*Delia schistophalla*	Undetermined		
Seriated Delia Fly	*Delia seriata*	Undetermined		
Bristly Delia Fly	*Delia setigera*	Secure		
Chesty Delia Fly	*Delia tarsata*	Secure		
Hugging Delia Fly	*Delia tenuiventris*	Undetermined		
Bulgind Delia Fly	*Delia tumidula*	Undetermined		
Barred Delia Fly	*Delia uniseriata*	Secure		
Spined Delia Fly	*Delia unispina*	Undetermined		
Orange Delia Fly	*Delia xanthobasis*	Undetermined		
Arctic Willow Catkin Fly	*Egle arctophila*	Undetermined		
Small Willow Catkin Fly	*Egle atomaria*	Secure		
Lash Willow Catkin Fly	*Egle ciliata*	Secure		
Boreal Willow Catkin Fly	*Egle concomitans*	Secure		
Norman Wells Willow Catkin Fly	*Egle inermis*	Undetermined		
Long-mouth Willow Catkin Fly	*Egle longipalpis*	Undetermined		
Lyneborg's Willow Catkin Fly	*Egle lyneborgi*	Undetermined		
Minute Willow Catkin Fly	*Egle minuta*	Secure		
Winter-leg Willow Catkin Fly	*Egle pilitibia*	Undetermined		
Protuberant Willow Catkin Fly	*Egle protuberans*	Undetermined		
Prairie Willow Catkin Fly	*Egle pseudosteini*	Secure		
Stein's Willow Catkin Fly	*Egle steini*	Undetermined		
Subarctic Willow Catkin Fly	*Egle subarctica*	Undetermined		
Washburn's Willow Catkin Fly	*Egle washburni*	Undetermined		
Festive Root Maggot Fly	*Eustalomyia festiva*	Undetermined		
Borrow Root Maggot Fly	*Eutrichota cylindrica*	Undetermined		
Cold Root Maggot Fly	*Eutrichota frigida*	Undetermined		
Labrador Root Maggot Fly	*Eutrichota labradorensis*	Undetermined		
Grinding Root Maggot Fly	*Eutrichota triticiperda*	Undetermined		
Tunic Root Maggot Fly	*Eutrichota tunicata*	Undetermined		
Ashly Hydrophore Fly	*Hydrophoria cinerascens*	Secure		
Urbane Root Fly	*Hylemya urbica*	Secure		
Dark Lasiomma Fly	*Lasiomma atricaudum*	Secure		
Collin's Lasiomma Fly	*Lasiomma collini*	Undetermined		
Wedge Lasiomma Fly	*Lasiomma cuneicorne*	Secure		
Yellow-wing Lasiomma Fly	*Lasiomma flavipenne*	Secure		
Wide-wing Lasiomma Fly	*Lasiomma latipenne*	Secure		
Dull Lasiomma Fly	*Lasiomma morionellum*	Undetermined		
Five-lined Lasiomma Fly	*Lasiomma quinquelineatum*	Undetermined		
Grey Satellite Nest Fly	*Leucophora cinerea*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Unmarried Satellite Nest Fly	*Leucophora innupta*	Undetermined		
Johnson's Satellite Nest Fly	*Leucophora johnsoni*	Undetermined		
Stained Satellite Nest Fly	*Leucophora maculata*	Undetermined		
Maryland Satellite Nest Fly	*Leucophora marylandica*	Undetermined		
Social Satellite Nest Fly	*Leucophora sociata*	Undetermined		
Lined Satellite Nest Fly	*Leucophora unilineata*	Undetermined		
Plump Myopina Fly	*Myopina crassipalpis*	Undetermined		
Arctic Paradelia Fly	*Paradelia arctica*	Undetermined		
Intersected Paradelia Fly	*Paradelia intersecta*	Secure		
Moon-faced Paradelia Fly	*Paradelia lunatifrons*	Undetermined		
Palpating Paradelia Fly	*Paradelia palpata*	Undetermined		
Salmita Paradelia Fly	*Paradelia salmitensis*	Undetermined		
Seven Paradelia Fly	*Paradelia setiventris*	Undetermined		
Wolf Poop Fly	*Paregle audacula*	Secure		
Moustached Poop Fly	*Paregle mystacea*	Secure		
Beet Leafminer Fly	*Pegomya betae*	Alien		
Bolete Miner Fly	*Pegomya flavoscutellata*	Undetermined		
Mushroom Miner Fly	*Pegomya geniculata*	Undetermined		
Notable Miner Fly	*Pegomya notabilis*	Undetermined		
Coltsfoot Miner Fly	*Pegomya petasitae*	Undetermined		
Red-foot Miner Fly	*Pegomya ruficeps*	Undetermined		
Sagehen Miner Fly	*Pegomya sagehenensis*	Undetermined		
Scaber Miner Fly	*Pegomya scapularis*	Undetermined		
Lupin Miner Fly	*Pegomya tinctisquama*	Undetermined		
Transgressing Miner Fly	*Pegomya transgressa*	Undetermined		
Winthem's Miner Fly	*Pegomya winthemi*	Undetermined		
Zoned Miner Fly	*Pegomya zonata*	Undetermined		
Black-shield Pegoplata Fly	*Pegoplata nigroscutellata*	Undetermined		
Black-footed Pegoplata Fly	*Pegoplata picipes*	Secure		
Tundra Pegoplata Fly	*Pegoplata tundrica*	Secure		
Striated Phorbia Fly	*Phorbia striata*	Undetermined		
Bundled Phorbia Fly	*Phorbia subfascicularis*	Undetermined		
Larch Cone Fly	*Strobilomyia laricis*	Undetermined		
Spruce Cone Fly	*Strobilomyia neanthracina*	Undetermined		
Larch Tunnel Fly	*Strobilomyia viarium*	Undetermined		
Line-back Seed Fly	*Subhylemyia dorsilinea*	Undetermined		
Snail Tunnel Fly	*Subhylemyia longula*	Undetermined		
Prickly Zaphne Fly	*Zaphne aculeata*	Undetermined		
Alpine Zaphne Fly	*Zaphne alpina*	Secure		
Ambiguous Zaphne Fly	*Zaphne ambigua*	Undetermined		
Arctic Zaphne Fly	*Zaphne arctopolita*	Undetermined		
Hairy Zaphne Fly	*Zaphne barbiventris*	Secure		
Boreal Zaphne Fly	*Zaphne borealis*	Undetermined		
Brown Zaphne Fly	*Zaphne brunneifrons*	Secure		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Churchill Zaphne Fly	*Zaphne churchillensis*	Secure		
Divided Zaphne Fly	*Zaphne divisa*	Secure		
Bundled Zaphne Fly	*Zaphne fasciculata*	Undetermined		
Forehead Zaphne Fly	*Zaphne frontata*	Undetermined		
Obscure Zaphne Fly	*Zaphne ignobilis*	Secure		
Entangled Zaphne Fly	*Zaphne implicata*	Undetermined		
Lined Zaphne Fly	*Zaphne lineatocollis*	Secure		
North American Zaphne Fly	*Zaphne nearctica*	Secure		
Western Zaphne Fly	*Zaphne occidentalis*	Undetermined		
Packard's Zaphne Fly	*Zaphne packardi*	Secure		
Proxima Zaphne Fly	*Zaphne proxima*	Undetermined		
Sinuated Zaphne Fly	*Zaphne sinuata*	Secure		
Subarctic Zaphne Fly	*Zaphne subarctica*	Secure		
Triste Zaphne Fly	*Zaphne tristis*	Secure		
Tundra Zaphne Fly	*Zaphne tundrica*	Undetermined		
Vortex Zaphne Fly	*Zaphne verticina*	Undetermined		
Wierzejski's Zaphne Fly	*Zaphne wierzejskii*	Secure		
Zetterstedt's Zaphne Fly	*Zaphne zetterstedti*	Secure		
Diptera – Anthomyzidae				Flies – Anthomyzid flies
Dun-bellied Anthomyzid Fly	*Anthomyza gilviventris*	Undetermined		
Grass Anthomyzid Fly	*Anthomyza pengellyi*	Secure		
Horsetail Anthomyzid Fly	*Anthomyza vockerothi*	Secure		
Disjunct Anthomyzid Fly	*Arganthomyza disjuncta*	Undetermined		
Diptera – Asilidae				Flies – Assassin flies
Marked Assassin Fly	*Cyrtopogon bimaculus*	Secure		
Shaggy Assassin Fly	*Cyrtopogon dasyllis*	Secure		
Lined-leg Assassin Fly	*Cyrtopogon lineotarsus*	Undetermined		
Gilva Robber Fly	*Laphria gilva*	Secure		
Index Robber Fly	*Laphria index*	Secure		
Signed Robber Fly	*Laphria insignis*	Secure		
Janus Robber Fly	*Laphria janus*	Secure		
Postical Robber Fly	*Laphria posticata*	Secure		
Sadales Robber Fly	*Laphria sadales*	Secure		
Scorpio Robber Fly	*Laphria scorpio*	Secure		
Hoary Robber Fly	*Lasiopogon canus*	Secure		
Prime Robber Fly	*Lasiopogon primus*	Undetermined		
Northern Robber Fly	*Rhadiurgus variabilis*	Secure		
Diptera – Bibionidae				Flies – March flies
High-Country March Fly	*Hesperinus brevifrons*	Undetermined		
Diptera – Bombyliidae				Flies – Beeflies
Bearded Bee Fly	*Anastoechus barbatus*	Undetermined		
Gray Bee Fly	*Anastoechus melanohalteralis*	Undetermined		
Field Coal Bee Fly	*Anthrax georgicus*	Undetermined		
Speckled Coal Bee Fly	*Anthrax irroratus*	Undetermined		

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Boreal Coal Bee Fly	*Anthrax picea*	Undetermined		
White-headed Bee Fly	*Bombylius albicapillus*	Undetermined		
Large Bee Fly	*Bombylius major*	Undetermined		
Pygmy Bee Fly	*Bombylius pygmaeus*	Secure		
Antelope Bee Fly	*Exoprosopa dorcadion*	Undetermined		
Mischievous Bee Fly	*Hemipenthes morioides*	Secure		
Reindeer Depot Bee Fly	*Systoechus sp. 1*	Undetermined		
Common Bee Fly	*Systoechus vulgaris*	Undetermined		
Tawny Bee Fly	*Villa fulviana*	Undetermined		
Diptera – Calliphoridae				Flies – Blow flies
Northern Blow Fly	*Calliphora genarum*	Undetermined		
Loew's Blow Fly	*Calliphora loewi*	Undetermined		
Montana Blow Fly	*Calliphora montana*	Undetermined		
Mountain Blow Fly	*Calliphora stelviana*	Undetermined		
Shiny Blue Bottle Fly	*Cynomya cadaverina*	Undetermined		
Horned Blue Bottle Fly	*Lucilia magnicornis*	Undetermined		
Common Bird Blow Fly	*Protocalliphora avium*	Undetermined		
Spittle Bird Blow Fly	*Protocalliphora sialia*	Undetermined		
Spatulate Bird Blow Fly	*Protocalliphora spatulata*	Undetermined		
Tundra Bird Blow Fly	*Protocalliphora tundrae*	Undetermined		
Black-headed Blue Bottle Fly	*Protophormia atriceps*	Undetermined		
Northern Blue Bottle Fly	*Protophormia terraenovae*	Undetermined		
Diptera – Carnidae				Flies – Carnid flies
Yellow Carnid Fly	*Meoneura flavifacies*	Secure		
Diptera – Ceratopogonidae				Flies – Biting midges
Aklavik Biting Midge	*Bezzia aklavikensis*	Undetermined		
Bicolour Biting Midge	*Bezzia bicolor*	Undetermined		
Spring Biting Midge	*Ceratopogon abstrusus*	Undetermined		
Mammal Biting Midge	*Ceratopogon mammulus*	Undetermined		
Cold Biting Midge	*Ceratopogon pontis*	Undetermined		
Frohne's Biting Midge	*Culicoides frohnei*	Undetermined		
Dotted Biting Midge	*Culicoides paraimpunctatus*	Undetermined		
Wirth's Biting Midge	*Culicoides wirthi*	Undetermined		
Yukon Biting Midge	*Culicoides yukonensis*	Secure		
Pool Biting Midge	*Dasyhelea atrata*	Undetermined		
Forest Biting Midge	*Dasyhelea fasciigera*	Undetermined		
White-waist Biting Midge	*Mallochohelea albibasis*	Undetermined		
Downes' Biting Midge	*Palpomyia downesi*	Undetermined		
New Biting Midge	*Palpomyia novitibialis*	Undetermined		
Diptera – Chamaemyiidae				Flies – Silver flies
Rush Silver Fly	*Chamaemyia juncorum*	Undetermined		
Ring Silver Fly	*Leucopis annulipes*	Secure		
Necklaced Silver Fly	*Leucopis argenticollis*	Secure		
Cheating Silver Fly	*Leucopis decipiens*	Undetermined		

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Melanite Silver Fly	*Pseudodinia melanitida*	Undetermined		
Diptera – Chaoboridae				Flies – Phantom midges
American Phantom Midge	*Chaoborus americanus*	Undetermined		
Cook's Phantom Midge	*Chaoborus cooki*	Undetermined		
Crystalline Phantom Midge	*Chaoborus crystallinus*	Undetermined		
Banded Phantom Midge	*Chaoborus trivittatus*	Undetermined		
Velvety Phantom Midge	*Mochlonyx velutinus*	Secure		
Diptera – Chironomidae				Flies – Chironomids
Sharped Aedeagus Non-biting Midge	*Ablabesmyia aspera*	Undetermined		
Illinois Non-biting Midge	*Ablabesmyia illinoensis*	Undetermined		
Rambling Non-biting Midge	*Ablabesmyia janta*	Undetermined		
Collared Non-biting Midge	*Ablabesmyia monilis*	Undetermined		
Beautiful-winged Non-biting Midge	*Ablabesmyia pulchripennis*	Undetermined		
Amu Darya Non-biting Midge	*Acalcarella nucus*	Undetermined		
Shining Non-biting Midge	*Acricotopus lucens*	Undetermined		
Nansen's Non-biting Midge	*Allocladius nanseni*	Undetermined		
Darkneck Non-biting Midge	*Arctopelopia melanosoma*	Undetermined		
Striped-belly Non-biting Midge	*Brillia flavifrons*	Undetermined		
Cow-dung Non-biting Midge	*Camptocladius stercoriarus*	Undetermined		
Year-around Non-biting Midge	*Chaetocladius perennis*	Undetermined		
Meager-clasper Non-biting Midge	*Chironomus atritibia*	Undetermined		
Doubleforked-spine Non-biting Midge	*Chironomus bifurcatus*	Undetermined		
High-north Non-biting Midge	*Chironomus hyperboreus*	Undetermined		
Jon Martin's Non-biting Midge	*Chironomus jonmartini*	Undetermined		
Tall-clasper Non-biting Midge	*Chironomus longistylus*	Undetermined		
Brunnet Non-biting Midge	*Chironomus pilicornis*	Undetermined		
River Non-biting Midge	*Chironomus riparius*	Undetermined		
Staeger's Non-biting Midge	*Chironomus staegeri*	Undetermined		
Black-stripped Non-biting Midge	*Cladotanytarsus nigrovittatus*	Undetermined		
Greenbelly Non-biting Midge	*Cladotanytarsus viridiventris*	Undetermined		
Dark-brown Non-biting Midge	*Conchapelopia bruna*	Undetermined		
Pale-brown Non-biting Midge	*Conchapelopia pallens*	Undetermined		
Hairy-bottom Non-biting Midge	*Conchapelopia pilicaudata*	Undetermined		
Orange-brown Non-biting Midge	*Conchapelopia telema*	Undetermined		
Short-costa Non-biting Midge	*Constempellina brevicosta*	Undetermined		
Indistinct Non-biting Midge	*Corynocera ambigua*	Undetermined		
Novaya Zemlya Non-biting Midge	*Corynoneura arctica*	Undetermined		
Collared clasper Non-biting Midge	*Corynoneura collaris*	Undetermined		
Horton River Non-biting Midge	*Corynoneura hortensis*	Undetermined		
Kedrovaya Pad Non-biting Midge	*Corynoneura kedrovaya*	Undetermined		
Lakedweller Non-biting Midge	*Corynoneura lacustris*	Undetermined		
Lobed-terminus Non-biting Midge	*Corynoneura lobata*	Undetermined		
Prime Non-biting Midge	*Corynoneura prima*	Undetermined		
Concaved-clasper Non-biting Midge	*Corynoneura scutellata*	Undetermined		

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Uni-ringed Non-biting Midge	*Cricotopus annulator*	Undetermined		
Serrated-mandible Non-biting Midge	*Cricotopus bicinctus*	Undetermined		
Dark-tibia Non-biting Midge	*Cricotopus coronatus*	Undetermined		
Frosty Non-biting Midge	*Cricotopus gelidus*	Undetermined		
Mackenzie Non-biting Midge	*Cricotopus mackenziensis*	Undetermined		
England Non-biting Midge	*Cricotopus obnixus*	Undetermined		
Throughblack Non-biting Midge	*Cricotopus perniger*	Undetermined		
Fluffy-thorax Non-biting Midge	*Cricotopus pilosellus*	Undetermined		
Polar Non-biting Midge	*Cricotopus polaris*	Undetermined		
Slosson's Non-biting Midge	*Cricotopus slossonae*	Undetermined		
Whiteringed Tibia Non-biting Midge	*Cricotopus tibialis*	Undetermined		
Three-striped Non-biting Midge	*Cricotopus trifasciatus*	Undetermined		
Conflicting Non-biting Midge	*Cricotopus tristis*	Undetermined		
Various-foot Non-biting Midge	*Cricotopus varipes*	Undetermined		
Digital-mentum Non-biting Midge	*Cryptochironomus digitatus*	Undetermined		
Large frontal Non-biting Midge	*Cyphomella cornea*	Undetermined		
Alaska Non-biting Midge	*Derotanypus alaskensis*	Undetermined		
Slender-clasper Non-biting Midge	*Diamesa amplexivirilia*	Undetermined		
Davis's Non-biting Midge	*Diamesa davisi*	Undetermined		
Simple Non-biting Midge	*Diamesa simplex*	Undetermined		
Spined terminus Non-biting Midge	*Diamesa spinacies*	Undetermined		
Lobe-carrier Non-biting Midge	*Dicrotendipes lobiger*	Undetermined		
Plain Non-biting Midge	*Dicrotendipes modestus*	Undetermined		
Darkened-belly Non-biting Midge	*Dicrotendipes neomodestus*	Undetermined		
Gleaming Non-biting Midge	*Dicrotendipes tritomus*	Undetermined		
Knife clasper Non-biting Midge	*Diplocladius cultriger*	Undetermined		
Double-tailed Non-biting Midge	*Doncricotopus bicaudatus*	Undetermined		
Synchronous Non-biting Midge	*Einfeldia synchrona*	Undetermined		
Dark Non-biting Midge	*Endochironomus nigricans*	Undetermined		
Cleared-wing Non-biting Midge	*Eukiefferiella claripennis*	Undetermined		
Ciliated-clasper Non-biting Midge	*Euryhapsis cilium*	Undetermined		
Enormous Non-biting Midge	*Glyptotendipes dreisbachi*	Undetermined		
Jug-winged Non-biting Midge	*Guttipelopia guttipennis*	Undetermined		
Winter Non-biting Midge	*Gymnometriocnemus brumalis*	Undetermined		
Shorthaired-leg Non-biting Midge	*Harnischia curtilamellata*	Undetermined		
Chang's Non-biting Midge	*Heterotrissocladius changi*	Undetermined		
Oliver's Non-biting Midge	*Heterotrissocladius oliveri*	Undetermined		
Similar Non-biting Midge	*Hydrobaenus conformis*	Undetermined		
Short-antenna Non-biting Midge	*Hydrobaenus fusistylus*	Undetermined		
Martin's Non-biting Midge	*Hydrobaenus martini*	Undetermined		
Ruttner's Non-biting Midge	*Hydrosmittia ruttneri*	Undetermined		
Halvorsen's Non-biting Midge	*Krenosmittia halvorseni*	Undetermined		
Hairy-terminus Non-biting Midge	*Labrundinia pilosella*	Undetermined		
Canadian Non-biting Midge	*Larsia canadensis*	Undetermined		

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Brust's Non-biting Midge	*Lasiodiamesa brusti*	Undetermined		
Gloomy Non-biting Midge	*Lasiodiamesa tenebrosa*	Undetermined		
Cultivated land Non-biting Midge	*Lauterborniella agrayloides*	Undetermined		
Scaly Non-biting Midge	*Limnophyes asquamatus*	Undetermined		
Numerous short hairs Non-biting Midge	*Limnophyes brachytomus*	Undetermined		
Smal-humeral Non-biting Midge	*Limnophyes minimus*	Undetermined		
Christmas Non-biting Midge	*Limnophyes natalensis*	Undetermined		
Lanceolate Non-biting Midge	*Limnophyes ninae*	Undetermined		
Five-granule Non-biting Midge	*Limnophyes pentaplastus*	Undetermined		
Dwarf Non-biting Midge	*Limnophyes pumilio*	Undetermined		
Thienemann's Non-biting Midge	*Mesocricotopus theinemanni*	Undetermined		
Tootless-palpomere Non-biting Midge	*Metriocnemus brusti*	Undetermined		
Well-known Non-biting Midge	*Metriocnemus eurynotus*	Undetermined		
A-between Non-biting Midge	*Metriocnemus intergerivus*	Undetermined		
Bear Island Non-biting Midge	*Metriocnemus ursinus*	Undetermined		
Boreal Non-biting Midge	*Micropsectra borealis*	Undetermined		
Brundin's Non-biting Midge	*Micropsectra brundini*	Undetermined		
Outstanding-lobed Non-biting Midge	*Micropsectra insignilobus*	Undetermined		
Logan River Non-biting Midge	*Micropsectra logani*	Undetermined		
Polished Non-biting Midge	*Micropsectra polita*	Undetermined		
Sedna's Non-biting Midge	*Micropsectra sedna*	Undetermined		
Three-colored Non-biting Midge	*Microtendipes pedellus*	Undetermined		
Lake-loving Non-biting Midge	*Monodiamesa bathyphila*	Undetermined		
Spur-bearing Non-biting Midge	*Monopelopia tenuicalcar*	Undetermined		
Missouri River Non-biting Midge	*Nanocladius anderseni*	Undetermined		
Distinct-colored Non-biting Midge	*Nanocladius distinctus*	Undetermined		
Spinefull Non-biting Midge	*Nanocladius spiniplenus*	Undetermined		
Baltimore Non-biting Midge	*Natarsia baltimoreus*	Undetermined		
Punctuated Non-biting Midge	*Natarsia punctata*	Undetermined		
Reiss's Non-biting Midge	*Neostempellina reissi*	Undetermined		



Agitated Deer Fly Photo Credit: D. Doucet



Fox Maggot Fly Photo Credit: T. Klein

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Pectinate-clawed Non-biting Midge	*Nilotanypus fimbriatus*	Undetermined		
Abisko Non-biting Midge	*Orthocladius abiskoensis*	Undetermined		
Connected Non-biting Midge	*Orthocladius annectens*	Undetermined		
Annelle's Non-biting Midge	*Orthocladius anellae*	Undetermined		
Whale Point Non-biting Midge	*Orhtocladius consobrinus*	Undetermined		
Decorated Non-biting Midge	*Orthocladius decoratus*	Undetermined		
Bumpy-clasper Non-biting Midge	*Orthocladius dentifer*	Undetermined		
Troublesome Non-biting Midge	*Orthocladius difficilis*	Undetermined		
Large-tubercle Non-biting Midge	*Orthocladius dorenus*	Undetermined		
Grey Non-biting Midge	*Orthocladius gelidorum*	Undetermined		
Hellenthal's Non-biting Midge	*Orthocladius hellenthali*	Undetermined		
Hordaland Non-biting Midge	*Orthocladius holsatus*	Undetermined		
Lapland Non-biting Midge	*Orthocladius lapponicus*	Undetermined		
Manitoba Non-biting Midge	*Orthocladius manitobensis*	Undetermined		
Bonnevie Island Non-biting Midge	*Orthocladius nitidoscullatus*	Undetermined		
Crushed-clasper Non-biting Midge	*Orthocladius oblidens*	Undetermined		
Stream-dweller Non-biting Midge	*Orthocladius rivicola*	Undetermined		
Brook Non-biting Midge	*Orthocladius rivulorum*	Undetermined		
Roussel's Non-biting Midge	*Orthocladius roussellae*	Undetermined		
Småland Lake Non-biting Midge	*Orthocladius smolandicus*	Undetermined		
Hairy-volsella Non-biting Midge	*Orthocladius subletteorum*	Undetermined		
August's non biting midge	*Orthocladius thienemanni*	Undetermined		
Baguette-clasper Non-biting Midge	*Pagastiella ostansa*	Undetermined		
Mountain Non-biting Midge	*Paracladius alpicola*	Undetermined		
Winnell's Non-biting Midge	*Paracladopelma winnelli*	Undetermined		
Lentic Non-biting Midge	*Parakiefferiella bathophila*	Undetermined		
Black Non-biting Midge	*Parakiefferiella nigra*	Undetermined		
Scandinavian Non-biting Midge	*Parakiefferiella scandica*	Undetermined		
Blackish Non-biting Midge	*Parakiefferiella subaterrima*	Undetermined		
Dark-halter Non-biting Midge	*Paralauterborniella nigrohalterale*	Undetermined		
Braided-terminus Non-biting Midge	*Paralimnophyes trilineatus*	Undetermined		
Fragile Non-biting Midge	*Paramerina fragilis*	Undetermined		
Boreo-alpine Non-biting Midge	*Parametriocnemus boreoalpinus*	Undetermined		
Hairy-squama Non-biting Midge	*Paraphaenocladius brevinervis*	Undetermined		
Swollen-terminus Non-biting Midge	*Paraphaenocladius exagitans*	Undetermined		
Grass-shoulder Non-biting Midge	*Parametriocnemus graminicola*	Undetermined		
Dorset Non-biting Midge	*Paraphaenocladius impensus*	Undetermined		
Lundbeck's Non-biting Midge	*Parametriocnemus lundbecki*	Undetermined		
Sandyland-forest Non-biting Midge	*Paraphaenocladius nasthecus*	Undetermined		
Tonsure-bearing Non-biting Midge	*Paraphaenocladius tonsuratus*	Undetermined		
Austria Non-biting Midge	*Paratanytarsus austriacus*	Undetermined		
Natvig's Non-biting Midge	*Paratanytarsus natvigi*	Undetermined		
Whisk-volsella Non-biting Midge	*Paratanytarsus pencillatus*	Undetermined		

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Setose-hand Non-biting Midge	*Paratanytarsus setosimanus*	Undetermined		
Brasenia Non-biting Midge	*Polypedilum braseniae*	Undetermined		
Darkhalter Knob Non-biting Midge	*Polypedilum halterale*	Undetermined		
Carbondale Non-biting Midge	*Polypedilum illinoense*	Undetermined		
Darkspot Non-biting Midge	*Polypedilum nubeculosum*	Undetermined		
Light-straw Non-biting Midge	*Polypedilum ophioides*	Undetermined		
Broad-clasper Non-biting Midge	*Polypedilum scalaenum*	Undetermined		
Remarkable Non-biting Midge	*Procladius bellus*	Undetermined		
Thick-muscled Non-biting Midge	*Procladius crassinervis*	Undetermined		
Mosquito Non-biting Midge	*Procladius culiciformis*	Undetermined		
Small-toothed Non-biting Midge	*Procladius denticulatus*	Undetermined		
Toothed-volsella Non-biting Midge	*Procladius dentus*	Undetermined		
Lacking Non-biting Midge	*Procladius desis*	Undetermined		
Freeman's Non-biting Midge	*Procladius freemani*	Undetermined		
Dry-river Non-biting Midge	*Procladius gretis*	Undetermined		
Umiate Non-biting Midge	*Procladius jeris*	Undetermined		
Combed Non-biting Midge	*Procladius pectinatus*	Undetermined		
Farmland Non-biting Midge	*Procladius ruris*	Undetermined		
Sublette's Non-biting Midge	*Procladius subletti*	Undetermined		
Muskox Lake Non-biting Midge	*Procladius vesus*	Undetermined		
Jämtland Non-biting Midge	*Prosmittia jemtlandica*	Undetermined		
Hamilton's Non-biting Midge	*Protanypus hamiltoni*	Undetermined		
Branching Non-biting Midge	*Protanypus ramosus*	Undetermined		
Bristly-leg Non-biting Midge	*Psectrocladius barbatimanus*	Undetermined		
Bearded-leg Non-biting Midge	*Psectrocladius barbimanus*	Undetermined		
Spur-leg Non-biting Midge	*Psectrocladius calcaratus*	Undetermined		
Finland Non-biting Midge	*Psectrocladius fennicus*	Undetermined		
Haired-to-the-edge Non-biting Midge	*Psectrocladius limbatellus*	Undetermined		
Long-spur Non-biting Midge	*Psectrocladius obvius*	Undetermined		
Cow Green Non-biting Midge	*Psectrocladius oxyura*	Undetermined		
Ruby-belly Non-biting Midge	*Pseudochironomus fulviventris*	Undetermined		
Preserving Non-biting Midge	*Pseudodiamesa pertinax*	Undetermined		
Little Non-biting Midge	*Pseudokiefferiella parva*	Undetermined		
Short-clasper Non-biting Midge	*Pseudorthocladius curtistylus*	Undetermined		
Chapman's Non-biting Midge	*Rheocricotopus chapmani*	Undetermined		
Disheveled Non-biting Midge	*Rheocricotopus effusus*	Undetermined		
Ornamented Non-biting Midge	*Rheopelopia ornata*	Undetermined		
Spined-tubercle Non-biting Midge	*Rheosmittia spinicornis*	Undetermined		
De Meijere's Non-biting Midge	*Robackia demeijerei*	Undetermined		
Hairless-squama Non-biting Midge	*Sætheria tylus*	Undetermined		
Black Stalky Non-biting Midge	*Sergentia coracina*	Undetermined		
Brown-wing Non-biting Midge	*Smittia aterrima*	Undetermined		
Hairy-eyed female Non-biting Midge	*Smittia edwardsi*	Undetermined		
Extremely-northern Non-biting Midge	*Smittia extrema*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Diverse Non-biting Midge	*Smittia polymorpha*	Undetermined		
T-shaped-banded Non-biting Midge	*Stempellinella edwardsi*	Undetermined		
Fringed-volsella Non-biting Midge	*Stempellinella fimbriata*	Undetermined		
Cheerful Non-biting Midge	*Stenochironomus hilaris*	Undetermined		
Rosenschoeld's Non-biting Midge	*Stictochironomus rosenschoeldi*	Undetermined		
Fainted-wings Non-biting Midge	*Stictochironomus unguiculatus*	Undetermined		
Riding Non-biting Midge	*Symbiocladius equitans*	Undetermined		
Greenish Non-biting Midge	*Synorthocladius semivirens*	Undetermined		
Goat Non-biting Midge	*Tanytarsus aigos*	Undetermined		
Fluffy gill Non-biting Midge	*Tanytarsus gracilentus*	Undetermined		
Spiked-volsella Non-biting Midge	*Tanytarsus guerlus*	Undetermined		
Midnight-sun Non-biting Midge	*Tanytarsus heliomesonyctios*	Undetermined		
Herman's Non-biting Midge	*Tanytarsus herrmanni*	Undetermined		
Naked-gill Non-biting Midge	*Tanytarsus inaequalis*	Undetermined		
Bushy-volsella Non-biting Midge	*Tanytarsus lestagei*	Undetermined		
Broken-fringe Non-biting Midge	*Tanytarsus lugens*	Undetermined		
Deceitful Non-biting Midge	*Tanytarsus mendax*	Undetermined		
Charcoal Non-biting Midge	*Tanytarsus niger*	Undetermined		
Norway Non-biting Midge	*Tanytarsus norvegicus*	Undetermined		
Curved-volsella Non-biting Midge	*Tanytarsus recurvatus*	Undetermined		
Sepp's Non-biting Midge	*Tanytarsus sepp*	Undetermined		
Usma-See Non-biting Midge	*Tanytarsus usmaënsis*	Undetermined		
Lake Volgograd Non-biting Midge	*Tanytarsus volgensis*	Undetermined		
Lobes-away-from-home Non-biting Midge	*Thienemanniella lobapodema*	Undetermined		
Lower Non-biting Midge	*Thienemanniella minuscula*	Undetermined		
Fused-volsella Non-biting Midge	*Thienemanniella xena*	Undetermined		
Black-headed Non-biting Midge	*Thienemannimyia fusciceps*	Undetermined		
O'Brian's non-bitining midge	*Tokunagaia obriaini*	Undetermined		
Rectangular-volsella Non-biting Midge	*Tokunagaia rectangularis*	Undetermined		
Heeled-clasper Non-biting Midge	*Trichotanypus posticalis*	Undetermined		
Bean-sprout Gill Non-biting Midge	*Tvetenia paucunca*	Undetermined		
Banks Island Non-biting Midge	*Vivacricotopus piloculus*	Undetermined		
Tubercled Non-biting Midge	*Zalutschia zalutschicola*	Undetermined		
Diptera – Chloropidae				Flies – Chloropid flies
Incongruous Frit Fly	*Dicraeus incongruus*	Undetermined		
Rough Grass Fly	*Epichlorops scaber*	Undetermined		
Small Grass Fry	*Thaumatomyia pulla*	Undetermined		
Patterned Grass Fly	*Thaumatomyia trifasciata*	Undetermined		
Dark Frit Fly	*Tricimba melancholica*	Undetermined		
Diptera – Conopidae				Flies – Conopid flies
Western Thick-headed Fly	*Thecophora occidensis*	Undetermined		
Diptera – Culicidae				Flies – Mosquitoes
Field Mosquito	*Aedes campestris*	Undetermined		
Canada Mosquito	*Aedes canadensis*	Secure		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Short-palped Livestock Mosquito	*Aedes cataphylla*	Secure		
Ashy Mosquito	*Aedes cinereus*	Secure		
Common Snowpool Mosquito	*Aedes communis*	Secure		
Quaking Bog Mosquito	*Aedes decticus*	Undetermined		
Long-antennaed Mosquito	*Aedes diantaeus*	Secure		
Summer Saltmarsh Mosquito	*Aedes dorsalis*	Undetermined		
Large-larvaed Mosquito	*Aedes euedes*	Secure		
Woodland Snowmelt Mosquito	*Aedes excrucians*	Secure		
Fitch's Ditch Mosquito	*Aedes fitchii*	Undetermined		
Yellow Prairie Mosquito	*Aedes flavescens*	Undetermined		
Treeline Mosquito	*Aedes hexodontus*	Secure		
Hairy Tundra Mosquito	*Aedes impiger*	Secure		
Confusing Mosquito	*Aedes implicatus*	Secure		
Intruding Mosquito	*Aedes intrudens*	Undetermined		
Swift-flying Mosquito	*Aedes mercurator*	Undetermined		
Arctic Black-footed Mosquito	*Aedes nigripes*	Secure		
Irrigated-pasture Mosquito	*Aedes nigromaculis*	Undetermined	#	
Boreal Benign Mosquito	*Aedes pionips*	Secure		
Provoking Mosquito	*Aedes provocans*	Undetermined		
Alpine Black-clad Mosquito	*Aedes pullatus*	Presence Expected		
Boreal Pesky Mosquito	*Aedes punctor*	Undetermined		
Rempel's Mosquito	*Aedes rempeli*	Presence Expected		
River Mosquito	*Aedes riparius*	Undetermined		
Winnipeg Mosquito	*Aedes spencerii*	Undetermined		
Floodwater Mosquito	*Aedes sticticus*	Undetermined		
Night Vexing Mosquito	*Aedimorphus vexans*	Undetermined		
Earle's Mosquito	*Anopheles earlei*	Undetermined		
Cattail Mosquito	*Coquillettidia perturbans*	Undetermined		
Dotted Vector Mosquito	*Culex restuans*	Undetermined	#	
Western Encephalitis Mosquito	*Culex tarsalis*	Secure		
Northern Frog-biting Mosquito	*Culex territans*	Undetermined		
Alaskan Winter Mosquito	*Culiseta alaskaensis*	Secure		
Impatient Winter Mosquito	*Culiseta impatiens*	Secure		
Cool Weather Mosquito	*Culiseta incidens*	Secure		
Marsh Winter Mosquito	*Culiseta inornata*	Secure		
Minnesota Winter Mosquito	*Culiseta minnesotae*	Undetermined	#	
Tussock Winter Mosquito	*Culiseta morsitans*	Secure		
Diptera – Dryomyzidae				Flies – Dryomyzid flies
Small Orange Fly	*Dryope decrepita*	Undetermined		
Diptera – Ephydridae				Flies – Shore flies
American Shore Fly	*Axysta americana*	Undetermined		
Alpine Shore Fly	*Coenia alpina*	Undetermined		
Tailed Shore Fly	*Dichaeta caudata*	Undetermined		
Beautiful Shore Fly	*Ditrichophora pulchella*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Obscure Shore Fly	*Ephydra obscuripes*	Undetermined		
Combed Shore Fly	*Ephydra pectinulata*	Undetermined		
River Shore Fly	*Ephydra riparia*	Undetermined		
Nonpareil Shore Fly	*Gymnoclasiopa parilis*	Undetermined		
Gloomy Shore Fly	*Gymnoclasiopa subnubila*	Undetermined		
Bimarked Shore Fly	*Hyadina binotata*	Undetermined		
Grey Shore Fly	*Hydrellia griseola*	Undetermined		
Serene Shore Fly	*Hydrellia serena*	Undetermined		
Aklavik Shore Fly	*Lamproscatella aklavik*	Undetermined		
Brown-winged Shore Fly	*Lamproscatella brunnipennis*	Secure		
Four-bristled Shore Fly	*Lamproscatella quadrisetosa*	Undetermined		
Stenhammar's Shore Fly	*Limnellia stenhammari*	Undetermined		
Gravid Shore Fly	*Lytogaster gravida*	Undetermined		
Dark Shore Fly	*Lytogaster obscura*	Secure		
Black-footed Shore Fly	*Notiphila atripes*	Undetermined		
Pale Shore Fly	*Notiphila pallicornis*	Undetermined		
Damp Shore Fly	*Notiphila uliginosa*	Undetermined		
Two-bristled Shore Fly	*Paracoenia bisetosa*	Undetermined		
Smoky Shore Fly	*Paracoenia fumosalis*	Undetermined		
Eagle Shore Fly	*Parydra aquila*	Secure		
Arctic Shore Fly	*Parydra arctica*	Undetermined		
Parasocial Shore Fly	*Parydra parasocia*	Secure		
Small Shore Fly	*Parydra paullula*	Undetermined		
Vulgare Shore Fly	*Parydra vulgaris*	Undetermined		
Canadian Shore Fly	*Pelina canadensis*	Undetermined		
Tired Shore Fly	*Philotelma defecta*	Undetermined		
Black Shore Fly	*Philygria nigrescens*	Undetermined		
Metallica Shore Fly	*Rhinonapaea metallica*	Secure		
Swampy Shore Fly	*Scatella stagnalis*	Undetermined		
Sifted Shore Fly	*Scatophila cribrata*	Undetermined		
Diptera – Fanniidae				Flies – Fanniid flies
Black Fannid Fly	*Fannia aethiops*	Secure		
Black-footed Fannid Fly	*Fannia atripes*	Undetermined		
Bigelow's Fannid Fly	*Fannia bigelowi*	Undetermined		
Boreal Fannid Fly	*Fannia borealis*	Undetermined		
Short-tailed Fannid Fly	*Fannia brevicauda*	Undetermined		
Raven Fannid Fly	*Fannia corvina*	Undetermined		
Difficult Fannid Fly	*Fannia difficilis*	Undetermined		
Sickled Fannid Fly	*Fannia falcata*	Undetermined		
Forked Fannid Fly	*Fannia fuscula*	Undetermined		
White Fannid Fly	*Fannia glaucescens*	Undetermined		
Lugubrious Fannid Fly	*Fannia lugubrina*	Secure		
Morning Fannid Fly	*Fannia manicata*	Undetermined		
Metal Fannid Fly	*Fannia metallipennis*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Mildest Fannid Fly	*Fannia mollissima*	Undetermined		
Nest Fannid Fly	*Fannia nidicola*	Undetermined		
Scalar Fannid Fly	*Fannia scalaris*	Undetermined		
Cup Fannid Fly	*Fannia scyphocerca*	Undetermined		
Serene Fannid Fly	*Fannia serena*	Undetermined		
Social Fannid Fly	*Fannia sociella*	Undetermined		
Spathe Fannid Fly	*Fannia spathiophora*	Undetermined		
Shining Fannid Fly	*Fannia subpellucens*	Undetermined		
Leggy Fannid Fly	*Fannia tibialis*	Undetermined		
Tuberculated Fannid Fly	*Fannia tuberculata*	Undetermined		
Tundra Fannid Fly	*Fannia tundrarum*	Undetermined		
Ungulate Fannid Fly	*Fannia ungulata*	Undetermined		
Diptera – Heleomyzidae				Flies – Sun flies
Crested Sun Fly	*Acantholeria armipes*	Undetermined		
Yellow Sun Fly	*Borboropsis fulviceps*	Undetermined		
Difficult Sun Fly	*Heleomyza difficilis*	Undetermined		
Prominent Sun Fly	*Neoleria prominens*	Undetermined		
Yellow-tiled Sun Fly	*Scoliocentra flavotestacea*	Undetermined		
Friendly Sun Fly	*Scoliocentra fraterna*	Undetermined		
Tipped Sun Fly	*Suillia apicalis*	Undetermined		
Barber's Sun Fly	*Suillia barberi*	Undetermined		
Converging Sun Fly	*Suillia convergens*	Undetermined		
Edged Sun Fly	*Suillia limbata*	Undetermined		
Grove Sun Fly	*Suillia nemorum*	Secure		
Diptera – Lauxaniida				Flies – Lauxaniid flies
Lamellate Acalyptrate Fly	*Homoneura lamellata*	Secure		
Severin's Acalyptrate Fly	*Homoneura severini*	Undetermined		
Cylindrical Acalyptrate Fly	*Lauxania cylindricornis*	Secure		
Shewell's Acalyptrate Fly	*Lauxania shewelli*	Secure		
Lupuline Acalyptrate Fly	*Minettia lupulina*	Secure		
Diptera – Lauxaniidae				Flies – Spear-winged flies
Split Spear-winged Fly	*Lonchoptera bifurcata*	Undetermined		
Pict Spear-winged Fly	*Lonchoptera impicta*	Secure		
Bristle Spear-winged Fly	*Lonchoptera uniseta*	Undetermined		
Diptera – Lauxaniidae				Flies – Stilt-legged flies
Nason's Stilt-legged Fly	*Cnodacophora nasoni*	Secure		
Subarctic Stilt-legged Fly	*Cnodacophora subarctica*	Undetermined		
Kennicott's Stilt-legged Fly	*Compsobata kennicotti*	Secure		
Diptera – Muscidae				Flies – Muscid flies
Triangular Azelia Fly	*Azelia triquetra*	Undetermined		
Alaskan Tiger Fly	*Coenosia alaskensis*	Undetermined		
White-faced Tiger Fly	*Coenosia albifacies*	Undetermined		
StrangeTiger Fly	*Coenosia aliena*	Undetermined		
Coal Tiger Fly	*Coenosia anthracina*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Capped Tiger Fly	*Coenosia apicata*	Undetermined		
Daring Tiger Fly	*Coenosia atritibia*	Undetermined		
Grass Tiger Fly	*Coenosia campestris*	Secure		
Canadian Tiger Fly	*Coenosia canadensis*	Undetermined		
Pressed Tiger Fly	*Coenosia cilicauda*	Undetermined		
Committed Tiger Fly	*Coenosia comita*	Secure		
Conflicting Tiger Fly	*Coenosia conflicta*	Secure		
Conforming Tiger Fly	*Coenosia conforma*	Undetermined		
Demoralising Tiger Fly	*Coenosia demoralis*	Undetermined		
Elegant Tiger Fly	*Coenosia elegans*	Undetermined		
Facile Tiger Fly	*Coenosia facilis*	Undetermined		
Blond Tiger Fly	*Coenosia flaviseta*	Secure		
Frison's Tiger Fly	*Coenosia frisoni*	Undetermined		
Tawny-footed Tiger Fly	*Coenosia fulvipes*	Undetermined		
Emperor Tiger Fly	*Coenosia imperator*	Undetermined		
Small Tiger Fly	*Coenosia minor*	Undetermined		
Tender Tiger Fly	*Coenosia mollicula*	Secure		
Black Tiger Fly	*Coenosia nigricoxa*	Undetermined		
Black-legged Tiger Fly	*Coenosia nigrifemorata*	Undetermined		
Dotted Tiger Fly	*Coenosia octopunctata*	Secure		
Oregon Tiger Fly	*Coenosia oregonensis*	Undetermined		
Pedel Tiger Fly	*Coenosia pedella*	Undetermined		
Fleaed Tiger Fly	*Coenosia pulicaria*	Undetermined		
Dwarf Tiger Fly	*Coenosia pumila*	Undetermined		
Leggy Tiger Fly	*Coenosia tarsata*	Undetermined		
Tender-foot Tiger Fly	*Coenosia tendipes*	Undetermined		
Toshua Tiger Fly	*Coenosia toshua*	Undetermined		
Transient Tiger Fly	*Coenosia transiens*	Secure		
Verrall's Tiger Fly	*Coenosia verralli*	Undetermined		
Canadian Dasyphora Fly	*Dasyphora canadiana*	Undetermined		
Blue-green Dasyphora Fly	*Dasyphora cyanicolor*	Undetermined		
Cantabria Drymeia Fly	*Drymeia cantabrigensis*	Undetermined		
Chillcott's Drymeia Fly	*Drymeia chillcotti*	Undetermined		
Probilof Island Drymeia Fly	*Drymeia pribilofensis*	Secure		
Four-bristled Drymeia Fly	*Drymeia quadrisetosa*	Undetermined		
Setibasis Drymeia Fly	*Drymeia setibasis*	Undetermined		
Similar Drymeia Fly	*Drymeia similis*	Undetermined		
Alaskan Graphomya Fly	*Graphomya alaskensis*	Undetermined		
Idessa Graphomya Fly	*Graphomya idessa*	Undetermined		
Transition Graphomya Fly	*Graphomya transitionis*	Undetermined		
Black Hebecnema Fly	*Hebecnema nigra*	Undetermined		
Grey Helina Fly	*Helina cinerella*	Undetermined		
Cothurn Helina Fly	*Helina cothurnata*	Undetermined		
Evicted Helina Fly	*Helina evecta*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Yellow Helina Fly	*Helina flavisquama*	Secure		
Fulvous Helina Fly	*Helina fulvisquama*	Undetermined		
Wide Helina Fly	*Helina laxifrons*	Undetermined		
Long-horned Kelina Fly	*Helina longicornis*	Undetermined		
Sallow Kelina Fly	*Helina luteisquama*	Undetermined		
Pearly Kelina Fly	*Helina marguerita*	Undetermined		
Dark Kelina Fly	*Helina obscurata*	Secure		
Reversed Kelina Fly	*Helina reversio*	Secure		
Spinicosta Helina Fly	*Helina spinicosta*	Undetermined		
Prickly Helina Fly	*Helina spinosa*	Undetermined		
Dry Helina Fly	*Helina squalens*	Undetermined		
Banded Helina Fly	*Helina subvittata*	Undetermined		
Anxious Dump Fly	*Hydrotaea anxia*	Secure		
Brave Dump Fly	*Hydrotaea armipes*	Secure		
Crest Dump Fly	*Hydrotaea cristata*	Undetermined		
Toothy Dump Fly	*Hydrotaea dentipes*	Undetermined		
Diabolical Dump Fly	*Hydrotaea diabolus*	Undetermined		
Hairy-legged Dump Fly	*Hydrotaea pilitibia*	Undetermined		
Ringdahl's Dump Fly	*Hydrotaea ringdahli*	Undetermined		
Bow-legged Dump Fly	*Hydrotaea scambus*	Secure		
Rotunde Dump Fly	*Limnophora rotundata*	Undetermined		
One-band Silver Fly	*Limnophora uniseta*	Secure		
Canadian Lispe Fly	*Lispe canadensis*	Undetermined		
Common Lispe Fly	*Lispe cotidiana*	Undetermined		
Cold-loving Lispe Fly	*Lispe frigida*	Undetermined		
Salt-loving Lispe Fly	*Lispe salina*	Undetermined		
Boulder-loving Lispe Fly	*Lispe tentaculata*	Undetermined		
Growing Head Fly	*Lispocephala alma*	Secure		
Short-legged Head Fly	*Lispocephala brevitarsis*	Undetermined		
Bloody Head Fly	*Lispocephala erythrocera*	Secure		
North American Head Fly	*Lispocephala nearctica*	Undetermined		
Variable Head Fly	*Lispocephala varians*	Undetermined		
Alaskan Lophosceles Fly	*Lophosceles alaskensis*	Undetermined		
Bridled Lophosceles Fly	*Lophosceles frenatus*	Undetermined		
Lonely Macrorchis Fly	*Macrorchis alone*	Undetermined		
Deceptive Mesembrine Fly	*Mesembrina decipiens*	Undetermined		
Latreille's House Fly	*Mesembrina latreillii*	Secure		
Twinkling Bald Fly	*Morellia micans*	Undetermined		
Metallic Blue Fly	*Morellia podagrica*	Undetermined		
Common Housefly	*Musca domestica*	Alien		
Black House Fly	*Muscina levida*	Secure		
False Stable Fly	*Muscina stabulans*	Undetermined		
Neighbour House Fly	*Mydaea affinis*	Undetermined		
Short-haired House Fly	*Mydaea brevipilosa*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Furtive House Fly	*Mydaea furtiva*	Undetermined		
Sinister House Fly	*Mydaea laevis*	Undetermined		
Dark House Fly	*Mydaea obscurella*	Undetermined		
Western House Fly	*Mydaea occidentalis*	Undetermined		
Patting House Fly	*Mydaea palpalis*	Undetermined		
Gloomy House Fly	*Mydaea pseudonubila*	Undetermined		
Sootryen's House Fly	*Mydaea sootryeni*	Undetermined		
Meditabundo Fly	*Myospila meditabunda*	Alien		
Cattle Dong Fly	*Neomyia cornicina*	Alien		
Copper Opsolasia Fly	*Opsolasia orichalcea*	Secure		
Alpine Phaonid Fly	*Phaonia alpicola*	Undetermined		
Top Phaonid Fly	*Phaonia apicalis*	Undetermined		
Dark-blue Phaonid Fly	*Phaonia atrocyanea*	Undetermined		
Dented Phaonid Fly	*Phaonia basiseta*	Undetermined		
Toothed Phaonid Fly	*Phaonia bidentata*	Undetermined		
Consin Phaonid Fly	*Phaonia consobrina*	Undetermined		
Deleting Phaonid Fly	*Phaonia deleta*	Undetermined		
Erratic Phaonid Fly	*Phaonia errans*	Undetermined		
Hybrid Phaonid Fly	*Phaonia hybrida*	Undetermined		
Idescribable Phaonid Fly	*Phaonia inenarrabilis*	Undetermined		
Lugubrious Phaonid Fly	*Phaonia lugubris*	Undetermined		
Luteva Phaonid Fly	*Phaonia luteva*	Undetermined		
Protuberant Phaonid Fly	*Phaonia protuberans*	Undetermined		
Rough Phaonid Fly	*Phaonia rugia*	Secure		
Savonosk's Phaonid Fly	*Phaonia savonoskii*	Undetermined		
Salve Phaonid Fly	*Phaonia serva*	Undetermined		



Black-shoudered Drone Fly Photo Credit: S. Cresswell



Woolly-tailed Marsh Fly Photo Credit: J. Stewart

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Spear Phaonid Fly	*Phaonia subfuscinervis*	Undetermined		
Shady Phaonid Fly	*Phaonia tenebriona*	Undetermined		
Short-tailed House Fly	*Pseudocoenosia brevicauda*	Undetermined		
Fletcher's House Fly	*Pseudocoenosia fletcheri*	Undetermined		
Golden House Fly	*Schoenomyza chrysostoma*	Undetermined		
Litoral House Fly	*Schoenomyza litorella*	Undetermined		
Copper Spilogona Fly	*Spilogona aenea*	Undetermined		
Aerial Spilogona Fly	*Spilogona aerea*	Undetermined		
Estuary Spilogona Fly	*Spilogona aestuarium*	Undetermined		
White-scale Spilogona Fly	*Spilogona albisquama*	Undetermined		
Almqvist's Spilogona Fly	*Spilogona almqvistii*	Undetermined		
Alpine Spilogona Fly	*Spilogona alticola*	Undetermined		
Anthriax Spilogona Fly	*Spilogona anthrax*	Undetermined		
Arctic Spilogona Fly	*Spilogona arctica*	Secure		
Northern Spilogona Fly	*Spilogona arcticola*	Undetermined		
Silver-belly Spilogona Fly	*Spilogona argentiventris*	Undetermined		
Black-scaled Spilogona Fly	*Spilogona atrisquamula*	Undetermined		
Baltic Spilogona Fly	*Spilogona baltica*	Undetermined		
Bathurst Spilogona Fly	*Spilogona bathurstiana*	Undetermined		
Edged Spilogona Fly	*Spilogona bifimbriata*	Undetermined		
Short-tailed Spilogona Fly	*Spilogona brevicornis*	Undetermined		
Chalky Spilogona Fly	*Spilogona calcaria*	Undetermined		
Coloured Spilogona Fly	*Spilogona concolor*	Undetermined		
Confluent Spilogona Fly	*Spilogona confluens*	Undetermined		
Consort Spilogona Fly	*Spilogona consortis*	Undetermined		
Bordered Spilogona Fly	*Spilogona contigua*	Undetermined		
Short-headed Spilogona Fly	*Spilogona contractifrons*	Undetermined		
Floral Spilogona Fly	*Spilogona deflorata*	Undetermined		
Naked Spilogona Fly	*Spilogona denudata*	Undetermined		
Ridged Spilogona Fly	*Spilogona dorsata*	Undetermined		
Fatima Spilogona Fly	*Spilogona fatima*	Undetermined		
Strong Spilogona Fly	*Spilogona firmidisetosa*	Undetermined		
Yellow-lined Spilogona Fly	*Spilogona flavinervis*	Undetermined		
Genial Spilogona Fly	*Spilogona genualis*	Undetermined		
Grey Spilogona Fly	*Spilogona griseola*	Undetermined		
Imitator Spilogona Fly	*Spilogona imitatrix*	Undetermined		
Heedless Spilogona Fly	*Spilogona incauta*	Undetermined		
Obscured Spilogona Fly	*Spilogona infuscata*	Undetermined		
Insisting Spilogona Fly	*Spilogona instans*	Undetermined		
White-bellied Spilogona Fly	*Spilogona leucogaster*	Secure		
Malaise's Spilogona Fly	*Spilogona malaisei*	Undetermined		
Big-mouth Spilogona Fly	*Spilogona megastoma*	Undetermined		
Black-bag Spilogona Fly	*Spilogona melanosoma*	Undetermined		
Trembling Spilogona Fly	*Spilogona micans*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Mydas Spilogona Fly	*Spilogona mydaeinaformis*	Undetermined		
Nose Spilogona Fly	*Spilogona narina*	Undetermined		
Norway Spilogona Fly	*Spilogona norvegica*	Undetermined		
Novosibirsk Spilogona Fly	*Spilogona novaesibiriae*	Undetermined		
Nine-marked Spilogona Fly	*Spilogona novemmaculata*	Undetermined		
Dark Spilogona Fly	*Spilogona obscura*	Undetermined		
Dusky-winged Spilogona Fly	*Spilogona obscuripennis*	Undetermined		
Opaque Spilogona Fly	*Spilogona opaca*	Undetermined		
Peaceful Spilogona Fly	*Spilogona pacifica*	Undetermined		
Scattered Spilogona Fly	*Spilogona projecta*	Undetermined		
Different Spilogona Fly	*Spilogona pseudodispar*	Undetermined		
Tiny Spilogona Fly	*Spilogona pusilla*	Undetermined		
Reflecting Spilogona Fly	*Spilogona reflecta*	Undetermined		
Salmita Spilogona Fly	*Spilogona salmita*	Undetermined		
Sanctipaul's Spilogona Fly	*Spilogona sanctipauli*	Undetermined		
Half-moon Spilogona Fly	*Spilogona semiglobosa*	Undetermined		
Sister Spilogona Fly	*Spilogona sororcula*	Undetermined		
Suspicious Spilogona Fly	*Spilogona sospita*	Undetermined		
Scribbled Spilogona Fly	*Spilogona subnotata*	Undetermined		
Deaf Spilogona Fly	*Spilogona surda*	Undetermined		
Suspect Spilogona Fly	*Spilogona suspecta*	Undetermined		
Torn Spilogona Fly	*Spilogona tornensis*	Undetermined		
Triangular Spilogona Fly	*Spilogona triangulifera*	Undetermined		
Trigonal Spilogona Fly	*Spilogona trigonata*	Secure		
Three-lined Spilogona Fly	*Spilogona trilineata*	Undetermined		
Tundra Spilogona Fly	*Spilogona tundrae*	Undetermined		
Varsovie Spilogona Fly	*Spilogona varsaviensis*	Undetermined		
Zaitsev's Spilogona Fly	*Spilogona zaitzevi*	Undetermined		
Coquillett's Fly	*Thricops coquilletti*	Undetermined		
Orange Wood Fly	*Thricops diaphanus*	Secure		
Forked House Fly	*Thricops furcatus*	Undetermined		
Hairy Housefly	*Thricops hirtulus*	Secure		
Harmless Housefly	*Thricops innocuus*	Secure		
Red-scale Housefly	*Thricops rufisquamus*	Undetermined		
Northern Housefly	*Thricops septentrionalis*	Undetermined		
Thorny Housefly	*Thricops spiniger*	Undetermined		
Diptera – Oestridae				Flies – Oestrid flies
Reindeer Nose Botfly	*Cephenemyia trompe*	Undetermined		
Reindeer Warble Fly	*Hypoderma tarandi*	Secure		
Diptera – Opomyzidae				Flies – Grass flies
Spotted-winged Grass Fly	*Anomalochaeta guttipennis*	Undetermined		
Diptera – Piophilidae				Flies – Cheese flies
Dark-headed Cheese Fly	*Allopiophila atrifrons*	Secure		
Duda's Cheese Fly	*Allopiophila dudai*	Secure		

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Yellow-legged Cheese Fly	*Allopiophila flavipes*	Undetermined		
Tawny Cheese Fly	*Allopiophila fulviceps*	Undetermined		
Slicing Cheese Fly	*Allopiophila lonchaeoides*	Undetermined		
Corpse Cheese Fly	*Allopiophila luteata*	Undetermined		
Black Cheese Fly	*Allopiophila nigerrima*	Undetermined		
Haired Cheese Fly	*Allopiophila penicillata*	Secure		
Vulgare Cheese Flay	*Allopiophila pseudovulgaris*	Undetermined		
Common Cheese Fly	*Allopiophila vulgaris*	Secure		
Orange-foot Cheese Fly	*Allopiophila xanthopoda*	Undetermined		
Northern Cheese Fly	*Amphipogon hyperboreus*	Undetermined		
Arctic Cheese Fly	*Arctopiophila arctica*	Secure		
Furred Cheese Fly	*Lasiopiophila pilosa*	Secure		
Variable Carrion Fly	*Liopiophila varipes*	Secure		
Blackearth Cheese Fly	*Mycetaulus nigritellus*	Undetermined		
Setaluna Cheese Fly	*Neopiophila setaluna*	Undetermined		
Kugluktuk Skipper Fly	*Parapiophila kugluktuk*	Secure		
Horned Waltzing Fly	*Prochyliza brevicornis*	Secure		
Lundbeck's Waltzing Fly	*Prochyliza lundbecki*	Undetermined		
Black Waltzing Fly	*Prochyliza nigricoxa*	Undetermined		
Black-footed Cheese Fly	*Stearibia nigriceps*	Undetermined		
Diptera – Pipunculidae				Flies – Big-headed flies
Decorous Big-headed Fly	*Chalarus decorus*	Undetermined		
White-footed Big-headed Fly	*Dorylomorpha albitarsis*	Secure		
Becker's Big-headed Fly	*Dorylomorpha beckeri*	Secure		
Boreal Big-headed Fly	*Dorylomorpha borealis*	Undetermined		
Canadian Big-headed Fly	*Dorylomorpha canadensis*	Undetermined		
Hardy's Boreal Big-headed Fly	*Dorylomorpha hardyi*	Undetermined		
Toothed Big-headed Fly	*Dorylomorpha tridentata*	Secure		
Orange Big-headed Fly	*Dorylomorpha xanthopus*	Undetermined		
Elegant Big-headed Fly	*Pipunculus elegantulus*	Undetermined		
Hertzog's Boreal Big-headed Fly	*Pipunculus hertzogi*	Undetermined		
Sallow Big-headed Fly	*Pipunculus luteicornis*	Undetermined		
Forest Big-headed Fly	*Tomosvaryella sylvatica*	Undetermined		
Diptera – Platypezidae				Flies – Flat-footed flies
Polypore Flat-footed Fly	*Polyporivora polypori*	Undetermined		
Diptera – Sarcophagidae				Flies – Flesh flies
House's Flesh Fly	*Agria housei*	Undetermined		
Kyrtonidion Flesh Fly	*Blaesoxipha kyrtonidion*	Undetermined		
Broad Flesh Fly	*Boettcheria latisterna*	Undetermined		
Shoreline Flesh Fly	*Boettcheria litorosa*	Undetermined		
Diverting Flesh Fly	*Brachicoma devia*	Undetermined		
Field Satellite Fly	*Metopia campestris*	Undetermined		
Pilose Satellite Fly	*Phrosinella pilosifrons*	Undetermined		
Harsh Ravinia Fly	*Ravinia acerba*	Undetermined		

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Cearulean Flesh Fly	*Sarcophaga caerulescens*	Undetermined		
Canada Flesh Fly	*Sarcophaga canadensis*	Undetermined		
Hine's Flesh Fly	*Sarcophaga hinei*	Undetermined		
Free Flesh Fly	*Sarcophaga libera*	Secure		
Wood Flesh Fly	*Sarcophaga nemoralis*	Undetermined		
Marked Flesh Fly	*Sarcophaga sinuata*	Undetermined		
Three-barred Satellite Fly	*Senotainia trilineata*	Undetermined		
Bar Satellite Fly	*Taxigramma heteroneura*	Undetermined		
Fox Maggot Fly	*Wohlfahrtia vigil*	Undetermined		
Diptera – Scathophagidae				Flies – Dung flies
Seal Dung Fly	*Acerocnema macrocera*	Undetermined		
Maned Dung Fly	*Allomyella crinipes*	Undetermined		
Nailed Dung Fly	*Allomyella unguiculata*	Undetermined		
Mourning Dung Fly	*Cordilura atrata*	Undetermined		
Decorated Dung Fly	*Cordilura picticornis*	Undetermined		
Pleuritical Dung Fly	*Cordilura pleuritica*	Undetermined		
Pudic Dung Fly	*Cordilura pudica*	Undetermined		
Scorched Dung Fly	*Cordilura ustulata*	Undetermined		
Argus Dung Fly	*Ernoneura argus*	Undetermined		
Wedged Dung Fly	*Gimnomera cuneiventris*	Undetermined		
Chaplet Dung Fly	*Gimnomera subvittata*	Undetermined		
Legged Dung Fly	*Gimnomera tibialis*	Secure		
Arctic Dung Fly	*Gonarcticus arcticus*	Undetermined		
Yellow-lined Dung Fly	*Microprosopa flavinervis*	Undetermined		
Milky Dung Fly	*Microprosopa lacteipennis*	Undetermined		
Lined Dung Fly	*Microprosopa lineata*	Undetermined		
Pale Dung Fly	*Microprosopa pallidicauda*	Undetermined		
Katmai Dung Fly	*Nanna katmaiensis*	Undetermined		
Shinned Dung Fly	*Nanna tibiella*	Undetermined		
Dark-footed Dung Fly	*Parallelomma fuscipes*	Undetermined		
Banded Dung Fly	*Parallelomma vittata*	Undetermined		
Simple Dung Fly	*Pleurochaetella simplicipes*	Undetermined		
Bearded Dung Fly	*Pogonota barbata*	Undetermined		
Dirty Dung Fly	*Pogonota immunda*	Undetermined		
Sahlberg's Dung Fly	*Pogonota sahlbergi*	Undetermined		
Apical Dung Fly	*Scathophaga apicalis*	Undetermined		
Boreal Dung Fly	*Scathophaga furcata*	Secure		
Soft Dung Fly	*Scathophaga mollis*	Undetermined		
Black-mouth Dung Fly	*Scathophaga nigripalpis*	Undetermined		
Obsure Dung Fly	*Scathophaga obscura*	Undetermined		
Black-lined Dung Fly	*Scathophaga obscurinervis*	Undetermined		
Yellow Dung Fly	*Scathophaga stercoraria*	Undetermined		
Swine Dung Fly	*Scathophaga suilla*	Undetermined		

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Diptera – Scenopinidae				Flies – Window flies
Common Window Fly	*Scenopinus fenestralis*	Alien		
White-headed Window Fly	*Scenopinus glabrifrons*	Alien		
Diptera – Sciomyzidae				Flies – Marsh flies
Shadow Marsh Fly	*Dictya umbroides*	Secure		
Connecting Marsh Fly	*Elgiva connexa*	Secure		
Divided Marsh Fly	*Elgiva divisa*	Secure		
Courting Marsh Fly	*Elgiva solicita*	Secure		
Mixed Marsh Fly	*Hedria mixta*	Undetermined		
Lindberg's Marsh Fly	*Limnia lindbergi*	Secure		
Sandoval Marsh Fly	*Limnia sandovalensis*	Secure		
Aloea Marsh Fly	*Pherbellia aloea*	Undetermined		
Silver Marsh Fly	*Pherbellia argyra*	Undetermined		
Boreal Marsh Fly	*Pherbellia borea*	Undetermined		
Bryant's Marsh Fly	*Pherbellia bryanti*	Undetermined		
Grey-necked Marsh Fly	*Pherbellia griseicollis*	Secure		
Grey Marsh Fly	*Pherbellia griseola*	Undetermined		
Hackman's Marsh Fly	*Pherbellia hackmani*	Undetermined		
Martha Marsh Fly	*Pherbellia marthae*	Undetermined		
Miniature Marsh Fly	*Pherbellia nana*	Secure		
Obscure Marsh Fly	*Pherbellia obscura*	Undetermined		
Bog Marsh Fly	*Pherbellia paludum*	Undetermined		
Phela Marsh Fly	*Pherbellia phela*	Undetermined		
Spreading Marsh Fly	*Pherbellia propages*	Undetermined		
Square Marsh Fly	*Pherbellia quadrata*	Undetermined		
Schoenher's Marsh Fly	*Pherbellia schoenherri*	Undetermined		
Suspect Marsh Fly	*Pherbellia suspecta*	Undetermined		
Slender-footed Marsh Fly	*Pherbellia tenuipes*	Secure		
Vital Marsh Fly	*Pherbellia vitalis*	Undetermined		
Narrow-winged Marsh Fly	*Pteromicra angustipennis*	Undetermined		
Capped Marsh Fly	*Pteromicra apicata*	Undetermined		
Whitish Marsh Fly	*Pteromicra leucothrix*	Undetermined		
Pasture Marsh Fly	*Pteromicra pectorosa*	Undetermined		
Wet Marsh Fly	*Pteromicra pleuralis*	Undetermined		
Johnson's Marsh Fly	*Renocera johnsoni*	Undetermined		
Dryomyxid Marsh Fly	*Sciomyza dryomyzina*	Undetermined		
Shrimp Marsh Fly	*Sepedon anchista*	Undetermined		
Armed Marsh Fly	*Sepedon armipes*	Secure		
Spined Marsh Fly	*Sepedon spinipes*	Secure		
Dark-lined Marsh Fly	*Tetanocera fuscinervis*	Secure		
Mesopore Marsh Fly	*Tetanocera mesopora*	Secure		
Mountain Marsh Fly	*Tetanocera montana*	Undetermined		
Ornate Marsh Fly	*Tetanocera ornatifrons*	Secure		
Plain Marsh Fly	*Tetanocera plebeja*	Secure		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Plume Marsh Fly	*Tetanocera plumosa*	Undetermined		
Robust Marsh Fly	*Tetanocera robusta*	Undetermined		
Spirifer Marsh Fly	*Tetanocera spirifera*	Undetermined		
Diptera – Simuliidae				Flies – Black flies
Hermit Black Fly	*Cnephia eremites*	Secure		
Nearly Hidden Black Fly	*Greniera abditoides*	Undetermined		
Denarius Blackfly	*Greniera denaria*	Undetermined		
Virgin Black Fly	*Gymnopais dichopticoides*	Presence Expected		
Big-eyed Black Fly	*Gymnopais holopticoides*	Secure		
Alpine Black Fly	*Helodon alpestris*	Undetermined		
Ten-articled Black Fly	*Helodon decemarticulatus*	Secure		
Gibson's Black Fly	*Helodon gibsoni*	Undetermined		
Irkutsk Black Fly	*Helodon irkutensis*	Secure		
Two-lined Black Fly	*Metacnephia bilineata*	Secure		
Polar Black Fly	*Metacnephia borealis*	Secure		
Saskatchewan Black Fly	*Metacnephia saskatchewana*	Secure		
Dusky Blackfly	*Prosimulium fuscum*	Undetermined		
Bear Island Black Fly	*Prosimulium ursinum*	Secure		
Duck Black Fly	*Simulium anatinum*	Secure		
Ringed Black Fly (Loon Blackfly)	*Simulium annulus*	Secure		
Argus Mountain Black Fly	*Simulium argus*	Undetermined		
Baffin Island Black Fly	*Simulium baffinense*	Secure		
Bicorne Black Fly	*Simulium bicorne*	Secure		
Bracted Black Fly	*Simulium bracteatum*	Secure		
Burger's Blackfly	*Simulium burgeri*	Undetermined		
Congaree Black Fly	*Simulium congareenarum*	Undetermined		
Conundrum Black Fly	*Simulium conundrum*	Secure		
Craig's Black Fly	*Simulium craigi*	Secure		
Croxton's Black Fly	*Simulium croxtoni*	Secure		
Taiga Black Fly	*Simulium decimatum*	Secure		
Decorous Black Fly	*Simulium decorum*	Secure		
Dogiel's Black Fly	*Simulium dogieli*	Undetermined		
Excised Black Fly	*Simulium excisum*	Undetermined		
Exiled Black Fly	*Simulium exulatum*	Secure		
Fiona's Black Fly	*Simulium fionae*	Undetermined		
Little Spring Black Fly	*Simulium fontinale*	Secure		
Forked Black Fly	*Simulium furculatum*	Secure		
Blameless Black Fly	*Simulium innocens*	Undetermined		
Irritating Black Fly	*Simulium irritatum*	Secure		
Lugger's Black Fly	*Simulium luggeri*	Secure		
Malyschev's Black Fly	*Simulium malyschevi*	Secure		
Turkey Black Fly	*Simulium meridionale*	Undetermined		
Murmansk Black Fly	*Simulium murmanum*	Secure		
Outflow Black Fly	*Simulium noelleri*	Secure		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Variegated Black Fly	*Simulium pictipes*	Secure		
Fine-haired Black Fly	*Simulium pilosum*	Secure		
Beaked Black Fly	*Simulium rostratum*	Secure		
Rubtzov's Black Fly	*Simulium rubtzovi*	Undetermined		
Ruggle's Black Fly	*Simulium rugglesi*	Secure		
Woodland Black Fly	*Simulium silvestre*	Secure		
Tundra Black Fly	*Simulium subpusillum*	Secure		
Barren Grounds Black Fly	*Simulium tormentor*	Secure		
Broad-legged Black Fly	*Simulium transiens*	Secure		
Harmful Black Fly	*Simulium tribulatum*	Secure		
Short Black Fly	*Simulium truncatum*	Secure		
Tubercled Black Fly AB	*Simulium tuberosum*	Secure		
Vampire Black Fly	*Simulium vampirum*	Undetermined		
Little Thief Black Fly	*Simulium vandalicum*	Secure		
White-stockinged Black Fly	*Simulium venustum*	Secure		
Unassuming Black Fly	*Simulium verecundum*	Secure		
Injuring Black Fly	*Simulium violator*	Secure		
Striped Black Fly	*Simulium vittatum*	Secure		
Common Black Fly	*Simulium vulgare*	Secure		
Ten-filamented Black Fly	*Stegopterna decafilis*	Undetermined		
Emerging Black Fly	*Stegopterna emergens*	Secure		
Three-cornered Black Fly	*Stegopterna trigonium*	Undetermined		
Diptera – Stratiomyidae				Flies – Soldier flies
Beris Soldier Fly	*Beris hauseri*	Secure		
Stobl's Soldier Fly	*Beris strobli*	Undetermined		
Canadian Soldier Fly	*Nemotelus canadensis*	Secure		
Dark Soldier Fly	*Nemotelus nigrinus*	Undetermined		
Hoodian Soldier Fly	*Odontomyia hoodiana*	Secure		
Hairy Soldier Fly	*Odontomyia pubescens*	Secure		
Central Soldier Fly	*Oxycera centralis*	Undetermined		
Chestnut Soldier Fly	*Stratiomys badia*	Secure		
Brown Soldier Fly	*Stratiomys bruneri*	Secure		
Curran's Soldier Fly	*Stratiomys currani*	Secure		
Diptera – Syrphidae				Flies – Flower flies
Moon-shaped Swamp Fly	*Anasimyia anausis*	Undetermined		
Two-lined Swamp Fly	*Anasimyia bilinearis*	Undetermined		
Northern Longbeak	*Arctosyrphus willingii*	Undetermined		
Common Dainty	*Baccha elongata*	Undetermined		
Golden-haired Wood Fly	*Blera nigra*	Undetermined		
Black-banded Sapeater	*Brachyopa notata*	Undetermined		
Orange Catkin Fly	*Brachypalpus femoratus*	Undetermined		
Northern Wasp Fly	*Ceriana abbreviata*	Undetermined		
Yellow-haltered Leafwalker	*Chalcosyrphus curvarius*	Undetermined		
Coal-spotted Leafwalker	*Chalcosyrphus parvus*	Undetermined		

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Short-haired Leafwalker	*Chalcosyrphus piger*	Undetermined		
Orange-hipped Leafwalker	*Chalcosyrphus vecors*	Undetermined		
Amber-haired Blacklet	*Cheilosia lasiopthalma*	Undetermined		
Steely Blacklet	*Cheilosia latrans*	Secure		
Yellow-shouldered Blacklet	*Cheilosia pallipes*	Undetermined		
Robust Blacklet	*Cheilosia robusta*	Undetermined		
Variable Wrinklehead	*Chrysosyrphus latus*	Undetermined		
Stygian Wrinklehead	*Chrysosyrphus nasuta*	Undetermined		
Narrow banded Meadow Fly	*Chrysotoxum derivatum*	Undetermined		
Blackshield Meadow Fly	*Chrysotoxum flavifrons*	Undetermined		
Confusing Conifer Fly	*Dasysyrphus intrudens*	Secure		
Boreal Conifer Fly	*Dasysyrphus laticaudus*	Secure		
Narrow-banded Conifer Fly	*Dasysyrphus limatus*	Undetermined		
Montane Conifer Fly	*Dasysyrphus pauxillus*	Undetermined	∃[6]	
Dusky Conifer Fly	*Dasysyrphus nigricornis*	Secure		
Transverse Conifer Fly	*Dasysyrphus venustus*	Undetermined		
Triangular Lucent	*Didea alneti*	Undetermined		
Black-horned Smoothtail	*Epistrophe grossulariae*	Undetermined		
Straight-banded Smoothtail	*Epistrophe nitidicollis*	Undetermined		
Hairy-winged Smoothtail	*Epistrophe terminalis*	Undetermined		
Slender Smoothtail	*Epistrophella emarginata*	Undetermined		
Dusky Drone Fly	*Eristalis anthophorina*	Secure		
Black-shouldered Drone Fly	*Eristalis dimidiata*	Secure		
Orange-legged Drone Fly	*Eristalis flavipes*	Secure		
Black-spotted Drone Fly	*Eristalis fraterculus*	Secure		
Arctic Drone Fly	*Eristalis gomojunovae*	Undetermined		
Black-footed Drone Fly	*Eristalis hirta*	Secure		
Orange-spined Drone Fly	*Eristalis interrupta*	Secure		
Dusky Drone Fly	*Eristalis obscura*	Secure		
Spot-winged Drone Fly	*Eristalis rupium*	Undetermined		
Common Drone Fly	*Eristalis tenax*	Secure		
Comma-spot Aphideater	*Eupeodes curtus*	Secure		
Fluke's Aphideater	*Eupeodes flukei*	Undetermined		
Variable Aphideater	*Eupeodes latifasciatus*	Secure		
Black-tailed Aphideater	*Eupeodes luniger*	Secure		
Red-tailed Aphideater	*Eupeodes montivagus*	Undetermined		
Black Aphideater	*Eupeodes nigroventris*	Undetermined		
Bare-winged Aphideater	*Eupeodes perplexus*	Undetermined		
Large-tailed Aphideater	*Eupeodes volucris*	Undetermined		
Striped Swamp Fly	*Eurimyia lineata*	Undetermined		
Gray-banded Marsh Fly	*Helophilus bottnicus*	Secure		
Narrow-headed Marsh Fly	*Helophilus fasciatus*	Undetermined		
Black-margined Marsh Fly	*Helophilus groenlandicus*	Secure		
Woolly-tailed Marsh Fly	*Helophilus hybridus*	Secure		

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Yellow-legged Marsh Fly	*Helophilus intentus*	Undetermined		
Yellow-margined Marsh Fly	*Helophilus lapponicus*	Secure		
Obscure Marsh Fly	*Helophilus obscurus*	Secure		
Common Loopwing Aphideater	*Lapposyrphus lapponicus*	Secure		
Pollinose Halfband	*Melangyna arctica*	Undetermined		
Large-spotted Halfband	*Melangyna fisherii*	Undetermined		
Bare-eyed Halfband	*Melangyna labiatarum*	Undetermined	#	
Hair-eyed Halfband	*Melangyna lasiophthalma*	Undetermined		
Bare-winged Halfband	*Melangyna umbellatarum*	Secure	#	
Variable Duskyface	*Melanostoma mellinum*	Secure		
Spotted Roundtail	*Meligramma guttata*	Undetermined	#	
Variable Roundtail	*Meligramma triangulifera*	Undetermined		
American Thintail	*Meliscaeva cinctella*	Undetermined		
White-Haired Ant Fly	*Microdon albicomatus*	Undetermined		
White-kneed Fen Fly	*Neoascia geniculata*	Secure		
Globetail Fen Fly	*Neoascia sphaerophoria*	Secure		
Black Fen Fly	*Neoascia subchalybea*	Secure		
Drab Spikeleg	*Neocnemodon nigricornis*	Undetermined		
Black-backed Grass Skimmer	*Paragus haemorrhous*	Undetermined		
Common Bristleside	*Parasyrphus genualis*	Undetermined		
Arctic Bristleside	*Parasyrphus groenlandica*	Undetermined		
Yellow-faced Bristleside	*Parasyrphus nigritarsis*	Undetermined		
Boreal Bristleside	*Parasyrphus relictus*	Undetermined		
Holarctic Bristleside	*Parasyrphus tarsatus*	Secure		
Unadorned Bog Fly	*Parhelophilus obsoletus*	Undetermined		
Ebony Pithead	*Pipiza atrata*	Undetermined		
Large-legged Pithead	*Pipiza macrofemoralis*	Secure		
Four-spotted Pithead	*Pipiza quadrimaculata*	Undetermined		
Coquillett's Sedgesitter	*Platycheirus aeratus*	Undetermined		
Three-tufted Sedgesitter	*Platycheirus albimanus*	Undetermined		
Northern Broadhand Sedgesitter	*Platycheirus amplus*	Undetermined		
Delicate Sedgesitter	*Platycheirus angustatus*	Undetermined		
Bristlehand Sedgesitter	*Platycheirus chilosia*	Secure		
Smoky-winged Sedgesitter	*Platycheirus clypeatus*	Undetermined		
Hooked Sedgesitter	*Platycheirus coerulescens*	Secure		
Confusing Sedgesitter	*Platycheirus confusus*	Undetermined		
Arctic Sedgesitter	*Platycheirus groenlandicus*	Secure		
Pearly Sedgesitter	*Platycheirus hyperboreus*	Secure		
Comb-legged Sedgesitter	*Platycheirus immarginatus*	Secure		
Lundbeck's Sedgesitter	*Platycheirus lundbecki*	Undetermined		
Yellow Sedgesitter	*Platycheirus modestus*	Secure		
Tufted Sedgesitter	*Platycheirus naso*	Secure		
Yellowcomb Sedgesitter	*Playcheirus neoperpallidus*	Undetermined	#	
Nielsen's Sedgesitter	*Platycheirus nielseni*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Black-legged Sedgesitter	*Platycheirus nigrofemoratus*	Undetermined		
Twospear Sedgesitter	*Platycheirus nodosus*	Undetermined		
Perplexing Sedgesitter	*Platycheirus perpallidus*	Undetermined		
Cobalt Sedgesitter	*Platycheirus pictipes*	Undetermined		
Speartip Sedgesitter	*Platycheirus pilatus*	Undetermined		
Variable Sedgesitter	*Platycheirus podagratus*	Undetermined		
Northwest Sedgesitter	*Platycheirus pullatus*	Undetermined		
Yukon Sand Dune Sedgesitter	*Platycheirus sabulicola*	Undetermined		
Blackspine Sedgesitter	*Platycheirus scambus*	Secure		
Spinyhand Sedgesitter	*Platycheirus setitarsis*	Undetermined		
Silver Sedgesitter	*Platycheirus varipes*	Undetermined		
Greater Bristlehand Sedgesitter	*Platycheirus yukonensis*	Undetermined		
Hornhand Sedgesitter	*Pyrophaena granditarsis*	Secure		
Orangetail Sedgesitter	*Pyrophaena rufigaster*	Sensitive		
White-bowed Smoothwing	*Scaeva affinis*	Secure		
Arctic Pond Fly	*Sericomyia arctica*	Undetermined		
Northern Pond Fly	*Sericomyia jakutica*	Secure		
Narrow-banded Pond Fly	*Sericomyia militaris*	Undetermined		
Polar Pond Fly	*Sericomyia nigra*	Secure		
Six-banded Pond Fly	*Sericomyia sexfasciata*	Secure		
Great-nosed Pond Fly	*Sericomyia tolli*	Undetermined		
Vockeroth's Pond Fly	*Sericomyia vockerothi*	Undetermined		
Wood's Pond Fly	*Sericomyia woodi*	Undetermined		
Variable Globetail	*Sphaerophoria abbreviata*	Secure		
Asymmetrical Globetail	*Sphaerophoria asymmetrica*	Secure		
Tufted Globetail	*Sphaerophoria contigua*	Undetermined		
Black-striped Globetail	*Sphaerophoria novaeangliae*	Undetermined		
Black-footed Globetail	*Sphaerophoria philanthus*	Secure		
Violaceous Globetail	*Sphaerophoria pyrrhina*	Secure		
Yellow-margined Flower Fly	*Syrphus attenuatus*	Secure		
Common Flower Fly	*Syrphus ribesii*	Secure		
Six-spotted Flower Fly	*Syrphus sexmaculatus*	Undetermined		
Hairy-eyed Flower Fly	*Syrphus torvus*	Secure		
Black-legged Flower Fly	*Syrphus vitripennis*	Secure		
Wasp-like Falsehorn	*Temnostoma alternans*	Undetermined		
Black-spotted Falsehorn	*Temnostoma excentrica*	Undetermined		
Arctic Swiftwing	*Volucella arctica*	Secure		
Yellow-faced Swiftwing	*Volucella facialis*	Secure		
Northern Leafwalker	*Xylota flavifrons*	Secure		
Yellow-toed Leafwalker	*Xylota flavitibia*	Undetermined		
Naknek Leafwalker	*Xylota naknek*	Undetermined		
Large-spotted Leafwalker	*Xylota subfasciata*	Undetermined		
Diptera – Tabanidae				Flies – Tabanid flies
White-haired Horse Fly	*Atylotus sublunaticornis*	Secure		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Malicious Deer Fly	*Chrysops ater*	Secure		
Dawson's Deer Fly	*Chrysops dawsoni*	Undetermined		
Agitated Deer Fly	*Chrysops excitans*	Secure		
Coldregion Deer Fly	*Chrysops frigidus*	Undetermined		
Forked Deer Fly	*Chrysops furcatus*	Secure		
Benign Deer Fly	*Chrysops mitis*	Secure		
Black-legged Deer Fly	*Chrysops nigripes*	Undetermined		
North American Horse Fly	*Haematopota americana*	Undetermined		
Familiar Horse Fly	*Hybomitra affinis*	Secure		
Arpad's Horse Fly	*Hybomitra arpadi*	Secure		
Astute Horse Fly	*Hybomitra astuta*	Secure		
Epistate Horse Fly	*Hybomitra epistates*	Secure		
Boreal Horse Fly	*Hybomitra frontalis*	Secure		
Hearle's Horse Fly	*Hybomitra hearlei*	Undetermined		
Bog Horse Fly	*Hybomitra illota*	Secure		
Orange-sided Horse Fly	*Hybomitra lasiophthalma*	Secure		
Brown-legged Horse Fly	*Hybomitra liorhina*	Undetermined		
Broad-headed Horse Fly	*Hybomitra lurida*	Secure		
Bare Horse Fly	*Hybomitra nitidifrons*	Secure		
Pechuman's Horse Fly	*Hybomitra pechumani*	Undetermined		
Banded Horse Fly	*Hybomitra sexfasciata*	Secure		
Fierce Horse Fly	*Hybomitra tetrica*	Undetermined		
Restless Horse Fly	*Hybomitra trepida*	Undetermined		
Yellowjacket Horse Fly	*Hybomitra zonalis*	Secure		



Pygmy Bee Fly
Photo Credit: J. Rosenfield

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Diptera – Tephritidae				Flies – Tephritid flies
White spotted Wing Fruit Fly	*Campiglossa albiceps*	Secure		
Latticed Wing Fruit Fly	*Campiglossa clathrata*	Undetermined		
Distinct Wing Fruit Fly	*Campiglossa distincta*	Undetermined		
Big Wing Fruit Fly	*Campiglossa dupla*	Undetermined		
Floured Wing Fruit Fly	*Campiglossa farinata*	Undetermined		
Band Wing Fruit Fly	*Campiglossa genalis*	Secure		
Grey Wing Fruit Fly	*Campiglossa murina*	Undetermined		
Sabrosky Wing Fruit Fly	*Campiglossa sabroskyi*	Secure		
Tiger Fruit Fly	*Rhagoletis basiola*	Undetermined		
Large Wing Drupe Fly	*Tephritis angustipennis*	Undetermined		
Cobweb Wing Drupe Fly	*Tephritis araneosa*	Undetermined		
Wide Wing Drupe Fly	*Tephritis candidipennis*	Undetermined		
Webb's Wing Drupe Fly	*Tephritis webbii*	Undetermined		
Nora Drupe Fly	*Xanthomyia nora*	Undetermined		
Diptera – Therevidae				Flies – Stiletto flies
Buss's Stiletto Fly	*Cliorismia bussi*	Undetermined		
Gorodkov's Stiletto Fly	*Dialineura gorodkovi*	Secure		
Conspicuous Stiletto Fly	*Pandivirilia conspicua*	Undetermined		
Neighbour Stiletto Fly	*Psilocephala vicina*	Secure		
White-headed Stiletto Fly	*Spiriverpa albiceps*	Undetermined		
Duplicitous Stiletto Fly	*Thereva duplicis*	Secure		
Groovy Stiletto Fly	*Thereva strigipes*	Secure		
Webb's Stiletto Fly	*Thereva webbi*	Secure		
Diptera – Xylophagidae				Flies – Xylophagid flies
Wreathed Awl Fly	*Xylophagus cinctus*	Secure		

[a] Describes reasons for a change in status rank between 2016 and 2021. ↗: Increasing Risk, ↘: Decreasing Risk, ∃: Error correction, #: Species new to the NWT, T: Taxonomic change, ⓘ: Information added, A: Changed due to detailed assessment by COSEWIC since 2016. See Data Sources and Methods for more details.

[b] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. Global Conservation Concern: Rank of a species in the world as designated by NatureServe. GH: Possibly Extinct, G1: Critically Imperilled, G2: Imperilled, G3: Vulnerable. Definitions and more information can be found at www.natureserve.org.

[1] Changed from At Risk
[2] Changed from May Be at Risk
[3] Changed from Sensitive
[4] Changed from Secure
[5] Changed from Undetermined
[6] Changed from Not Ranked
[7] Changed from Alien
[8] Changed from Extirpated
[9] Changed from Vagrant
[10] Changed from Presence Expected



American Salmonfly
Photo Credit: R. E. DeWalt

6.17 Stoneflies

The ranks for this species group were not reviewed for this report. Both text and ranks are re-printed from the previous report. The review is scheduled to be updated in the next report.

The Plecoptera are a relatively small order of insects. They are characterized by an aquatic immature (nymph) stage (for most species) and terrestrial adults. The nymphs are found mainly in streams and rivers, although some species can live in the wave-washed shores of lakes especially in cool northern or high altitude lakes. Adults are found near streams, either in vegetation, or on or under loose rocks along the edges. Worldwide, stoneflies can be found on all continents except Antarctica.

Stoneflies usually complete their development from egg to adult within a year, though some species have shorter life cycles and some have cycles as long as four years. Depending on species, eggs may be dropped on the water surface from flight or while walking over rocks near shore. In a few species, the females enter the water and walk on the stream bottom to deposit their eggs. The eggs have attachment structures or sticky coverings that

allow them to attach to substrates so they are not washed away. In most species, the eggs develop quickly and are ready to hatch within 3-4 weeks, though some species in intermittent streams or streams showing wide temperature extremes may show arrested development that allows them to hatch when conditions are the most suitable. Others may suspend development for several years.

For most species, the majority of the stonefly life cycle is spent as an immature nymph in the water, and habitat conditions during development are critical to their survival. Stoneflies require well oxygenated and clean water for survival, and most species have very specific requirements for certain water temperatures, substrates, and food resources. These lead to species-specific distributional differences along the lengths of streams, as well as within microhabitats in stream sites. For example, some species prefer to live in packs of deposited leaves, whereas others may be on the surfaces or sides of rocks, or even deep within the stream gravelly substrates.

Nymphs of most temperate and northern species hatch from the eggs in summer, and grow through autumn and spring to emerge as adults sometime during the open water season in summer. A few species, known as "winter stoneflies" (some species in the Capniidae and Taeniopterygidae) emerge as adults when ice is still present, and may mate on or under the ice, without leaving the stream. Most northern species are found in water bodies that do not freeze solid, and the nymphs are active under the ice. Species in small or intermittent streams, however, may spend the winter frozen in the ice, either as an egg or nymph that can stop their development in a process called diapause.

Stonefly nymphs show a variety of feeding types, depending on species, but fall mainly into two categories: herbivore-detritivores feeders and predators. The herbivore-detritivores include "shredders", which tear and eat relatively large pieces of dead plant material, such as fallen leaves, in the water, and "collectors", which gather and feed on fine detritus particles. The predators feed mainly on other aquatic insects. These feeding categories are not fixed, however, and many of the predaceous species may feed on detritus when they are small, and some of the detritus feeders may also feed by scraping algae off of rocks and submerged vegetation. Of those found in the NWT, members of the families Capniidae, Leuctridae, Nemouridae, Taeniopterygidae, and Pteronarcyidae feed on detritus, and members of the Chloroperlidae, Perlidae, and Perlodidae are considered primarily predaceous.

Adults may live for one to a few weeks, and generally stay close to the stream or lake from which they've emerged ('hatched'). During emergence, nymphs of most species crawl out of the water onto streamside rocks or vegetation, then the adult form crawls out of a split that forms in their nymphal skin (exoskeleton) along the back. Newly emerged adults are soft and generally light in colour, and at this stage are called "teneral". They harden quickly, though, and move to vegetation or crevices along shore to begin hunting for a mate. Some do not feed as adults, while others feed on algae, lichens, pollen, or nectar. Adults do not fly very well, and are most often seen clinging to vegetation or hiding under stones.

Stoneflies in the northern hemisphere have a unique method of locating their mates, known as "drumming". They start by gathering near the stream or lake margin, then the males call by tapping their abdomens on a hard surface in species-specific patterns. Virgin females answer the male call, and then stay in one spot so the males can find them. Both call and answer until the male has located the female, and then they mate.

Stoneflies have long been known to be important as "fish food" in our streams and rivers, and are usually quite well known to fly-fishers. Due to their diverse feeding habits, they are important in all levels of aquatic food webs: some species contribute to the breakdown of detritus in streams, some are predators in their own right, and all provide a food source to other predatory animals in the streams or lakes in which they reside. Adults may also be important food for birds and other terrestrial insectivores.

The stoneflies' requirements for clean and well oxygenated water have also led to their use as "biological indicators". We can assess stream health by looking at the diversity and abundance of different species of stonefly and other stream invertebrates. Unfortunately, pollution in many industrialized areas has led to major declines in stoneflies throughout the world.

Dr. Donna Giberson
Aquatic Entomologist
University of Prince Edward Island
Charlottetown, PE

List 17. **Stoneflies**

There are 37 species of stoneflies confirmed present in the NWT. One more species is expected to be present in the NWT. Species are listed according to the Phylum and Class they belong to, then alphabetically by Order, Family and scientific species name. Taxonomy follows DeWalt et al. 2013. Common names are from various sources.



Lapland Springfly Photo Credit: C. McLennan

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Arthropoda – Insecta			Arthropods – Insects
Plecoptera – Capniidae			Stoneflies – Small winter stoneflies
Widespread Snowfly	*Capnia confusa*	Undetermined	
Nearctic Snowfly	*Capnia nearctica*	Undetermined	
Belly Snowfly	*Capnia vernalis*	Undetermined	
Giant Snowfly	*Isocapnia grandis*	Undetermined	
Columbian Snowfly	*Utacapnia columbiana*	Undetermined	
Plecoptera – Chloroperlidae			Stoneflies – Green stoneflies
Alaska Sallfly	*Alaskaperla ovibovis*	Undetermined	
Pacific Coast Sallfly	*Alloperla elevata*	Undetermined	
Western Sallfly	*Alloperla severa*	Undetermined	
Least Sallfly	*Haploperla brevis*	Undetermined	
Gallatin Sallfly	*Suwallia starki*	Undetermined	
Colorado Sallfly	*Sweltsa coloradensis*	Undetermined	
Plecoptera – Nemouridae			Stoneflies – Nemourid stoneflies
Little Black Forestfly	*Amphinemura nigritta*	Undetermined	
Lovely Forestfly	*Amphinemura palmeni*	Undetermined	
Arctic Forestfly	*Nemoura arctica*	Undetermined	
Alaska Forestfly	*Nemoura normani*	Undetermined	
Nearctic Forestfly	*Nemoura rickeri*	Undetermined	
Banded Forestfly	*Prostoia besametsa*	Undetermined	
Intrepid Forestfly	*Shipsa rotunda*	Undetermined	
Common Forestfly	*Zapada cinctipes*	Undetermined	
Columbian Forestfly	*Zapada columbiana*	Undetermined	
Oregon Forestfly	*Zapada oregonensis*	Undetermined	

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Plecoptera – Perlidae			Stoneflies – Perlid stoneflies
Common Stonefly	*Acroneuria abnormis*	Undetermined	
Boreal Stonefly	*Acroneuria lycorias*	Undetermined	
Short-winged Stonefly	*Claassenia sabulosa*	Undetermined	
Plecoptera – Perlodidae			Stoneflies – Perlodid stoneflies
Holarctic Springfly	*Arcynopteryx dichroa*	Secure	
Summer Springfly	*Cultus aestivalis*	Undetermined	
Lapland Springfly	*Diura bicaudata*	Secure	
Blackfoot Springfly	*Isogenoides colubrinus*	Secure	
Husdonian Springfly	*Isogenoides frontalis*	Undetermined	
Heavenly Springfly	*Isogenoides zionensis*	Undetermined	
Bear Lake Stripetail	*Isoperla decolorata*	Secure	
Plains Stripetail	*Isoperla longiseta*	Undetermined	
Springs Stripetail	*Isoperla petersoni*	Undetermined	
Transverse Stripetail	*Megarcys signata*	Undetermined	
American Springfly	*Skwala americana*	Undetermined	
Plecoptera – Pteronarcyidae			Stoneflies – Giant stoneflies
Least Salmonfly	*Pteronarcella badia*	Undetermined	
American Salmonfly	*Pteronarcys dorsata*	Secure	
Giant Salmonfly	*Pteronarcys californica*	Presence Expected	

[a] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. Global Conservation Concern: Rank of a species in the world as designated by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org.

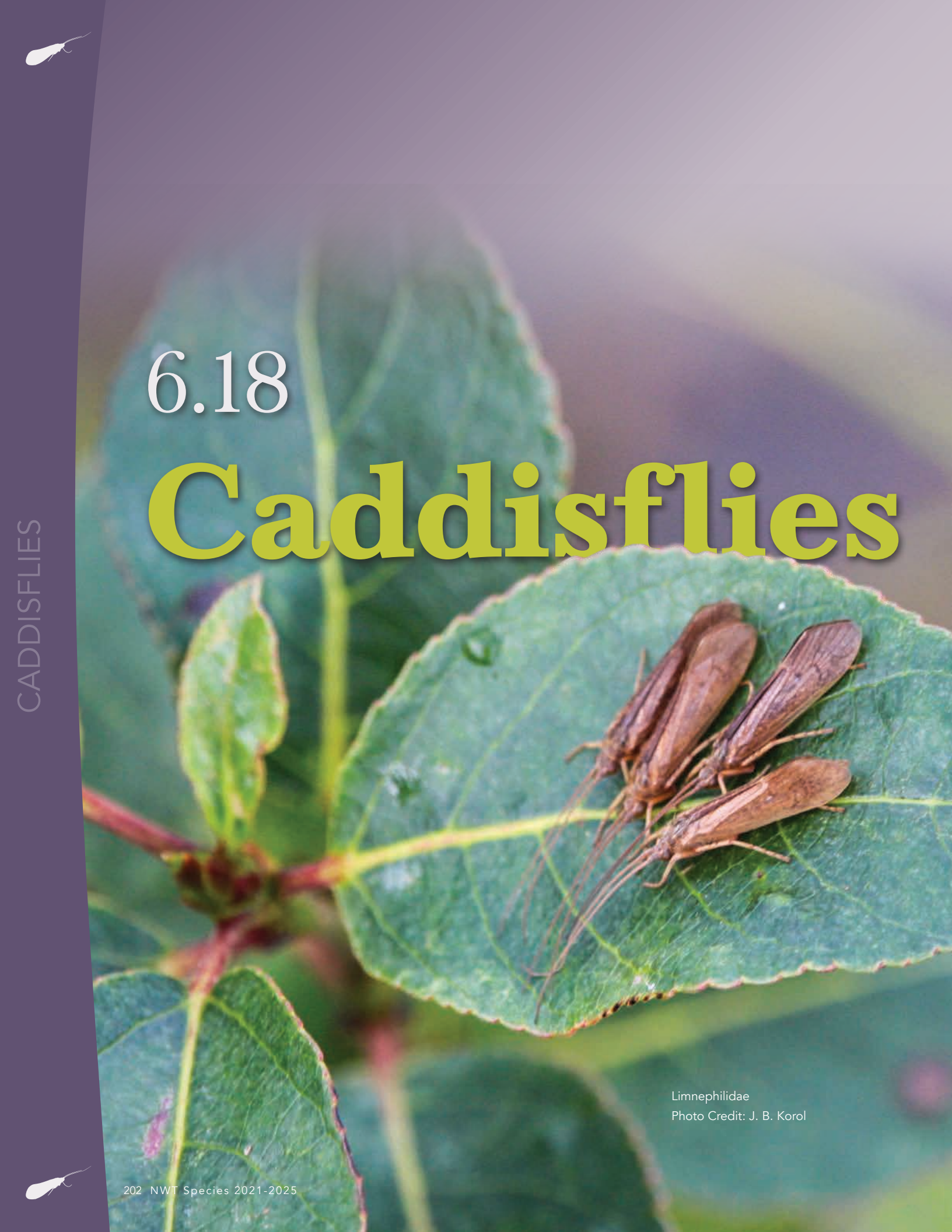


Western Sallfly Photo Credit: M. Bowser



American Salmonfly Photo Credit: D. Mager

6.18 Caddisflies



Limnephilidae
Photo Credit: J. B. Korol

The ranks for this species group were not reviewed. Both text and ranks are re-printed from the previous report. The review of ranks are scheduled to be updated in the next report.

The Trichoptera are mid-sized, moth-like insects with two sets wings. They may vary in color from orange to tan to green, and often appear to be hairy.

Caddisflies are best known for their building skills in their aquatic larval stage. Young caddisflies construct casings from a variety of materials including sand, gravel, plant debris, and sticks. These cases provide the larva with protection and camouflage until it is fully grown. Cases vary greatly in appearance depending on species and availability of materials. Although most caddisflies do construct these well known cases, there are some exceptions such as the free-living caddisflies (Rhyacophilidae), of which only two known species are found in the NWT.

After a pupating phase, caddisflies emerge from the water as fully grown, winged adults. In some areas, the onset of cooler weather triggers this emergence, ensuring that all caddisflies become active mating adults at the same time. After mating, eggs are laid underwater by the female. Caddisfly eggs will not hatch unless exposed to moisture. Most species have a life span of roughly one year, however, in cooler climates caddisflies may over-winter as pupae, or as eggs as they require more time to fully develop.

Due to its significant aquatic stage, caddisflies provide a good indication of water quality and ecosystem health. Adult caddisflies are important food sources for a number of animals such as fish, bats, birds, and amphibians.



American Grammon Photo Credit: J. Gross

List 18. **Caddisflies**

There are 122 species of caddisflies confirmed present in the NWT. Species are listed according to the Phylum and Class they belong to, then alphabetically by Order, Superfamily, Family and scientific species name. Taxonomy follows Morse (2014). Common names are from various sources.



Great Northern Spirit Photo Credit: J. Johnson

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Arthropoda – Insecta			Arthropods – Insects
Trichoptera – Apataniidae			Caddisflies – Early smoky-winged caddisflies
Coldloving Smokywing Caddisfly	*Apatania crymophila*	Secure	
Spotted Smokywing Caddisfly	*Apatania stigmatella*	Undetermined	
Belted Smokywing Caddisfly	*Apatania zonella*	Secure	
Trichoptera – Brachycentridae			Caddisflies – Humpless casemakers
American Grannom	*Brachycentrus americanus*	Undetermined	
Western Grannom	*Brachycentrus occidentalis*	Undetermined	
Icy Little Grannom	*Micrasema gelidum*	Undetermined	
Trichoptera – Glossosomatidae			Caddisflies – Saddle casemakers
Hidden Tongue Saddle Casemaker	*Glossosoma velonum*	Undetermined	
Trichoptera – Goeridae			Caddisflies – Weighted casemakers
Tunguska River Mourner	*Goera tungusensis*	Undetermined	
Trichoptera – Helicopsychidae			Caddisfliess – Snail-case caddisflies
Speckled Peter	*Helicopsyche borealis*	Undetermined	
Trichoptera – Hydropsychidae			Caddisflies – Netspinning caddisflies
Great Northern Spirit	*Arctopsyche grandis*	Undetermined	
Lagoda Lake Northern Spirit	*Arctopsyche ladogensis*	Undetermined	
Curvy Little-sister Caddisfly	*Cheumatopsyche campyla*	Undetermined	
Specious Little-sister Caddisfly	*Cheumatopsyche speciosa*	Undetermined	
Variable Water Spirit	*Hydropsyche alternans*	Undetermined	
Thundering Water Spirit	*Hydropsyche bronta*	Undetermined	
Mixed Water Spirit	*Hydropsyche confusa*	Undetermined	
Foolish Water Spirit	*Hydropsyche morosa*	Undetermined	
Slosson Water Spirit	*Hydropsyche slossonae*	Undetermined	
Elsi's Specter	*Parapsyche elsis*	Undetermined	

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Trichoptera – Hydroptilidae			Caddisflies – Micro-caddisflies
Spotted Salt-and-pepper Microcaddis	*Agraylea multipunctata*	Undetermined	
Similar Varicoloured Microcaddis	*Hydroptila consimilis*	Undetermined	
Anagramed Mayan Microcaddis	*Mayatrichia ayama*	Undetermined	
Spiny Yellowhair Microcaddis	*Ochrotrichia spinosa*	Undetermined	
Serrate Creamy Brown Microcaddis	*Oxyethira serrata*	Undetermined	
Trichoptera – Lepidostomatidae			Caddisflies – Bizarre caddisflies
Ashy Scalemouth Caddisfly	*Lepidostoma cinereum*	Undetermined	
Robed Scalemouth Caddisfly	*Lepidostoma togatum*	Undetermined	
Trichoptera – Leptoceridae			Caddisflies – Long-horned caddisflies
Ringhorned Scalywing	*Ceraclea annulicornis*	Undetermined	
Black-veined Scalywing	*Ceraclea nigronervosa*	Undetermined	
Fringedwing Dancer	*Mystacides alafimbriata*	Undetermined	
Blue Dancer	*Mystacides azurea*	Undetermined	
Goldenwing Dancer	*Mystacides interjectus*	Undetermined	
Black Dancer	*Mystacides sepulchralis*	Undetermined	
Greedy Servant	*Oecetis avara*	Undetermined	
Immovable Servant	*Oecetis immobilis*	Undetermined	
Inconspicuous Servant	*Oecetis inconspicua*	Undetermined	
Rusty Servant	*Oecetis ochracea*	Undetermined	
Front Bronze	*Triaenodes frontalis*	Undetermined	
Jakutan Bronze	*Triaenodes jakutanus*	Undetermined	
Trichoptera – Limnephilidae			Caddisflies – Northern caddisflies
Two-spotted Northern Caddisfly	*Anabolia bimaculata*	Undetermined	
Companionable Northern Caddisfly	*Anabolia consocia*	Undetermined	
Pretty Northern Caddisfly	*Arctopora pulchella*	Undetermined	
Northwestern Twinpipe Caddisfly	*Asynarchus aldinus*	Undetermined	
Batchawana Twinpipe Caddisfly	*Asynarchus batchawanus*	Secure	
Lapland Twinpipe Caddisfly	*Asynarchus lapponicus*	Undetermined	
Mountain Twinpipe Caddisfly	*Asynarchus montanus*	Undetermined	
Changed Twinpipe Caddisfly	*Asynarchus mutatus*	Undetermined	
Magnificent Stopple Caddisfly	*Clistoronia magnifica*	Undetermined	
Blackfooted Giant Caddisfly	*Dicosmoecus atripes*	Undetermined	
Hiddenwing Giant Caddisfly	*Dicosmoecus obscuripennis*	Undetermined	
Sprinkled Antifly	*Ecclisomyia conspersa*	Undetermined	
Asking Script Caddisfly	*Grammotaulius interrogationis*	Secure	
Markedwing Script Caddisfly	*Grammotaulius signatipennis*	Undetermined	
Oldtimer Northern Caddisfly	*Grensia praeterita*	Secure	
Venerable Robe Caddisfly	*Hesperophylax designatus*	Secure	
Fautin's Softpipe Caddisfly	*Lenarchus fautini*	Undetermined	
Empty Softpipe Caddisfly	*Lenarchus vastus*	Undetermined	

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Algal Summerflier	*Limnephilus algosus*	Undetermined	
Silver Summerflier	*Limnephilus argenteus*	Undetermined	
Canadian Summerflier	*Limnephilus canadensis*	Undetermined	
Unequal Summmerflier	*Limnephilus dispar*	Undetermined	
External Summerflier	*Limnephilus externus*	Undetermined	
Freed Summerflier	*Limnephilus extractus*	Undetermined	
Longthigh Summerflier	*Limnephilus femoralis*	Undetermined	
Windowed Summerflier	*Limnephilus fenestratus*	Undetermined	
Fischer's Summerflier	*Limnephilus fischeri*	Undetermined	
Smoky Summerflier	*Limnephilus fumosus*	Undetermined	
Hagen's Summerflier	*Limnephilus hageni*	Undetermined	
Glassy Summerflier	*Limnephilus hyalinus*	Undetermined	
Undivided Summerflier	*Limnephilus indivisus*	Undetermined	
Infernal Summerflier	*Limnephilus infernalis*	Undetermined	
Kennicott's Summerflier	*Limnephilus kennicotti*	Secure	
Greater Summerflier	*Limnephilus major*	Undetermined	
Blackheaded Summerflier	*Limnephilus nigriceps*	Undetermined	
Ornate Summerflier	*Limnephilus ornatus*	Undetermined	
Divided Summerflier	*Limnephilus partitus*	Undetermined	
Small Summerflier	*Limnephilus parvulus*	Undetermined	
Very Small Summerflier	*Limnephilus perpusillus*	Undetermined	
Painted Summerflier	*Limnephilus picturatus*	Secure	
Asian Summerflier	*Limnephilus samoedus*	Secure	
Sanson's Summerflier	*Limnephilus sansoni*	Undetermined	
Wormwood Summerflier	*Limnephilus santanus*	Undetermined	
Secluded Summerflier	*Limnephilus secludens*	Undetermined	
Silken Summerflier	*Limnephilus sericeus*	Undetermined	
Cinnamon Summerflier	*Limnephilus sublunatus*	Undetermined	
Northern Casemaker	*Nemotaulius hostilis*	Undetermined	
Plain Jackstock	*Onocosmoecus unicolor*	Undetermined	
Canadian Brightorder Caddisfly	*Phanocelia canadensis*	Undetermined	
Bergroth's Bearlover Caddisfly	*Philarctus bergrothi*	Undetermined	
Przewalski's Bearlover Caddisfly	*Philarctus przewalskii*	Undetermined	
Shining Oreo Caddisfly	*Platycentropus radiatus*	Undetermined	
Northern Engraver Caddisfly	*Psychoglypha subborealis*	Undetermined	
Belted Greatbrown Caddisfly	*Pycnopsyche subfasciata*	Undetermined	
Myope Moss Sentinel	*Sphagnophylax meiops*	Undetermined	
Trichoptera – Molannidae			Caddisflies – Hood casemakers
White Checkeredwing	*Molanna albicans*	Undetermined	
Yellow-horned Checkeredwing	*Molanna flavicornis*	Undetermined	
Dyed Checkeredwing	*Molannodes tinctus*	Undetermined	
Trichoptera – Philopotamidae			Caddisflies – Fingernet caddisflies
San Gabriel Autumn	*Wormaldia gabriella*	Undetermined	
Sad Autumn	*Wormaldia moesta*	Undetermined	

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Trichoptera – Phryganeidae			Caddisflies – Giant casemakers
Coloured Divebomber	*Agrypnia colorata*	Undetermined	
Shrunken Divebomber	*Agrypnia deflata*	Undetermined	
Frozen Divebomber	*Agrypnia glacialis*	Undetermined	
Rejected Divebomber	*Agrypnia improba*	Undetermined	
Tired Divebomber	*Agrypnia obsoleta*	Undetermined	
Rural Divebomber	*Agrypnia pagetana*	Undetermined	
Straw Divebomber	*Agrypnia straminea*	Undetermined	
Clothed Divebomber	*Agrypnia vestita*	Undetermined	
Crotch's Traveler	*Banksiola crotchi*	Undetermined	
Simple Craftsman	*Fabria inornata*	Undetermined	
Gray Rushsedge Casemaker	*Phryganea cinerea*	Undetermined	
Eyed Featherblade Casemaker	*Ptilostomis ocellifera*	Undetermined	
Halfgirdle Featherblade Casemaker	*Ptilostomis semifasciata*	Undetermined	
Trichoptera – Polycentropodidae			Caddisflies – Trumpet-net caddisflies
Yellow Checker	*Holocentropus flavus*	Undetermined	
Broken Checker	*Holocentropus interruptus*	Undetermined	
Blackhorn Checker	*Holocentropus picicornis*	Undetermined	
Two-spotted Twilight Tubemaker	*Neureclipsis bimaculata*	Secure	
Grey Checker	*Plectrocnemia cinerea*	Undetermined	
Remote Checker	*Plectrocnemia remota*	Undetermined	
Smith Checker	*Plectrocnemia smithae*	Undetermined	
Trichoptera – Psychomyiidae			Caddisflies – Net tube caddisflies
Dinky Purplebreast Caddisfly	*Psychomyia flavida*	Undetermined	
Trichoptera – Rhyacophilidae			Caddisflies – Free-living caddisflies
Little Angel Olive Caddisfly	*Rhyacophila angelita*	Undetermined	
Brown Olive Caddisfly	*Rhyacophila brunnea*	Undetermined	
Trichoptera – Thremmatidae			Caddisflies – Stonecase caddisflies
Woolly Dotwing	*Neophylax nacatus*	Undetermined	

[a] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. Global Conservation Concern: Rank of a species in the world as designated by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org.



Clothed Divebomber Photo Credit: N. Block



Sotted Salt-and-pepper Microcaddis Photo Credit: N. Block

6.19 Mayflies



Burrowing Mayfly Hexagenia
Photo Credit: J. Stewart

The ranks for this species group were reviewed based on one paper about the species found in the Mackenzie Valley collected in 1970s[1]. A systematic review of all species is scheduled for the next report.

The Ephemeroptera are a small order of insects with aquatic immature stages and terrestrial adults. They are the oldest order of winged insects still living today, dating from Carboniferous and Permian times.

As with other insects, they go through a number of larval or nymphal stages, but whereas most insects have a single adult winged stage for dispersal and mating (though note that some, such as fleas and lice, are wingless, even as adults) mayflies are unique among insects in that they have two winged stages. The first is known as the subimago (or in fly-fishing terminology, the dull-coloured "dun"), and the second stage is called the imago (the clear-winged and brighter coloured "spinner").

Mayfly life cycles can range from a few weeks to several years, depending on the species and the location. Most of the life is spent as a nymph in the water, and growth is strongly dependent on temperature and food. The number of nymphal growth stages (instars) can range from 10 to 50, and is not fixed even within particular species' life cycles. Once they reach a certain size and maturity as nymphs, emergence in most is triggered by specific temperature or light. The adults do not feed, so adults rarely live longer than a few hours to a few days. Mayflies in temperate and arctic areas are usually highly seasonal, with hatching from the egg and emergence to the adult controlled by a combination of temperature and light patterns.

Most mayflies deposit their eggs by flying to the water surface and dipping their abdomens into the water, releasing a few eggs at a time to fall to the substrate below. Some species in the genus *Baetis* can enter the water directly and swim to the bottom, laying the eggs directly onto suitable substrates. The eggs have attachment structures that stick them to the substrate materials so they are not dislodged in water currents.

Egg development can range from as little as a week to more than a year, depending on species-specific water temperature requirements. A few species have eggs that enter a resting stage called diapause if temperatures are too low, delaying hatching until conditions are suitable for the nymphs to survive. For example, widespread northern small minnow mayfly, *Baetis bundyae*, can live in small streams and ponds that freeze to the bottom because it spends most of the year as a resistant egg, and only hatches once the water reaches a specific temperature in summer. This species completes development from egg hatch to adult in 3 to 4 weeks, so is easily missed when collecting mayflies. Most species, however, require habitat that does not freeze solid in winter.

Nymphs emerge ('hatch') to the first winged stage by swimming to the surface of the water, and using the last nymphal skin (exoskeleton) as a raft while the winged stage crawls out of a split that forms along their back. After emergence, these "cast skins" can often be seen floating on the water in bays or backwaters. The subimago (dun) is covered with fine, water-resistant hairs to help keep them afloat as they harden their wings enough to fly from the water surface. The subimago doesn't fly well, and usually seeks out streamside vegetation to attach to, avoiding predators. Tundra species can also spend their subimago stage under loose rocks on shore if there is little or no streamside vegetation. Within a few hours, they moult again, this time to the imago or sexually mature adult.

In temperate regions, males often form impressive mating swarms at dawn or dusk, and females enter the swarm and mate on the wing. In the North, mating swarms can occur at any time of day, and may be dependent on air temperature. Some mayfly species are parthenogenetic (where eggs develop without needed to be fertilized), so males may be rare or even absent in these species.

[1] See Giberson and Burian (2017) in Further Your Knowledge section.

The nymphs live in a variety of freshwater habitats, and show a range of body shapes and feeding relationships. Some (for example, the "minnow mayflies") have a streamlined body shape that allows them to swim easily or to live in moderate water currents. Others are flattened in shape, which lets them hug the substrates in fast moving water without being dislodged and carried downstream. All mayfly nymphs have gills on their abdomens that increase their body surface area for picking up oxygen from the water, and these gills range from simple plate-like structures to complex feathery structures that can be moved in unison to move water past the gills to increase oxygen uptake. One group (the burrowing mayflies in the family Ephemeridae) burrow into the bottom mud or sand of lakes and large rivers, and use their gill movements to circulate water and food through their burrows.

Most mayfly nymphs feed on plant or plant-like material, either by scraping algae from rocks or collecting and eating dead and decaying plant material (detritus). Some filter the fine detritus from the water, whereas others scoop up detritus deposited on the bottom. Some (*Isonychia, Siphlonurus, Stenonema*, and *Ephemera*) are omnivorous, but only a few species are primarily predaceous.

The nymphs have strong species-specific microhabitat preferences, and are generally intolerant of water pollution (especially acidification or nutrient enrichment that leads to low oxygen in the water), so they have become important bioindicator species for scientists to assess the health of streams or ponds where they are found. Interestingly, one group (the *Baetidae*) which is relatively pollution-tolerant (compared to other mayfly families) is also the most dominant family found in the North!

The nymphs are very important ecologically, as members of aquatic food webs, cycling nutrients. They are eaten by other invertebrates and are particularly important food organisms for fish. Once in the terrestrial habitat, they are also important food for birds, bats, and shrews

Fly-fishers recognize their importance, and many important artificial flies for fishing attempt to mimic mayflies!

Dr. Donna Giberson
Aquatic Entomologist
University of Prince Edward Island
Charlottetown, PEI



Shadowed Burrowing Mayfly
Photo Credit: M. Butler

List 19. **Mayflies**

There are 85 species of mayfly confirmed present in the NWT. Two additional species are expected to be present. Species are listed according to the Phylum and Class they belong to, then alphabetically by Order, Family and scientific species name. Taxonomy follows McCafferty and Jacobus (2021). Common names are from various sources.

Common Name	Scientific Species Name	Rank	Reasons for Change[a]	Global Conservation Concern[b]
Arthropoda – Insecta				Arthropods – Insects
Ephemeroptera – Ameletidae				Ephemeral insects – Combmouthed minnow mayflies
Cook's Comb Minnow Mayfly	*Ameletus cooki*	Presence Expected	ⓘ[6]	
Holarctic Comb Minnow Mayfly	*Ameletus inopinatus*	Secure	ⓘ[5]	
Oregon Comb Minnow Mayfly	*Ameletus oregonensis*	Secure	ⓘ[6]	
Speckled Comb Minnow Mayfly	*Ameletus sparsatus*	Undetermined		
Brown Comb Minnow Mayfly	*Ameletus subnotatus*	Undetermined	ⓘ[6]	
Ephemeroptera – Ametropodidae				Ephemeral insects – Sand minnows mayflies
Neave's Sand Minnow Mayfly	*Ametropus neavei*	Undetermined		
Ephemeroptera – Arthropleidae				Ephemeral insects – Palp-headed mayflies
Two-spotted Palpheaded Mayfly	*Arthroplea bipunctata*	Undetermined		
Ephemeroptera – Baetidae				Ephemeral insects – Small minnow mayflies
Wilderness Small Minnow Mayfly	*Acentrella feropagus*	Undetermined		
Lesser Small Minnow Mayfly	*Acentrella insignificans*	Secure	ⓘ[5]	
Lapland Minnow Mayfly	*Acentrella lapponica*	Undetermined	#	
Confused Small Minnow Mayfly	*Acentrella turbida*	Secure		
Pygmy Minnow Mayfly	*Acerpenna pygmaea*	Secure	ⓘ[6]	
White Small Minnow Mayfly	*Anafroptilum album*	Undetermined	ⓘ[6]	
Split-tailed Small Minnow Mayfly	*Baetis bicaudatus*	Secure		
Brown Small Minnow Mayfly	*Baetis brunneicolor*	Undetermined	ⓘ[6]	
Bundy's Small Minnow Mayfly	*Baetis bundyae*	Secure	ⓘ[5]	
Yellow-striped Small Minnow Mayfly	*Baetis flavistriga*	Undetermined		
Arctic Small Minnow Mayfly	*Baetis foemina*	Undetermined		
Hudson Bay Small Minnow Mayfly	*Baetis hudsonicus*	Undetermined	ⓘ[6]	
Olive Small Minnow Mayfly	*Baetis vernus*	Undetermined	#	
Common Small Minnow Mayfly	*Baetis tricaudatus*	Secure		
Red Speckled Mayfly	*Callibaetis ferrugineus*	Undetermined		
Hagen's Small Minnow Mayfly	*Diphetor hageni*	Undetermined		
Band-bellied Small Minnow Mayfly	*Plauditus cestus*	Undetermined	ⓘ[6]	
Dubious Small Minnow Mayfly	*Plauditus dubius*	Undetermined	ⓘ[6]	
Glover's Small Minnow Mayfly	*Plauditus gloveri*	Secure	ⓘ[6]	
Spotted Small Minnow Mayfly	*Plauditus punctiventris*	Presence Expected	ⓘ[6]	
Viril Blue-winged Mayfly	*Plauditus virilis*	Undetermined	ⓘ[6]	
Huge Sulphur Mayfly	*Procloeon ingens*	Secure	ⓘ[6]	
Tiny-winged Sulphur Dun	*Procloeon pennulatum*	Undetermined		

Common Name	Scientific Species Name	Rank	Reasons for Change[a]	Global Conservation Concern[b]
Ephemeroptera – Baetiscidae				Ephemeral insects – Armoured mayflies
Great Lakes Armoured Mayfly	*Baetisca lacustris*	Undetermined	ⓘ[6]	
Laurentian Armoured Mayfly	*Baetisca laurentina*	Undetermined		
Large Armoured Mayfly	*Baetisca obesa*	Undetermined		
Ephemeroptera – Caenidae				Ephemeral insects – Small square-gilled mayflies
Friendly Small Squaregill Mayfly	*Caenis amica*	Undetermined	ⓘ[10]	
Angler Squaregill Mayfly	*Caenis latipennis*	Undetermined	ⓘ[6]	
Tardy Squaregill Mayfly	*Caenis tardata*	Undetermined	ⓘ[6]	
Young's Small Squaregill Mayfly	*Caenis youngi*	Secure	ⓘ[5]	
Ephemeroptera – Ephemerellidae				Ephemeral insects – Spiny crawler mayflies
Simple Spiny Crawler Mayfly	*Dannella simplex*	Undetermined		
Colorado Spiny Crawler Mayfly	*Drunella coloradensis*	Undetermined		
Dodds's Spiny Crawler Mayfly	*Drunella doddsii*	Undetermined		
Golden Spiny Crawler Mayfly	*Ephemerella aurivillii*	Secure	ⓘ[5]	
Pale Spiny Crawler Mayfly	*Ephemerella dorothea*	Secure	ⓘ[5]	
Lowlands Spiny Crawler Mayfly	*Ephemerella excrucians*	Undetermined		
Sulphur Spiny Crawler Mayfly	*Ephemerella invaria*	Undetermined		
Moffat's Spiny Crawler Mayfly	*Ephemerella mucronata*	Secure	ⓘ[5]	
Warty Spiny Crawler Mayfly	*Ephemerella tibialis*	Undetermined		
Bicolour Spiny Crawler Mayfly	*Eurylophella bicolor*	Secure	ⓘ[5]	
Fleating Spiny Crawler Mayfly	*Eurylophella temporalis*	Undetermined		
Ephemeroptera – Ephemeridae				Ephemeral insects – Riverbed burrower mayflies
Shadowed Burrowing Mayfly	*Ephemera simulans*	Undetermined		
Michigan Burrowing Mayfly	*Hexagenia limbata*	Undetermined		
Ephemeroptera – Heptageniidae				Ephemeral insects – Flat-headed mayflies
Western Flat-headed Mayfly	*Anepeorus rusticus*	Undetermined	ⓘ[6]	
Mime Flat-headed Mayfly	*Cinygmula mimus*	Undetermined	ⓘ[6]	
Analog Flat-headed Mayfly	*Cinygmula par*	Undetermined	ⓘ[6]	
Ueven Gordon Quills Mayfly	*Cinygmula subaequalis*	Undetermined	ⓘ[6]	
Tardy Mula Flathead Mayfly	*Cinygmula tarda*	Undetermined		
Alberta Two-tailed Mayfly	*Epeorus albertae*	Undetermined		
Deceptive Two-tailed Mayfly	*Epeorus deceptivus*	Undetermined		
Grand Two-tailed Mayfly	*Epeorus grandis*	Undetermined		
Longshank Two-tailed Mayfly	*Epeorus longimanus*	Undetermined		
Elegant Evening Mayfly	*Heptagenia elegantula*	Undetermined	ⓘ[6]	
Yellow Flathead Mayfly	*Heptagenia flavescens*	Undetermined		
Dusky Flathead Mayfly	*Heptagenia pulla*	Undetermined		
Solitary Flathed Mayfly	*Heptagenia solitaria*	Undetermined		
Hebe Flathead Mayfly	*Leucrocuta hebe*	Undetermined		
Midwestern Flathead Mayfly	*Leucrocuta maculipennis*	Undetermined		
Yellow Cream Cahill Mayfly	*Maccaffertium luteum*	Undetermined	ⓘ[6]	
Terminal Cream Cahill Mayfly	*Maccaffertium terminatum*	Undetermined	ⓘ[6]	
American Cream Cahill Mayfly	*Maccaffertium vicarium*	Undetermined		
Rustic Nixe Mayfly	*Nixe rusticalis*	Undetermined	ⓘ[6]	

Common Name	Scientific Species Name	Rank	Reasons for Change[a]	Global Conservation Concern[b]
Hagen's Clinging Mayfly	*Rhithrogena hageni*	Undetermined	ⓘ[6]	
Hungry Clinging Mayfly	*Rhithrogena jejuna*	Undetermined		
Wavering Clinging Mayfly	*Rhithrogena undulata*	Undetermined		
Dotted Cahill Mayfly	*Stenacron interpunctatum*	Undetermined	ⓘ[6]	
Red Fox Mayfly	*Stenonema femoratum*	Undetermined		
Ephemeroptera – Leptophlebiidae				Ephemeral insects – Prong-gilled mayflies
Greedy Prong-gilled Mayfly	*Leptophlebia cupida*	Undetermined	ⓘ[6]	
Cloudy Prong-gilled Mayfly	*Leptophlebia nebulosa*	Undetermined	ⓘ[5]	
Fragile Prong-gilled Mayfly	*Paraleptophlebia debilis*	Undetermined	ⓘ[6]	
Dappled Summer Prong-gilled Mayfly	*Paraleptophlebia guttata*	Undetermined		
Mournful Summer Prong-gilled Mayfly	*Paraleptophlebia moerens*	Undetermined		
Ephemeroptera – Metretopodidae				Ephemeral insects – Cleft-footed minnow mayflies
Boreal Cleftfoot Minnow Mayfly	*Metretopus borealis*	Secure	ⓘ[5]	
Flapped Cleltfoot Minnow Mayfly	*Siphloplecton basale*	Undetermined	ⓘ[6]	
Flapless Cleftfoot Minnow Mayfly	*Siphloplecton interlineatum*	Undetermined		
Ephemeroptera – Siphlonuridae				Ephemeral insects – Primitive minnow mayflies
Tundra Primitive Mayfly	*Parameletus chelifer*	Secure	ⓘ[5]	
Northern Primitive Mayfly	*Siphlonurus alternatus*	Undetermined		
Western Primitive Mayfly	*Siphlonurus occidentalis*	Undetermined		
Leafy Primitive Mayfly	*Siphlonurus phyllis*	Undetermined		
Showy Primitive Mayfly	*Siphlonurus spectabilis*	Undetermined		

[a] Describes reasons for a change in status rank between 2016 and 2021. ↗: Increasing Risk, ↘: Decreasing Risk, ∃: Error correction, #: Species new to the NWT, T: Taxonomic change, ⓘ: Information added, A: Changed due to detailed assessment by COSEWIC since 2016. See Data Sources and Methods for more details.

[b] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. Global Conservation Concern: Rank of a species in the world as designated by NatureServe. GH: Possibly Extinct, G1: Critically Imperilled, G2: Imperilled, G3: Vulnerable. Definitions and more information can be found at www.natureserve.org.



Flathead Mayfly Heptagenia
Photo Credit: D. Giberson

6.20 Hemipterans



Giant Water Bug guarding her eggs
Photo Credit: D. Schock

The Hemipterans (Order Hemiptera), commonly known as True Bugs, are a diverse order of insects recognized by their distinctive piercing or sucking mouthparts. They have hemimetabolous development – meaning newly hatched nymphs look like miniature wingless versions of the adults. They grow in size, normally moulting five times, with wings beginning to develop after the third or fourth moult. Adult hemipterans are usually equipped with two pairs of fully developed wings but, as with all of nature, there are exceptions and several species, including some found in the NWT, have half-developed wings (brachypterous) or no wings at all (apterous). The front wings are modified in different ways across the order from clear membranous to half-hardened to completely hardened and fused together.

Geographically, the NWT has an interesting composition of hemipteran fauna. Although there are no known endemic species, many reach the northern limits of their ranges in the southern quarter of the NWT whereas several others are only found in tundra or high arctic environments. Additionally, there are a number of species with primarily Palearctic distributions with ranges extending across Alaska, Yukon, and the NWT. This is a result of migration across the Bering land bridge.

Currently the order Hemiptera is separated into four suborders, of which three are found in North America and the NWT: Auchenorrhyncha (free-living hemipterans), Heteroptera (true bugs) and Sternorrhyncha (phytophagous aphids and relatives). The Ternorrhyncha (plant-parasitic hemipterans) are not found here.

Sternorrhynchans are phytophagous and include aphids, whiteflies, and scale insects. The life histories of these species are diverse with many being complex, containing different forms and potentially multiple hosts while others are parthenogenic generalists. The aphids (Family Aphididae) are the most diverse family currently recorded in the NWT, representing about 20% of the currently known hemipteran species, with several more likely to be found. They also contain all the alien species of hemipterans reported from the NWT. Many of these species, as well as several native species, are known plant pests. We do not know yet what ecological impact their presence has on the NWT's forests.

Auchenorrhynchans are also exclusively phytophagous and include leafhoppers, spittle bugs, tree hoppers, and the remarkable Canadian Cicada (*Okanagana canadensis*). Not only is this species the second-largest hemipteran found in the NWT, but where it has been spotted, in Sambah Deh Territorial Park is the farthest north a cicada has been recorded anywhere in the world.

The most diverse and numerous family of Hemipterans in the NWT is Cicadellidae, known as leafhoppers, representing about a quarter of the known NWT hemipteran species.

Heteropterans, known by their half hardened and half membranous forewings, vary the most in ecology out of the three hemipteran groups. The majority are phytophagous but several groups are omnivorous, predacious, or even parasitic. The plant bugs (Family Miridae) are the most diverse group.

The NWT's largest species of hemipteran is the adult Giant Water Bug (*Lethocerus americanus*). This species is easy to spot as it can grow to over 5 cm long and will fly to new ponds in later summer. They are fierce predators of aquatic animals, including small fish and tadpoles. It is common in the extreme southern NWT and in the last 15 years this species been spotted further and further north as far as Yellowknife. This northward dispersal may be due to a warming climate.

Another interesting taxa are the shore bugs in the family Saldidae. They are predatory, hunting small arthropods largely on the shores of water bodies, including oceans. Several species have adapted to living along the coast of the Arctic Ocean including the Arctic Shore Bug (*Chiloxanthus arcticus*), which, in Canada, has only been recorded from the NWT.

There is still a great deal to learn about the hemipteran fauna of the NWT. Distribution data are lacking for many species, most of which only have a handful of records. There are likely many more hemipteran species yet to be found.

Chris Ratzlaff
Vancouver, BC

List 20. **Hemipterans**

There are 391 species of hemipterans confirmed present in the NWT and at least two more species are expected to be present. Species are listed according to the Phylum, Class and Order they belong to, then alphabetically by suborder, infraorder, superfamily, Family, and scientific species name. Taxonomy based from Foottit et al. (2019). Common names are from various sources.

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Global Conservation Concern[b]
Arthropoda – Insecta – Hemiptera				Arthropods – Insects – Hemipterans
Auchenorrhyncha – Cercopoidea – Cercopidae				True hoppers – Froghoppers – Spittlebugs
Boreal Spittlebug	*Aphrophora gelida*	Undetermined	T	
Prairie Spittlebug	*Philaenarcys bilineata*	Undetermined	T	
Auchenorrhyncha – Cicadoidea – Cicadidae				True hoppers – Cicadoids – Cicadas
Canadian Cicada	*Okanagana canadensis*	Undetermined	T	
Auchenorrhyncha – Fulgoroidea – Achilidae				True hoppers – Planthoppers – Achilid planthoppers
Pale Planthopper	*Cixidia pallida*	Undetermined	T	
Slosson Planthopper	*Cixidia slossonae*	Presence Expected	T	
Auchenorrhyncha – Fulgoroidea – Cixiidae				True hoppers – Planthoppers – Cixiid planthoppers
Meridional Planthopper	*Cixius meridionalis*	Secure	T	
Auchenorrhyncha – Fulgoroidea – Delphacidae				True hoppers – Planthoppers – Delphacid planthoppers
Subarctic Delphacid Planthopper	*Achorotile subarctica*	Undetermined	T	
Baikal Delphacid Planthopper	*Achorotile transbaicalica*	Undetermined	T	
Inconspicuous Planthopper	*Criomorphus inconspicuus*	Undetermined	T	
Two-toned Javeselle	*Javesella discolor*	Undetermined	T	
Obscure Javeselle	*Javesella obscurella*	Undetermined	T	
Tansparent Javeselle	*Javesella pellucida*	Undetermined	T	
Similar Javeselle	*Javesella simillima*	Undetermined	T	
Emeljanov's Planthopper	*Kosswigianella emeljanovi*	Undetermined	T	
Maclean's Planthopper	*Kusnezoviella macleani*	Undetermined	T	
Yellow Planthopper	*Megamelus flavus*	Undetermined	T	
White-keeled Planthopper	*Nothodelphax albocarinata*	Undetermined	T	
Ivory-keeled Planthopper	*Nothodelphax eburneocarinata*	Undetermined	T	
Serrated Planthopper	*Nothodelphax serrata*	Undetermined	T	
Litoral Planthopper	*Paradelphacodes litoralis*	Undetermined	T	
Kilman's Planthopper	*Paraliburnia kilmani*	Undetermined	T	

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Global Conservation Concern[b]
Auchenorrhyncha – Membracoidea – Cicadellidae				True hoppers – Hoppers – Leafhoppers
Obscure Leafhopper	*Amplicephalus nebulosus*	Undetermined	T	
Thin Leafhopper	*Athysanella attenuata*	Undetermined	T	
Maclean's Leafhopper	*Athysanella macleani*	Undetermined	T	
Resusca Leafhopper	*Athysanella resusca*	Undetermined	T	
Beringian Grass Leafhopper	*Athysanella resusca*	Undetermined	T	
Manitou Leafhopper	*Balclutha manitou*	Undetermined	T	
Spotted Leafhopper	*Balclutha punctata*	Undetermined	T	
Bloodred Leafhopper	*Ceratagallia sanguinolenta*	Undetermined	T	
Aviator Leafhopper	*Ceratagallia viator*	Undetermined	T	
Unicolour Leafhopper	*Chlorotettix unicolor*	Undetermined	T	
Intermediate Leafhopper	*Cicadula intermedia*	Undetermined	T	
Dark-bellied Leafhopper	*Cicadula melanogaster*	Undetermined	T	
Ornate Leafhopper	*Cicadula ornata*	Undetermined	T	
Copper Leafhopper	*Cicadula subcupraea*	Undetermined	T	
Yellow-head Leafhopper	*Colladonus flavocapitatus*	Undetermined	T	
Waldan Leafhopper	*Colladonus waldanus*	Undetermined	T	
Young's Leafhopper	*Colladonus youngi*	Secure	T	
Ulade Leafhopper	*Coulinus uladus*	Undetermined	T	
Usne Leafhopper	*Coulinus usnus*	Undetermined	T	
Northern Leafhopper	*Cuerna septentrionalis*	Undetermined	T	
Striped Leafhopper	*Cuerna striata*	Undetermined	T	
Black-bellied Leafhopper	*Deltocephalus nigriventer*	Undetermined	T	
Hungerford's Leafhopper	*Dikraneura hungerfordi*	Undetermined	T	
Short Leafhopper	*Diplocolenus brevior*	Undetermined	T	
Configured Leafhopper	*Diplocolenus configuratus*	Undetermined	T	
Evans' Leafhopper	*Diplocolenus evansi*	Undetermined	T	
Angle-marked Leafhopper	*Draeculacephala angulifera*	Undetermined	T	
Thick-horned Leafhopper	*Draeculacephala crassicornis*	Undetermined	T	
Alcorn's Leafhopper	*Edwardsiana alcorni*	Undetermined	T	
Commissar Leafhopper	*Edwardsiana commissuralis*	Undetermined	T	
Euphrante Leafhopper	*Edwardsiana euphrante*	Undetermined	T	
Long Leafhopper	*Edwardsiana expanda*	Undetermined	T	
Plain Leafhopper	*Elymana inornata*	Undetermined	T	
Gillette's Leafhopper	*Empoa gillettei*	Undetermined	T	
Deluding Leafhopper	*Empoasca deluda*	Undetermined	T	
Black-spotted Leafhopper	*Endria inimicus*	Undetermined	T	
Eyed Leafhopper	*Errastunus ocellaris*	Alien	T	
Ips Leafhopper	*Forcipata ips*	Undetermined	T	
Three-cornered Leafhopper	*Forcipata triquetra*	Undetermined	T	
Cold Leafhopper	*Hebecephalus algidus*	Undetermined	T	

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Global Conservation Concern[b]
Mountain Leafhopper	*Hecalus montanus*	Undetermined	T	
Common Leafhopper	*Helochara communis*	Undetermined	T	
Weeping Leafhopper	*Idiocerus lachrymalis*	Undetermined	T	
Pale Leafhopper	*Idiocerus pallidus*	Undetermined	T	
Product Leafhopper	*Idiocerus productus*	Undetermined	T	
Bristle Leafhopper	*Idiocerus setaceus*	Undetermined	T	
Linned Leafhopper	*Idiocerus striolus*	Undetermined	T	
Veined Leafhopper	*Idiocerus venosus*	Undetermined	T	
Willow Leafhopper	*Idiocerus xanthiops*	Undetermined	T	
Gold Leafhopper	*Idiodonus aurantiacus*	Undetermined	T	
Alder Leafhopper	*Kyboasca atrolabes*	Undetermined	T	
Simple Leafhopper	*Kyboasca simplex*	Undetermined	T	
Lover Leafhopper	*Kybos copula*	Undetermined	T	
Crystal Leafhopper	*Kybos crystola*	Undetermined	T	
Pure Leafhopper	*Kybos pura*	Undetermined	T	
Zaisan Leafhopper	*Kybos zaisanensis*	Undetermined	T	
Intermidiate Leafhopper	*Latalus intermedius*	Undetermined	T	
Yellow-bellied Leafhopper	*Lebradea flavovirens*	Undetermined	T	
Two-spotted Leafhopper	*Lemellus bimaculatus*	Undetermined	T	
Bearberry Leafhopper	*Limotettix arctostaphyli*	Undetermined	T	
Marsh Leafhopper	*Limotettix paludosus*	Undetermined	T	
Sphagnum Leafhopper	*Limotettix sphagneticus*	Undetermined	T	
Base Chevron Leafhopper	*Macropsis basalis*	Undetermined	T	
Boreal Chevron Leafhopper	*Macropsis borealis*	Undetermined	T	
Vine Chevron Leafhopper	*Macropsis vinea*	Undetermined	T	
Alpine Leafhopper	*Macrosteles alpinus*	Undetermined	T	
Boreal Forest Leafhopper	*Macrosteles borealis*	Undetermined	T	
Six-spotted Leafhopper	*Macrosteles fascifrons*	Undetermined	T	
Fieber's Leafhopper	*Macrosteles fieberi*	Undetermined	T	
Similar Leafhopper	*Macrosteles similis*	Undetermined	T	
Brown Leafhopper	*Macrosteles sordidipennis*	Undetermined	T	
Rush Leafhopper	*Macrosteles tesselatus*	Undetermined	T	
Nettle Leafhopper	*Macrosteles urticae*	Undetermined	T	
Sedge Leafhopper	*Notus sitka*	Undetermined	T	
White-collared Birch Leafhopper	*Oncopsis albicollis*	Undetermined	T	
Ringed Birch Leafhopper	*Oncopsis cinctifrons*	Undetermined	T	
Green Alder Leafhopper	*Oncopsis crispae*	Undetermined	T	
Interior Leafhopper	*Oncopsis interior*	Undetermined	T	
Free Leafhopper	*Paraphlepsius apertus*	Undetermined	T	
Bordered Leafhopper	*Psammotettix confinis*	Undetermined	T	
Lapland Leafhopper	*Psammotettix lapponicus*	Undetermined	T	
Lapitex Leafhopper	*Psammotettix latipex*	Undetermined	T	
Grassland Leafhopper	*Psammotettix lividellus*	Undetermined	T	

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Global Conservation Concern[b]
Unca Leafhopper	*Ribautiana unca*	Undetermined	T	
Arctic Grass Leafhopper	*Rosenus transarcticus*	Undetermined	T	
Acute Leafhopper	*Scaphytopius acutus*	Undetermined	T	
Dahkbom's Leafhopper	*Sonronius dahlbomi*	Undetermined	T	
Orange Leafhopper	*Sorhoanus xanthoneurus*	Undetermined	T	
Taiga Leafhopper	*Streptanus marginatus*	Undetermined	T	
Auchenorrhyncha – Membracoidea – Membracidae				True hoppers – Hoppers – Treehoppers
Pyramide Treehopper	*Palonica pyramidata*	Undetermined	T	
Honey Treehopper	*Publilia concava*	Undetermined	T	
Green Treehopper	*Stictocephala basalis*	Undetermined	T	
Short Treehopper	*Xantholobus muticus*	Undetermined	T	
Heteroptera – Aradoidea – Aradidae				True bugs – Aradoids – Flat bugs
Simple Flat Bug	*Aneurus simplex*	Undetermined	T	
Abbas Flat Bug	*Aradus abbas*	Undetermined	T	
Fragile Flat Bug	*Aradus debilis*	Undetermined	T	
Dark Flat Bug	*Aradus lugubris*	Secure	T	
Parshley's Flat Bug	*Aradus parshleyi*	Undetermined	T	
Four-lined Flat Bug	*Aradus quadrilineatus*	Undetermined	T	
Dusky Flat Bug	*Aradus tuberculifer*	Undetermined	T	
Lined Flat Bug	*Aradus uniannulatus*	Undetermined	T	
Heteroptera – Cimicoidea – Anthocoridae				True bugs – Cimicoids – Minute pirate bugs
Unwelcoming Pirate Bug	*Anthocoris antevolens*	Undetermined	T	
Two-shaped Pirate Bug	*Anthocoris dimorphicus*	Undetermined	T	
Manteled Pirate Bug	*Anthocoris musculus*	Secure	T	
Hairy Pirate Bug	*Anthocoris tomentosus*	Secure	T	
Northern Pirate Bug	*Orius diespeter*	Undetermined	T	
Three-coloured Pirate Bug	*Orius tristicolor*	Undetermined	T	
Pale Minute Pirate Bug	*Scoloposcelis flavicornis*	Undetermined	T	
Heteroptera – Cimicoidea – Nabidae				True bugs – Cimicoids – Damsel bugs
Common Damsel Bug	*Nabis americoferus*	Secure	T	
American Damsel Bug	*Nabis americolimbatus*	Secure	T	
Broad Damsel Bug	*Nabis flavomarginatus*	Undetermined	T	
Tatooed Damsel Bug	*Nabis inscriptus*	Undetermined	T	
Black-banded Damsel Bug	*Nabis nigrovittatus*	Undetermined	T	
Brown Damsel Bug	*Pagasa fusca*	Undetermined	T	
Black Damsel Bug	*Pagasa nigripes*	Undetermined	T	
Heteroptera – Coreoidea – Alydidae				True bugs – Coreoids – Broad-headed bugs
Eastwind Broad-headed Bug	*Alydus eurinus*	Undetermined	T	
Heteroptera – Coreoidea – Coreidae				True bugs – Coreoids – Leaf-footed bugs
Small Leaf-footed Bug	*Coriomeris humilis*	Undetermined	T	
Heteroptera – Coreoidea – Rhopalidae				True bugs – Coreoids – Scentless plant bugs
Scentless Plant Bug	*Stictopleurus punctiventris*	Secure	T	

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Global Conservation Concern[b]
Heteroptera – Corixoidea – Corixidae				True bugs – Corixoids – Water boatmen
Still Water Boatman	*Arctocorisa chanceae*	Undetermined	A	
Shore Water Boatman	*Arctocorisa convexa*	Undetermined	A	
Salt Water Boatman	*Arctocorisa planifrons*	Undetermined	A	
Merging Water Boatman	*Arctocorisa sutilis*	Undetermined	A	
California Water Boatman	*Callicorixa alaskensis*	Secure	A	
Auden's Water Boatman	*Callicorixa audeni*	Secure	A	
Product Water Boatman	*Callicorixa producta*	Undetermined	A	
Dakota Water Boatman	*Cenocorixa dakotensis*	Undetermined	A	
American Water Boatman	*Cymatia americana*	Undetermined	A	
Johansen's Water Boatman	*Dasycorixa johanseni*	Undetermined	A	
Rawson's Water Boatman	*Dasycorixa rawsoni*	Undetermined	A	
Kindred Water Boatman	*Glaenocorisa propinqua*	Undetermined	A	
Brown Water Boatmand	*Hesperocorixa atopodonta*	Undetermined	A	
Minorelle Water Boatman	*Hesperocorixa minorella*	Undetermined	A	
Head Water Boatmand	*Sigara conocephala*	Undetermined	A	
Decorated Water Boatman	*Sigara decoratella*	Undetermined	A	
Northern Water Boatman	*Sigara fallenoidea*	Undetermined	A	
Lined Water Boatman	*Sigara lineata*	Undetermined	A	
Yellow Water Boatman	*Sigara penniensis*	Undetermined	A	
Striped Water Boatman	*Sigara trilineata*	Secure	A	
Boreal Water Boatman	*Trichocorixa borealis*	Undetermined	A	
Heteroptera – Gerroidea – Gerridae				True bugs – Water striders – Gerrid water striders
Blue-winged Water Strider	*Gerris buenoi*	Undetermined	sA	
Pingreen Water Strider	*Gerris pingreensis*	Undetermined	sA	
Kayak Pond Skater	*Limnoporus dissortis*	Undetermined	sA	
Red Pond Skater	*Limnoporus rufoscutellatus*	Undetermined	sA	



Lined Shield Bug Nymph Photo Credit: J. Stewart



Red-cross Shield Bug Photo Credit: S. Carrière

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Global Conservation Concern[b]
Heteroptera – Gerroidea – Veliidae				True bugs – Water striders – Veliid water striders
Bueno's Small Water Strider	*Microvelia buenoi*	Undetermined	sA	
Heteroptera – Hebroidea – Hebridae				True bugs – Hebroids – Water bugs
Velvet Water Bug	*Merragata hebroides*	Undetermined	sA	
Heteroptera – Lygaeoidea – Cymidae				True bugs – Seed bugs – Cymid bugs
Lurid Cymid Bug	*Cymus luridus*	Undetermined	T	
Heteroptera – Lygaeoidea – Geocoridae				True bugs – Seed bugs – Big-eyed bugs
Large Big-eyed Bug	*Geocoris bullatus*	Secure	T	
Howard's Big-eyed Bug	*Geocoris howardi*	Undetermined	T	
Heteroptera – Lygaeoidea – Lygaeidae				True bugs – Seed bugs – Lygaeid seed bugs
Birch Catkin Bug	*Kleidocerys resedae*	Undetermined	T	
Wood Seed Bug	*Neortholomus scolopax*	Undetermined	T	
False Chinch Bug	*Nysius angustatus*	Undetermined	T	
Black Seed Bug	*Nysius niger*	Undetermined	T	
Heteroptera – Lygaeoidea – Oxycarenidae				True bugs – Seed bugs – Oxycarenid seed bugs
Brown Seed Bug	*Crophius disconotus*	Undetermined	T	
Heteroptera – Lygaeoidea – Rhyparochromidae				True bugs – Seed bugs – Dirt-coloured seed bugs
Umbrose Seed Bug	*Atrazonotus umbrosus*	Undetermined	T	
Sand Bug	*Emblethis vicarius*	Undetermined	T	
Diffused Dirt-coloured Seed Bug	*Ligyrocoris diffusus*	Undetermined	T	
Forest Dirt-coloured Seed Bug	*Ligyrocoris sylvestris*	Undetermined	T	
Convivial Dirt-coloured Seed Bug	*Peritrechus convivus*	Secure	T	
Thomson's Dirt-coloured Seed Bug	*Scolopostethus thomsoni*	Undetermined	T	
Unmarked Dirt-coloured Seed Bug	*Slaterobius insignis*	Undetermined	T	
Dark Dirt-coloured Seed Bug	*Sphragisticus nebulosus*	Undetermined	T	
Dune Dirt-coloured Bug	*Trapezonotus arenarius*	Undetermined	T	
Heteroptera – Mesovelioidea – Mesoveliidae				True bugs – Mesovelioids – Water Treader
White Water Treader	*Mesovelia mulsanti*	Undetermined	sA	
Heteroptera – Miroidea – Miridae				True bugs – Miroids – Plant bugs
Marked Plant Bug	*Actitocoris signatus*	Undetermined	T	
Orange Plant Bug	*Agnocoris rubicundus*	Secure	T	
Brome Plant Bug	*Capsus cinctus*	Undetermined	T	
Kelton's Northern Plant Bug	*Chlamydatus keltoni*	Secure	T	
Golden-legged Plant Bug	*Chlamydatus pulicarius*	Secure	T	
Wilkinson's Hardy Plant Bug	*Chlamydatus wilkinsoni*	Undetermined	T	
Goldylocks Plant Bug	*Closterotomus fulvomaculatus*	Undetermined	T	
Dwarf Plant Bug	*Compsidolon pumilum*	Undetermined	T	
American Plant Bug	*Conostethus americanus*	Undetermined	T	
Green-winged Plant Bug	*Cyrtorhinus caricis*	Secure	T	
Pear-mite Hunter Bug	*Deraeocoris brevis*	Undetermined	T	
Kennicott's Hunter Bug	*Deraeocoris kennicotti*	Undetermined	T	
Spotted Hunter Bug	*Deraeocoris punctulatus*	Undetermined	T	
Western Artemisia Plant Bug	*Europiella artemisiae*	Secure	T	
Coloured Plant Bug	*Europiella decolor*	Secure	T	

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Global Conservation Concern[b]
Artemisia Plant Bug	*Labopidea artemisiae*	Undetermined	T	
Berman's Plant Bug	*Labopidea bermani*	Secure	T	
Two-toned Plant Bug	*Labopidea discolor*	Undetermined	T	
Burmeister's Plant Bug	*Labops burmeisteri*	Secure	T	
Tundra Grass Bug	*Labops chelifer*	Secure	T	
Black Grass Bug	*Labops hesperius*	Undetermined	T	
Hairy Grass Bug	*Labops hirtus*	Undetermined	T	
Proper Grass Bug	*Labops verae*	Secure	T	
Amiable Grass Bug	*Leptopterna amoena*	Secure	T	
Orange Grass Bug	*Leptopterna ferrugata*	Undetermined	T	
Lame Grass Bug	*Litomiris debilis*	Secure	T	
Caragana Plant Bug	*Lopidea dakota*	Secure	T	
Annex Plant Bug	*Lygidea annexa*	Secure	T	
Red-neck Plant Bug	*Lygocoris rugicollis*	Undetermined	T	
Boreal Plant Bug	*Lygus borealis*	Undetermined	T	
Pale Legume Bug	*Lygus elisus*	Undetermined	T	
Tarnished Plant Bug	*Lygus lineolaris*	Undetermined	T	
Lupin's Plant Bug	*Lygus lupini*	Undetermined	T	
Potentilla Plant Bug	*Lygus potentillae*	Undetermined	T	
Pitted Plant Bug	*Lygus punctatus*	Undetermined	T	
Signed Plant Bug	*Lygus rubrosignatus*	Undetermined	T	
Red-backed Plant Bug	*Lygus rufidorsus*	Undetermined	T	
European Tarnished Plant Bug	*Lygus rugulipennis*	Undetermined	T	
Shull's Plant Bug	*Lygus shulli*	Undetermined	T	
Unctuous Plant Bug	*Lygus unctuosus*	Undetermined	T	
Large Plant Bug	*Mecomma angustatum*	Undetermined	T	
Yellow-legged Plant Bug	*Mecomma gilvipes*	Undetermined	T	
Yellow Plant Bug	*Melanotrichus flavosparsus*	Alien	T	
Cross Plant Bug	*Mimoceps insignis*	Undetermined	T	
Bohemann's Plant Bug	*Monosynamma bohemanni*	Undetermined	T	
Pear Plant Bug	*Neolygus communis*	Undetermined	T	
Oblique Plant Bug	*Orectoderus obliquus*	Secure	T	
Alder Plant Bug	*Orthotylus alni*	Undetermined	T	
Katmai Plant Bug	*Orthotylus katmai*	Secure	T	
Lurid Plant Bug	*Pappus luridus*	Undetermined	T	
Approximate Plant Bug	*Pinalitus approximatus*	Undetermined	T	
White-sided Plant Bug	*Plagiognathus alboradialis*	Secure	T	
Brown Plant Bug	*Plagiognathus brunneus*	Secure	T	
Lined Plant Bug	*Plagiognathus lineatus*	Undetermined	T	
Parshley's Plant Bug	*Plagiognathus parshleyi*	Undetermined	T	
Bounded Plant Bug	*Polymerus unifasciatus*	Secure	T	
Vulnerable Plant Bug	*Polymerus vulneratus*	Secure	T	
Red-arrow Prepops Bug	*Prepops bivittis*	Undetermined	T	

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Global Conservation Concern[b]
Boreal Prepops Bug	*Prepops borealis*	Undetermined	T	
Black-winged Prepops Bug	*Prepops nigripilus*	Undetermined	T	
Birch Plant Bug	*Psallus betuleti*	Secure	T	
Fallen's Plant Bug	*Psallus falleni*	Undetermined	T	
Lapland Plant Bug	*Psallus lapponicus*	Undetermined	T	
Western Plant Bug	*Pseudopsallus occidentalis*	Undetermined	T	
Tahoe Plant Bug	*Salignus tahoensis*	Secure	T	
Shaggy Steno Bug	*Stenodema pilosipes*	Undetermined	T	
Spiny Steno Bug	*Stenodema trispinosa*	Undetermined	T	
Taiga Plant Bug	*Teratocoris borealis*	Presence Expected	T	
Green Grass Bug	*Teratocoris caricis*	Secure	T	
Marsh Grass Bug	*Teratocoris paludum*	Undetermined	T	
Saunder's Grass Bug	*Teratocoris saundersi*	Secure	T	
True Grass Bug	*Teratocoris viridis*	Undetermined	T	
Bristly Trigonotyle Bug	*Trigonotylus setosus*	Secure	T	
True Trigonotyle Bug	*Trigonotylus viridis*	Secure	T	
Pale Tupiocore Bug	*Tupiocoris similis*	Undetermined	T	
Heteroptera – Notonectoidea – Notonectidae			True bugs – Backswimmers – Backswimmers	
Boreal Backswimmer	*Notonecta borealis*	Secure	A	
Kirby's Backswimmer	*Notonecta kirbyi*	Undetermined	A	
Grousewinged Backswimmer	*Notonecta undulata*	Undetermined	A	
Heteroptera – Nepoidea – Belostomatidae			True bugs – Nepoids – Giant water bugs	
American Giant Water Bug	*Lethocerus americanus*	Undetermined	A	
Heteroptera – Pentatomoidea – Acanthosomatidae			True bugs – Pentatomoids – Shield bugs	
Red-cross Shield Bug	*Elasmostethus cruciatus*	Secure	T	
Birch Shield Bug	*Elasmostethus interstinctus*	Secure	T	
Lined Shield Bug	*Elasmucha lateralis*	Secure	T	
Heteroptera – Pentatomoidea – Cydnidae			True bugs – Pentatomoids – Burrower bugs	
White-margined Burrower Bug	*Sehirus cinctus*	Undetermined	T	
Heteroptera – Pentatomoidea – Pentatomidae			True bugs – Pentatomoids – Stink bugs	
American Stink Bug	*Aelia americana*	Undetermined	T	
Twig Stink Bug	*Chlorochroa granulosa*	Secure	T	
Conchuela Stink Bug	*Chlorochroa ligata*	Secure	T	
Variable Stink Bug	*Codophila remota*	Secure	T	
Twice-stabbed Stink Bug	*Cosmopepla lintneriana*	Secure	T	
Macdonald's Spruce Stink Bug	*Holcostethus macdonaldi*	Undetermined	T	
Three-lined Stink Bug	*Neottiglossa trilineata*	Undetermined	T	
Olive Stink Bug	*Neottiglossa undata*	Undetermined	T	
Marked Hunter Stink Bug	*Podisus serieventris*	Undetermined	T	
American Hunter Stink Bug	*Rhacognathus americanus*	Undetermined	T	
Smal-eyed Shield Bug	*Sciocoris microphthalmus*	Undetermined	T	

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Global Conservation Concern[b]
Heteroptera – Pentatomoidea – Scutelleridae				True bugs – Pentatomoids – Shield-backed bugs
Alternate Shield-backed Bug	*Eurygaster alternata*	Undetermined	T	
Amerind Shield-backed Bug	*Eurygaster amerinda*	Undetermined	T	
Aeneid Shield-backed Bug	*Homaemus aeneifrons*	Undetermined	T	
Heteroptera – Reduvoidea – Reduviidae				True bugs – Reduvoids – Assassin bugs
Goldenrod Assassin Bug	*Sinea diadema*	Undetermined	T	
Heteroptera – Saldoidea – Saldidae				True bugs – Saldoids – Shore bugs
Trybom's Shore Bug	*Calacanthia trybomi*	Undetermined	sA	
Arctic Shore Bug	*Chiloxanthus arcticus*	Undetermined	sA	
Cold Shore Bug	*Chiloxanthus stellatus*	Secure	sA	
Bergroth's Shore Bug	*Micracanthia bergrothi*	Undetermined	sA	
Open Shore Bug	*Micracanthia humilis*	Secure	sA	
Sandy Shore Bug	*Salda anthracina*	Undetermined	sA	
Lake Shore Bug	*Salda littoralis*	Undetermined	sA	
Dark Shore Bug	*Salda lugubris*	Undetermined	sA	
Provencher's Shore Bug	*Salda coriacea*	Undetermined	sA	
Obscure Shore Bug	*Salda obscura*	Undetermined	sA	
Black Shore Bug	*Saldula nigrita*	Undetermined	sA	
Marshy Shore Bug	*Saldula opacula*	Secure	sA	
Mossy Shore Bug	*Saldula opiparia*	Undetermined	sA	
Muddy Shore Bug	*Saldula pallipes*	Secure	sA	
Duffy Shore Bug	*Saldula saltatoria*	Secure	sA	
Log Shore Bug	*Teloleuca pellucens*	Secure	sA	
Heteroptera – Tingoidea – Tingidae				True bugs – Tingoids – Lace bugs
Elegant Lace Bug	*Acalypta elegans*	Undetermined	T	
Lillian Lace Bug	*Acalypta lillianis*	Undetermined	T	
Willow-and-poplar Lace Bug	*Corythucha salicata*	Undetermined	T	
Sternorrhyncha – Adelgoidea – Adelgidae				Plant-parasitic hemipterans – Adelgoids – Adelgids
Pale Spruce Gall Adelgid	*Adelges laricis*	Alien	T	
Pine Gall Adelgid	*Pineus abietinus*	Undetermined	T	
Sternorrhyncha – Aphidoidea – Aphididae				Plant-parasitic hemipterans – Aphidoids – Aphids
Assiniboine Plant Lice	*Acyrthosiphon assiniboinensis*	Undetermined	T	
Churchill Plant Lice	*Acyrthosiphon churchillense*	Undetermined	T	
Large Rasberry Aphid	*Amphorophora agathonica*	Undetermined	T	
Willowherb Aphid	*Aphis epilobii*	Alien	T	
Sallow Aphid	*Aphis farinosa*	Undetermined	T	
Mourning Aphid	*Aphis lugentis*	Undetermined	T	
Marked Aphid	*Aphis maculatae*	Undetermined	T	
Mason's Aphid	*Aphis masoni*	Secure	T	
Buckthorn Aphid	*Aphis nasturtii*	Alien	T	
Snow Aphid	*Aphis nivalis*	Undetermined	T	
Dock Aphid	*Aphis rumicis*	Alien	T	
Dogwood Aphid	*Aphis salicariae*	Secure	T	
Variable Aphid	*Aphis varians*	Secure	T	

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Global Conservation Concern[b]
Glasshouse Potato Aphid	*Aulacorthum solani*	Alien	T	
Arctic Downy Birch Aphid	*Betulaphis pelei*	Undetermined	T	
Small Downy Birch Aphid	*Betulaphis quadrituberculata*	Alien	T	
Green Alder Aphid	*Boernerina alni*	Undetermined	T	
Western Aphid	*Boernerina occidentalis*	Undetermined	T	
Western Variable Aphid	*Boernerina variabilis*	Undetermined	T	
Knotweed Aphid	*Brachycaudus rumexicolens*	Undetermined	T	
Common Oleaster Aphid	*Capitophorus elaeagni*	Alien	T	
Hudson Oleaster Aphid	*Capitophorus hudsonicus*	Undetermined	T	
Carrot Willow Aphid	*Cavariella aegopodii*	Alien	T	
Aquatic Willow Aphid	*Cavariella aquatica*	Undetermined	T	
Spotted Willow Aphid	*Cavariella konoi*	Undetermined	T	
Snowball Aphid	*Ceruraphis viburnicola*	Undetermined	T	
Strawberry Aphid	*Chaetosiphon fragaefolii*	Undetermined	T	
Horr's Leaf Aphid	*Chaitophorus horii*	Undetermined	T	
Poplar Leaf Aphid	*Chaitophorus populicola*	Undetermined	T	
American Poplar Leaf Aphid	*Chaitophorus populifolii*	Undetermined	T	
Willow Leaf Aphid	*Chaitophorus pusillus*	Undetermined	T	
Bragg's Conifer Aphid	*Cinara braggii*	Undetermined	T	
Green Spruce Aphid	*Cinara fornacula*	Undetermined	T	
Hottes' Conifer Aphid	*Cinara hottesi*	Undetermined	T	
Black Larch Aphid	*Cinara laricifex*	Undetermined	T	
Pergande's Conifer Aphid	*Cinara pergandei*	Undetermined	T	
Wax-bordered Spruce Aphid	*Cinara pruinosa*	Undetermined	T	
Lance Spruce Aphid	*Cinara spiculosa*	Undetermined	T	
Blueberry Aphid	*Ericaphis fimbriata*	Undetermined	T	
Boreal Needle Aphid	*Essigella alyeska*	Undetermined	T	
Pine Needle Aphid	*Essigella knowltoni*	Undetermined	T	
Silver Birch Aphid	*Euceraphis betulae*	Alien	T	
Boreal Birch Aphid	*Euceraphis borealis*	Undetermined	T	
Gillette's Birch Aphid	*Euceraphis gillettei*	Undetermined	T	
White Birch Aphid	*Euceraphis papyrifericola*	Secure	T	
Bragg's Plantlice	*Fullawaya braggii*	Undetermined	T	
Atriplex Aphid	*Hayhurstia atriplicis*	Alien	T	
Nabal's Aphid	*Hyperomyzus nabali*	Undetermined	T	
Alder Aphid	*Illinoia alni*	Undetermined	T	
Rhododendron Aphid	*Illinoia azaleae*	Undetermined	T	
Myrica Aphid	*Illinoia canadensis*	Undetermined	T	
Gold Mary Aphid	*Illinoia goldmaryae*	Undetermined	T	
Labrador Tea Aphid	*Illinoia paqueti*	Undetermined	T	
Sedge Aphid	*Iziphya flabella*	Undetermined	T	
Pennsylvania Aphid	*Macrosiphoniella pennsylvanica*	Undetermined	T	
Lupin Aphid	*Macrosiphum albifrons*	Undetermined	T	
California Willow Aphid	*Macrosiphum californicum*	Undetermined	T	

Common Name	Scientific Species Name	Rank	Habitat Note[a]	Global Conservation Concern[b]
Rose Aphid	*Macrosiphum euphorbiae*	Undetermined	T	
Valerian Aphid	*Macrosiphum valerianae*	Undetermined	T	
Woodsia Fern Aphid	*Macrosiphum woodsiae*	Undetermined	T	
Lesser Rose Aphid	*Myzaphis rosarum*	Alien	T	
Paintbrush Aphid	*Nasonovia castelleiae*	Undetermined	T	
Currant Aphid	*Nasonovia cynosbati*	Undetermined	T	
Sugarbeet Root Aphid	*Pemphigus betae*	Undetermined	T	
Poplar Bullet Gall Aphid	*Pemphigus populiglobuli*	Undetermined	T	
Yarrow Aphid	*Pleotrichophorus pseudopatonkus*	Undetermined	T	
Large Waxy Willow Aphid	*Plocamaphis flocculosa*	Undetermined	T	
Arctic Root Willow Aphid	*Plocamaphis martini*	Undetermined	T	
Rose Wax Aphid	*Pseudocercidis rosae*	Undetermined	T	
Red-brown Poplar Bark Aphid	*Pterocomma bicolor*	Secure	T	
Black Willow Bark Aphid	*Pterocomma salicis*	Alien	T	
Smith Black Willow Aphid	*Pterocomma smithiae*	Undetermined	T	
Beet Aphid	*Rhopalosiphoninus staphyleae*	Alien	T	
Cornleaf Aphid	*Rhopalosiphum maidis*	Alien	T	
Wheat Aphid	*Schizaphis graminum*	Alien	T	
English Grain Aphid	*Sitobion avenae*	Alien	T	
Manitoba Plantlice	*Sitobion manitobense*	Undetermined	T	
Poplar-buttercup Gall Aphid	*Thecabius affinis*	Undetermined	T	
Poplar Gall Aphid	*Thecabius populimonilis*	Undetermined	T	
Cyperaceae Aphid	*Thripsaphis cyperi*	Undetermined	T	
Northern Cinquefoil Aphid	*Uroleucon boreale*	Undetermined	T	
Sternorrhyncha – Coccoidea – Ortheziidae			Plant-parasitic hemipterans – Scale insects – Ensign scales	
Arctic Moss Ensign Scale	*Arctorthezia cataphracta*	Undetermined	T	
Sternorrhyncha – Psylloidea – Psyllidae			Plant-parasitic hemipterans – Psyllids – Jumping plant lice	
Dusky Psyllid	*Craspedolepta nebulosa*	Undetermined	T	
Orange Jumping Plantlice	*Livia caricis*	Undetermined	T	
Margined Jumping Plantlice	*Livia saltatrix*	Undetermined	T	
Sternorrhyncha – Psylloidea – Triozidae			Plant-parasitic hemipterans – Psyllids – Jumping leaf-lice	
Undecided Jumping Leaf-lice	*Bactericera incerta*	Undetermined	T	
Willow Jumping Leaf-lice	*Bactericera salicivora*	Undetermined	T	
Shepherdia Jumping Leaf-lice	*Bactericera shepherdiae*	Undetermined	T	

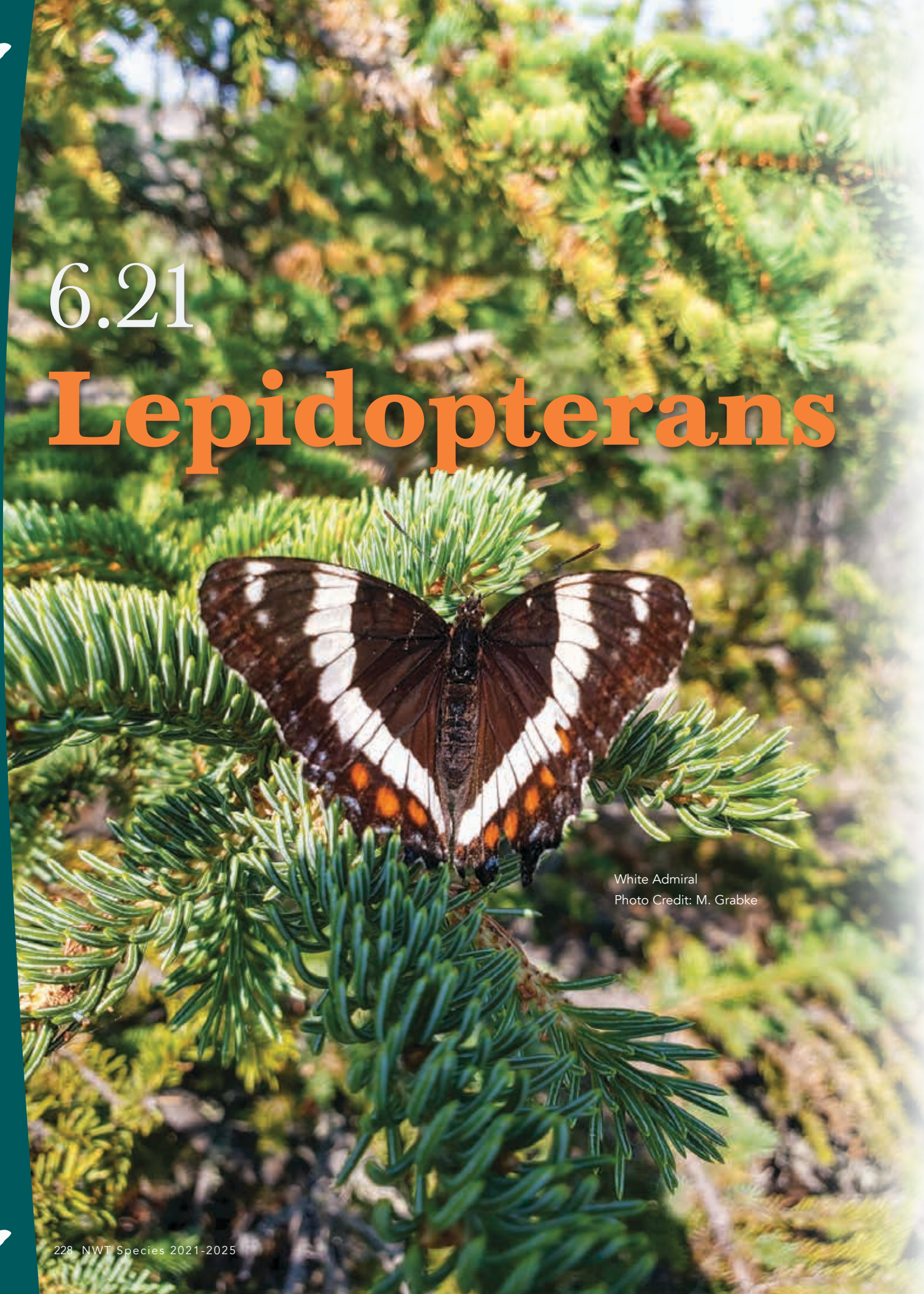
[a] Habitat Note: **T** = Species are terrestrial. **A** = Species are aquatic, **sA** = Species lives on shores of water bodies.

[b] Global Conservation Concern: Rank of a species in the world as designated by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org. As of 2021, no species known to be present in the NWT are of global conservation concern.



Leafhopper Idiocerus
Photo Credit: Curlze, iNaturalist.ca

6.21 Lepidopterans



White Admiral
Photo Credit: M. Grabke

Moths and butterflies together form the Order Lepidoptera (the "scale-winged" insects).

Lepidoptera are one of the five largest insect orders, with an estimated 300,000 to 400,000 species worldwide (about 160,000 have been discovered and named so far).

Butterflies

The NWT is rich in butterflies. The list below includes all butterfly species currently known to be present in the NWT. There are likely more species awaiting discovery either as entirely new species or as new territorial records for species with ranges that just touch the borders of neighbouring provinces and territories.

Butterflies are the most widely recognized and charismatic group of insects. Most insects evoke feelings of fear, disgust or ambivalence, but the butterflies are universally revered for their beauty and docile nature. They are synonymous with flowers and warm, sunny days. Few animals, plants, jewels or human creations can match the magnificent array of colours and patterns they possess. Their beauty and diversity has attracted the attentions of people on a scale far beyond that of most other plants or animals.

Butterfly eggs are laid on or near a preferred host plant. Upon hatching, the young caterpillars immediately begin feeding on the leaves and flowers. After shedding their exoskeletons five times and reaching maximum size, the caterpillars seek a safe place to pupate (form a chrysalis) and transform until they are ready to emerge as the winged adult. The adults lack the chewing mouthparts of the voracious caterpillar. Instead adults possess a long "tongue" suitable for drinking nectar from all but the deepest flowers. They also use this tongue to imbibe fluids from less appetizing sources such as mud, rotting fruit, dung and even carcasses. In fact these sources are often the best places to find mixed flocks of butterflies and lepidopterists employ mixtures of rotting fruit, beer and urine as attractants.

Habitat destruction and degradation are the usual causes of butterfly declines and losses in the world. Direct modification of habitats by humans is unlikely to have a major influence on NWT species; however, the indirect effects of our activities like pollution and climate change may be significant. Butterflies are one of the best groups of animals to use as indicators of change because they are relatively easy to identify, their life histories and distributions are well known, and they often feed on specific plants, can multiply quickly and are highly mobile as adults.

Moths

Moths make up about 95% of the Lepidoptera globally. All species of moths recorded from the NWT are included in the list below. Unlike butterflies, relatively few moths can be easily identified in the field or from a photograph. Instead most require a concerted effort to collect then careful preparation and identification by a skilled taxonomist.

Often vilified and commonly characterized as the drab and uninteresting cousins of butterflies, the moths are anything but. What moths lack in bright and vibrant colours is easily made up for by the incredible variety of textures, shapes, patterns, subtle earth tones and hairs they employ to blend into their surroundings.

Adult moths rely on a variety of strategies to survive in the various regions of the NWT. A few species, especially those further north in the Arctic, are diurnal so they are either brightly coloured to advertise toxins sequestered within them or cryptically coloured so they can camouflage themselves amongst the low growing vegetation or rocky terrain. Other species flash eye spots or bright hind wings when disturbed to startle or confuse potential predators long enough to escape.

Those in the High Arctic are reliant on the sun to stay warm thus are darkly scaled and covered in pubescence (hair), especially near their thoraxes and abdomens, to absorb the precious solar heat so they can manoeuver to feed and find mates. For those species in the southern NWT that are nocturnal, the effectiveness of colours as a warning or for attracting mates is not important. For these night fliers attracting mates is accomplished using pheromones and for this they have very sensitive chemical sensors on their antennae to locate mates in the dark and at great distances. Flying at night also requires adaptations to function in cool temperatures. Effective camouflage allows moths to rest safely in exposed positions like tree trunks to absorb heat during the day and the abundant hairs on the body create an insulating layer to hold this warmth into the night.

Like butterflies, moths lay eggs on or near suitable host plants upon which the young caterpillars will feed and grow. Birds and many species of insects seek out caterpillars to eat or to act as hosts for their young. Caterpillars employ camouflage, toxic and distasteful chemicals, hairs, bristles, eye spots and various behaviours to avoid this vast array of enemies.

After a series of moults the larva enters the pupal stage, often wrapping itself within a silk cocoon. Although often thought of as dormant because it doesn't eat or move, the pupa is very actively rearranging its tissues into a magnificent, winged marvel. Once free of the pupal skin the adult moth must pump up its folded wings before they harden. If all goes well the moth will go off in search of mates and host plants on which to start the process again.

In Arctic regions of the NWT with short growing seasons, the development of a moth from egg to adult often requires several years. For instance, the Arctic moth (*Gynaephora groenlandica*) can take up to 10 or more years in the High Arctic to develop from egg to adult.

The additional challenge of short nights in the North means that many species that are nocturnal elsewhere, have to adapt to being active in the daytime here.

Currently our knowledge of the NWT moths has focused on larger species (also referred to as 'macromoths') but our knowledge of the elusive micro-moths is growing.

In the present report, the groups above were re-examined and now all families of moths are included. Many species are at their northern limit in the southern NWT. Some northern species have specialized habitat or host plant requirements and could be at risk from climate change. Only with more studies on both moths and their host plants can we better rank their biological status in the NWT.

Moths are less showy and more difficult to identify than butterflies but they are nonetheless worthy of our attention. Once located, either by careful observation or at lights, moths are usually easy to approach and make excellent subjects for macro photography. They are also good candidates for teaching insect development and metamorphosis. Caterpillars can be reared on the plant species they are found on and with time will pupate and emerge as adult moths.

David C.A. Blades
Royal BC Museum
Victoria, BC

Greg Pohl
Natural Resources Canada
Edmonton, AB

Doug Macaulay
Government of Alberta
Edmonton, AB



Impressed Dagger
Photo Credit: GNWT

List 21. **Lepidoptera**

There are 93 species of butterflies confirmed present in the NWT, three additional species are vagrant and have been observed irregularly, sometimes only once, and one more species is expected to be present, and there are 582 species of moths confirmed present in the NWT, and two more species are expected to be present. Species are listed according to the Phylum, Class and Order they belong to, then alphabetically by Superfamily, Family, subfamily (for some selected species), and scientific species name. Taxonomy follows Pohl et al. (2016). Common names are from various sources.



Green Comma Photo Credit: S. Carrière

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Arthropoda – Insecta – Lepidoptera				Arthropods – Insects – Scale-winged insects
Adeloidea – Adelidae				Adeloid micro-moths – Adele moths
Belle Adele Moth	*Nemophora bellela*	Undetermined		
Adeloidea – Prodoxidae				Adeloid micro-moths – Prodoxid moth
Northern Prodoxid Moth	*Greya variabilis*	Undetermined		
Alucitoidea – Alucitidae				Alucitoid micro-moths – Lace moths
Adrien-Denis Lace Moth	*Alucita adriendenisi*	Undetermined		
Bombycoidea – Saturniidae				Horned macro-moths – Silkmoths
Luna Moth	*Actias luna*	Undetermined		
Polyphemus Moth	*Antheraea polyphemus*	Undetermined		
Glover's Silkmoth	*Hyalophora gloveri*	Undetermined		
Bombycoidea – Sphingidae				Horned macro-moths – Sphinx moths
Snowberry Clearwing Moth	*Hemaris diffinis*	Undetermined		
Hummingbird Clearwing Moth	*Hemaris thysbe*	Secure	ⓘ[5]	
Bedstraw Hawk Moth	*Hyles gallii*	Secure	ⓘ[5]	
Yellow-banded Sphinx Moth	*Proserpinus flavofasciata*	Undetermined		
Modest Sphinx Moth	*Pachysphinx modesta*	Undetermined		
One-eyed Sphinx	*Smerinthus cerisyi*	Undetermined		
Twin-spotted Sphinx	*Smerinthus jamaicensis*	Presence Expected		
Birch Sphinx Moth	*Sphinx luscitiosa*	Undetermined		
Northern Apple Sphinx	*Sphinx poecila*	Undetermined		
Choreutoidea – Choreutidae				Choreutoid micro-moths – Choreutid moths
Diana Choreutis Moth	*Choreutis diana*	Undetermined		
Drepanoidea – Drepanidae				Hooked macro-moths – Hooktip moths
Arched Hooktip Moth	*Drepana arcuata*	Undetermined		
Rose Hooktip Moth	*Oreta rosea*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Epermenioidea – Epermeniidae				Epermenioid micro-moths – Fringed moths
White-dotted Fringed Moth	*Epermenia albapunctella*	Undetermined		
Gelechioidea – Blastobasidae				Gelechioid micro-moths – Scavenger moths
Immaculate Scavenger Moth	*Holcocera immaculella*	Undetermined		
Murtfeld Scavenger Moth	*Pigritia murtfeldtella*	Undetermined		
Gelechioidea – Coleophoridae				Gelechioid micro-moths – Casebearer moths
Common Rush Casebearer	*Coleophora alticolella*	Undetermined		
Cherry Casebearer	*Coleophora pruniella*	Undetermined		
Sparse Casebearer	*Coleophora sparsiatomella*	Undetermined		
Large Clover Casebearer	*Coleophora trifolii*	Alien		
Gelechioidea – Depressariidae				Gelechioid micro-moths – Depressed moths
Yellow Shoulder Moth	*Agonopterix flavicomella*	Undetermined		
Purple Shoulder Moth	*Agonopterix gelidella*	Undetermined		
Stranger Flatbody Moth	*Depressaria alienella*	Undetermined		
Aspen Flatbody Moth	*Exaeretia ciniflonella*	Undetermined		
Hilda Flatbody Moth	*Exaeretia hildaella*	Undetermined		
Dull Flatbody Moth	*Semioscopis inornata*	Undetermined		
Gelechioidea – Elachistidae				Gelechioid micro-moths – Dwarf moths
Marsh Dwarf Moth	*Elachista alpinella*	Undetermined		
Small Bog Dwarf Moth	*Elachista eleochariella*	Undetermined		
Broken-barred Dwarf Moth	*Elachista freyerella*	Undetermined		
Burn Dwarf Moth	*Elachista pyrrha*	Undetermined		
Gelechioidea – Gelechiidae				Gelechioid micro-moths – Leafroller moths
Western Strawberry Leafroller	*Anacampsis fragariella*	Undetermined		
Pale-headed Aspen Leafroller	*Anacampsis niveopulvella*	Undetermined		
Boreal Twirler Moth	*Bryotropha boreella*	Undetermined		
Spring Oak Leafroller	*Chionodes continuella*	Undetermined		
Lightsaber Chionodes	*Chionodes ensis*	Undetermined		
Maker Chionodes	*Chionodes fictor*	Undetermined		
Dung Chionodes	*Chionodes fimus*	Undetermined		
Iridescent Chionodes	*Chionodes iridescens*	Undetermined		
Dark Chionodes	*Chionodes lugubrella*	Undetermined		
Occlused Chionodes	*Chionodes occlusa*	Undetermined		
Splendid Chionodes	*Chionodes praeclarella*	Undetermined		
Sattler's Chionodes	*Chionodes sattleri*	Undetermined		
Widowed Chionodes	*Chionodes viduella*	Undetermined		
Striped Spruce Needle-miner	*Coleotechnites atrupictella*	Undetermined		
Marked Pine Needle-miner	*Coleotechnites florae*	Undetermined		
Orange Spruce Needleminer	*Coleotechnites piceaella*	Undetermined		
Rustler Filatima Moth	*Filatima abactella*	Undetermined		
Lynx Twirler Moth	*Gelechia lynceella*	Undetermined		
Willow Twirler Moth	*Gnorimoschema vastificum*	Undetermined		
Prefix Twirler Moth	*Neotelphusa praefixa*	Secure		
Long-horned Groundling Moth	*Prolita sexpunctella*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Goosefoot Groundling Moth	*Scrobipalpa atriplicella*	Undetermined		
Gelechioidea – Momphidae				Gelechioid micro-moths – Momphid moths
Fireweed Momphid Moth	*Mompha conturbatella*	Undetermined		
Willowherb Momphid Moth	*Mompha idaei*	Undetermined		
Gelechioidea – Oecophoridae				Gelechioid micro-moths – Oecophorid moths
Four-marked Concealer Moth	*Brymblia quadrimaculella*	Undetermined		
The Skunk Moth	*Polix coloradella*	Undetermined		
Gelechioidea – Scythrididae				Gelechioid micro-moths – Scythridid moths
Noricelle Teardrop Moth	*Scythris noricella*	Undetermined		
Geometroidea – Geometridae – Archiearinae				Geometroid macro-moths – Archaic geometer moths
Infant Moth	*Archiearis infans*	Undetermined		
Geometroidea – Geometridae – Ennominae				Geometroid macro-moths – Ennomine geometer moths
Forbe's Straw Belle Moth	*Aspitates forbesi*	Undetermined		
Finnish Straw Belle Moth	*Aspitates orciferaria*	Secure		
Taylor's Straw Belle Moth	*Aspitates taylori*	Secure	ⓘ[5]	
Pepper and Salt Geometer	*Biston betularia*	Secure	ⓘ[5]	
Boreal Wave Moth	*Cabera borealis*	Undetermined		
Common Wave Moth	*Cabera exanthemata*	Secure	ⓘ[5]	
Pink-Striped Willow Spanworm Moth	*Cabera variolaria*	Undetermined		
Pale Beauty Moth	*Campaea perlata*	Secure	ⓘ[5]	
Striped Granite Moth	*Digrammia denticulata*	Secure	ⓘ[5]	
Dark-bordered Granite Moth	*Digrammia neptaria*	Undetermined		
Northern Granite Moth	*Digrammia rippertaria*	Undetermined		
Maple Spanworm	*Ennomos magnaria*	Undetermined		
Black-banded Orange Moth	*Epelis truncataria*	Undetermined		
Macguffin's Annulet Moth	*Gnophos macguffini*	Undetermined		
Sulphur Moth	*Hesperumia sulphuraria*	Undetermined		
Split-Lined Itame Angle Moth	*Macaria bitactata*	Secure	ⓘ[5]	
Forest Looper Moth	*Macaria boreata*	Secure	ⓘ[5]	
Rannoch Looper Moth	*Macaria brunneata*	Undetermined		
Decorated Geometer Moth	*Macaria decorata*	Undetermined		
False Bruce Spanworm Moth	*Macaria loricaria*	Secure	ⓘ[5]	
Peacock Moth	*Macaria notata*	Secure	ⓘ[5]	
Occiduaria Geometer Moth	*Macaria occiduaria*	Secure	ⓘ[5]	
Larch Looper Moth	*Macaria sexmaculata*	Undetermined		
Signed Looper Moth	*Macaria signaria*	Undetermined		
Sulphur Bog Looper Moth	*Macaria sulphurea*	Undetermined	#	
Dark Metanema Moth	*Metanema determinata*	Undetermined		
Pale Matanema Moth	*Metanema inatomaria*	Undetermined		
Lemon Umber Moth	*Plagodis phlogosaria*	Undetermined		
Barred Umber Moth	*Plagodis pulveraria*	Undetermined		
Friendly Propole Moth	*Probole alienaria-amicaria*	Secure	ⓘ[5]	
Virgin Moth	*Protitame virginalis*	Undetermined		
Porcelain Gray Moth	*Protoboarmia porcelaria*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Sharp-lined Yellow Moth	*Sicya macularia*	Undetermined		
Geometroidea – Geometridae – Geometrinae				Geometroid macro-moths – Geometer moths
Plain Emerald Moth	*Mesothea incertata*	Undetermined		
Geometroidea – Geometridae – Larentiinae				Geometroid macro-moths – Larentine geometer moths
Many-lined Carpet Moth	*Anticlea multiferata*	Undetermined		
Black-banded Carpet Moth	*Antepirrhoe semiatrata*	Undetermined	∃[6]	
Alpine Carpet Moth	*Carsia sororiata*	Undetermined		
Suspected Carpet Moth	*Dysstroma brunneata*	Undetermined		
Dark Marbled Carpet Moth	*Dysstroma citrata*	Undetermined		
Obscure Carpet Moth	*Dysstroma infuscata*	Alien		
Kidluitata Carpet Moth	*Entephria kidluitata*	Undetermined		
Variable Carpet Moth	*Entephria multivagata*	Undetermined		
Polar Carpet Moth	*Entephria polata*	Undetermined		
Eyed Carpet Moth	*Entephria punctipes*	Undetermined		
White-banded Toothed Carpet Moth	*Epirrhoe alternata*	Undetermined		
Sperry's Toothed Carpet Moth	*Epirrhoe sperryi*	Undetermined		
Shrub Tundra Fall Moth	*Epirrita undulata*	Undetermined		
Barred Yellow Moth	*Eulithis propulsata*	Undetermined		
Chevron Moth	*Eulithis testata*	Undetermined		
Northwestern Phoenix Moth	*Eulithis xylina*	Undetermined		
Sharp-Angled Carpet Moth	*Euphyia intermediata*	Undetermined		
Articulated Larch Pug Moth	*Eupithecia annulata*	Undetermined		
Intricate Pug Moth	*Eupithecia intricata*	Undetermined		
Larch Pug Moth	*Eupithecia lariciata*	Undetermined		
Marsh Pug Moth	*Eupithecia pygmaeata*	Undetermined		
Satyr Pug Moth	*Eupithecia satyrata*	Undetermined		
July Highflyer Moth	*Hydriomena furcata*	Undetermined		
Renounced Highflyer Moth	*Hydriomena renunciata*	Undetermined		
White-dressed Bigwing Moth	*Lobophora canavestita*	Undetermined		
Large Bigwing Moth	*Lobophora magnoliatoidata*	Undetermined		
Snow-powdered Bigwing Moth	*Lobophora nivigerata*	Undetermined		
George's Carpet Moth	*Plemyria georgii*	Undetermined		
Seal Moth	*Psychophora phocata*	Undetermined		
Sabine's Moth	*Psychophora sabini*	Undetermined		
Argent and Sable Moth	*Rheumaptera hastata*	Undetermined		
White-banded Black Moth	*Rheumaptera subhastata*	Undetermined		
Scallop Shell Moth	*Rheumaptera undulata*	Undetermined		
White-banded Carpet Moth	*Spargania luctuata*	Undetermined		
Double-banded Carpet Moth	*Spargania magnoliata*	Undetermined		
Topaz Carpet Moth	*Stamnodes topazata*	Undetermined		
White Striped Black Moth	*Trichodezia albovittata*	Undetermined		
Scraped Carpet Moth	*Xanthorhoe abrasaria*	Undetermined		
Baffin Carpet Moth	*Xanthorhoe baffinensis*	Undetermined		
Boreal Carpet Moth	*Xanthorhoe borealis*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Red Carpet Moth	*Xanthorhoe decoloraria*	Undetermined	∃[6]	
Red Twin-Spot Carpet Moth	*Xanthorhoe ferrugata*	Undetermined		
Labrador Carpet Moth	*Xanthorhoe labradorensis*	Undetermined		
Laggan Carpet Moth	*Xanthorhoe lagganata*	Undetermined		
Peppered Carpet Moth	*Xanthorhoe ramaria*	Undetermined		
Alpine Looper Moth	*Zenophleps alpinata*	Undetermined		
Lignicolorata Looper Moth	*Zenophleps lignicolorata*	Presence Expected		
Geometroidea – Geometridae – Sterrhinae				Geometroid macro-moths – Wave moths
Sweetfern Geometer Moth	*Cyclophora pendulinaria*	Undetermined		
Chickweed Geometer	*Haematopis grataria*	Undetermined		
Round-winged Wave Moth	*Idaea rotundopennata*	Undetermined		
Pointed-winged Wave Moth	*Scopula ancellata*	Undetermined		
Cajander's Geometer Moth	*Scopula cajanderi*	Undetermined		
Frigid Wave Moth	*Scopula frigidaria*	Secure		
Soft-lined Wave Moth	*Scopula inductata*	Undetermined		
Simple Wave Moth	*Scopula junctaria*	Undetermined		
Five-lined Wave Moth	*Scopula quinquelinearia*	Undetermined	#	
Sentinel Wave Moth	*Scopula sentinaria*	Secure	ⓘ[5]	
Gracillarioidea – Bucculatricidae				Gracillarioid micro-moths – Skeletonizer moths
Birch Skeletonizer	*Bucculatrix canadensisella*	Undetermined		
Gracillarioidea – Gracillariidae				Gracillarioid micro-moths – Gracillarid moths
Alder Bloth-miner Moth	*Caloptilia alnivorella*	Undetermined		
Strict Bloth-miner Moth	*Caloptilia strictella*	Undetermined		
Willow Bloth Leafminer Moth	*Micrurapteryx salicifoliella*	Secure		
Aspen Serpentine Leafminer Moth	*Phyllocnistis populiella*	Secure		
Hepialoidea – Hepialidae				Hepialoid macro-moths – Ghost moths
Four-spotted Ghost Moth	*Sthenopis purpurascens*	Secure	ⓘ[5]	
Lasiocampoidea – Lasiocampidae				Lasiocampoid macro-moths – Tent caterpilars
Western Tent Caterpillar	*Malacosoma californica*	Secure	ⓘ[5]	
Forest Tent Caterpillar	*Malacosoma disstria*	Secure		
Nepticulloidea – Nepticullidae				Pigmy leafminer micro-moths – Nepticullid moths
Cowberry Pigmy Leafminer	*Fomoria weaveri*	Undetermined		
Birch Pigmy Leafminer	*Stigmella betulicola*	Undetermined		
Hazel Pigmy Leafminer	*Stigmella corylifoliella*	Undetermined		
Willow Pigmy Leafminer	*Stigmella fuscotibiella*	Undetermined		
Noctuoidea – Erebidae – Arctiinae				Noctuoid macro-moths – Tiger moths
Arctic Tiger Moth	*Acerbia alpina*	Undetermined		
Rockslide Tger Moth	*Acsala anomala*	Undetermined		
Quensel's Tiger Moth	*Apantesis quenseli*	Secure		
William's Tiger Moth	*Apantesis williamsii*	Secure	ⓘ[5]	
Kluane Tiger Moth	*Arctia brachyptera*	Undetermined		
Subarctic Tiger Moth	*Arctia lapponica*	Secure	ⓘ[5]	
Opulent Tiger Moth	*Arctia opulenta*	Undetermined		
St. Lawrence Tiger Moth	*Arctia parthenos*	Secure	ⓘ[5]	

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Black-and-White Tiger Moth	*Arctia plantaginis*	Secure	ⓘ[5]	
Yellow-collared Tiger Moth	*Cisseps fulvicollis*	Undetermined		
Little White Lichen Moth	*Clemensia umbrata*	Undetermined	ⓘ[10]	
Alberta Dodia Tiger Moth	*Dodia albertae*	Undetermined		
Salt Marsh Tiger Moth	*Estigmene acrea*	Undetermined		
Margo Tiger Moth	*Grammia margo*	Undetermined		
Philip's Tiger Moth	*Grammia philipiana*	Undetermined		
Bog Tiger Moth	*Grammia speciosa*	Undetermined		
Yukon Tiger Moth	*Grammia yukona*	Undetermined		
Steppe Tiger Moth	*Holarctia obliterata*	Undetermined		
Mottled Tiger Moth	*Lophocampa maculata*	Secure	∃[6]	
Smoky Tiger Moth	*Manulea bicolor*	Undetermined		
Mountain Tiger Moth	*Pararctia yarrowii*	Undetermined		
Ruby Tiger Moth	*Phragmatobia fuliginosa*	Undetermined		
Salmon Virbia Tiger Moth	*Virbia ferruginosa*	Undetermined		
Noctuoidea – Erebidae – Boletobiinae				Noctuoid macro-moths – Snout moths
Pale-edged Snout Moth	*Mycterophora inexplicata*	Undetermined		
Noctuoidea – Erebidae – Erebinae				Noctuoid macro-moths – Underwing moths
Clover Looper Moth	*Caenurgina crassiuscula*	Undetermined		
Briseis Underwing Moth	*Catocala briseis*	Undetermined		
White Underwing Moth	*Catocala relicta*	Undetermined		



Bedstraw Hawk Moth caterpillar Photo Credit: G. Beaulieu



Spotted Tussock Moth Photo Credit: G. Boulange

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Once-married Underwing	*Catocala unijuga*	Undetermined		
Little Arches Moth	*Drasteria petricola*	Undetermined		
Toothed Somberwing Moth	*Euclidia cuspidea*	Undetermined		
Noctuoidea – Erebidae – Herminiinae				Noctuoid macro-moths – Litter moths
Common Idia	*Idia aemula*	Undetermined	∃[6]	
Dark-spotted Palthis	*Palthis angulalis*	Undetermined	#	
Pale Phalaenostola Moth	*Phalaenostola metonalis*	Undetermined		
Wavy-lined Zanclognatha Moth	*Zanclognatha jacchusalis*	Undetermined	ⓘ[10]	
Noctuoidea – Erebidae – Lymantriinae				Noctuoid macro-moths – Tussock moths
Arctic Moth	*Gynaephora groenlandica*	Secure	ⓘ[5]	
Ross's Moth	*Gynaephora rossii*	Secure		
Rusty Tussock Moth	*Orgyia antiqua*	Secure	ⓘ[5]	
Noctuoidea – Erebidae – Scoliopteryginae				Noctuoid macro-moths – Herard moths
The Herald	*Scoliopteryx libatrix*	Undetermined		
Noctuoidea – Noctuidae – Acontiinae				Noctuoid macro-moths – Acontine owlet moths
Narrow-winged Midget	*Tarache augustipennis*	Undetermined		
Noctuoidea – Noctuidae – Acronictinae				Noctuoid macro-moths – Dagger moths
Gray Dagger	*Acronicta grisea*	Undetermined		
Impressed Dagger	*Acronicta impressa*	Secure	ⓘ[5]	
Cottonwood Dagger	*Acronicta lepusculina*	Undetermined	#	
Lupine Dagger	*Acronicta lupini*	Undetermined		
Smeared Dagger	*Acronicta oblinita*	Undetermined	#	
Millar Dagger	*Acronicta vulpina*	Undetermined		
Noctuoidea – Noctuidae – Agaristinae				Noctuoid macro-moths – Forester moths
Langton's Forester Moth	*Alypia langtoni*	Undetermined		
MacCulloch's Forester Moth	*Androloma maccullochii*	Undetermined		
Noctuoidea – Noctuidae – Eustrotiinae				Noctuoid macro-moths – Eustrotine owlet moths
Pale Glyph	*Protodeltote albidula*	Undetermined		
Noctuoidea – Noctuidae – Heliothinae				Noctuoid macro-moths – Heliothine owlet moths
Flax Bollworm Moth	*Heliothis ononis*	Undetermined		
Noctuoidea – Noctuidae – Noctuinae				Noctuoid macro-moths – Dart and cutworm moths
Red Cutwom Moth	*Abagrotis placida*	Undetermined		
Bracketed Dart Moth	*Actebia balanitis*	Undetermined		
Black Army Cutworm Moth	*Actebia fennica*	Undetermined		
Collared Dart Moth	*Agnorisma bugrai*	Undetermined		
Rue Agrotis Moth	*Agrotis ruta*	Secure	ⓘ[5]	
Old Man Dart Moth	*Agrotis vetusta*	Undetermined		
American Ear Moth	*Amphipoea americana*	Undetermined		
Green Arches Moth	*Anaplectoides prasina*	Undetermined		
Dappled Dart Moth	*Anaplectoides pressus*	Secure	ⓘ[5]	
Black Eye Anarta Moth	*Anarta nigrolunata*	Undetermined		
The Nutmeg Moth	*Anarta trifolii*	Undetermined		
Poplar Catkin Moth	*Anathix puta*	Undetermined		
Canadian Giant Moth	*Andropolia contacta*	Undetermined		

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Contracting Hadenine Moth	*Anhimella contrahens*	Undetermined		
Prairie Cutworm Moth	*Apamea alia*	Secure	ⓘ[5]	
Yellow-headed Cutworm Moth	*Apamea amputatrix*	Undetermined		
Deliberate Cutworm Moth	*Apamea cogitata*	Secure	ⓘ[5]	
Southern Quaker Moth	*Apamea commoda*	Secure	ⓘ[5]	
True Glassy Cutworm Moth	*Apamea devastator*	Secure	ⓘ[5]	
Lined Quaker Moth	*Apamea inficita*	Secure	ⓘ[5]	
Dark Cutworm Moth	*Apamea niveivenosa*	Undetermined		
Sand Dune Cutworm Moth	*Apamea scoparia*	Secure	ⓘ[5]	
Finland Cutworm Moth	*Apamea zeta*	Secure	ⓘ[5]	
Willow Pheasant Moth	*Brachylomia algens*	Undetermined		
Civil Rustic Moth	*Caradrina montana*	Undetermined		
Willow Dart Moth	*Cerastis salicarum*	Undetermined		
Stirrup and Spear Moth	*Chersotis juncta*	Undetermined		
Yellowmarked Coranarta Moth	*Coranarta luteola*	Undetermined		
Large Yellowmarked Coranarta Moth	*Coranarta macrostigma*	Undetermined		
Wheat Head Armyworm	*Dargida diffusa*	Undetermined		
Dislocated Dart Moth	*Diarsia dislocata*	Undetermined		
Early Quaker Moth	*Egira dolosa*	Undetermined		
Pale Enargia Moth	*Enargia decolor*	Undetermined		
Birch-aspen Moth	*Enargia infumata*	Undetermined		
Alberta Quaker Moth	*Eremobina claudens*	Undetermined		
Close-marked Eurois Moth	*Eurois astricta*	Secure	ⓘ[5]	
Great Dart Moth	*Eurois occulta*	Undetermined		
Wandering Dart Moth	*Euxoa aberrans*	Undetermined		
False Euxoa Moth	*Euxoa adumbrata*	Undetermined		
Army Cutworm Moth	*Euxoa auxiliaris*	Undetermined		
Basal Euxoa Moth	*Euxoa basalis*	Undetermined		
Chestnut Euxoa Moth	*Euxoa castanea*	Undetermined		
Chruchill Euxoa Moth	*Euxoa churchillensis*	Undetermined		
Hairy Euxoa Moth	*Euxoa comosa*	Undetermined		
Coast Dart Moth	*Euxoa cursoria*	Undetermined		
Rubbed Dart Moth	*Euxoa detersa*	Undetermined		
Dissona Euxoa Moth	*Euxoa dissona*	Undetermined		
Divergent Dart Moth	*Euxoa divergens*	Undetermined		
Yellowish Euxoa Moth	*Euxoa flavicollis*	Undetermined		
Furtive Dart Moth	*Euxoa furtivus*	Undetermined		
Triste Euxoa Moth	*Euxoa infausta*	Undetermined		
Steppe Slope Euxoa Moth	*Euxoa maimes*	Undetermined		
Manitoba Euxoa Moth	*Euxoa manitobana*	Undetermined		
Reaper Dart Moth	*Euxoa messoria*	Undetermined		
Mulders' Dart Moth	*Euxoa muldersi*	Undetermined		
Armed Euxoa Moth	*Euxoa munis*	Undetermined		
Tundra Euxoa Moth	*Euxoa nomas*	Undetermined		

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Our Euxoa Moth	*Euxoa nostra*	Undetermined		
Red-Backed Cutworm Moth	*Euxoa ochrogaster*	Undetermined		
Ultra Olive Euxoa Moth	*Euxoa perolivalis*	Undetermined		
Grassland Euxoa Moth	*Euxoa pestula*	Undetermined		
Ridings Dart Moth	*Euxoa ridingsiana*	Undetermined		
White Cutworm Moth	*Euxoa scandens*	Undetermined		
Slave Dart Moth	*Euxoa servitus*	Undetermined		
Tessellata Dart Moth	*Euxoa tessellata*	Undetermined		
Large Pale Gray Moth	*Euxoa tristicula*	Undetermined		
Westerman's Euxoa Moth	*Euxoa westermanni*	Undetermined		
Borean Cutworm Moth	*Feltia boreana*	Secure	ⓘ[5]	
Dingy Cutworm Moth	*Feltia jaculifera*	Undetermined		
Delicate Cutworm Moth	*Feltia mollis*	Undetermined		
Wood Cutworm Moth	*Feltia woodiana*	Undetermined		
Yosemite Brocade	*Fishia yosemitae*	Undetermined		
Double Dart Moth	*Graphiphora augur*	Secure	ⓘ[5]	
Iris Rover Moth	*Hillia iris*	Undetermined		
Scurfy Quaker Moth	*Homorthodes furfurata*	Undetermined		
Basistriga Owlet Moth	*Hypocoena basistriga*	Undetermined		
Rufostrigata Owlet Moth	*Hypocoena rufostrigata*	Undetermined		
Garden Arches Moth	*Lacanobia radix*	Undetermined		
Snaky Arches Morth	*Lacinipolia anguina*	Undetermined	#	
Brindled Arches Moth	*Lacinipolia lorea*	Undetermined		
Olive Arches Moth	*Lacinipolia olivacea*	Undetermined		
Bristly Cutworm Moth	*Lacinipolia renigera*	Undetermined		
Serrated Arches Moth	*Lacinipolia sareta*	Undetermined	∃[6]	
Raven-black Moth	*Lasionycta coracina*	Undetermined		
Pale Arches Moth	*Lasionycta leucocycla*	Secure	ⓘ[5]	
Staudinger's Moth	*Lasionycta staudingeri*	Undetermined		
Sub-smokey Moth	*Lasionycta subfumosa*	Secure	ⓘ[5]	
American Peasant Moth	*Lithomoia germana*	Undetermined		
Distant Pinion Moth	*Lithophane amanda*	Undetermined		
Large Grey Pinion Moth	*Lithophane georgii*	Undetermined		
Nameless Pinion Moth	*Lithophane innominata*	Undetermined		
Teneral Rover Moth	*Mniotype tenera*	Undetermined		
Lesser Wainscot Moth	*Mythimna oxygala*	Undetermined		
Dusky Brocade Moth	*Neoligia subjuncta*	Undetermined		
Bronzed Cutworm Moth	*Nephelodes minians*	Undetermined		
Cross Shear Moth	*Papestra cristifera*	Undetermined		
Square Shear Moth	*Papestra quadrata*	Undetermined		
Keele River Moth	*Parabarrovia keelei*	Undetermined		
Littoral Owlet Moth	*Paradiarsia littoralis*	Undetermined		
Suspected Moth	*Parastichtis suspecta*	Undetermined		
Purple Arches Moth	*Polia purpurissata*	Undetermined		

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Richardson's Polia Moth	*Polia richardsoni*	Secure	ⓘ[5]	
Prognorisma Moth	*Prognorisma substrigata*	Undetermined		
Red-breasted Dart Moth	*Protolampra rufipectus*	Undetermined		
Slender Pseudo Cutworm Moth	*Pseudohermonassa tenuicula*	Undetermined		
Dock Rustic Moth	*Resapamea passer*	Undetermined		
W-Marked Cutworm Moth	*Spaelotis clandestina*	Undetermined		
Pink-barred Sallow Moth	*Xanthia tatago*	Undetermined		
Vaccinium Xestia Moth	*Xestia albuncula*	Undetermined		
Bryant's Xestia Moth	*Xestia bryanti*	Undetermined		
Lesser Black-letter Dart Moth	*Xestia c-nigrum*	Undetermined		
Fir Xestia Moth	*Xestia homogena*	Undetermined		
Grand Xestia Moth	*Xestia imperita*	Undetermined		
Inuit Xestia Moth	*Xestia inuitica*	Undetermined		
Lax Dart Moth	*Xestia laxa*	Undetermined		
Lupin Xestia Moth	*Xestia lupa*	Undetermined		
Mixta Xestia Moth	*Xestia mixta*	Undetermined		
Boggy Tundra Xestia Moth	*Xestia okakensis*	Undetermined		
Gray Spruce Cutworm Moth	*Xestia perquiritata*	Undetermined		
Bearberry Xestia Moth	*Xestia quieta*	Undetermined		
Smith's Dart Moth	*Xestia smithii*	Undetermined		
Showy Xestia Moth	*Xestia speciosa*	Undetermined		
Shelter Xestia Moth	*Xestia tecta*	Undetermined		
High Arctic Xestia Moth	*Xestia thula*	Undetermined		
Ursus Xestia Moth	*Xestia ursae*	Undetermined		
Wocke's Xestia Moth	*Xestia wockei*	Undetermined		
Beringia Xestia Moth	*Xestia woodi*	Undetermined		
Noctuoidea – Noctuidae – Oncocnemidinae				Noctuoid macro-moths – Swallow moths
Toothed Apharetra	*Sympistis dentata*	Undetermined		
Funeral Sympistis Moth	*Sympistis funebris*	Undetermined		
Storm Sympistis Moth	*Sympistis heliophila*	Undetermined		
Lapland Sympistis Moth	*Sympistis lapponica*	Undetermined		
Swedish Sympistis Moth	*Sympistis zetterstedtii*	Undetermined		
Noctuoidea – Noctuidae – Plusiinae				Noctuoid macro-moths – Looper moths
Two-spotted Looper Moth	*Autographa bimaculata*	Secure	ⓘ[5]	
Northern Autographa Moth	*Autographa buraetica*	Undetermined		
Dark-spotted Looper	*Diachrysia aereoides*	Undetermined		
Putnam's Looper Moth	*Plusia putnami*	Undetermined		
White-streaked Looper Moth	*Plusia venusta*	Undetermined		
Delphinium Leaflier Moth	*Polychrysia esmeralda*	Secure	ⓘ[5]	
Alias Looper Moth	*Syngrapha alias*	Undetermined		
Alticola Looper Moth	*Syngrapha alticola*	Secure	ⓘ[5]	
Boreal Looper Moth	*Syngrapha borea*	Undetermined		
Diasema Looper Moth	*Syngrapha diasema*	Secure	ⓘ[5]	
Mountain Beauty Looper Moth	*Syngrapha ignea*	Secure	ⓘ[5]	

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Question Mark Looper Moth	*Syngrapha interrogationis*	Secure	ⓘ[5]	
Small Gamma Looper Moth	*Syngrapha microgamma*	Undetermined		
Dusky Silver Y Looper Moth	*Syngrapha octoscripta*	Secure	ⓘ[5]	
Parilis Looper Moth	*Syngrapha parilis*	Undetermined		
Blue Metal-marked Looper Moth	*Syngrapha selecta*	Undetermined		
Green-marked Looper Moth	*Syngrapha viridisigma*	Secure	ⓘ[5]	
Noctuoidea – Nolidae				Noctuoid macro-moths – Nolid moths
Ceanothus Nola	*Nola minna*	Undetermined		
Frigid Owlet Moth	*Nycteola frigidana*	Undetermined		
Noctuoidea – Notodontidae				Noctuoid macro-moths – Prominent moths
Sigmoid Prominent	*Clostera albosigma*	Undetermined		
Apical Prominent Moth	*Clostera apicalis*	Undetermined		
Gray Furcula Moth	*Furcula cinerea*	Undetermined		
White-dotted Prominent	*Nadata gibbosa*	Undetermined	#	
Northern Finned Prominent Moth	*Notodonta torva*	Undetermined		
Papilionoidea – Hesperiidae				Butterflies – Skippers
Common Roadside Skipper	*Amblyscirtes vialis*	Presence Expected		
Arctic Skipper	*Carterocephalus palaemon*	Secure		
Dreamy Duskywing	*Erynnis icelus*	Secure		
Persius Duskywing	*Erynnis persius*	Secure		
Common Branded Skipper	*Hesperia comma*	Secure		
Long Dash Skipper	*Polites mystic*	Undetermined		
Peck's Skipper	*Polites peckius*	Undetermined		
Grizzled Skipper	*Pyrgus centaureae*	Secure		
Northern Cloudywing	*Thorybes pylades*	Secure	ⓘ[5]	
Papilionoidea – Lycaenidae				Butterflies – Gossamer-winged butterflies
Brown Elfin	*Callophrys augustinus*	Secure		
Western Pine Elfin	*Callophrys eryphon*	Secure		
Eastern Pine Elfin	*Callophrys niphon*	Secure		
Hoary Elfin	*Callophrys polios*	Secure		
Northern Spring Azure	*Celastrina lucia*	Secure		
Western Tailed Blue	*Cupido amyntula*	Secure		
Silvery Blue	*Glaucopsyche lygdamus*	Secure		
Dorcas Copper	*Lycaena dorcas*	Secure		
Bronze Copper	*Lycaena hyllus*	Undetermined		
Mariposa Copper	*Lycaena mariposa*	Undetermined	∃[6]	
American Copper	*Lycaena phlaeas*	Secure		
Arctic Blue	*Plebejus glandon*	Secure		
Northern Blue	*Plebejus idas*	Secure		
Cranberry Blue	*Plebejus optilete*	Secure		
Greenish Blue	*Plebejus saepiolus*	Secure		
Papilionoidea – Nymphalidae				Butterflies – Brush-footed butterflies
Milbert's Tortoiseshell	*Aglais milberti*	Secure		
Mountain Fritillary	*Boloria alaskensis*	Secure		

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Astarte Fritillary	*Boloria astarte*	Secure		
Meadow Fritillary	*Boloria bellona*	Secure		
Arctic Fritillary	*Boloria chariclea*	Secure		
Bog Fritillary	*Boloria eunomia*	Secure		
Freija Fritillary	*Boloria freija*	Secure		
Frigga Fritillary	*Boloria frigga*	Secure		
Dingy Fritillary	*Boloria improba*	Secure		
Silver-bordered Fritillary	*Boloria myrina*	Secure		
Beringian Fritillary	*Boloria natazhati*	Secure	ⓘ[3]	G3 – 2020
Polaris Fritillary	*Boloria polaris*	Secure		
Common Ringlet	*Coenonympha tullia*	Secure		
Monarch	*Danaus plexippus*	Vagrant		
Disa Alpine	*Erebia disa*	Secure		
Red-disked Alpine	*Erebia discoidalis*	Secure		
Branded Alpine	*Erebia fasciata*	Secure		
Reddish Alpine	*Erebia lafontainei*	Secure	ⓘ[3]	
Mt. McKinley Alpine	*Erebia mackinleyensis*	Sensitive	ⓘ[4]	
Taiga Alpine	*Erebia mancinus*	Secure		
Scree Alpine	*Erebia occulta*	Sensitive		
Yellow-dotted Alpine	*Erebia pawloskii*	Secure	ⓘ[5]	
Ross's Alpine	*Erebia rossii*	Secure		
Four-dotted Alpine	*Erebia youngi*	Secure		
Eyed Brown	*Lethe eurydice*	Undetermined		
Viceroy	*Limenitis archippus*	Secure	ⓘ[5]	
White Admiral	*Limenitis arthemis*	Secure		
Mourning Cloak	*Nymphalis antiopa*	Secure		
Compton Tortoiseshell	*Nymphalis l-album*	Secure		
Sentinel Arctic	*Oeneis alpina*	Secure		
White-Veined Arctic	*Oeneis bore*	Secure		
Chryxus Arctic	*Oeneis chryxus*	Secure		
Jutta Arctic	*Oeneis jutta*	Secure		
Macoun's Arctic	*Oeneis macounii*	Secure	ⓘ[5]	
Melissa Arctic	*Oeneis melissa*	Secure		
Polixenes Arctic	*Oeneis polixenes*	Secure		
Philip's Arctic	*Oeneis philipi*	Undetermined	∃[3]	
Uhler's Arctic	*Oeneis uhleri*	Secure		
Tawny Crescent	*Phyciodes batesii*	Secure	ⓘ[5]	
Northern Crescent	*Phyciodes cocyta*	Secure		
Field Crescent	*Phyciodes pulchella*	Secure		
Green Comma	*Polygonia faunus*	Secure		
Hoary Comma	*Polygonia gracilis*	Secure		
Grey Comma	*Polygonia progne*	Secure		
Satyr Comma	*Polygonia satyrus*	Secure		
Atlantis Fritillary	*Speyeria atlantis*	Secure	ⓘ[5]	

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Northwestern Fritillary	*Speyeria hesperis*	Secure		
Mormon Fritillary	*Speyeria mormonia*	Secure	ⓘ[5]	
Red Admiral	*Vanessa atalanta*	Vagrant		
Painted Lady	*Vanessa cardui*	Vagrant		
Papilionoidea – Papilionidae				Butterflies – Swallowtails
Canadian Tiger Swallowtail	*Papilio canadensis*	Secure		
Old World Swallowtail	*Papilio machaon*	Secure		
Phoebus Parnassian	*Parnassius corybas*	Sensitive	ⓘ[5]	
Eversmann's Parnassian	*Parnassius eversmanni*	Secure	ⓘ[5]	
Papilionoidea – Pieridae				Butterflies – Whites and sulphurs
Canada Sulphur	*Colias canadensis*	Secure		
Christina Sulphur	*Colias christina*	Secure		
Giant Sulphur	*Colias gigantea*	Secure		
Hecla Sulphur	*Colias hecla*	Secure		
Pink-edged Sulphur	*Colias interior*	Secure	ⓘ[5]	
Labrador Sulphur	*Colias nastes*	Secure		
Palaeno Sulphur	*Colias palaeno*	Secure		
Clouded Sulphur	*Colias philodice*	Secure		
Kivalliq Sulphur	*Colias rankinensis*	Undetermined	T	G1G3 – 2020
Skinner's Sulphur	*Colias skinneri*	Secure		
Booth's Sulphur	*Colias tyche*	Secure		
Large Marble	*Euchloe ausonides*	Secure		
Northern Marble	*Euchloe creusa*	Secure		
Green Marble	*Euchloe naina*	Sensitive	ⓘ[5]	
Arctic White	*Pieris angelika*	Secure		
Mustard White	*Pieris oleracea*	Secure		
Cabbage White	*Pieris rapae*	Alien		
Western White	*Pontia occidentalis*	Secure		
Spring White	*Pontia sisymbrii*	Secure		
Pterophoroidea – Pterophoridae				Pterophoroid micro-moths – Plume moths
Yarrow Plume Moth	*Gillmeria pallidactyla*	Undetermined		
Smoky Plume Moth	*Hellinsia albilobata*	Undetermined		
Edwards' Plume Moth	*Paraplatyptilia edwardsii*	Undetermined		
Ashy Plume Moth	*Paraplatyptilia petrodactylus*	Undetermined		
Artichoke Plume Moth	*Platyptilia carduidactylus*	Undetermined		
Comstock's Plume Moth	*Platyptilia comstocki*	Undetermined		
Large-dot Plume Moth	*Stenoptilia grandipuncta*	Undetermined		
Mengel's Plume Moth	*Stenoptilia mengeli*	Undetermined		
Pyraloidea – Crambidae				Pyraloid micro-moths – Cambid moths
Orange Sable Moth	*Anania extricalis*	Undetermined		
White-spotted Sable Moth	*Anania funebris*	Undetermined		
Tertial Sable Moth	*Anania tertialis*	Undetermined		
Two-banded Catoptria	*Catoptria latiradiellus*	Undetermined		
Marked Catoptria	*Catoptria trichostomus*	Undetermined		

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Topiary Grass-veneer Moth	*Chrysoteuchia topiarius*	Undetermined		
Stranger Crambine Moth	*Crambus alienellus*	Undetermined		
Sandy Crambine Moth	*Crambus hamella*	Undetermined		
Leach Cambine Moth	*Crambus leachellus*	Undetermined		
Pascal Cambine Moth	*Crambus pascuella*	Undetermined		
Perle Cambine Moth	*Crambus perlella*	Secure		
Wide-stripe Cambine Moth	*Crambus unistriatellus*	Undetermined		
Whitmer Cambine Moth	*Crambus whitmerellus*	Undetermined		
Darker Diacme Moth	*Diacme adipaloides*	Undetermined		
Alpine Eudonia Moth	*Eudonia alpina*	Undetermined		
Purple-backed Cabbageworm Moth	*Evergestis pallidata*	Undetermined		
Simulating Evergestis	*Evergestis simulatilis*	Undetermined		
Smoky Gesneria	*Gesneria centuriella*	Undetermined		
Alberta Loxostege Moth	*Loxostege anartalis*	Undetermined		
Cereral Loxostege Moth	*Loxostege cereralis*	Undetermined		
Commix Loxostege Moth	*Loxostege commixtalis*	Undetermined		
Blue Loxostege Moth	*Loxostege ephippialis*	Undetermined		
Beet Loxostege Moth	*Loxostege sticticalis*	Undetermined		
Black Grass-veneer Moth	*Neodactria caliginosellus*	Undetermined		
Arctic Orenaia Moth	*Orenaia arcticalis*	Undetermined		
Lined Ostrinia	*Ostrinia marginalis*	Undetermined		
Aridelle Grass-veneer Moth	*Pediasia aridella*	Undetermined		
Browerel Webworm Moth	*Pediasia browerellus*	Undetermined		
Sod Webworm Moth	*Pediasia trisecta*	Undetermined		
Moss Webworm Moth	*Pediasia truncatellus*	Undetermined		
Northern Pyrausta Moth	*Pyrausta borealis*	Undetermined		
Rusty Pyrausta Moth	*Pyrausta niccalis*	Undetermined		
Mint Pyrausta Moth	*Pyrausta tuolumnalis*	Undetermined		
Double-striped Scoparia Moth	*Scoparia biplagialis*	Undetermined		
Western Lawn Moth	*Tehama bonifatella*	Undetermined		
Hidden Leaftier	*Udea abstrusa*	Undetermined		
Beringian Leaftier	*Udea beringialis*	Undetermined		
Stained Leaftier	*Udea inquinatalis*	Undetermined		
Itysalis Leaftier	*Udea itysalis*	Undetermined		
Radiosalis Leaftier	*Udea radiosalis*	Undetermined		
Torvalis Leaftier	*Udea torvalis*	Undetermined		
Pyraloidea – Pyralidae				Pyraloid micro-moths – Pyralid moths
Lotella Pyralid Moth	*Anerastia lotella*	Undetermined		
Birch Fungus Moth	*Apomyelois bistriatella*	Undetermined		
Fir Coneworm Moth	*Dioryctria abietivorella*	Undetermined		
Black Spruce Rust Moth	*Dioryctria banksiella*	Undetermined		
Spruce Coneworm Moth	*Dioryctria reniculelloides*	Undetermined		
Zimmerman's Pine Moth	*Dioryctria zimmermani*	Undetermined		
Yellow-fringed Pyralid Moth	*Hypsopygia olinalis*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Acorn Pyralid Moth	*Myelopsis subtetricella*	Undetermined		
Western Phycitine Moth	*Phycitodes mucidella*	Undetermined		
Arctic Phycitine Moth	*Polopeustis arctiella*	Undetermined		
Banff Pyla Moth	*Pyla aequivoca*	Undetermined		
Holarctic Pyla Moth	*Pyla fusca*	Undetermined		
Hanham Pyla Moth	*Pyla hanhamella*	Undetermined		
Sesioidea – Sesiidae				Sesioid micro-moths – Small Clearwing moths
Fireweed Small Clearwing	*Albuna pyramidalis*	Undetermined		
Western Willow Small Clearwing	*Synanthedon albicornis*	Undetermined		
Northern Willow Small Clearwing	*Synanthedon bolteri*	Undetermined		
Tortricoidea – Tortricidae				Tortricoid micro-moths – Tortrix moths
Red-edged Acleris	*Acleris albicomana*	Undetermined		
Braun Acleris	*Acleris braunana*	Undetermined		
Hook-winged Tortrix	*Acleris effractana*	Undetermined		
Marbled Dog's-tooth Tortrix	*Acleris maccana*	Undetermined		
Moorland Acleris	*Acleris notana*	Undetermined		
Curved Acleris	*Acleris uncella*	Undetermined		
Eastern Black-headed Budworm Moth	*Acleris variana*	Secure		
German Aethes Moth	*Aethes deutschiana*	Undetermined		
Smeathmann Aethes Moth	*Aethes smeathmanniana*	Undetermined		
Small Festooned Roller Moth	*Ancylis diminuatana*	Undetermined		
Black-marked Ancylis Moth	*Ancylis metamelana*	Undetermined		
Broken-barred Roller Moth	*Ancylis unguicella*	Undetermined		
Northern Aphelia Moth	*Aphelia septentrionalis*	Undetermined		
Sallow Apotomis Moth	*Apotomis capreana*	Undetermined		
Cold Apotomis Moth	*Apotomis frigidana*	Undetermined		
Green Aspen Leafroller Moth	*Apotomis removana*	Undetermined		
Thorned Apotomis Moth	*Apotomis spinulana*	Undetermined		
Tertian Apotomis Moth	*Apotomis tertiana*	Undetermined		
Alberta Archips	*Archips alberta*	Undetermined		
Fruit-tree Leafroller Moth	*Archips argyrospila*	Undetermined		
Concrete Blotch Moth	*Argyroploce concretana*	Undetermined		
External Blotch Moth	*Argyroploce externa*	Undetermined		
Ledum Blotch Moth	*Argyroploce lediana*	Undetermined		
Fall Spruce Needle Moth	*Argyrotaenia occultana*	Undetermined		
Jack Pine Tube Moth	*Argyrotaenia tabulana*	Undetermined		
Matted Celypha Moth	*Celypha cespitana*	Undetermined		
Reticulated Fruitworm Moth	*Cenopis reticulatana*	Undetermined		
Taiga Larch Tortrix Moth	*Choristoneura albaniana*	Undetermined		
Large Aspen Tortrix Moth	*Choristoneura conflictana*	Undetermined		
Eastern Spruce Budworm	*Choristoneura fumiferana*	Secure		
Western Spruce Budworm	*Choristoneura occidentalis*	Undetermined		
Clemens' Clepsis Moth	*Clepsis clemensiana*	Undetermined		
Moeschler Clepsis Moth	*Clepsis moeschleriana*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
White-triangle Tortrix Moth	*Clepsis persicana*	Undetermined		
Spruce Seed Moth	*Cydia youngana*	Undetermined		
Currant Decodes Moth	*Decodes horariana*	Undetermined		
Macdunnough's Decodes Moth	*Decodes macdunnoughi*	Undetermined		
Silver Eana Moth	*Eana argentana*	Undetermined		
Columbia Leafroller Moth	*Epinotia columbia*	Secure		
Willow Totrix	*Epinotia cruciana*	Secure		
Diamond Epinotia Moth	*Epinotia lindana*	Undetermined		
Streaked Epinotia Moth	*Epinotia medioplagata*	Undetermined		
Saddled Epinotia Moth	*Epinotia momonana*	Undetermined		
Willow Epinotia Moth	*Epinotia nisella*	Secure		
Red-striped Needleworm Moth	*Epinotia radicana*	Secure		
Stiched Epinotia Moth	*Epinotia rectiplicana*	Undetermined		
Birch Leafroller Moth	*Epinotia solandriana*	Undetermined		
Black Dash Epinotia Moth	*Epinotia solicitana*	Undetermined		
Birch Epinotia Moth	*Epinotia trigonella*	Undetermined		
Camden Tortrid Morth	*Eucosma camdenana*	Undetermined		
Southampton Tortrid Moth	*Eucosma southamptonensis*	Undetermined		
Caribou Tortrid Moth	*Eucosma tarandana*	Undetermined		
Ferruginous Eulia Moth	*Eulia ministrana*	Undetermined		
Clover Head Caterpillar Moth	*Grapholita interstinctana*	Undetermined		
Swathed Cloak Moth	*Gypsonoma fasciolana*	Undetermined		
Dark Cloak Moth	*Gypsonoma nebulosana*	Undetermined		
Parry Cloak Moth	*Gypsonoma parryana*	Undetermined		
Buff-tipped Marble	*Hedya ochroleucana*	Undetermined		
Styx Brush Leafroller	*Hystrichophora stygiana*	Undetermined		
Black-and-White Notocelia Moth	*Notocelia illotana*	Undetermined		
Purple Notocelia Moth	*Notocelia purpurissatana*	Undetermined		
Divided Olethreutes	*Olethreutes bipartitana*	Undetermined		
Margined Olethreutes	*Olethreutes costimaculana*	Undetermined		
Galaxy Olethreutes	*Olethreutes galaxana*	Undetermined		
Glacial Olethreutes	*Olethreutes glaciana*	Undetermined		
Heinrich Olethreutes	*Olethreutes heinrichana*	Undetermined		
Far North Olethreutes	*Olethreutes inquietana*	Undetermined		
Mengele Olethreutes	*Olethreutes mengelana*	Undetermined		
Metallic Olethreutes	*Olethreutes metallicana*	Undetermined		
Minaki Olethreutes	*Olethreutes minaki*	Undetermined		
Nordegg Olethreutes	*Olethreutes nordeggana*	Undetermined		
Schulz Olethreutes	*Olethreutes schulziana*	Undetermined		
Turfosan Olethreutes	*Olethreutes turfosana*	Undetermined		
Green Aspen Leaftier	*Pandemis canadana*	Undetermined		
Tufted Apple Bud Moth	*Platynota idaeusalis*	Undetermined		
Spotted Aspen Leafroller	*Pseudosciaphila duplex*	Undetermined		
Northern Pitch Twig Moth	*Retinia albicapitana*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Holly Tortrix Moth	*Rhopobota naevana*	Secure		
Enchanting Sparganothis Moth	*Sparganothis praecana*	Undetermined		
Rubicund Sparganothis Moth	*Sparganothis rubicundana*	Undetermined		
Violet Sparganothis Moth	*Sparganothis violaceana*	Undetermined		
Varacious Sparganothis Moth	*Sparganothis vocaridorsana*	Undetermined		
Mosaic Sparganothis Moth	*Sparganothis xanthoides*	Undetermined		
Fortune Shoot Moth	*Zeiraphera fortunana*	Undetermined		
Purple-striped Shootworm Moth	*Zeiraphera unfortunana*	Undetermined		
Yponomeutoidea – Argyresthiidae				Yponomeutoid micro-moths – Shiny head-standing moths
Bronze Alder Moth	*Argyresthia goedartella*	Undetermined		
Shiny Willow Moth	*Argyresthia pygmaeella*	Secure		
Yponomeutoidea – Glyphipterigidae				Yponomeutoid micro-moths – Sedge moths
Haworth's Glyphipterid Moth	*Glyphipterix haworthana*	Undetermined		
Yponomeutoidea – Plutellidae				Yponomeutoid micro-moths – Diamondback moths
Northern Diamondback Moth	*Plutella hyperboreella*	Undetermined		
Star Diamondback Moth	*Plutella xylostella*	Undetermined		
Broken Diamondback Moth	*Rhigognostis interrupta*	Undetermined		
Yponomeutoidea – Ypsolophidae				Yponomeutoid micro-moths – Ypsolophid moths
Back-marked Ypsolopha Moth	*Ypsolopha dorsimaculella*	Undetermined		

[a] Describes reasons for a change in status rank between 2016 and 2021. ↗: Increasing Risk, ↘: Decreasing Risk, ∃: Error correction, #: Species new to the NWT, T: Taxonomic change, ⓘ: Information added, A: Changed due to detailed assessment by COSEWIC since 2016. See Data Sources and Methods for more details.

[b] Global Conservation Concern: Rank of a species in the world as designated by NatureServe. GH: Possibly Extinct, G1: Critically Imperilled, G2: Imperilled, G3: Vulnerable. Definitions and more information can be found at www.natureserve.org. As of 2021, no species known to be present in the NWT are of global conservation concern.

[1] Changed from At Risk
[2] Changed from May Be at Risk
[3] Changed from Sensitive
[4] Changed from Secure
[5] Changed from Undetermined
[6] Changed from Not Ranked
[7] Changed from Alien
[8] Changed from Extirpated
[9] Changed from Vagrant
[10] Changed from Presence Expected



Western Tent Caterpillar Photo Credit: S. Carrière



Common Banded Skipper Photo Credit: E. D. Hont



Hudsonian Whiteface
Photo Credit: J. Hollett

6.22 Odonates

Dragonflies and damselflies are Odonates (Order Odonata), meaning "the toothy ones". Both adults and larvae chew up their living prey. However, they are harmless to people and they neither bite nor sting. They are sometimes mistakenly thought to be attacking as they gather up the black flies, mosquitoes, deer flies and horse flies that are the real attackers. The Odonates have large wings, elongate bodies and small bristle-like antennae.

This is a very distinctive Order of insects made up of two kinds. The dragonflies (infraorder Anisoptera) hold their wings horizontally and have a compact head with the eyes separated by a small space less than their own width. Damselflies (infraorder Zygoptera) differ in having their wings held above the body (vertically) when at rest and they have a large space between the eyes greater than their own width.

Flying odonate adults lay eggs in or near the water. The tiny eggs hatch in a week or overwinter, hatching in the spring. The brown/green aquatic larvae, called nymphs, have a clawed lower lip that can be projected at a speed of 1/100th of a second to capture prey. Nymphs grow by moulting their skin 8 to 17 times. Mature nymphs then leave the water and expand by swallowing air. This splits the skin and a pale creature emerges. The wings at first appear shrivelled, but they soon expand. At the same time the body hardens and colours develop. Within a few hours of emerging from the water, the dragonfly is full-grown and launches on its first flight. Males of some species defend territories and others indulge in complex mating flights. When mating, the male holds the front of the female with the tip of his abdomen.

Species in the NWT range in size from the very large Lake Darner (8 cm long) to the delicate metallic green Sedge Sprite (3 cm long). Some species are found only in specific aquatic habitats. For example, nymphs of the Boreal Snakestail occur only in fast flowing water including rapids and waterfalls. The nymphs of the White-faced Meadowhawk inhabit shallow temporary pools. Most of the NWT dragonflies occur in the boreal forest zone and only a few species (Sedge Darner, Taiga Bluet) were known extend out onto the tundra. In 2017 the first Sedge Darner was photographed on Banks Island, the northernmost record of a dragonfly in Canada. In 2019, four additional species were reported for the first time from the NWT's Southern Arctic Ecozone (Black Meadowhawk, Lake Darner, Azure Darner, and Ringed Emerald).

Dragonflies and damselflies have become symbolic of the natural world to many people. They are used to represent nature in art, advertisement, and company and program logos.

They are monitored as indicators of the state of the environment. They consume pest insects including biting flies. They also have a major impact on ecosystems as both predators and prey. Numerous fish and birds, including young of the endangered whooping crane, will feed extensively on the aquatic larvae of dragonflies.

There is still much to be learned about NWT dragonflies. If you are visiting or living in any NWT region, you may be able to help document the dragonfly fauna of the North. Photos are welcome. Collecting specimens may be done but only if you see that the population is large. Collected insects should be placed individually with wings folded over the back in an envelope. The date, location and collector's name should be noted on the envelope. Next the envelopes should be frozen, put in a dry place to dry out and shipped in a box to prevent damage. They may be shipped to ENR. Contact information is available at the end of this report.

Dr. Paul Catling
Brenda Kostiuk
Odonate specialists
Ottawa, ON



Northern Bluet Photo Credit: D. McCorquodale



American Emerald Photo Credit: S. Carrière

List 22. **Odonates**

There are 42 species of odonates confirmed present in the NWT, and eleven more species are expected to be present. Species are listed according to the Phylum, Class and Order they belong to, then alphabetically by suborder, Family, and scientific species name. Taxonomy follows Paulson and Dunkle (2018). Common names are from various sources.



Subarctic Darner Photo Credit: S. Carrière

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Arthropoda – Insecta – Odonata				Arthropods – Insects – Odonates
Anisoptera – Aeshnidae				Dragonflies – Darners
Canada Darner	*Aeshna canadensis*	Undetermined		
Lake Darner	*Aeshna eremita*	Secure		
Variable Darner	*Aeshna interrupta*	Secure		
Sedge Darner	*Aeshna juncea*	Secure		
Paddle-tailed Darner	*Aeshna palmata*	Presence Expected		
Azure Darner	*Aeshna septentrionalis*	Secure		
Zigzag Darner	*Aeshna sitchensis*	Secure		
Subarctic Muskeg Darner	*Aeshna subarctica*	Secure		
Black-tipped Darner	*Aeshna tuberculifera*	Presence Expected		
Shadow Darner	*Aeshna umbrosa*	Secure		
Anisoptera – Corduliidae				Dragonflies – Emeralds
American Emerald	*Cordulia shurtleffii*	Secure		
Spiny Baskettail	*Epitheca spinigera*	Presence Expected	ⓘ[6]	
Ringed Emerald	*Somatochlora albicincta*	Secure		
Quebec Emerald	*Somatochlora brevicincta*	Presence Expected		
Lake Emerald	*Somatochlora cingulata*	Presence Expected	ⓘ[5]	
Forcipate Emerald	*Somatochlora forcipata*	Undetermined		
Delicate Emerald	*Somatochlora franklini*	Undetermined		
Hudsonian Emerald	*Somatochlora hudsonica*	Secure		
Kennedy's Emerald	*Somatochlora kennedyi*	Secure		
Ocellated Emerald	*Somatochlora minor*	Sensitive		
Treeline Emerald	*Somatochlora sahlbergi*	May Be At Risk		
Mountain Emerald	*Somatochlora semicircularis*	Presence Expected		
Muskeg Emerald	*Somatochlora septentrionalis*	Undetermined		
Whitehouse's Emerald	*Somatochlora whitehousei*	Presence Expected		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Anisoptera – Gomphidae				Dragonflies – Clubtails
Boreal Snaketail	*Ophiogomphus colubrinus*	Secure		
Pale Snaketail	*Ophiogomphus severus*	Presence Expected		
Elusive Clubtail	*Stylurus notatus*	Sensitive		
Anisoptera – Libellulidae				Dragonflies – Skimmers
Chalk-fronted Corporal	*Ladona julia*	Presence Expected	ⓘ[6]	
Boreal Whiteface	*Leucorrhinia borealis*	Secure		
Hudsonian Whiteface	*Leucorrhinia hudsonica*	Secure		
Dot-tailed Whiteface	*Leucorrhinia intacta*	Presence Expected	ⓘ[6]	
Canada Whiteface	*Leucorrhinia patricia*	Secure		
Belted Whiteface	*Leucorrhinia proxima*	Secure		
Four-spotted Skimmer	*Libellula quadrimaculata*	Secure		
Saffron-winged Meadowhawk	*Sympetrum costiferum*	Secure		
Black Meadowhawk	*Sympetrum danae*	Secure		
Cherry-faced Meadowhawk	*Sympetrum internum*	Secure		
Red-veined Meadowhawk	*Sympetrum madidum*	Secure		
White-faced Meadowhawk	*Sympetrum obtrusum*	Secure		
Zygoptera – Calopterygidae				Damselflies – Broad-winged damselflies
River Jewelwing	*Calopteryx aequabilis*	Undetermined		
Zygoptera – Coenagrionidae				Damselflies – Narrow-winged damselflies
Prairie Bluet	*Coenagrion angulatum*	Undetermined		
Subarctic Bluet	*Coenagrion interrogatum*	Undetermined		
Taiga Bluet	*Coenagrion resolutum*	Secure		
Northern Bluet	*Enallagma annexum*	Secure		
Boreal Bluet	*Enallagma boreale*	Secure		
Marsh Bluet	*Enallagma ebrium*	Secure		
Hagen's Bluet	*Enallagma hageni*	Undetermined		
Plains Forktail	*Ischnura damula*	Presence Expected		
Sedge Sprite	*Nehalennia irene*	Secure		
Zygoptera – Lestidae				Damselflies – Spread-winged damselflies
Spotted Spreadwing	*Lestes congener*	Secure		
Common Spreadwing	*Lestes disjunctus*	Secure		
Emerald Spreadwing	*Lestes dryas*	Secure		
Sweetflag Spreadwing	*Lestes forcipatus*	Secure		

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[b] For your convenience, the status derived from other processes than the one presented in this report is described in this column. Global Conservation Concern: Rank of a species in the world as assessed by NatureServe. GH: Possibly Extinct, G1: Critically Imperilled, G2: Imperilled, G3: Vulnerable. Definitions and more information can be found at www.natureserve.org.

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Striped Sedge Grasshopper
Photo Credit: J. Hollett

6.23 Grasshoppers and Relatives

The Orthopterans include grasshoppers, crickets and katydids. They are some of the most recognized insects in the world. Their relatively large body sizes and sometimes high population densities attract the notice of even casual observers. Despite this, grasshoppers historically received little attention in the North. Studies have largely been restricted to very accessible areas, and insufficient time was spent for comprehensive inventories.

Recent sampling throughout northern North America has expanded the area of coverage, and guides have been produced for the NWT and Alaska. At the same time, web-based identification tools and citizen science platforms have engaged and empowered us all. These tools have resulted in both new distribution data and new species records for the North.

Grasshoppers and their relatives are important in many ways. They often occur in large numbers and have substantial ecological impact. They may eat their weight in plant tissue every day and can influence the composition of plant communities. They also hasten the degradation of cellulose and contribute significantly to the cycling of nutrients. Many bird species feed on grasshoppers and reptiles and amphibians are also major consumers. Some birds may rely heavily on this food source, especially during peaks in grasshopper populations. Sandhill Cranes feed on the relatively large Striped Sedge Grasshopper in fens and on Clear-winged Grasshopper along roadsides. Grasshoppers are 50 to 75% crude protein and thus highly nutritious. Adding to their interest, many grasshoppers have complex behaviour patterns, both auditory and visual.

The chirping or whistling-like sounds that they make can often be used to identify the species. These sounds are made by either rubbing one part of the body against another (stridulation) or by suddenly flexing stiffened membranes (crepitation).

Grasshoppers in the NWT may be found in meadows, wetlands, forest edges, disturbed areas, and tundra; in fact, grasshoppers inhabit all terrestrial habitats of the NWT except for very dense woodlands. Many of the grasshoppers found in the North are generalist species that have wide ranges in Canada and the USA. These species are found in a variety of natural habitats but are also well-adapted to take advantage of disturbed areas. This group of grasshoppers is represented by species such the Clear-winged Grasshopper, Crackling Forest Grasshopper and Northern Spur-throat.

Some species are typical of the northern part of the Canadian prairies and may have spread into the NWT during ancient periods of warmer climate. These species include the Coral-winged Grasshopper, Speckle-winged Rangeland Grasshopper, and Kennicott's Spurthroat. Today, their northern habitats consist of patches of relatively warm meadows with abundant native grasses. Their range in the NWT is primarily limited to the areas of Great Slave Lake and the Mackenzie Valley. Included in this group are the most recent additions to the list of NWT grasshoppers, the Two-striped Grasshopper and Huron Short-winged Grasshopper. These species were found in the NWT for the first time only in 2018 and 2019, respectively.

Another group of grasshoppers that is of great interest comprises those species that are found only in the North. This group includes three species in the NWT, the Arctic Club-horned Grasshopper, Brook's Pink-shanked Grasshopper and the Tundra Grasshopper (also known as Nordic Mountain Grasshopper). All of these species likely survived in the North during the last ice age. The first two are closely related to more southern species that could have become isolated in the North during the expansion of the ice sheets. The Arctic Club-horned Grasshopper is found mainly in northern tundra and is the only grasshopper known to occur on the Arctic islands. The Brook's Pink-shanked Grasshopper lives in dry tundra and warm, grassy slopes. It displays a high degree of variation between populations, so much so that at least one variety may be found only in the NWT.

The Tundra Grasshoppers belongs to a group that is very diverse in southern Canada, and it is unclear which species may be its closest relatives. This interesting grasshopper is found in the NWT, Yukon, and Alaska through northern Asia and Europe, extending into southern Europe in the alpine tundra of higher mountains. Its distribution today closely mirrors the pattern of glacial refugia during the last ice age.

Orthopterans can be useful indicators of environmental change. The diversity, functional importance, sensitivity to disturbance, ease of identification and ease of sampling make them useful indicators of the state of the natural environment. Grasshopper assemblages respond to disturbances associated with human land use and their responses may be considered along with information from other groups such as plants. These insects appear to be sensitive to the changing climate. This is not surprising, given that small changes in weather from one year to the next can have major effects on the abundance of local populations. In recent years, some grasshoppers, crickets, and katydids have been found to be spreading north in southern Canada and adjacent USA, and the rate of spread for some is remarkably rapid. Warming in the NWT may affect different species in different ways. Generalist species will likely expand their ranges, while the range of the most northern species may decrease. Environmental factors may interact in unpredictable ways. For example, species associated with south-facing slopes may expand their ranges if aridity and fire frequency lead to an expansion of native meadows. However, these same species may decline if warmer weather or higher precipitation allows trees to grow into their meadow habitats. A robust sampling program will be critical in understanding the changes that are beginning to occur within the insect communities of northern Canada.

James Miskelly
Royal BC Museum
Victoria, BC

Dr. Paul Catling
Ottawa, ON

List 23.
Grasshoppers and Relatives

There are 25 species of Orthopterans that have been confirmed present in the NWT and three species are expected to be present. Species are listed according to the Phylum, Class and Order they belong to, then alphabetically by Family, and scientific species name. Taxonomy follows Miskelly and Paiero. (2019). Common names are from various sources.



Northern Grasshopper Photo Credit: C. Graydon

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Arthropoda – Insecta				Arthropods – Insects
Orthoptera – Acrididae				Grasshopper-like insects – Short-horned grasshoppers
Arctic Grasshopper	*Aeropedellus arcticus*	Secure		
Club-horned Grasshopper	*Aeropedellus clavatus*	Secure		
Speckle-winged Rangeland Grasshopper	*Arphia conspersa*	Secure		
Brown Grasshopper	*Bruneria brunnea*	Presence Expected		
Clear-winged Grasshopper	*Camnula pellucida*	Secure		
Cow Grasshopper	*Chloealtis abdominalis*	Secure		
Sprinkled Grasshopper	*Chloealtis conspersa*	Undetermined		
Two-striped Grasshopper	*Melanoplus bivittatus*	Undetermined	#[10]	
Northern Grasshopper	*Melanoplus borealis*	Secure		
Bruner's Grasshopper	*Melanoplus bruneri*	Secure		
Huckleberry Grasshopper	*Melanoplus fasciatus*	Secure		
Redlegged Grasshopper	*Melanoplus femurrubrum*	Secure		
Nordic Mountain Grasshopper	*Melanoplus frigidus*	Sensitive		
Gordon's Grasshopper	*Melanoplus gordonae*	Presence Expected		
Huron Grasshopper	*Melanoplus huroni*	Undetermined	#[10]	
Kennicott's Grasshopper	*Melanoplus kennicottii*	Secure	ⓘ[3]	
Packard's Grasshopper	*Melanoplus packardii*	Presence Expected		
Migratory Grasshopper	*Melanoplus sanguinipes*	Secure		
Coral-winged Grasshopper	*Pardalophora apiculata*	Secure		
Marsh Meadow Grasshopper	*Pseudochorthippus curtipennis*	Secure	ⓘ[5]	
Graceful Sedge Grasshopper	*Stethophyma gracile*	Undetermined		
Striped Sedge Grasshopper	*Stethophyma lineatum*	Undetermined		
Cracker Grasshopper	*Trimerotropis verruculata*	Secure		
Brook's Pink-shanked Grasshopper	*Xanthippus brooksi*	Sensitive		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Orthoptera – Tetrigidae				Grasshopper-like insects – Grouse grasshoppers
Brunner's Pygmy Grasshopper	*Tetrix brunnerii*	Secure		
Ornated Pygmy Grasshopper	*Tetrix ornata*	Secure		
Granulated Pygmy Grasshopper	*Tetrix subulata*	Secure		
Orthoptera – Tettigoniidae				Grasshopper-like insects – Katydids
Bog Shield-backed Katydid	*Metrioptera sphagnorum*	Undetermined		

[a] Describes reasons for a change in status rank between 2016 and 2021. ↗: Increasing Risk, ↘: Decreasing Risk, ∃: Error correction, #: Species new to the NWT, T: Taxonomic change, ⓘ: Information added, A: Changed due to detailed assessment by COSEWIC since 2016. See Data Sources and Methods for more details.

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[10] Changed from Presence Expected



Clear-winged Grasshopper Photo Credit: G. Beaulieu

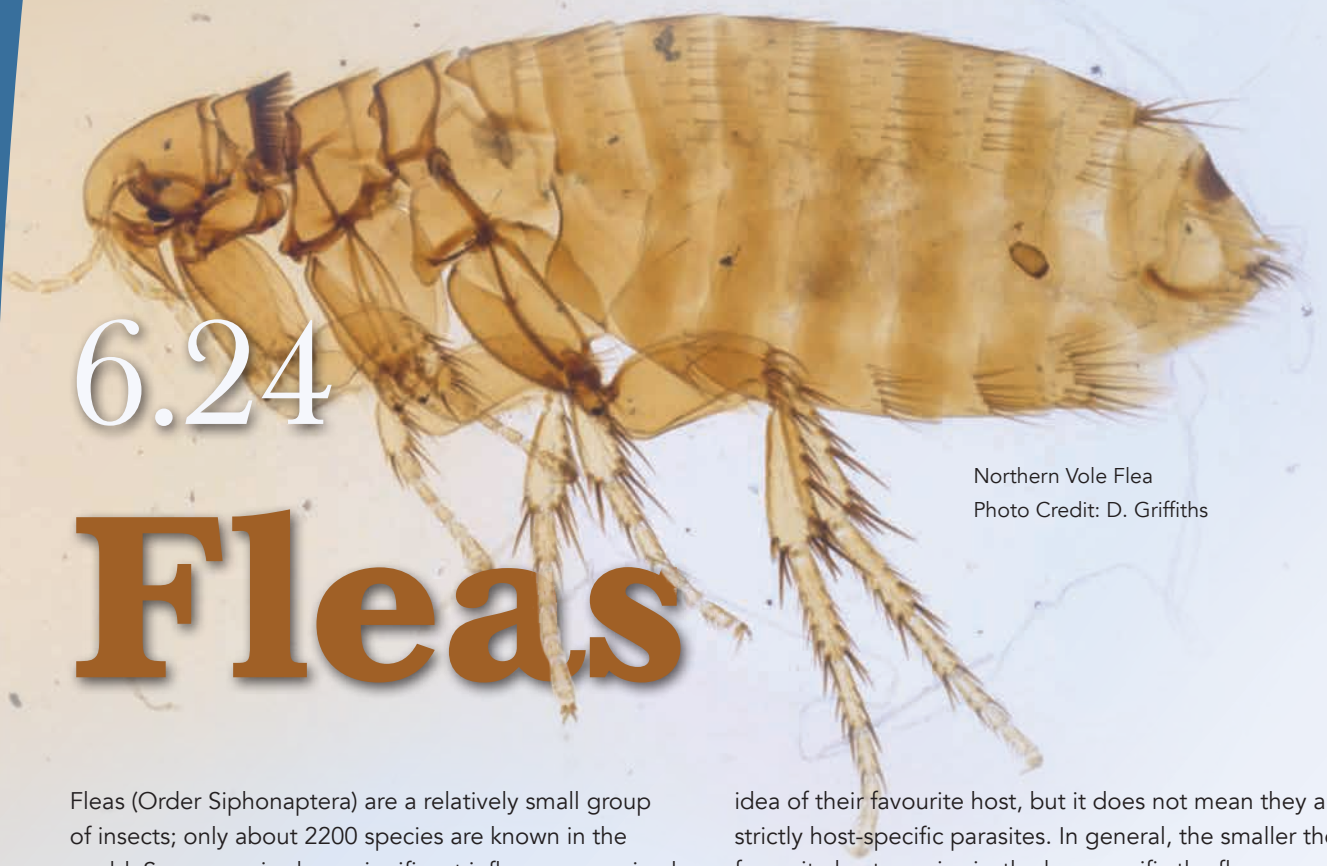


Crackling Forest Grasshopper Photo Credit: P. Catling



Clear-winged Grasshopper Photo Credit: M. Grabke

6.24 Fleas



Northern Vole Flea
Photo Credit: D. Griffiths

Fleas (Order Siphonaptera) are a relatively small group of insects; only about 2200 species are known in the world. Some species have significant influence on animal and human health as they are key vectors of some disease. Studies on flea species and distribution are important because of these veterinary and human health connections. Still, we know little about some flea species' host interactions and their larval stages.

Fleas are flightless insects (Class Insecta). They live as external parasites of mammals and birds, feeding on blood. As adults, most species are very small (but still visible to the eye); they are usually brown and narrow, an adaptation that allows them to hide and navigate in their hosts' hair or feathers. Other adaptations include very strong claws to prevent easy dislodgement, mouth parts made for piercing skin and legs for jumping hence escaping danger or finding a new home. They can jump notoriously far for their size.

The number of eggs produced varies by species, but can be from a few to hundreds. Flea eggs are mostly found in the hosts nest or borrow (or bed). The larvae look like little worms: no limbs with a mouth adapted to feed on flea egg debris, and on bits of their host's shedding skin.

Many flea species prefer, or are better adapted to feed on only one or a few host species, but they survive on others if needed. The common names of fleas offer some idea of their favourite host, but it does not mean they are strictly host-specific parasites. In general, the smaller the favourite host species is, the less specific the flea.

Hosts with low immune system will have more fleas. So if you see wildlife that is flea infested, some other condition like starvation could be at play.

Fleas are vectors for some viral, bacterial and parasitic diseases. For example, in the NWT small mammals (voles and mice) were found to carry a bacterium called Bartonella sp., which can cause "cat-scratch" disease in humans if acquired.

Fleas are part of our ecosystems and have around since the Jurassic. They may even have played a role in human's evolution to a somewhat bald, less flea-infested body.

Knowing what species of fleas on the NWT helps our understanding of the complex host-human-ecosystem pathological interactions. If you find fleas, please report them. Contact information is available at the end of the report.

Dr. Naima Jutha
Wildlife Veterinarian
Government of the Northwest Territories
Yellowknife, NT

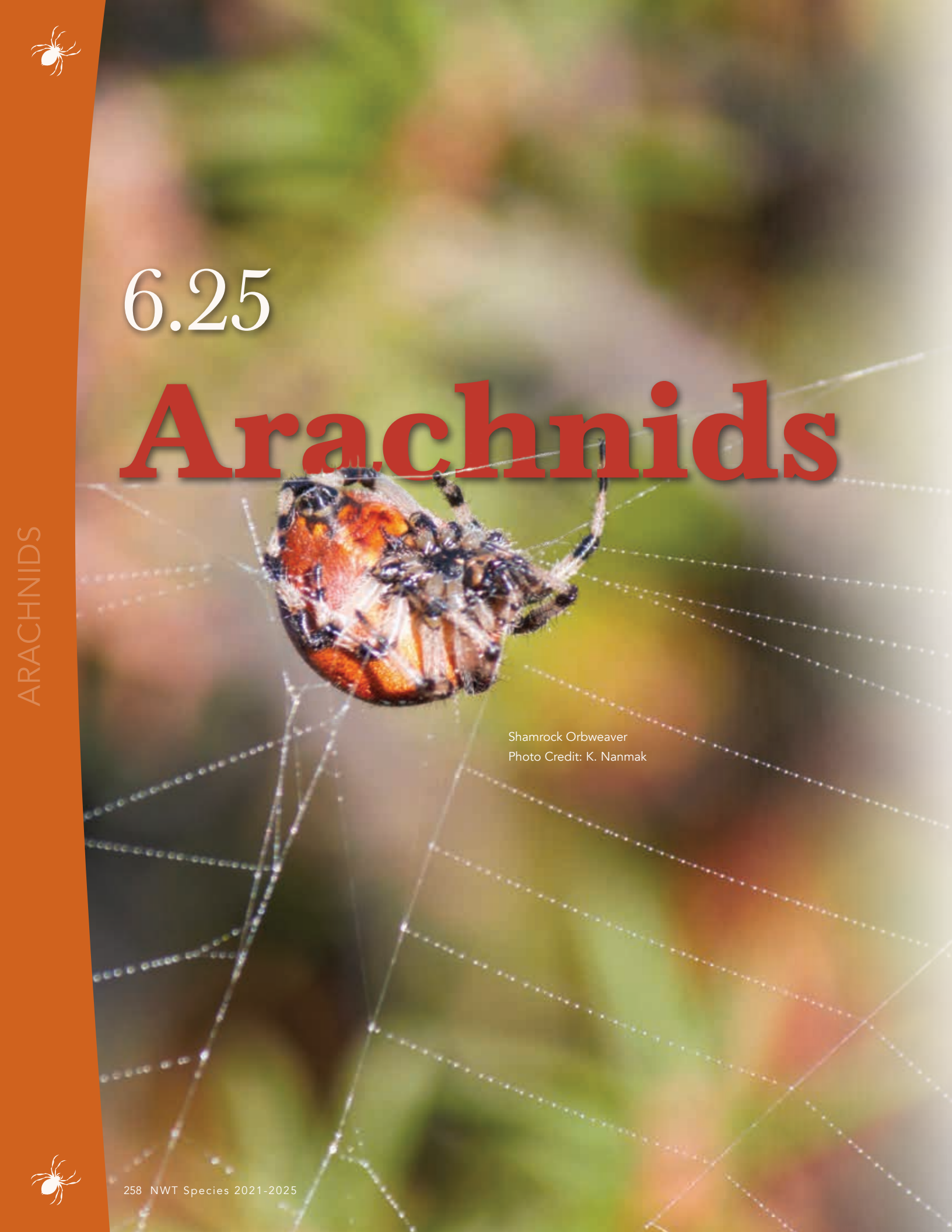
List 24. **Fleas**

There are 32 species of fleas confirmed present in the NWT. Species are listed according to the Phylum, Class and Order they belong to, then alphabetically by Family, and scientific species name. Taxonomy follows Galloway (2019). Common names are from various sources.

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Arthropoda – Insecta			Arthropods – Insects
Siphonaptera – Ceratophyllidae			Fleas – Ceratophyliid fleas
Northern Mouse Flea	*Aetheca thambus*	Undetermined	
Southern Mouse Flea	*Aetheca wagneri*	Undetermined	
Northern Vole Flea	*Amalaraeus dissimilis*	Secure	
Rodent Flea	*Amalaraeus penicilliger*	Undetermined	
Southern Mouse Flea	*Amaradix euphorbi*	Undetermined	
Swallow Nest Flea	*Ceratophyllus arcuegens*	Undetermined	
Ground Nest Flea	*Ceratophyllus garei*	Undetermined	
Islet Nest Flea	*Ceratophyllus lari*	Undetermined	
Cliff Nest Flea	*Ceratophyllus scopulorum*	Undetermined	
Northern Waterfowl Nest Flea	*Ceratophyllus vagabundus*	Undetermined	
Red Squirrel Flea	*Ceratophyllus vison*	Secure	
Chipmunk Flea	*Eumolpianus eumolpi*	Undetermined	
Meadow Vole Flea	*Megabothris asio*	Undetermined	
Lemming Flea	*Megabothris calcarifer*	Undetermined	
Greenland Flea	*Megabothris groenlandicus*	Undetermined	
Small Mammal Flea	*Megabothris quirini*	Secure	
Tree Squirrel Flea	*Orchopeas caedens*	Undetermined	
White-legged Flea	*Orchopeas leucopus*	Undetermined	
Alaskan Siksik Flea	*Oropsylla alaskensis*	Undetermined	
Woodchuck Flea	*Oropsylla arctomys*	Undetermined	
Marten Flea	*Rosickyiana lunata*	Undetermined	
Squirrel Nest Flea	*Tarsopsylla octodecimdentata*	Undetermined	
Siphonaptera – Ctenophthalmidae			Fleas – Ctenophthalmid fleas
Winter Nest Flea	*Catallagia dacenkoi*	Undetermined	
Deceiving Nest Flea	*Catallagia decipiens*	Undetermined	
Siphonaptera – Hystrichopsyllidae			Fleas – Hystrichopsyllid fleas
Shrew Flea	*Corrodopsylla curvata*	Undetermined	
Common Mouse Flea	*Epitedia wenmanni*	Undetermined	
Prairie Nest Flea	*Rhadinopsylla linta*	Undetermined	
Siphonaptera – Hystrichopsyllidae			Fleas – Leptopsyllid fleas
Siberian Vole Flea	*Amphipsylla sibirica*	Undetermined	
Southern Microtine Flea	*Peromyscopsylla hamifer*	Undetermined	
Canadian Mouse Flea	*Peromyscopsylla selenis*	Undetermined	
Siphonaptera – Pulicidae			Fleas – Pulicid fleas
Bear Flea	*Chaetopsylla tuberculaticeps*	Undetermined	
Beringian Hare Flea	*Euhoplopsyllus glacialis*	Undetermined	

[a] For your convenience, the status derived from other processes than the one presented in this report is described in this column. Global Conservation Concern: Rank of a species in the world as determined by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org.

6.25 Arachnids



Shamrock Orbweaver
Photo Credit: K. Nanmak

Arachnids (Class Arachnida) are arthropods with eight legs. This distinguishes them from insects with their six legs, a three-part body, and antennae. In some species, the front legs of adult arachnids are modified into claws or other appendages to feed, for defence, or to sense the world around them. In previous reports, the list of spiders (Order Araneae) was included. This report adds more orders of arachnids: ticks (Order Ixodida), harvestmen (Order Opiliones), and pseudoscorpions (Order Pseudoscorpiones). Others groups will be added in future reports, including the mites (Superorder Acariformes).

Spiders

Spiders (Order Araneae) form the seventh largest order of organisms on the planet (and the largest entirely predatory one) and are key components of all ecosystems where they occur.

Spiders, along with scorpions, harvestmen, mites, ticks, and other familiar and not-so-familiar organisms, belong to the Class Arachnida in the Phylum Arthropoda. Arachnid is a word derived from the Greek term for "spider-like".

Spiders have fang-like mouthparts (called chelicerae) and most have four pairs of eyes. Unique among all animals, spiders possess abdominal spinnerets (from which they produce silk) and, in males, pedipalps (leg-like appendages at the front of a spider) that are extensively modified for mating purposes.

Spiders are excellent predators, primarily eating insects and other arthropods. Most are generalists, preying upon a wide variety of organisms. Only a few are specialists. Some actively hunt down their prey, others wait for prey to come to them and then capture them in elaborate webs or simply by ambushing and overpowering them.

All spiders use the silk they extrude from their spinnerets for various purposes from safety lines and egg sacs to prey-capture webs. To most people, webs are probably the most familiar aspects of spiders. Many spiders, however, do not build webs. Spiders that ambush or actively hunt their prey (e.g., crab, jumping, wolf, ground, and sac spiders), do not build prey-capture webs. Among web-building spiders, species grouped within the same Family usually construct similar types of webs (e.g., funnel-webs for Agelenidae, orb webs for Araneidae and Tetragnathidae, sheet-webs for Linyphiidae and several other families, and cob webs for Theridiidae). Spider webs vary widely in size, shape, and the amount and type of silk used.

Most North American species take one to two years to complete their life cycles and, in the NWT, few live for more than one year. Almost all spiders are solitary animals. Because of this, spiders have evolved complex courtship rituals so that males and females of the same species can mate successfully… without eating each other.

Many Nearctic spiders spend the winter either as eggs (e.g., many orbweavers) or as sub-adults (e.g., many wolf and crab spiders). Sub-adult Pardosa wolf spiders are often one of the first signs of spring in the north, emerging from their winter hiding places and running about in open areas, often in large numbers, on the first reasonably warm days. They mature rapidly and mate in the first weeks of spring. Shortly thereafter the females can be found dragging egg cases behind them, attached to their spinnerets, or with young spiderlings riding on their backs. Although only a few types of spiders are known to care for their young, this type of maternal care is typical of wolf spiders.

In contrast to the burst of NWT spider faunistics work reported upon in the 2011-2015 edition of this report, very little new information on NWT spiders has been produced since 2015. Over 50 records of species new to the NWT fauna were added in the 2011-2015 intervals, largely due to field work on Arctic spiders led by the Biodiversity Institute of Ontario and the Arthropod Ecology Lab at McGill University. In addition, that period saw the publication of the first comprehensive national and regional conservation status ranking of all spider species found in Canada. Since then, however, only four species have been added to the checklist of the NWT spider fauna and the conservation rankings have remained essentially unchanged.

Fully 75% of spider species recorded in NWT have an undetermined rank because of insufficient survey data. Many of these species, however, are widespread and common Nearctic species elsewhere in Canada and new data in the future will likely show that they are secure in NWT.

Large areas of the NWT are under-sampled for spiders, especially its vast regions of boreal forests and subarctic tundra. These and similar habitats in other parts of Canada continue to produce novel records of spider species, especially in Family Linyphiidae (sheetweb weavers and dwarf spiders – by far the most diverse spider Family in the northern Holarctic region). Thus, specialized collection techniques (especially pitfall and Berlese sampling, as well as supplementing classic morphology-based identification methods with molecular techniques) in just about any of NWT's habitats should result in substantial further new additions to the NWT spider list as well as new geographical and quantitative data valuable for the ranking effort.

With adequate sampling the total number of spider species in NWT may range from 500 to 650 species, with about half of these being Linyphiidae. Of course, the only real way to find out is to get out there and look for spiders!

Dr. Robb Bennett
Royal BC Museum
Victoria, BC

Ticks

Ticks (Order Ixodida) are parasitic arachnids. The adults are small (3 to 5 mm) and flat, and have modified mouth parts to feed on blood of their hosts, which can be mammals, birds, or reptiles and amphibians.

Ticks thrive in warm and humid habitats, so few species have managed to make a living in the NWT. We expect to see more species with our warming climate.



Goldenrod Crab Spider with a Meal Fly
Photo Credit: K. Heavener

There are two major families of ticks, the hard ticks (Family Ixodidae) and the soft ticks (Family Argasidae). Only hard ticks are found in the NWT. The head and thorax (called cephalothorax) of adult fleas are fused to their abdomen. They look like a miniature round button with eight legs. Adults will enlarge after gorging with blood. They sport a hard shield (scutum) on their back and a beak for digging in skin and sucking blood.

The lifecycle of ticks include the egg, larva, nymph, and adult. The species present in the NWT have one or two hosts. The Winter Tick specializes in feeding on moose, but some also have been found on boreal caribou. Eggs fall off a host on vegetation in early spring and hatching into larvae may be dormant for a while. But when conditions are good, in late summer or fall, the larvae group up the vegetation from where they get on a passing host, where within a couple of weeks, they transform into a nymph.

Then they will wait on the host and diapause to an adult in the middle of winter. Their blood sucking habit can cause major discomfort for a moose, who will scratch off furs and open wounds on its skin.

The Snowshoe Hare Tick is well known to trappers in the NWT. This species complete their entire life cycles on ground or low vegetation and on a hare, but it may also take on another host species when hares are few.

Dr. Naina Jutra
Wildlife Veterinarian
Government of the Northwest Territories
Yellowknife, NT



Snowshoe Hare Tick Photo Credit: J. F. Bienentreu

Harvestmen

Harvestmen (Order Opiliones) are not spiders. In harvestmen, the space between the cephalothorax and abdomen is broad, and the body appears as one solid oval. Also, unlike spiders, the Opiliones have no venom. Their extremely long legs (eight of them of course) gave them the nickname "Daddy-long-legs", and they are also called Harvesters. They are omnivorous and found worldwide, but prefer warmer climates. The only species found in the NWT, the Common Harvestman, has been introduced, and are now ubiquitous near our homes.



Common Harvestman Photo Credit: S. Carrière

Pseudoscorpions

These predacious arachnids are similar to true scorpions but are without a stinging tail and are much smaller (less than 5 mm). They are reddish-brown, light tan or black. They have four pairs of walking legs and two crab- or lobster-like pincers. They do look like miniature crabs. Our pseudoscorpions are entirely harmless and actually beneficial.

Pseudoscorpions are one of the most peculiar, complex but still lesser-known groups of animals. Eggs and immature stages are carried by the females so they look after their young up to a point. If food is scarce females may sacrifice themselves to feed the young. Some species have elaborate courtship dances. In some places males have not been found suggesting that the population is made entirely of females that reproduce without fertilization. Most species are found on the ground in moist litter and under rocks.

They feed on small invertebrates such as mites, lice, springtails and insect larvae. Most of our pseudoscorpions may live a solitary life but in the tropics some species are social, forming colonies, and they hunt relatively large prey cooperatively. Others feed on parasites of other organisms.

Many species spin silk to make cocoons for protection. There is a venom gland in the pincer used to immobilize prey. This is far too small to be of any risk to people.

Some of the digestion is external. A milky corrosive fluid is exuded over the prey and the liquefied mass is then consumed.

Some species of pseudoscorpions often use other animals for transport (called phoresy). We see pseudoscorpions attached to flies, bees, and beetles. By achieving transport to a new location, they obtain a new, possibly more valuable habitat, and they avoid inbreeding.

Pseudoscorpions are among the unique species that survive in some of earth's deep caves in a dark, primordial and lethal cocktail of toxic compounds including depressed oxygen, increased carbon dioxide as well as sulphide, methane and ammonia. An understanding of how they deal with this extreme environment may be useful to humans.

Although we do know some very interesting things, what we do not know is also notable. We have very little information on the distribution and ecology of pseudoscorpions in the northern part of North America. The fact that they are not easily identified to species makes their study more difficult. Microscopic examination of specimens and careful dissection and preparation may be necessary to reveal distinctive features.

Most of the 3,000 species of pseudoscorpions live in the tropics. There are approximately 30 species in Canada and one reaches the north western unglaciated Arctic, also known as Eastern Beringia. The Arctic Pseudoscorpion is also found in Siberia (western Beringia). It was first discovered in Tibet. In Canada, it is confined to Yukon and the NWT, where it has only been found in the Richardson Mountains near the Yukon border. It may occur southward in the NWT in the Mackenzie Mountains and east of the Mackenzie Delta.

Arctic Pseudoscorpions are believed to be relicts of the ice age. At that time most of the northern parts of North America were under mile deep ice which lasted for many thousands of years. There was a huge area of ice-free landscape in the northwest of North America. Here Woolly Mammoths, Saiga Antelope, horses, Steppe Bison, Dire Wolves and 3 kinds of lions, among other species shared the landscape with the pseudoscorpions. Although many of the large mammals are extinct, and much of the landscape has changed over the last 10,000 years, many small species that lived with the past megafauna are still present in the area to this day.

Different species of pseudoscorpions have different habitats. The House Pseudoscorpion, only 4 mm long, occurs in buildings where it is said to feed on tiny organisms such as dust mites, clothes moths, carpet beetle larvae, bed bugs and book lice. The House Pseudoscorpion is mostly seen in the damper parts of homes with deteriorating paper, books, and mould in basements and washrooms where the prey is more common. This beneficial pseudoscorpion has been reported in Yellowknife.

Other species may be found in NWT in forest litter, bog moss, soil up to 30 cm deep, and in caves. Some found on open rocky hills in Yellowknife have yet to be identified. Any information on occurrence of these fascinating animals is of interest. Contact information is provided at the end of this report.

Dr. Paul Catling
Ottawa, Ontario



House Pseudoscorpion Photo Credit: S. Simpkins

List 25. **Arachnids**

There are 325 species of spiders, two species of ticks, one species of harvestmen, and two species of pseudoscorpions confirmed present in the NWT. Four species of pseudoscorpions are expected to be present. Species are listed according to the Phylum, Class and Order they belong to, then alphabetically by Family, and scientific species name. Taxonomy follows World Spider Catalogue (2016) for spiders and NatureServe for the other groups. Common names are from various sources.



Fierce Orbweaver Photo Credit: J. Jantunen

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Arthropoda – Arachnida				Arthropods – Arachnids
Araneae – Agelenidae				Spiders – Funnel-web weavers
Utah Grass Funnelweaver	*Agelenopsis utahana*	Undetermined		
Araneae – Amaurobiidae				Spiders – Hacklemesh weavers
Yellow-striped Laceweaver	*Arctobius agelenoides*	Undetermined		
Common Spined Laceweaver	*Cybaeopsis euopla*	Undetermined		
Araneae – Araneidae				Spiders – Orbweavers
Dark Alpine Orbweaver	*Aculepeira carbonarioides*	Secure		
Packard's Alpine Orbweaver	*Aculepeira packardi*	Undetermined		
Humped Bog Orbweaver	*Araneus corticarius*	Undetermined		
Marbled Orbweaver	*Araneus marmoreus*	Undetermined		
Nordmann's Orbweaver	*Araneus nordmanni*	Undetermined		
Common Orbweaver	*Araneus saevus*	Undetermined		
Shamrock Orbweaver	*Araneus trifolium*	Undetermined		
Yukon Orbweaver	*Araneus yukon*	Undetermined		
Six-spotted Yellow Orbweaver	*Araniella displicata*	Secure		
Uncommon Yellow Orbweaver	*Araniella proxima*	Undetermined		
Common Trashline Orbweaver	*Cyclosa conica*	Undetermined		
Tundra Dark-eyed Orbweaver	*Hypsosinga groenlandica*	Undetermined		
Common Dark-eyed Orbweaver	*Hypsosinga pygmaea*	Undetermined		
Forest Dark-eyed Orbweaver	*Hypsosinga rubens*	Secure		
Furrow Orbweaver	*Larinioides cornutus*	Secure	∃[5]	
Ornamental Orbweaver	*Larinioides patagiatus*	Secure		
Arabesque Orbweaver	*Neoscona arabesca*	Undetermined		
Araneae – Clubionidae				Spiders – Sac spiders
Bryant Sac Spider	*Clubiona bryantae*	Secure		
Common Harpoon Sac Spider	*Clubiona canadensis*	Undetermined		
Toothed Sac Spider	*Clubiona furcata*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Kulczyński's Sac Spider	*Clubiona kulczynskii*	Undetermined		
Norway Harpoon Sac Spider	*Clubiona norvegica*	Secure		
Cupped Sac Spider	*Clubiona praematura*	Undetermined		
Riparian Sac Spider	*Clubiona riparia*	Undetermined		
Araneae – Dictynidae				Spiders – Mesh web weavers
Lapland Meshweaver	*Arctella lapponica*	Undetermined		
Short-eared Meshweaver	*Argenna obesa*	Secure		
Boreal Thread Meshweaver	*Dictyna alaskae*	Undetermined		
Spiraled Thread Meshweaver	*Dictyna arundinacea*	Undetermined		
Short-heeled Thread Meshweaver	*Dictyna brevitarsa*	Undetermined		
Common Thread Meshweaver	*Dictyna major*	Undetermined		
Common Ribbon Meshweaver	*Emblyna annulipes*	Undetermined		
Boreal Ribbon Meshweaver	*Emblyna borealis*	Undetermined		
Spatulate Ribbon Meshweaver	*Emblyna manitoba*	Undetermined		
Pale Backspined Meshweaver	*Lathys pallida*	Undetermined		
Araneae – Gnaphosidae				Spiders – Ground spiders
Pluto Ground Spider	*Callilepis pluto*	Secure	ⓘ[5]	
Marvelous Notched Ground Spider	*Drassodes mirus*	Undetermined		
Common Notched Ground Hunter	*Drassodes neglectus*	Undetermined		
Neglected Notched Ground Spider	*Gnaphosa borea*	Secure		
Short-spurred Ground Spider	*Gnaphosa brumalis*	Secure		
Forest Ground Spider	*Gnaphosa microps*	Secure		
Moss Ground Spider	*Gnaphosa muscorum*	Secure		
Blunt-spurred Ground Spider	*Gnaphosa orites*	Undetermined		
Slender Ground Spider	*Gnaphosa parvula*	Undetermined		
Victorious Simple Ground Spider	*Haplodrassus eunis*	Undetermined		
Tapered Simple Ground Hunter	*Haplodrassus hiemalis*	Secure		
Ensign Simple Ground Spider	*Haplodrassus signifer*	Undetermined		
Plugged Antmimic Ground Spider	*Micaria aenea*	Secure		
Alpine Antmimic Ground Spider	*Micaria alpina*	Undetermined		
Separated Antmimic Ground Spider	*Micaria constricta*	Undetermined		
Common Iridescent Antmimic Spider	*Micaria pulicaria*	Secure		
Extended Antmimic Ground Spider	*Micaria rossica*	Secure		
Three-spotted Antmimic Ground Spider	*Micaria tripunctata*	Undetermined		
Canada Ground Spider	*Orodrassus canadensis*	Undetermined		
Common Preening Ground Spider	*Zelotes fratris*	Secure		
Teardrop Preening Ground Spider	*Zelotes puritanus*	Secure		
Sula Preening Ground Spider	*Zelotes sula*	Undetermined		
Araneae – Hahniidae				Spiders – Hahnid spiders
Hairy Comb-tailed Spider	*Hahnia cinerea*	Undetermined	∃[10]	
Long-spined Comb-tailed Spider	*Hahnia glacialis*	Undetermined	∃[10]	
Unmarked Comb-tailed Spider	*Hahnia ononidum*	Secure		
Thin-hooked Comb-tailed Spider	*Neoantistea agilis*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Araneae – Linyphiidae				Spiders – Sheet-web or dwark weavers
Elbowed Short-legged Sheetweaver	*Agyneta allosubtilis*	Undetermined		
American Short-legged Sheetweaver	*Agyneta amersaxatilis*	Undetermined		
Jackson's Short-legged Sheetweaver	*Agyneta jacksoni*	Undetermined		
Arctic Short-legged Sheetweaver	*Agyneta maritima*	Undetermined		
Big-eyed Short-legged Sheetweaver	*Agyneta nigripes*	Undetermined		
Olive Short-legged Sheetweaver	*Agyneta olivacea*	Secure		
Simple Short-legged Sheetweaver	*Agyneta simplex*	Secure	ⓘ[5]	
Toothed Tuft-horned Sheetweaver	*Allomengea dentisetis*	Undetermined		
Bristle-headed Arctic Money Spider	*Arcterigone pilifrons*	Undetermined		
Kolymen Money Spider	*Asiceratinops kolymensis*	Undetermined	#	
Sickle Big-headed Money Spider	*Baryphyma trifrons*	Undetermined		
Blotched Shield Sheetweaver	*Bathyphantes brevipes*	Undetermined		
Sharp-forked Shield Sheetweaver	*Bathyphantes brevis*	Undetermined		
Canadian Shield Sheetweaver	*Bathyphantes canadensis*	Undetermined		
Black Shield Sheetweaver	*Bathyphantes eumenis*	Undetermined		
Small Shield Sheetweaver	*Bathyphantes gracilis*	Undetermined		
Fat-scaped Shield Sheetweaver	*Bathyphantes gulkana*	Undetermined		
Pale Shield Sheetweaver	*Bathyphantes pallidus*	Secure		
Spined Shield Sheetweaver	*Bathyphantes reprobus*	Undetermined		
Pond Money Spider	*Carorita limnaea*	Undetermined		
Hump-eyed Armoured Money Spider	*Ceraticelus bulbosus*	Secure		
Bulging-armoured Money Spider	*Ceraticelus crassiceps*	Undetermined		
Alpine Armoured Money Spider	*Ceraticelus rowensis*	Undetermined		
Brown Waxed Money Spider	*Ceratinella brunnea*	Undetermined		
Northern Waxed Money Spider	*Ceratinella ornatula*	Undetermined		
Juvenile Waxed Money Spider	*Ceratinella parvula*	Undetermined		
Broad Rugose Money Spider	*Ceratinops latus*	Undetermined		
Labrador Arboreal Money Spider	*Ceratinopsis labradorensis*	Undetermined		
Saw-backed Money Spider	*Cnephalocotes obscurus*	Secure		
Holmgren's Money Spider	*Collinsia holmgreni*	Undetermined		
Spitsbergen Money Spider	*Collinsia spetsbergensis*	Undetermined		
Thule Money Spider	*Collinsia thulensis*	Undetermined		
Elongated Twincup Money Spider	*Dicymbium elongatum*	Undetermined		
Dimpled Double-spurred Money Spider	*Diplocentria bidentata*	Secure		
Puzzling Double-spurred Money Spider	*Diplocentria perplexa*	Undetermined		
Quadrate Double-spurred Money Spider	*Diplocentria rectangulata*	Undetermined		
Bearded Muppet Money Spider	*Diplocephalus barbiger*	Undetermined		
Moss-dwelling Muppet Money Spider	*Diplocephalus sphagnicola*	Undetermined		
Common Muppet Money Spider	*Diplocephalus subrostratus*	Undetermined		
High-headed Bilobed Money Spider	*Dismodicus alticeps*	Undetermined		
Ten-eyed Bilobed Money Spider	*Dismodicus decemoculatus*	Undetermined		
Dark Conehead Money Spider	*Entelecara sombra*	Undetermined		

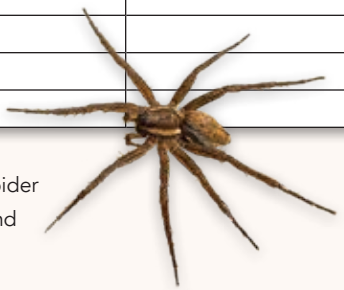
Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Common Money Spider	*Erigone aletris*	Undetermined		
Simple-palped Money Spider	*Erigone alsaida*	Undetermined		
Circumpolar Money Spider	*Erigone arctica*	Secure		
Northern Watchman Money Spider	*Erigone arctophylacis*	Undetermined		
Black Money Spider	*Erigone atra*	Undetermined		
Faltering Money Spider	*Erigone blaesa*	Undetermined		
Crested Money Spider	*Erigone cristatopalpus*	Undetermined		
Thick-wristed Money Spider	*Erigone dentigera*	Undetermined		
Elongated Money Spider	*Erigone psychrophila*	Secure		
Tyrol Money Spider	*Erigone tirolensis*	Undetermined		
Whymper's Money Spider	*Erigone whymperi*	Undetermined		
Ancient Sheetweaver	*Estrandia grandaeva*	Undetermined		
Pyramite Bowl and Doily Spider	*Frontinella pyramitela*	Undetermined		
Rocky Saw-spined Money Spider	*Glyphesis scopulifer*	Undetermined		
Subjected Moocher Money Spider	*Gnathonarium taczanowskii*	Undetermined		
Stout-palped Money Spider	*Gonatium crassipalpum*	Undetermined		
Slender Patterned Money Spider	*Grammonota angusta*	Undetermined		
Five-lobed Patterned Money Spider	*Grammonota gigas*	Undetermined		
Maritime Patterned Money Spider	*Grammonota maritima*	Undetermined		
Banded Patterned Money Spider	*Grammonota vittata*	Undetermined		
Common Mallet Sheetweaver	*Helophora insignis*	Undetermined		
Ditched Money Spider	*Hilaira canaliculata*	Undetermined		
Packsack Money Spider	*Hilaira gibbosa*	Undetermined		
Oldgrowth Hilaira Weaver	*Hilaira herniosa*	Undetermined		
Rough Money Spider	*Hilaira incondita*	Undetermined		
Proletarian Money Spider	*Hilaira proletaria*	Undetermined		
Persecuting Money Spider	*Hilaira vexatrix*	Secure		
Four-ridged Oath-taking Money Spider	*Horcotes quadricristatus*	Undetermined		
Northern Hump-necked Money Spider	*Hybauchenidium aquilonare*	Undetermined		
Common Hump-necked Money Spider	*Hybauchenidium gibbosum*	Undetermined		
Nordland Under-eyed Money Spider	*Hypomma nordlandicum*	Undetermined		
Subarctic Under-eyed Money Spider	*Hypomma subarcticum*	Undetermined		
Splendid Money Spider	*Hypselistes florens*	Undetermined		
Jackson's Hourglass Money Spider	*Hypselistes jacksoni*	Undetermined		
Yellow And Black Money Spider	*Hypselistes semiflavus*	Undetermined		
Folded Sheetweaver	*Improphantes complicatus*	Undetermined		
Doubly Sinful Sheetweaver	*Incestophantes duplicatus*	Undetermined		
Washington's Sinful Sheetweaver	*Incestophantes washingtoni*	Undetermined		
Alpine Whiskered Money Spider	*Islandiana falsifica*	Undetermined		
Dark Sheetweaver	*Kaestneria pullata*	Undetermined		
Reddish Sheetweaver	*Kaestneria rufula*	Undetermined		
Alpine Fine Sheetweaver	*Lepthyphantes alpinus*	Undetermined		
Trifling Sheetweaver	*Macrargus multesimus*	Undetermined		



Grass Funnelweaver
Photo Credit: S. Carrière

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Tundra Masik Money Spider	*Masikia indistincta*	Secure		
Sundevall's Money Spider	*Maso sundevalli*	Undetermined		
Boreal Argus Money Weaver	*Mecynargus borealis*	Undetermined		
Mountain Argus Money Weaver	*Mecynargus monticola*	Undetermined		
Squinting Argus Money Spider	*Mecynargus paetulus*	Undetermined		
Sphagnophile Argus Money Spider	*Mecynargus sphagnicola*	Undetermined		
Common Harvester Money Spider	*Mermessus trilobatus*	Undetermined		
Undulating Harvester Money Spider	*Mermessus undulatus*	Undetermined		
Atypical Rod-headed Money Spider	*Metopobactrus prominulus*	Undetermined		
West Coast Platform Sheetweaver	*Microlinyphia dana*	Undetermined		
Lesser Platform Sheetweaver	*Microlinyphia pusilla*	Undetermined		
Common Micronet Sheetweaver	*Microneta viaria*	Undetermined		
Latticed Dome Sheetweaver	*Neriene clathrata*	Undetermined		
Filmy Dome Sheetweaver	*Neriene radiata*	Undetermined		
Common Big-chested Money Spider	*Oedothorax trilobatus*	Undetermined		
Beringian Money Spider	*Oreoneta beringiana*	Undetermined		
Brown Money Spider	*Oreoneta brunnea*	Undetermined		
Arviat Money Spider	*Oreoneta eskimopoint*	Undetermined		
Herschel Money Spider	*Oreoneta herschel*	Undetermined		
Flat-headed Money Spider	*Oreoneta leviceps*	Undetermined		
Magadan Money Spider	*Oreoneta magaputo*	Undetermined		
Right-angled Sheetweaver	*Oreonetides rectangulatus*	Undetermined		
Common Sheetweaver	*Oreonetides vaginatus*	Undetermined		
Menge's Helmet Money Spider	*Pelecopsis mengei*	Undetermined		
Infamous Stranger Sheetweaver	*Perregrinus deformis*	Undetermined		
Polar Money Spider	*Perro polaris*	Undetermined		
Least Blahblah Money Spider	*Phlattothrata parva*	Undetermined		
Northern Hammock Sheetweaver	*Pityohyphantes subarcticus*	Undetermined		
American Hairy-legged Money Spider	*Pocadicnemis americana*	Secure		
Beringian Variegated Sheetweaver	*Poeciloneta vakkhanka*	Undetermined		
Kulczyński's Nosecone Money Spider	*Praestigia kulczynskii*	Secure		
Gertsch's Atlas Money Spider	*Satilatlas gertschi*	Undetermined		
Hesitating Money Spider	*Sciastes dubius*	Undetermined		
Long-armed Money Spider	*Sciastes hastatus*	Undetermined		
Mentasta Lake Money Spider	*Sciastes mentasta*	Undetermined		
Short-armed Money Spider	*Sciastes truncatus*	Secure		
Eastern Highwayman Money Spider	*Scironis tarsalis*	Undetermined		
Alpine Money Spider	*Scotinotylus alpinus*	Undetermined		
Holy Money Spider	*Scotinotylus sacer*	Secure		
Fringed Money Spider	*Scyletria inflata*	Undetermined		
Beringian Semlya Money Spider	*Semljicola beringianus*	Secure		
Lapland Semlya Money Spider	*Semljicola lapponicus*	Undetermined		
Blunt Semlya Money Spider	*Semljicola obtusus*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Pampia Estimator Money Spider	*Silometopoides pampia*	Undetermined		
Mountain Crescent Money Spider	*Sisicottus montanus*	Undetermined		
Rotund Money Spider	*Sisis rotundus*	Undetermined		
Indexed Flowing Money Spider	*Souidas tibialis*	Undetermined		
Blauvelt Three-striped Sheetweaver	*Stemonyphantes blauveltae*	Undetermined		
Common Stylus Money Spider	*Styloctetor compa*	Secure		
Two-keeled Humble Money Spider	*Tapinocyba bicarinata*	Secure		
Little Humble Money Spider	*Tapinocyba minuta*	Secure		
Simple Humble Money Spider	*Tapinocyba simplex*	Undetermined		
Wide-chested Money Spider	*Tarsiphantes latithorax*	Undetermined		
Antmimic Tennessee Sheetweaver	*Tennesseellum formica*	Undetermined		
Summery Ornate-shinned Money Spider	*Tiso aestivus*	Undetermined		
Decorated Red-And-Black Money Spider	*Tmeticus ornatus*	Undetermined		
Dwarf Typho Money Spider	*Typhochrestus pygmaeus*	Undetermined		
Chesty Vermont Money Spider	*Vermontia thoracica*	Secure		
Long-tongued Money Spider	*Wabasso cacuminatus*	Undetermined		
Short-tongued Money Spider	*Wabasso quaestio*	Undetermined		
Arctic Erudite Money Spider	*Walckenaeria arctica*	Undetermined		
Black-shinned Erudite Money Spider	*Walckenaeria atrotibialis*	Undetermined		
Orange-headed Erudite Money Spider	*Walckenaeria auranticeps*	Undetermined		
Chestnut Erudite Money Spider	*Walckenaeria castanea*	Undetermined		
Lucky Erudite Money Spider	*Walckenaeria clavicornis*	Undetermined		
Common Erudite Money Spider	*Walckenaeria communis*	Undetermined		
Duckling Erudite Money Spider	*Walckenaeria cuspidata*	Undetermined		
Small Horned Erudite Money Spider	*Walckenaeria exigua*	Secure		
Karpinski's Erudite Money Spider	*Walckenaeria karpinskii*	Secure		
Koch's Erudite Money Spider	*Walckenaeria kochi*	Undetermined		
Pleasant Erudite Money Spider	*Walckenaeria lepida*	Undetermined		
Hooked Erudite Money Spider	*Walckenaeria spiralis*	Undetermined		
False Hooked Erudite Money Spider	*Walckenaeria subspiralis*	Undetermined		
Gunturret Erudite Money Spider	*Walckenaeria tricornis*	Secure		
Boomerang Erudite Money Spider	*Walckenaeria vigilax*	Undetermined		
Aimak Scientist Money Spider	*Walckenaerianus aimakensis*	Undetermined		
Boreal Paintbrush Money Spider	*Zornella armata*	Undetermined		
Araneae – Liocranidae				Spiders – Liocranid sac spiders
Ornate Spiny-legged Sac Spider	*Agroeca ornata*	Undetermined		
Araneae – Lycosidae				Spiders – Wolf spiders
Pointed Wolf Spider	*Alopecosa aculeata*	Secure		
High Arctic Wolf Spider	*Alopecosa exasperans*	Secure		
Low Arctic Wolf Spider	*Alopecosa hirtipes*	Secure		
Holarctic Wolf Spider	*Alopecosa pictilis*	Secure		
Alpine Wolf Spider	*Arctosa alpigena*	Secure		
Marked Wolf Spider	*Arctosa insignita*	Undetermined		



Six-spotted Fishing Spider
Photo Credit: R. Durand

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Greater Dark Wolf Spider	*Arctosa raptor*	Secure		
Shiny Wolf Spider	*Arctosa rubicunda*	Undetermined		
Spotted Thin-legged Wolf Spider	*Pardosa albomaculata*	Undetermined		
Tundra Thin-legged Wolf Spider	*Pardosa algens*	Secure		
Graceful Thin-legged Wolf Spider	*Pardosa concinna*	Secure		
Forked Thin-legged Wolf Spider	*Pardosa furcifera*	Secure		
Snowbank Thin-legged Wolf Spider	*Pardosa fuscula*	Secure		
Glacier Thin-legged Wolf Spider	*Pardosa glacialis*	Secure		
Greenland Thin-legged Wolf Spider	*Pardosa groenlandica*	Secure		
Taiga Thin-legged Wolf Spider	*Pardosa hyperborea*	Secure		
Lapland Thin-legged Wolf Spider	*Pardosa lapponica*	Secure		
Mackenzie Thin-legged Wolf Spider	*Pardosa mackenziana*	Secure		
Modest Thin-legged Wolf Spider	*Pardosa modica*	Undetermined		
Shiny Thin-legged Wolf Spider	*Pardosa moesta*	Secure		
Podhorski's Thin-legged Wolf Spider	*Pardosa podhorskii*	Undetermined		
Comrade Thin-legged Wolf Spider	*Pardosa sodalis*	Undetermined		
Holarctic Thin-legged Wolf Spider	*Pardosa tesquorum*	Secure		
Boreal Thin-legged Wolf Spider	*Pardosa uintana*	Secure		
Forest Thin-legged Wolf Spider	*Pardosa xerampelina*	Secure		
Bryant Pirate Wolf Spider	*Pirata bryantae*	Undetermined		
Common Pirate Wolf Spider	*Pirata piraticus*	Secure		
Cantrall's Pirate Wolf Spider	*Piratula cantralli*	Undetermined		
Sphagnum Pirate Wolf Spider	*Piratula insularis*	Undetermined		
Common Litter Wolf Spider	*Trochosa terricola*	Undetermined		
Araneae – Philodromidae				Spiders – Running crab spiders
Common Running Crab Spider	*Philodromus cespitum*	Secure		
Peninsular Running Crab Spider	*Philodromus peninsulanus*	Undetermined	#	
Conifer Running Crab Spider	*Philodromus placidus*	Undetermined		
White-striped Running Crab Spider	*Philodromus rufus*	Secure		
Alaska Running Crab Spider	*Rhysodromus alascensis*	Undetermined		
Boreal Running Crab Spider	*Rhysodromus mysticus*	Undetermined		
Arctic Running Crab Spider	*Thanatus arcticus*	Secure		
Hairy Running Crab Spider	*Thanatus striatus*	Secure		
Grooved Running Crab Spider	*Tibellus maritimus*	Secure		
Slender Running Crab Spider	*Tibellus oblongus*	Undetermined		
Araneae – Pisauridae				Spiders – Fishing spiders
Six-spotted Fishing Spider	*Dolomedes triton*	Undetermined		
Araneae – Salticidae				Spiders – Jumping spiders
Cutler's Patterned Jumping Spider	*Attulus cutleri*	Undetermined		
Flower Patterned Jumping Spider	*Attulus floricola*	Undetermined		
Striped Patterned Jumping Spider	*Attulus striatus*	Undetermined		
Simple Shiny Jumping Spider	*Chalcoscirtus alpicola*	Undetermined		
Double-curved Jumping Spider	*Dendryphantes nigromaculatus*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Bronze Jumping Spider	*Eris militaris*	Undetermined		
Proszynski's Knobbed Jumping Spider	*Evarcha proszynskii*	Secure		
Boreal Ornamented Jumping Spider	*Habronattus borealis*	Undetermined		
Striped White-cheeked Jumping Spider	*Pelegrina flavipes*	Undetermined		
Flared White-cheeked Jumping Spider	*Pelegrina montana*	Undetermined		
Hitchhiking Round-bulbed Jumping Spider	*Pellenes lapponicus*	Undetermined		
Boreal Tufted Jumping Spider	*Phidippus borealis*	Undetermined		
Johnson's Tufted Jumping Spider	*Phidippus johnsoni*	Undetermined		
Whitman's Tufted Jumping Spider	*Phidippus whitmani*	Undetermined		
Ranier's Patterned Jumping Spider	*Sittisax ranieri*	Secure		
Minute Alpine Jumping Spider	*Talavera minuta*	Secure	ⓘ[5]	
Araneae – Tetragnathidae				Spiders – Long-jawed orbweavers
Clerck's Thick Long-jawed Spider	*Pachygnatha clercki*	Secure		
Tailed Long-jawed Spider	*Tetragnatha caudata*	Undetermined		
Uncommon Long-jawed Spider	*Tetragnatha dearmata*	Undetermined		
Northern Long-jawed Spider	*Tetragnatha extensa*	Secure		
Shoshone Long-jawed Spider	*Tetragnatha shoshone*	Undetermined		
Common Long-jawed Spider	*Tetragnatha versicolor*	Secure		
Araneae – Theridiidae				Spiders – Cobweb weavers
Fat-fanged Cobweaver	*Chrysso nordica*	Undetermined		
Common Dimpled Widow Spider	*Crustulina sticta*	Undetermined		
Leaf-backed Long-jawed Cobweaver	*Enoplognatha caricis*	Undetermined		
Alpine Long-jawed Cobweaver	*Enoplognatha intrepida*	Undetermined		
Black-headed Triangular Cobweaver	*Euryopis argentea*	Secure		
Ohlert's Cobweaver	*Ohlertidion ohlerti*	Undetermined		
Enclosed Cobweaver	*Phylloneta impressa*	Undetermined		
Common Immaculate Cobweaver	*Robertus fuscus*	Undetermined		
Punctate False Black Widow Spider	*Steatoda albomaculata*	Undetermined		
Common False Black Widow Spider	*Steatoda borealis*	Undetermined		
Talking Long-toed Cobweaver	*Theonoe stridula*	Undetermined		
Common Long-legged Cobweaver	*Theridion differens*	Undetermined		
Wetland Long-legged Cobweaver	*Theridion pictum*	Undetermined		
Hairy-faced Cobweaver	*Thymoites minnesota*	Undetermined		
Heathland Cobweaver	*Thymoites oleatus*	Undetermined		
Araneae – Thomisidae				Spiders – Thomisid crab spiders
Utah Bark Crab Spider	*Bassaniana utahensis*	Undetermined		
Dark Crab Spider	*Coriarachne brunneipes*	Undetermined		
Goldenrod Crab Spider	*Misumena vatia*	Secure		
Arctic Leaflitter Crab Spider	*Ozyptila arctica*	Secure		
Gertsch's Leaflitter Crab Spider	*Ozyptila gertschi*	Secure		
Boreal Leaflitter Crab Spider	*Ozyptila sincera*	Secure		
Higharctic Ground Crab Spider	*Psammitis deichmanni*	Secure		
Tough Ground Crab Spider	*Spiracme durus*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Crescentric Ground Crab Spider	*Spiracme triangulosus*	Secure		
Banks's Ground Crab Spider	*Xysticus banksi*	Undetermined		
Britcher's Ground Crab Spider	*Xysticus britcheri*	Secure		
Boreal Ground Crab Spider	*Xysticus canadensis*	Undetermined		
Chippewan Ground Crab Spider	*Xysticus chippewa*	Undetermined		
Hooked Ground Crab Spider	*Xysticus cunctator*	Undetermined		
Eccentric Ground Crab Spider	*Xysticus ellipticus*	Undetermined		
Emerton's Ground Crab Spider	*Xysticus emertoni*	Secure		
Wild Ground Crab Spider	*Xysticus ferox*	Secure		
Mournful Ground Crab Spider	*Xysticus luctuosus*	Secure		
Knobbed Ground Crab Spider	*Xysticus montanensis*	Undetermined		
Dark Ground Crab Spider	*Xysticus obscurus*	Undetermined		
Araneae – Titanoecidae				Spiders – Titanoecid spiders
Alpine Rockweaver	*Titanoeca nivalis*	Undetermined		
Ixodida – Ixodidae				Ticks – Hard ticks
Winter tick	*Dermacentor albipictus*	Secure		
Snowshoe Hare Tick	*Haemaphysalis leporispalustris*	Secure		
Opiliones – Phalangiidae				Harvesters – Daddy longlegs
Common Harvestman	*Phalangium opilio*	Alien		
Pseudoscorpiones – Cheliferidae				Pseudoscorpions – Cheliferid pseudoscorpions
Philip's Red Pseudoscorpion	*Haplochelifer philipi*	Presence Expected		
House Pseudoscorpion	*Chelifer crancroides*	Alien		
Pseudoscorpiones – Chernetidae				Pseudoscorpions – Chernetid pseudoscorpions
Arctic Pseudoscorpion	*Wyochernes asiaticus*	Undetermined		
Pseudoscorpiones – Neobisiidae				Pseudoscorpions – Neobisiid pseudoscorpions
Brown Pseudoscorpion	*Microbisium brunneum*	Presence Expected		
Intertidal Pseudoscorpion	*Halobisium occidentale*	Presence Expected		
Pseudoscorpiones – Syarinidae				Pseudoscorpions – Syarinid pseudoscorpions
Obscure Pseudoscorpion	*Syarinus obscurus*	Presence Expected		

[a] Describes reasons for a change in status rank between 2016 and 2021. ↗: Increasing Risk, ↘: Decreasing Risk, ∃: Error correction, #: Species new to the NWT, T: Taxonomic change, ⓘ: Information added, A: Changed due to detailed assessment by COSEWIC since 2016. See Data Sources and Methods for more details.

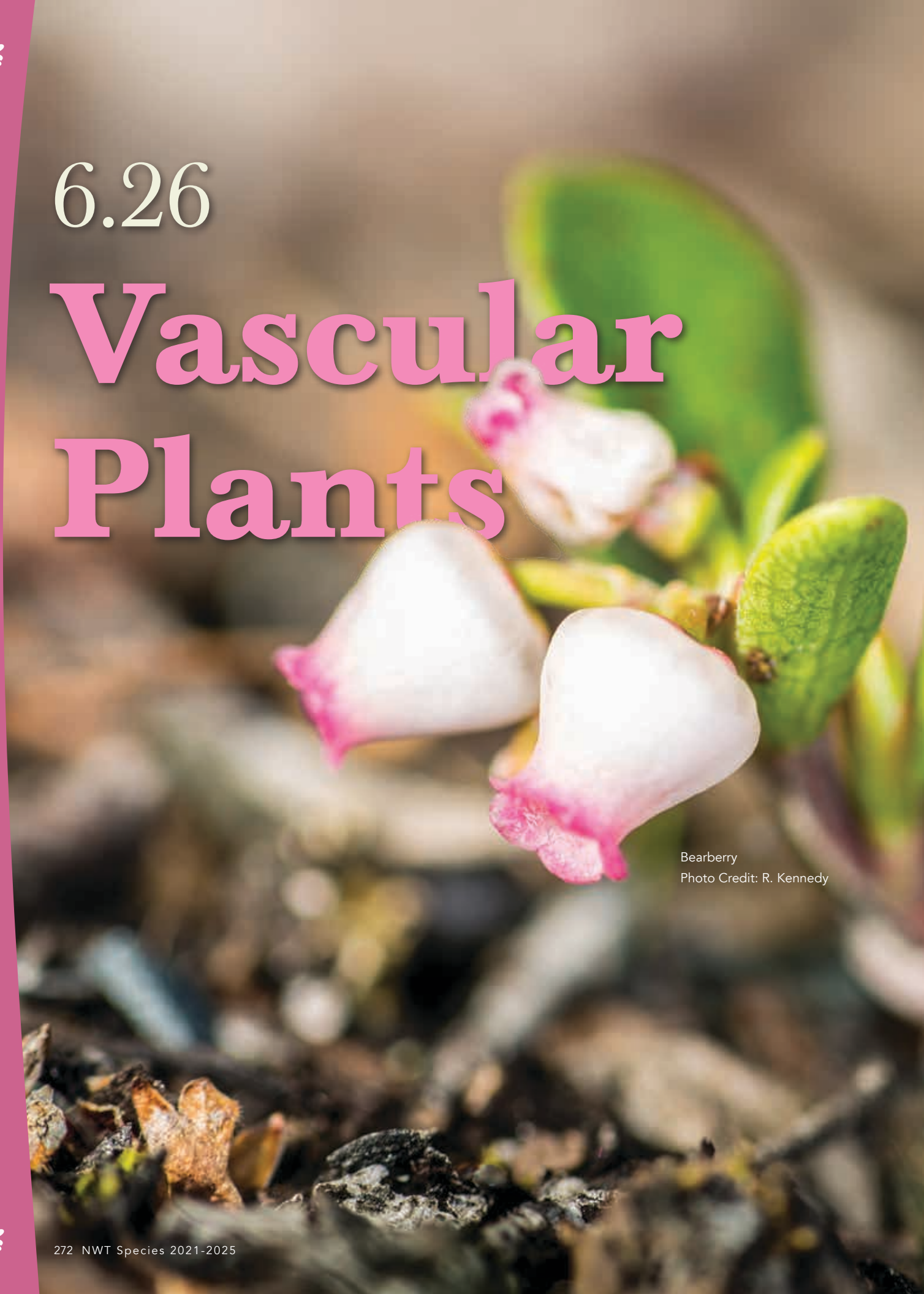
[b] Global Conservation Concern: Rank of a species in the world as designated by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org. As of 2021, no species known to be present in the NWT are of global conservation concern.

1 Changed from At Risk
2 Changed from May Be at Risk
3 Changed from Sensitive
4 Changed from Secure
5 Changed from Undetermined
6 Changed from Not Ranked
7 Changed from Alien
8 Changed from Extirpated
9 Changed from Vagrant
10 Changed from Presence Expected



Thin-legged Wolf Spider Photo Credit: S. Carrière

6.26 Vascular Plants



Bearberry
Photo Credit: R. Kennedy

Plants

Plants (Kingdom Plantae) are complex organisms that develop and grow by obtaining, directly or indirectly, energy from the sun and material from the atmosphere. In a strict sense, plants are multicellular, where cell walls contain cellulose, and most have the ability of transform sunlight energy into sugars using photosynthesis. They include vascular plants, mosses, liverworts, and some algae.

"…wild plant foods were, and continue to be, a special part of (our) diet and way of life. Elders, especially, often speak of waiting with great anticipation for the first edible greens of spring or the ripening of a particular berry"

Quote from Inuvialuit Elders and Bandringa. 2010.

Vascular Plants

Vascular plants have a special tube-like system to transport nutrients and water in their stem. Many non-vascular plants, such as liverworts and mosses are ranked in lists further down in this report. Plants can define a landscape. Being able to identify plants will give any person the feeling of belonging to that landscape: of being home. For wildlife, plants are the foundation of their habitat, providing shelter and for many also food.

The traditional use of vascular plants is being recorded in ever-increasing detail to preserve this information for future generations.

The taxonomy of vascular plants continues to change, especially at the order and family levels, due to genetic studies and new views on taxonomy. In the list below, we retained the most recent taxonomic changes and updated all species names according to VASCAN available on the Internet at http://data.canadensys.net/vascan/search.

NWT is home to species of plants that are extremely rare in the world. All are found in or near areas that remained unglaciated during the last Glacial Age. These areas are called refugia, and are part of the north-western region of North America called Beringia. Fourteen of these plants are only known in Canada and four are found nowhere else in the world.

Many alien (introduced) species in the NWT are vascular plants. Most of these plant species have been introduced to North America decades ago, and have originated either from Europe or Asia. New alien plants are found every year. Monitoring of alien plants along our highways was done in 2006 and 2016 and is expected to continue. In 2020, the NWT Council on Invasive Species, Pests and Pathogens was created to organize more surveys and initiate projects to prevent entry, control or eradicate invasive species including alien plants.

Information in this report was acquired through surveys by visiting botanists, users of medicinal plants, and many knowledgeable people. Most new information resulted in a species proving to be less rare than previously thought. We thank all for remembering to send your plant vouchers to a reputed herbarium.

Bruce Bennett
Co-chair, Vascular plants sub-committee
COSEWIC
Whitehorse, YT

Dr. Suzanne Carrière
Government of the Northwest Territories
Yellowknife, NT

List 26. **Vascular Plants**

There are 1,204 species of vascular plants confirmed present in the NWT, and an additional 32 species are expected to be present. Species are listed first according to the Division and class they belong to, in phylogenic order. Within Classes, they are listed alphabetically by Order they belong to, then by Family, then by scientific species name. Taxonomy follows VASCAN (2021).



Little Green Sedge — Photo Credit: S. Carrière

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Lycopodiophyta – Isoetopsida					Ancient spore-bearing plants – Quillworts and skikemosses
Isoetales – Isoetaceae					Quillworts – Quillworts
Spiny-spored Quillwort	*Isoetes echinospora*	Secure			
Lake Quillwort	*Isoetes lacustris*	May Be At Risk			
Selaginellales – Selaginellaceae					Spikemosses – Spikemosses
Ledge Spikemoss	*Selaginella rupestris*	Presence Expected			
Northern Spikemoss	*Selaginella selaginoides*	Secure			
Siberian Spikemoss	*Selaginella sibirica*	Secure			
Lycopodiophyta – Lycopodiopsida					Ancient spore-bearing plants – Clubmosses and firmosses
Lycopodiales – Lycopodiaceae					Large clubmosses – Clubmosses
Tree Clubmoss	*Dendrolycopodium dendroideum*	Secure			
Alpine Clubmoss	*Diphasiastrum alpinum*	Secure			
Trailing Clubmoss	*Diphasiastrum complanatum*	Secure			
Sitka Ground Fir	*Diphasiastrum sitchense*	Presence Expected			
Tundra Firmoss	*Huperzia continentalis*	Secure	T[6]		
Fir Clubmoss	*Huperzia selago*	Secure			
One-cone Clubmoss	*Lycopodium lagopus*	Undetermined			
Bristly Clubmoss	*Spinulum annotinum*	Secure			
Pteridophyta – Equisetopsida					Spore-bearing plants – Horsetails
Equisetales – Equisetaceae					Horsetails – Horsetails
Field Horsetail	*Equisetum arvense*	Secure			
Water Horsetail	*Equisetum fluviatile*	Secure			
Tall Scouring Rush	*Equisetum hyemale*	Secure			
Marsh Horsetail	*Equisetum palustre*	Secure			
Meadow Horsetail	*Equisetum pratense*	Secure			
Dwarf Scouring-rush	*Equisetum scirpoides*	Secure			
Woodland Horsetail	*Equisetum sylvaticum*	Secure			
Variegated Horsetail	*Equisetum variegatum*	Secure			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Pteridophyta – Polypodiopsida					Spore-bearing plants – Ferns
Polypodiales – Aspleniaceae					Polypod ferns – Spleenworts
Green Spleenwort	*Asplenium viride*	May Be At Risk			
Polypodiales – Athyriacae					Polypod ferns – Lady-ferns
Subarctic Lady-fern	*Athyrium filix-femina*	Sensitive			
Polypodiales – Cystopteridaceae					Polypod ferns – Bladder-ferns
Fragile Fern	*Cystopteris fragilis*	Secure			
Mountain Bladder-fern	*Cystopteris montana*	Sensitive			
Nahanni Oak-fern	*Gymnocarpium continentale*	Secure			
Common Oak-fern	*Gymnocarpium dryopteris*	Secure			
Polypodiales – Dryopteridaceae					Polypod ferns – Wood-ferns
Spinulose Wood-fern	*Dryopteris carthusiana*	May Be At Risk			
Northern Wood-fern	*Dryopteris expansa*	May Be At Risk			
Fragrant Cliff Wood-fern	*Dryopteris fragrans*	Secure			
Northern Holly-fern	*Polystichum lonchitis*	Presence Expected			
Polypodiales – Onocleaceae					Polypod ferns – Ostrich ferns
Ostrich Fern	*Matteuccia struthiopteris*	Sensitive			
Polypodiales – Polypodiaceae					Polypod ferns – Polypodies
Sibirian Polypody	*Polypodium sibiricum*	Secure			
Rock Polypody	*Polypodium virginianum*	Undetermined			
Polypodiales – Pteridaceae					Polypod ferns – Rock-brakes
American Parsley-fern	*Cryptogramma acrostichoides*	Secure			
Alaska Parsley-fern	*Cryptogramma sitchensis*	May Be At Risk			
Slender Rock-brake	*Cryptogramma stelleri*	May Be At Risk			
Smooth Cliff-brake	*Pellaea glabella*	May Be At Risk			
Polypodiales – Thelypteridaceae					Polypod ferns – Beech ferns
Northern Beech Fern	*Phegopteris connectilis*	Sensitive			
Polypodiales – Woodsiaceae					Polypod ferns – Cliff-ferns
Alpine Cliff-fern	*Woodsia alpina*	Secure			
Smooth Cliff-fern	*Woodsia glabella*	Secure			
Rusty Cliff-fern	*Woodsia ilvensis*	Secure			
Oregon Cliff-fern	*Woodsia oregana*	Presence Expected			
Pteridophyta – Psilotopsida					Spore-bearing plants – Fern-like plants
Ophioglossales – Ophioglossaceae					Moonworts – Moonworts
Triangle Moonwort	*Botrychium lanceolatum*	Presence Expected			
Common Moonwort	*Botrychium lunaria*	Secure			
Mingan Moonwort	*Botrychium minganense*	May Be At Risk			
North American Moonwort	*Botrychium neolunaria*	Undetermined	T[6]		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Northwestern Moonwort	*Botrychium pinnatum*	May Be At Risk			
Spatulate Moonwort	*Botrychium spathulatum*	May Be At Risk			
Rattlesnake Fern	*Botrypus virginianus*	Sensitive			
Leathery Grape-fern	*Sceptridium multifidum*	May Be At Risk			
Pinophyta – Pinopsida					Cone-bearing plants – Conifers
Cupressales – Cupressaceae					Jupiner-like plants – Junipers
Common Juniper	*Juniperus communis*	Secure			
Creeping Juniper	*Juniperus horizontalis*	Secure			
Pinales – Pinaceae					Pine-like plants – Pines and relatives
Rocky Mountain Subalpine Fir	*Abies bifolia*	Secure			
Tamarack	*Larix laricina*	Secure			
White Spruce	*Picea glauca*	Secure			
Black Spruce	*Picea mariana*	Secure			
Jack Pine	*Pinus banksiana*	Secure			
Lodgepole Pine	*Pinus contorta*	Secure			
Magnoliophyta – Monocotyledoneae					Flowering plants – Monocots
Acorales – Acoraceae					Acoroids – Sweetflags
Several Vein Sweetflag (Rat Root)	*Acorus americanus*	May Be At Risk			
Alismatales – Alismataceae					Waterplants – Water plantains
Northern Water Plantain	*Alisma triviale*	Sensitive			
Northern Arrowhead	*Sagittaria cuneata*	Secure			
Alismatales – Araceae					Waterplants – Aroids
Wild Calla	*Calla palustris*	Secure			
Star Duckweed	*Lemna trisulca*	Secure			
Turion Duckweed	*Lemna turionifera*	Secure			
Alismatales – Hydrocharitaceae					Waterplants – Water tapegrasses
Slender Naiad	*Najas flexilis*	Sensitive			
Alismatales – Juncaginaceae					Waterplants – Arrowgrasses
Seaside Arrowgrass	*Triglochin maritima*	Secure			
Marsh Arrowgrass	*Triglochin palustris*	Secure			
Alismatales – Potamogetonaceae					Waterplants – Pondweeds
Alpine Pondweed	*Potamogeton alpinus*	Secure			
Berchtold's Pondweed	*Potamogeton berchtoldii*	Undetermined	T[6]		
Leafy Pondweed	*Potamogeton foliosus*	Sensitive			
Fries Pondweed	*Potamogeton friesii*	Secure			
Grassy Pondweed	*Potamogeton gramineus*	Secure			
Illinois Pondweed	*Potamogeton illinoensis*	May Be At Risk			
Floating Pondweed	*Potamogeton natans*	Sensitive			
Blunt-leaf Pondweed	*Potamogeton obtusifolius*	Sensitive			
White-stem Pondweed	*Potamogeton praelongus*	Secure			
Small Pondweed	*Potamogeton pusillus*	Undetermined	T[4]		
Richardson's pondweed	*Potamogeton richardsonii*	Secure			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Flatleaf Pondweed	*Potamogeton robbinsii*	May Be At Risk			
Straightleaf Pondweed	*Potamogeton strictifolius*	Secure			
Yenisei River Pondweed	*Potamogeton subsibiricus*	Sensitive			
Flatstem Pondweed	*Potamogeton zosteriformis*	Secure			
Slender Pondweed	*Stuckenia filiformis*	Secure			
Sago Pondweed	*Stuckenia pectinata*	Secure			
Sheathed Pondweed	*Stuckenia vaginata*	Secure			
Horned Pondweed	*Zannichellia palustris*	Sensitive			
Alismatales – Ruppiaceae					Waterplants – Wigeon-grasses
Wigeon-Grass	*Ruppia cirrhosa*	Undetermined			
Alismatales – Scheuchzeriaceae					Waterplants – Pod grasses
Pod Grass	*Scheuchzeria palustris*	Secure			
Alismatales – Tofieldiaceae					Waterplants – Asphodels
Northern False Asphodel	*Tofieldia coccinea*	Secure			
Scotch False Asphodel	*Tofieldia pusilla*	Secure			
Sticky False Asphodel	*Triantha glutinosa*	Secure			
Alismatales – Zosteraceae					Waterplants – Eelgrasses
Common Eelgrass	*Zostera marina*	Undetermined			
Asparagales – Amaryllidaceae					Asparagoid lilies – Amarylid irises
Welsh Onion	*Allium fistulosum*	Alien			
Wild Chives	*Allium schoenoprasum*	Secure			
Asparagales – Asparagaceae					Asparagoid lilies – Asparagus
Western False Solomon's Seal	*Maianthemum amplexicaule*	Undetermined			
Wild Lily-of-the-Valley	*Maianthemum canadense*	Secure			
Starry False Solomon's Seal	*Maianthemum stellatum*	Secure			
Three-leaved False Solomon's Seal	*Maianthemum trifolium*	Secure			
Asparagales – Iridaceae					Asparagoid lilies – Irises
Strict Blue-eyed Grass (Iris)	*Sisyrinchium montanum*	Secure			
Northern Blue-eyed-grass	*Sisyrinchium septentrionale*	Undetermined			
Asparagales – Liliaceae					Asparagoid lilies – Lilies
Common Alpine Lily	*Lloydia serotina*	Secure			
Clasping Twisted Stalk	*Streptopus amplexifolius*	Sensitive			
Asparagales – Melanthiaceae					Asparagoid lilies – Bunchflowers
Mountain Death Camas	*Anticlea elegans*	Secure			
American False Hellebore	*Veratrum viride*	Secure			
Asparagales – Orchidaceae					Asparagoid lilies – Orchids
Dragon's Mouth	*Arethusa bulbosa*	May Be At Risk			
Caypso	*Calypso bulbosa*	Secure			
Long-bract Orchid	*Coeloglossum viride*	Secure			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Early Coral Root	*Corallorhiza trifida*	Secure			
Spotted Lady's-slipper	*Cypripedium guttatum*	Secure			
Yellow Lady's-slipper	*Cypripedium parviflorum*	Secure			
Sparrow's-egg Lady's-slipper	*Cypripedium passerinum*	Secure			
Small Round-leaved Orchis	*Galearis rotundifolia*	Secure			
Lesser Rattlesnake Plantain	*Goodyera repens*	Secure			
Loesel's Twayblade	*Liparis loeselii*	May Be At Risk			
White Adder's-mouth	*Malaxis monophyllos*	May Be At Risk			
Bog Adder's-mouth	*Malaxis paludosa*	May Be At Risk			
Northern Twayblade	*Neottia borealis*	Secure			
Heart-leaved Twayblade	*Neottia cordata*	Sensitive			
Tall Northern Green Orchid	*Platanthera aquilonis*	Secure			
White Bog Orchid	*Platanthera dilatata*	May Be At Risk			
Blunt-leaved Bog Orchid	*Platanthera obtusata*	Secure			
Small Round-leaved Bog Orchid	*Platanthera orbiculata*	Sensitive			
Hooded Ladies' – tresses	*Spiranthes romanzoffiana*	Secure			
Poales – Cyperaceae					Grass-like herbs – Sedges and relatives
Red Clubrush	*Blysmopsis rufa*	Sensitive			
Saltmarsh Bulrush	*Bolboschoenus maritimus*	May Be At Risk			
Circumpolar Sedge	*Carex adelostoma*	Sensitive			



Entire-leaved Mountain Avens Photo Credit: S. Tielesh



Prickly Saxifrage Photo Credit: S. Carrière

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Lesser Brown Sedge	*Carex adusta*	Undetermined			
Black-and-White Scale Sedge	*Carex albonigra*	Secure			
Water Sedge	*Carex aquatilis*	Secure			
Northern Clustered Sedge	*Carex arcta*	Undetermined			
Arctic Capitate Sedge	*Carex arctogena*	Undetermined	T[6]		
Awned Sedge	*Carex atherodes*	Secure			
Slender-beak Sedge	*Carex athrostachya*	Presence Expected			
Scabrous Black Sedge	*Carex atratiformis*	Secure			
Dark-brown Sedge	*Carex atrofusca*	Secure			
Lesser Black-scaled Sedge	*Carex atrosquama*	Secure			
Golden Fruit Sedge	*Carex aurea*	Secure			
Bebb's Sedge	*Carex bebbii*	Sensitive			
Two-colour Sedge	*Carex bicolor*	Secure			
Bigelow's Sedge	*Carex bigelowii*	Secure			
Yukon Sedge	*Carex bonanzensis*	Secure			
Siberian Bog Sedge	*Carex borealipolaris*	Secure			
Brownish Sedge	*Carex brunnescens*	Secure			
Buxbaum's Sedge	*Carex buxbaumii*	Secure			
Silvery Sedge	*Carex canescens*	Secure			
Hairlike Sedge	*Carex capillaris*	Secure			
Capitate Sedge	*Carex capitata*	Secure			
Creeping Sedge	*Carex chordorrhiza*	Secure			
Low Northern Sedge	*Carex concinna*	Secure			
Crawford's Sedge	*Carex crawfordii*	Sensitive			
Northern Sedge	*Carex deflexa*	Secure			
Dewey's Sedge	*Carex deweyana*	Undetermined			
Lesser Panicled Sedge	*Carex diandra*	Secure			
Softleaf Sedge	*Carex disperma*	Secure			
Needle-leaved Sedge	*Carex duriuscula*	May Be At Risk			
Bristle-leaved Sedge	*Carex eburnea*	Secure			
Goosegrass Sedge	*Carex eleusinoides*	Sensitive			
Thread-leaved Sedge	*Carex filifolia*	Sensitive			
Straw Sedge	*Carex foenea*	Secure			
Short-Leaf Sedge	*Carex fuliginosa*	Secure			
Garber's Elk Sedge	*Carex garberi*	Secure			
Glacier Sedge	*Carex glacialis*	Secure			
Gravel Sedge	*Carex glareosa*	Secure			
Northern Bog Sedge	*Carex gynocrates*	Secure			
Hudson Bay Sedge	*Carex heleonastes*	Sensitive			
Arctic Marsh Sedge	*Carex holostoma*	Secure			
Hood's Sedge	*Carex hoodii*	May Be At Risk			
Inland Sedge	*Carex interior*	Secure			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Krause's Sedge	*Carex krausei*	Undetermined			
Arctic Harefoot Sedge	*Carex lachenalii*	Secure			
Smooth-stem Sedge	*Carex laeviculmis*	Presence Expected			
Lapland Sedge	*Carex lapponica*	Undetermined			
Slender Sedge	*Carex lasiocarpa*	Sensitive			
Weak Sedge	*Carex laxa*	May Be At Risk			
Shore Sedge	*Carex lenticularis*	Secure			
Bristly-stalk Sedge	*Carex leptalea*	Secure			
Mud Sedge	*Carex limosa*	Secure			
Livid Sedge	*Carex livida*	Sensitive			
Rye-grass Sedge	*Carex loliacea*	Sensitive			
Mackenzie's Sedge	*Carex mackenziei*	May Be At Risk			
Falkland Island Sedge	*Carex macloviana*	Secure			
Alaska Long-awn Sedge	*Carex macrochaeta*	Presence Expected			
Boreal Bog Sedge	*Carex magellanica*	Secure			
Sea Sedge	*Carex marina*	Secure			
Seaside Sedge	*Carex maritima*	Secure			
Intermediate Sedge	*Carex media*	Secure			
Fragile-seed Sedge	*Carex membranacea*	Secure			
Alpine Tundra Sedge	*Carex microchaeta*	Secure			
False Unicinia Sedge	*Carex microglochin*	Secure			
Small-rooted Sedge	*Carex micropoda*	Sensitive			
Small-wing Sedge	*Carex microptera*	Undetermined			
Mouse-tail Bog Sedge	*Carex myosuroides*	Secure			
Nard Sedge	*Carex nardina*	Secure			
Blunt Sedge	*Carex obtusata*	Secure			
Few-seeded Sedge	*Carex oligosperma*	May Be At Risk			
Few-flowered Sedge	*Carex pauciflora*	Undetermined			
Peck's Sedge	*Carex peckii*	Sensitive			
Woolly Sedge	*Carex pellita*	Undetermined			
Pasture Sedge	*Carex petasata*	Undetermined			
Rock Dwelling Sedge	*Carex petricosa*	Secure			
Mountain Hare Sedge	*Carex phaeocephala*	Undetermined			
Short-stalk Sedge	*Carex podocarpa*	Secure			
Clustered Field Sedge	*Carex praegracilis*	Undetermined			
Prairie Sedge	*Carex prairea*	May Be At Risk			
Northern Meadow Sedge	*Carex praticola*	Undetermined			
Presl's Sedge	*Carex preslii*	Presence Expected			
Loose-flowered Sedge	*Carex rariflora*	Secure			
Retrorse Sedge	*Carex retrorsa*	May Be At Risk			
Richardson's Sedge	*Carex richardsonii*	Sensitive			
Ross' Sedge	*Carex rossii*	Secure			
Swollen Beaked Sedge	*Carex rostrata*	Undetermined			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Pumpkin-fruited Sedge	*Carex rotundata*	Secure			
Rock Sedge	*Carex rupestris*	Secure			
Sartwell's Sedge	*Carex sartwellii*	Secure			
Russet Sedge	*Carex saxatilis*	Secure			
Bulrush Sedge	*Carex scirpoidea*	Secure			
Dry-spike Sedge	*Carex siccata*	Secure			
Simple Bog Sedge	*Carex simpliciuscula*	Secure			
Long-style Sedge	*Carex stylosa*	Presence Expected	ⓘ[5]		
Hoppner's Sedge	*Carex subspathacea*	Secure			
Weak Arctic Sedge	*Carex supina*	Secure			
Many-headed Sedge	*Carex sychnocephala*	Sensitive			
Quill Sedge	*Carex tenera*	Presence Expected			
Sparse-flowered Sedge	*Carex tenuiflora*	Secure			
Shaved sedge	*Carex tonsa*	Presence Expected			
Bear Sedge	*Carex ursina*	Secure			
Northwest Territory Sedge	*Carex utriculata*	Secure			
Sheathed Sedge	*Carex vaginata*	Secure			
Little Green Sedge	*Carex viridula*	Secure			
Williams' Sedge	*Carex williamsii*	Secure			
White-scaled Sedge	*Carex xerantica*	Undetermined			
Needle Spikerush	*Eleocharis acicularis*	Secure			
Slender Spikerush	*Eleocharis elliptica*	May Be At Risk			
Bald Spikerush	*Eleocharis erythropoda*	Undetermined			
Long-headed Spikerush	*Eleocharis macrostachya*	Undetermined			
Soft-stem Spikerush	*Eleocharis mamillata*	Undetermined			
Common Spikerush	*Eleocharis palustris*	Secure			
Few-flowered Spikerush	*Eleocharis quinqueflora*	Secure			
One-Glume Spikerush	*Eleocharis uniglumis*	Sensitive			
Narrow-leaved Cotton-grass	*Eriophorum angustifolium*	Secure			
Short-anther Cotton-grass	*Eriophorum brachyantherum*	Secure			
Sheathed Cotton-grass	*Eriophorum callitrix*	Secure			
Slender Cotton-grass	*Eriophorum gracile*	Secure			
Rusty Cotton-grass	*Eriophorum russeolum*	Secure			
Schechzer's White Cotton-grass	*Eriophorum scheuchzeri*	Secure			
Tall Cotton-grass	*Eriophorum triste*	Secure			
Tussock Cotton-grass	*Eriophorum vaginatum*	Secure			
Tassel Cotton-grass	*Eriophorum viridicarinatum*	Secure			
White Beakrush	*Rhynchospora alba*	May Be At Risk			
Hard-stemmed Bulrush	*Schoenoplectus acutus*	Secure			
Three-square Bulrush	*Schoenoplectus pungens*	May Be At Risk			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Soft-stem Bulrush	*Schoenoplectus tabernaemontani*	Secure			
Black-girdled Bulrush	*Scirpus atrocinctus*	Presence Expected			
Small-fruit Bulrush	*Scirpus microcarpus*	Secure			
Alpine Bulrush	*Trichophorum alpinum*	Secure			
Tufted Bulrush	*Trichophorum cespitosum*	Secure			
Rolland's Bulrush	*Trichophorum pumilum*	Secure			
Poales – Juncaceae					Grass-like herbs – Rushes
Northern Green Rush	*Juncus alpinoarticulatus*	Secure			
Arctic Rush	*Juncus arcticus*	Secure			
Baltic Rush	*Juncus balticus*	Secure			
Two-flowered Rush	*Juncus biglumis*	Secure			
Toad Rush	*Juncus bufonius*	Secure			
Chestnut Rush	*Juncus castaneus*	Secure			
Drummond Rush	*Juncus drummondii*	Secure			
Dudley's Rush	*Juncus dudleyi*	Sensitive			
Thread Rush	*Juncus filiformis*	Secure			
Long-styled Rush	*Juncus longistylis*	Undetermined			
Merten's Rush	*Juncus mertensianus*	Presence Expected			
Knotted Rush	*Juncus nodosus*	Secure			
Moor Rush	*Juncus stygius*	Sensitive			
Path Rush	*Juncus tenuis*	Undetermined			
Northern White Rush	*Juncus triglumis*	Secure			
Vasey Rush	*Juncus vaseyi*	Undetermined			
Curved Wood Rush	*Luzula arcuata*	Secure			
Northern Wood Rush	*Luzula confusa*	Secure			
Greenland Wood Rush	*Luzula groenlandica*	Secure			
Kjellman Woodrush	*Luzula kjellmaniana*	May Be At Risk			
Common Wood Rush	*Luzula multiflora*	Secure			
Arctic Woodrush	*Luzula nivalis*	Secure			
Small-flowered Wood Rush	*Luzula parviflora*	Secure			
Rufous Wood Rush	*Luzula rufescens*	May Be At Risk			
Spiked Wood Rush	*Luzula spicata*	Secure			
Wahlenber's Wood Rush	*Luzula wahlenbergii*	Undetermined			
Poales – Poaceae					Grass-like herbs – Grasses
Richardson's Rice Grass	*Achnatherum richardsonii*	Presence Expected			
Crested Wheat Grass	*Agropyron cristatum*	Alien			
Siberian Wheat Grass	*Agropyron fragile*	Alien			
Spike Bentgrass	*Agrostis exarata*	Sensitive			
Black Bentgrass	*Agrostis gigantea*	Alien			
Northern Bentgrass	*Agrostis mertensii*	Secure			
Rough Bentgrass	*Agrostis scabra*	Secure			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Spreading Bentgrass	*Agrostis stolonifera*	Alien			
Short-awn Meadow-foxtail	*Alopecurus aequalis*	Secure			
Creeping Meadow-foxtail	*Alopecurus arundinaceus*	Alien			
Magellan Meadow-foxtail	*Alopecurus magellanicus*	Secure			
Field Meadow foxtail	*Alopecurus pratensis*	Alien			
Arctic Sweet Grass	*Anthoxanthum arcticum*	Secure			
Vanilla Sweet Grass	*Anthoxanthum hirtum*	Secure			
Alpine Sweet Grass	*Anthoxanthum monticola*	Secure			
Broad-leaf Arctic-bent	*Arctagrostis latifolia*	Secure			
Pendant Grass	*Arctophila fulva*	Secure			
Wild Oats	*Avena fatua*	Alien			
Cultivated Oats	*Avena sativa*	Alien			
American Sloughgrass	*Beckmannia syzigachne*	Secure			
Fringed Brome	*Bromus ciliatus*	Secure			
Meadow Brome	*Bromus commutatus*	Alien			
Soft Brome	*Bromus hordeaceus*	Alien			
Awnless Brome	*Bromus inermis*	Alien			
Pumpelly Brome	*Bromus pumpellianus*	Secure			
Corn brome	*Bromus squarrosus*	Alien			
Downy brome	*Bromus tectorum*	Alien			
Blue-jointed Reed Grass	*Calamagrostis canadensis*	Secure			
Circumpolar Reed Grass	*Calamagrostis deschampsioides*	Sensitive			
Holm's Reedgrass	*Calamagrostis holmii*	Undetermined	T[6]		



Rock Cranberry Photo Credit: R. Durand



Small Round-leaved Orchis Photo Credit: S. Carrière

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Lapland Reed Grass	*Calamagrostis lapponica*	Secure			
Plains Reed Grass	*Calamagrostis montanensis*	Presence Expected			
Purple Reed Grass	*Calamagrostis purpurascens*	Secure			
Slim-stem Reed Grass	*Calamagrostis stricta*	Secure			
Slender Wood Reed Grass	*Cinna latifolia*	Secure			
Moss Grass	*Coleanthus subtilis*	May Be At Risk			
Orchard Grass	*Dactylis glomerata*	Alien	#		
Poverty Wild Oat Grass	*Danthonia spicata*	Sensitive			
Tufted Hairgrass	*Deschampsia cespitosa*	Secure			
Mackenzie Hairgrass	*Deschampsia mackenzieana*	Sensitive	A, ⓘ[5]		Special Concern – 2018
Sukatschew 's Hairgrass	*Deschampsia sukatschewii*	Secure			
Coastal Salt Grass	*Distichlis spicata*	May Be At Risk			
Fisher's Tundra Grass	*Dupontia fisheri*	Secure			
Alaska Wild Rye	*Elymus alaskanus*	Secure			
Canada Nodding Wild Rye	*Elymus canadensis*	Sensitive			
Common Western Wild Rye	*Elymus glaucus*	Undetermined			
Streamside Wild Rye	*Elymus lanceolatus*	Undetermined			
Thick-spike Wild Rye	*Elymus macrourus*	Secure			
Creeping Wild Rye	*Elymus repens*	Alien			
Siberian Wild Rye	*Elymus sibiricus*	Alien			
Slender Wild Rye	*Elymus trachycaulus*	Secure			
Violet Wild Rye	*Elymus violaceus*	Secure			
Rough Fescue	*Festuca altaica*	Secure			
Lobed Fescue	*Festuca auriculata*	May Be At Risk			
Baffin Fescue	*Festuca baffinensis*	Secure			
Short-leaved Fescue	*Festuca brachyphylla*	Secure			
Alaska Fescue	*Festuca brevissima*	May Be At Risk			
Arctic Fescue	*Festuca edlundiae*	Secure			
High Arctic Fescue	*Festuca hyperborea*	Secure			
Tundra Fescue	*Festuca lenensis*	May Be At Risk			
Proliferous Fescue	*Festuca prolifera*	Undetermined			
Richardson's Red Fescue	*Festuca rubra*	Secure			
Rocky Mountain Fescue	*Festuca saximontana*	Secure			
Hard Fescue	*Festuca trachyphylla*	Alien			
Steppe Fescue	*Festuca valesiaca*	Alien			
Viviparous Fescue	*Festuca viviparoidea*	Undetermined			
Small Floating Manna Grass	*Glyceria borealis*	Secure			
American Manna Grass	*Glyceria grandis*	Secure			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Mackenzie Valley Manna Grass	*Glyceria pulchella*	Secure			
Fowl Manna Grass	*Glyceria striata*	Secure			
Hooker's Alpine Oat Grass	*Helictotrichon hookeri*	May Be At Risk			
Needle and Thread Grass	*Hesperostipa comata*	Undetermined			
Canadian Needle Grass	*Hesperostipa curtiseta*	Sensitive			
Fox-Tail Barley	*Hordeum jubatum*	Secure			
Barley	*Hordeum vulgare*	Alien			
Oriental Koeler's Grass	*Koeleria asiatica*	May Be At Risk			
Prairie Koeler's Grass	*Koeleria macrantha*	Sensitive			
Narrow Koeler's Grass	*Koeleria spicata*	Secure			
Great Basin Lyme Grass	*Leymus cinereus*	Alien	#		
Downy Lyme Grass	*Leymus innovatus*	Secure			
American Lyme Grass	*Leymus mollis*	Secure			
Tall Rye Grass	*Lolium arundinaceum*	Alien			
Annual Rye Grass	*Lolium multiflorum*	Alien			
Perennial Rye Grass	*Lolium perenne*	Alien			
Spiked Muhly	*Muhlenbergia glomerata*	Secure			
Green Muhly	*Muhlenbergia racemosa*	Undetermined			
Matted Muhly	*Muhlenbergia richardsonis*	Secure			
Green Tussock Grass	*Nassella viridula*	May Be At Risk			
White-grained Mountain Rice Grass	*Oryzopsis asperifolia*	Secure			
Common Panic Grass	*Panicum capillare*	Undetermined			
Reed Canary Grass	*Phalaris arundinacea*	Undetermined			
Common Canary Grass	*Phalaris canariensis*	Alien			
Ice Grass	*Phippsia algida*	Secure			
Snow Grass	*Phippsia concinna*	Secure			
Mountain Timothy	*Phleum alpinum*	Secure			
Common Timothy	*Phleum pratense*	Alien			
Common Reed	*Phragmites australis*	Undetermined			
Slender Short-awn Mountain-rice Grass	*Piptatheropsis pungens*	Secure			
Sabine's False Semaphore Grass	*Pleuropogon sabinei*	Secure			
Northern Bluegrass	*Poa abbreviata*	Secure			
Alpine Bluegrass	*Poa alpina*	Secure			
Sand Bluegrass	*Poa ammophila*	Sensitive			
Annual Bluegrass	*Poa annua*	Alien			
Arctic Bluegrass	*Poa arctica*	Secure			
Flat-stem Bluegrass	*Poa compressa*	Alien			
White Bluegrass	*Poa glauca*	Secure			
Hartz's Bluegrass	*Poa hartzii*	Secure			
Interior Blue Grass	*Poa interior*	Undetermined			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Fowl Bluegrass	*Poa palustris*	Secure			
Few-flowered Bluegrass	*Poa paucispicula*	Secure			
Porsild's Bluegrass	*Poa porsildii*	Secure			
Kentucky Bluegrass	*Poa pratensis*	Secure			
Polar Bluegrass	*Poa pseudoabbreviata*	May Be At Risk			
Curly Bluegrass	*Poa secunda*	Secure			
Anderson's Alkali Grass	*Puccinellia andersonii*	Secure			
Northern Alkali Grass	*Puccinellia angustata*	Secure			
Arctic Alkali Grass	*Puccinellia arctica*	Secure			
Banks Island Alkali Grass	*Puccinellia banksiensis*	May Be At Risk			G2G3 – 2020
Prince Patrick Alkali Grass	*Puccinellia bruggemannii*	Sensitive			
Speading Alkali Grass	*Puccinellia distans*	Alien			
Alaska Alkali Grass	*Puccinellia nutkaensis*	Undetermined			
Polar Nuttall's Alkali Grass	*Puccinellia nuttalliana*	Secure			
Creeping Alkali Grass	*Puccinellia phryganodes*	Secure			
Tundra Alkaligrass	*Puccinellia tenella*	Undetermined			
Arctic Tussock Alkali Grass	*Puccinellia vaginata*	Secure			
Vahl's Alkali Grass	*Puccinellia vahliana*	Secure			
False Melic Grass	*Schizachne purpurascens*	Secure			
Common River Grass	*Scolochloa festucacea*	Secure			
Cultivated Rye	*Secale cereale*	Alien			
Rough Bristlegrass	*Setaria verticillata*	Alien			
Green Bristlegrass	*Setaria viridis*	Alien			
Slender Wedgescale Grass	*Sphenopholis intermedia*	Secure			
Alkali Cordgrass	*Sporobolus hookerianus*	Secure			
Freshwater Cordgrass	*Sporobolus michauxianus*	May Be At Risk			
Intermediate Quackgrass	*Thinopyrum intermedium*	Alien			
Siberian False Oat	*Trisetum sibiricum*	Presence Expected			
Bread Wheat	*Triticum aestivum*	Alien			
Arctic Hairgrass	*Vahlodea atropurpurea*	Secure			
Brome Six-weeks Grass	*Vulpia bromoides*	Alien			
Typhales – Typhaceae					Catttail-like plants – Catttails and bur-reeds
Narrow-leaf Bur-reed	*Sparganium angustifolium*	Secure			
Giant Bur-reed	*Sparganium eurycarpum*	Undetermined			
Northern Bur-reed	*Sparganium hyperboreum*	Secure			
Small Bur-reed	*Sparganium natans*	Secure			
Broad-leaf Cattail	*Typha latifolia*	Secure			
Magnoliophyta – Dicotyledoneae					Flowering plants – Dicots
Apiales – Apiaceae					Carrot-like plants – Parsnips
Seaside Angelica	*Angelica lucida*	May Be At Risk			
American Thoroughwax	*Bupleurum americanum*	Secure			
Wild Caraway	*Carum carvi*	Alien			

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Bulbous Water-hemlock	*Cicuta bulbifera*	Secure			
Spotted Water-hemlock	*Cicuta maculata*	Secure			
Mackenzie's Water-hemlock	*Cicuta virosa*	Secure			
Jakutsk Snow-parsley	*Cnidium cnidiifolium*	Secure			
Cow parsnip	*Heracleum maximum*	Secure			
Blunt Fruited Sweet-Cicely	*Osmorhiza depauperata*	Undetermined			
Wild Parsnip	*Pastinaca sativa*	Alien			
Macoun's Podistera	*Podistera macounii*	May Be At Risk			
Black Sanicle	*Sanicula marilandica*	Presence Expected			
Water Parsnip	*Sium suave*	Secure			
Apiales – Araliaceae					Carrot-like plants – Sarsaparilla
Wild Sarsaparilla	*Aralia nudicaulis*	Secure			
Asterales – Asteraceae					Daisy-like plants – Asters
Siberian Yarrow	*Achillea alpina*	Secure	T[6]		
Wolly Yarrow	*Achillea borealis*	Secure			
Common Yarrow	*Achillea millefolium*	Alien	ⓘ[4]		
Pearl Yarrow	*Achillea ptarmica*	Alien			
Orange False Dandelion	*Agoseris aurantiaca*	Undetermined			
Pale False Dandelion	*Agoseris glauca*	Sensitive			
Marsh Alkali Aster	*Almutaster pauciflorus*	May Be At Risk			
Annual Ragweed	*Ambrosia artemisiifolia*	Alien			
Pearly Everlasting	*Anaphalis margaritacea*	Sensitive			
Alpine Pussytoes	*Antennaria alpina*	Secure			
Dense-leaved Pussytoes	*Antennaria densifolia*	Secure			
Fries' Pussytoes	*Antennaria friesiana*	Secure			
Howell's Pussytoes	*Antennaria howellii*	Undetermined	T[6]		
Rocky Mountain Pussytoes	*Antennaria media*	Undetermined			
Small-leaf Pussytoes	*Antennaria microphylla*	Secure			
Pygmy Pussytoes	*Antennaria monocephala*	Secure			
Field Pussytoes	*Antennaria neglecta*	Secure			
Showy Pussytoes	*Antennaria pulcherrima*	Secure			
Rosy Pussytoes	*Antennaria rosea*	Secure			
Arctic Daisy	*Arctanthemum arcticum*	Secure			
Woolly Burdock	*Arctium tomentosum*	Alien	#		
Narrowleaf Arnica	*Arnica angustifolia*	Secure			
Leafy Arnica	*Arnica chamissonis*	Secure			
Heart-leaved Arnica	*Arnica cordifolia*	Undetermined			
Snow Arnica	*Arnica griscomii*	Secure			
Lance-leaf Arnica	*Arnica lanceolata*	Undetermined			
Mountain Arnica	*Arnica latifolia*	Sensitive			
Lessing's Arnica	*Arnica lessingii*	Secure			
Long-leaved Arnica	*Arnica lonchophylla*	Secure			

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Hairy Arnica	*Arnica mollis*	Undetermined			
Alaska Sagebrush	*Artemisia alaskana*	May Be At Risk			
Biennial Sagebrush	*Artemisia biennis*	Alien			
Boreal Sagebrush	*Artemisia borealis*	Secure			
Dragon Sagebrush	*Artemisia dracunculus*	May Be At Risk			
Prairie Sagebrush	*Artemisia frigida*	Secure			
Purple Sagebrush	*Artemisia globularia*	Presence Expected			
Pacific Alpine Sagebrush	*Artemisia glomerata*	Presence Expected			
Three-fork Sagebrush	*Artemisia hyperborea*	Secure			
White Sagebrush	*Artemisia ludoviciana*	May Be At Risk			
Arctic Sagebrush	*Artemisia norvegica*	Secure			
Tilesius Sagebrush	*Artemisia tilesii*	Secure			
Elegant Hawksbeard	*Askellia elegans*	Secure			
Dwarf Alpine Hawksbeard	*Askellia pygmaea*	Secure			
Alpine Aster	*Aster alpinus*	Secure			
English Daisy	*Bellis perennis*	Alien			
Nodding Beggarticks	*Bidens cernua*	Secure			
Great Northern Aster	*Canadanthus modestus*	Undetermined			
Creeping Thistle	*Cirsium arvense*	Alien			
Drummond Thistle	*Cirsium drummondii*	Sensitive			
Leafy Thistle	*Cirsium foliosum*	May Be At Risk			
Narrow-leaf Hawksbeard	*Crepis tectorum*	Alien			
Gorman's Dwarf Primrose	*Douglasia gormanii*	Undetermined			
Bitter Fleabane	*Erigeron acris*	Secure			



Jack Pine Photo Credit: S. Carrière



Sparrow's-egg Lady's-slipper Photo Credit: S. Carrière

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Tufted Fleabane	*Erigeron caespitosus*	Presence Expected			
Canada Horseweed	*Erigeron canadensis*	Alien			
Dwarf Mountain Fleabane	*Erigeron compositus*	Secure			
Denali Fleabane	*Erigeron denalii*	Sensitive			
Angular Fleabane	*Erigeron elatus*	Secure			
Smooth Fleabane	*Erigeron glabellus*	Secure			
Low Fleabane	*Erigeron humilis*	Secure			
Hyssop-leaved Fleabane	*Erigeron hyssopifolius*	Secure			
Short-ray Fleabane	*Erigeron lonchophyllus*	Secure			
Snow Fleabane	*Erigeron nivalis*	Undetermined			
Philadelphia Fleabane	*Erigeron philadelphicus*	Secure			
Porsild's Fleabane	*Erigeron porsildii*	Secure			
One-flower Fleabane	*Erigeron uniflorus*	Secure			
Yukon Fleabane	*Erigeron yukonensis*	May Be At Risk			
Siberian Aster	*Eurybia sibirica*	Secure			
Grass-leaved Goldenrod	*Euthamia graminifolia*	Secure			
Great Blanket-flower	*Gaillardia aristata*	Alien			
Low Cudweed	*Gnaphalium uliginosum*	Alien			
Broadleaf Gumweed	*Grindelia hirsutula*	May Be At Risk			
Curly-cup Gumweed	*Grindelia squarrosa*	Alien			
Common Sneezeweed	*Helenium autumnale*	Secure			
Common Sunflower	*Helianthus annuus*	Alien			
White-flowered Hawkweed	*Hieracium albiflorum*	May Be At Risk			
Umbellate Hawkweed	*Hieracium umbellatum*	Secure			
Entire-leaf Daisy	*Hulteniella integrifolia*	Secure			
Prickly Lettuce	*Lactuca serriola*	Alien			
Ox-eye Daisy	*Leucanthemum vulgare*	Alien			
Pineapple Weed	*Matricaria discoidea*	Alien			
Tartarian Lettuce	*Mulgedium pulchellum*	Secure			
Dwarf Arctic Groundsel	*Packera heterophylla*	Secure			
Boreal Groundsel	*Packera hyperborealis*	Secure			
Rayless Mountain Groundsel	*Packera indecora*	Secure			
Ogotoruk Creek Groundsel	*Packera ogoturukensis*	May Be At Risk			
Alpine Goundsel	*Packera pauciflora*	Sensitive			
Balsam Groundsel	*Packera paupercula*	Secure			
Rocky Mountain Groundsel	*Packera streptanthifolia*	Secure			
Arctic Sweet Coltsfoot	*Petasites frigidus*	Secure			
Woolly Hawkweed	*Pilosella tristis*	Secure			
Goldenweed	*Pyrrocoma uniflora*	May Be At Risk			
Narrow-leaf Saw-wort	*Saussurea angustifolia*	Secure			

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Autumn Hawkbit	*Scorzoneroides autumnalis*	Alien			
Desert Ragwort	*Senecio eremophilus*	Sensitive			
Black-tip Ragwort	*Senecio lugens*	Secure			
Mount Sheldon Ragwort	*Senecio sheldonensis*	May Be At Risk			
Arrow-leaf Ragwort	*Senecio triangularis*	Secure			
Common Ragwort	*Senecio vulgaris*	Alien			
Sticky Goldenrod	*Solidago glutinosa*	Secure			
Elegant Goldenrod	*Solidago lepida*	Secure			
Alpine Multiray Goldenrod	*Solidago multiradiata*	Secure			
Field Sow Thistle	*Sonchus arvensis*	Alien			
Prickly Sow Thistle	*Sonchus asper*	Alien			
Common Sow-thistle	*Sonchus oleraceus*	Alien			
Boreal Aster	*Symphyotrichum boreale*	Secure			
Alkali Aster	*Symphyotrichum ciliatum*	Secure			
Lindley's Aster	*Symphyotrichum ciliolatum*	Secure			
White Heath Aster	*Symphyotrichum ericoides*	Secure			
White Prairie Aster	*Symphyotrichum falcatum*	Secure			
Smooth Blue Aster	*Symphyotrichum laeve*	Presence Expected			
Lance-leaved Aster	*Symphyotrichum lanceolatum*	Undetermined			
Nahanni Aster	*Symphyotrichum nahanniense*	Sensitive			Special Concern – 2014
Purple-stemmed Aster	*Symphyotrichum puniceum*	Undetermined			
Pygmy Wood Aster	*Symphyotrichum pygmaeum*	Secure			
Western Mountain Aster	*Symphyotrichum spathulatum*	Undetermined			
Yukon Aster	*Symphyotrichum yukonense*	May Be At Risk			
Floccose Tansy	*Tanacetum bipinnatum*	May Be At Risk			
Common Tansy	*Tanacetum vulgare*	Alien			
Horned Dandelion	*Taraxacum ceratophorum*	Secure			
Red-seeded Dandelion	*Taraxacum erythrospermum*	Alien			
Holman Dandelion	*Taraxacum holmenianum*	Secure			
High Arctic Dandelion	*Taraxacum hyparcticum*	Secure			
Common Dandelion	*Taraxacum officinale*	Alien			
Northern Dandelion	*Taraxacum phymatocarpum*	Secure			
Rock Dandelion	*Taraxacum scopulorum*	Undetermined			
Arctic Groundsel	*Tephroseris frigida*	Secure			
Kjellman's Groundsel	*Tephroseris kjellmanii*	Secure			
Twice-hairy Groundsel	*Tephroseris lindstroemii*	Sensitive			

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Marsh Groundsel	*Tephroseris palustris*	Secure			
Yukon Groundsel	*Tephroseris yukonensis*	Secure			
Yellow Goatsbeard	*Tragopogon dubius*	Alien			
Scentless Chamomile	*Tripleurospermum inodorum*	Alien			
Seashore Chamomile	*Tripleurospermum maritimum*	Secure			
Asterales – Campanulaceae					Daisy-like plants – Harebells
Alaska Bellflower	*Campanula alaskana*	Undetermined			
Yukon Bellflower	*Campanula aurita*	Secure			
Giesecke Bellflower	*Campanula gieseckeana*	Undetermined			
Mountain Bellflower	*Campanula lasiocarpa*	Secure			
Bluebell Bellflower	*Campanula petiolata*	Undetermined	ⓘ[6]		
Water Lobelia	*Lobelia dortmanna*	May Be At Risk			
Kalm's Lobelia	*Lobelia kalmii*	Secure			
Arctic Harebell	*Melanocalyx uniflora*	Secure			
Asterales – Menyanthaceae					Daisy-like plants – Bogbeans
Bog Buckbean	*Menyanthes trifoliata*	Secure			
Boraginales – Boraginaceae					Borage-like plants – Borages
Arctic Forget-me-not	*Eritrichium aretioides*	Presence Expected	ⓘ[5]		
Showy Forget-me-not	*Eritrichium splendens*	May Be At Risk			
Northern Stickseed	*Hackelia deflexa*	Undetermined			
Western Stickseed	*Lappula occidentalis*	Undetermined			
European Stickseed	*Lappula squarrosa*	Alien			
Drummond Bluebell	*Mertensia drummondii*	May Be At Risk			
Sea Bluebell	*Mertensia martima*	Sensitive			
Northern Bluebell	*Mertensia paniculata*	Secure			
Alpine Forget-me-not	*Myosotis asiatica*	Secure			
Boraginales – Hydrophyllaceae					Borage-like plants – Waterleaves
Franklin's Phacelia	*Phacelia franklinii*	Secure			
Brassicales – Brassicaceae					Mustard-like plants – Mustards
Arctic Cress	*Arabidopsis arenicola*	Sensitive			
Lyre-Leaf Cress	*Arabidopsis lyrata*	Secure			
Western Hairy Rockcress	*Arabis pycnocarpa*	Secure			
American Wintercress	*Barbarea orthoceras*	Secure			
Hoary False-alyssum	*Berteroa incana*	Alien			
Calder's Rockcress	*Boechera calderi*	May Be At Risk			
Limestone Rockcress	*Boechera grahamii*	Secure			
Reflexed Rockcress	*Boechera retrofracta*	Secure			
Drummond's Rockcress	*Boechera stricta*	Secure			
Chinese Mustard	*Brassica juncea*	Alien			
Turnip	*Brassica napus*	Alien			
Bird Rape	*Brassica rapa*	Alien			
Smooth Rockcress	*Braya glabella*	Secure			

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Alpine Northern Rockcress	*Braya humilis*	Secure			
Hairy Braya	*Braya pilosa*	At Risk		Threatened – 2012	Endangered – 2013 G2 – 2020
Purple Braya	*Braya purpurascens*	Secure	T[6]		
Greenland Rockcress	*Braya thorild-wulffii*	Secure			
Large-seeded False Flax	*Camelina sativa*	Alien			
Shepherd's Purse	*Capsella bursa-pastoris*	Alien			
Alpine Bittercress	*Cardamine bellidifolia*	Secure			
Richardson's Bittercress	*Cardamine digitata*	Secure			
Small-leaved Bittercress	*Cardamine microphylla*	May Be At Risk			
Small-flowered Bittercress	*Cardamine parviflora*	May Be At Risk			
Pennsylvania Bittercress	*Cardamine pensylvanica*	Sensitive			
Cuckooflower Bittercress	*Cardamine polemonoides*	Secure			
Purple Bittercress	*Cardamine purpurea*	Presence Expected			
Few-seeded Bittercress	*Cardamine umbellata*	Sensitive			
Scurvy Grass	*Cochlearia groenlandica*	Secure			
Soft Transberingian Rockcress	*Crucihimalaya bursifolia*	Secure			
Green Tansy Mustard	*Descurainia incana*	Secure			
Cut-leaved Tansy Mustard	*Descurainia incisa*	Alien			
Pinate Tansy Mustard	*Descurainia pinnata*	May Be At Risk			
Herb Sophia	*Descurainia sophia*	Alien			
Northern Tansy Mustard	*Descurainia sophioides*	Secure			
Slender Whitlow-grass	*Draba albertina*	May Be At Risk			
Arctic Draba	*Draba arctica*	Sensitive			
Fell-field Whitlow-grass	*Draba arctogena*	Sensitive			
Golden Draba	*Draba aurea*	Secure			
Boreal Whitlow-grass	*Draba borealis*	Secure			
Canescent Whitlow-grass	*Draba cana*	Secure			
Gray-Leaf Whitlow-grass	*Draba cinerea*	Secure			
Flat-top Whitlow-grass	*Draba corymbosa*	Secure			
Snowbed Whitlow-grass	*Draba crassifolia*	Sensitive			
White Arctic Whitlow-grass	*Draba fladnizensis*	Secure			
Rock Whitlow-grass	*Draba glabella*	Secure			
Yellowstone Whitlow-grass	*Draba incerta*	May Be At Risk			
Long-stalk Whitlow-grass	*Draba juvenilis*	Secure			
Milky Whitlow-grass	*Draba lactea*	Secure			
Lance-pod Whitlow-grass	*Draba lonchocarpa*	Sensitive			
Macoun's Whitlow-grass	*Draba macounii*	Secure			
Small-flowered Whitlow-grass	*Draba micropetala*	Secure			
Wood Whitlow-grass	*Draba nemorosa*	Secure			

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Yellow Arctic Whitlow-grass	*Draba nivalis*	Secure			
Norwegian Whitlow-grass	*Draba norvegica*	Undetermined			
Canadian Arctic Whitlow-grass	*Draba oblongata*	Secure			
Ogilvie Range Whitlow-grass	*Draba ogilviensis*	May Be At Risk			
Few-seeded Whitlow-grass	*Draba oligosperma*	Secure			
Palander's Whitlow-grass	*Draba palanderiana*	Secure			
Few-flowered Whitlow-grass	*Draba pauciflora*	Sensitive			
Pilose Draba	*Draba pilosa*	Secure			
Porsild's Whitlow-grass	*Draba porsildii*	Sensitive			
Tall Whitlow-grass	*Draba praealta*	Secure			
Simmons Draba	*Draba simmonsii*	Sensitive			
Alaska Whitlow-grass	*Draba stenoloba*	Secure			
Ellesmere Whitlow-grass	*Draba subcapitata*	Secure			
Common Dog Mustard	*Erucastrum gallicum*	Alien			
Worm-seed Wallflower	*Erysimum cheiranthoides*	Alien			
Shy Wallflower	*Erysimum inconspicuum*	Secure			
Pallas's Wallflower	*Erysimum pallasii*	Secure			
Edward Mock Wallflower	*Eutrema edwardsii*	Secure			
Saltwater Cress	*Eutrema salsugineum*	Sensitive			
Dame's Rocket	*Hesperis matronalis*	Alien			
Dense-flower Peperwort	*Lepidium densiflorum*	Alien			
Branched Pepperwort	*Lepidium ramosissimum*	Secure			
Garden Pepperwort	*Lepidium sativum*	Alien			
Poor-man's Peppergrass	*Lepidium virginicum*	Alien			
Yellow Ball Mustard	*Neslia paniculata*	Alien			
Arctic False-Wallflower	*Parrya arctica*	Secure			
Naked-stemmed Wallflower	*Parrya nudicaulis*	Secure			
Arctic Bladderpod	*Physaria arctica*	Secure			
Calder's Bladderpod	*Physaria calderi*	May Be At Risk			
Hoary Yellowcress	*Rorippa barbareifolia*	May Be At Risk			
Persistent-sepal Yellowcress	*Rorippa calycina*	Undetermined			
Mackenzie River Yellowcress	*Rorippa crystallina*	May Be At Risk			
Bog Yellowcress	*Rorippa palustris*	Secure			
Corn Mustard	*Sinapis arvensis*	Alien			
Tall Hedge Mustard	*Sisymbrium altissimum*	Alien			
False London Rocket	*Sisymbrium loeselii*	Alien			

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Common Tumble Mustard	*Sisymbrium officinale*	Undetermined	#		
Boreal Smelowskia	*Smelowskia borealis*	Secure			
Alpine Smelowskia	*Smelowskia media*	Sensitive			
Water Awlwort	*Subularia aquatica*	Secure			
Arctic Pennycress	*Thlaspi arcticum*	Presence Expected			
Field Pennycress	*Thlaspi arvense*	Alien			
Tower Mustard	*Turritis glabra*	Alien	#		
Caryophyllales – Amaranthaceae					Pink-like plants – Amaranths and relatives
Green Amaranth	*Amaranthus retroflexus*	Alien			
Thick-leaved Orache	*Atriplex dioica*	May Be At Risk			
Gmelin's Orache	*Atriplex gmelinii*	May Be At Risk			
Garden Orache	*Atriplex hortensis*	Alien			
Spreading Orache	*Atriplex patula*	Alien			
Russian Pigweed	*Axyris amaranthoides*	Alien			
Mexican Summer-cypress	*Bassia scoparia*	Alien			
Strawberry-blite	*Blitum capitatum*	Secure			
Nuttall's Povertyweed	*Blitum nuttallianum*	Undetermined			
Maple-leaved Goosefoot	*Chenopodiastrum simplex*	Alien			
Lamb's Quarters	*Chenopodium album*	Alien			
Berlandier's Goosefoot	*Chenopodium berlandieri*	Secure			
Narrowleaf Goosefoot	*Chenopodium leptophyllum*	Undetermined			
Meadow Goosefoot	*Chenopodium pratericola*	Undetermined	T[6]		
Hooker's Bugseed	*Corispermum hookeri*	Sensitive			
Alaskan Bugseed	*Corispermum ochotense*	Secure			
Hairy Bugseed	*Corispermum villosum*	Alien			
Rocky Mountain Goosefoot	*Oxybasis glauca*	Sensitive			
Red Pigweed	*Oxybasis rubra*	Sensitive			
Red Glasswort	*Salicornia rubra*	May Be At Risk			
Garden Spinach	*Spinacia oleracea*	Alien			
Horned Sea-blite	*Suaeda calceoliformis*	Secure			
White Sea-blite	*Suaeda maritima*	Sensitive			
Caryophyllales – Caryophyllaceae					Pink-like plants – Pinks
Creeping Sandwort	*Arenaria humifusa*	Secure			
Long-stemmed Sandwort	*Arenaria longipedunculata*	Sensitive			
Alpine Chickweed	*Cerastium alpinum*	Undetermined			
Arctic Chickweed	*Cerastium arcticum*	Secure			
Field Mouse-ear Chickweed	*Cerastium arvense*	Secure			
Bering Sea Chickweed	*Cerastium beeringianum*	Secure			
Bialynick's Chickweed	*Cerastium bialynickii*	Undetermined			
Common Chickweed	*Cerastium fontanum*	Alien			
Great Chickweed	*Cerastium maximum*	May Be At Risk			

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Nodding Chickweed	*Cerastium nutans*	Alien			
Regel's Chickweed	*Cerastium regelii*	Secure			
Arctic Stitchwort	*Cherleria arctica*	Secure			
Mountain Stitchwort	*Cherleria biflora*	Secure			
Alpine Stitchwort	*Cherleria obtusiloba*	Secure			
Yukon Stitchwort	*Cherleria yukonensis*	Secure			
Northern Pink	*Dianthus repens*	Presence Expected			
Slender Mountain Sandwort	*Eremogone capillaris*	Secure			
Low Baby's-breath	*Gypsophila muralis*	Alien			
Tall Baby's-breath	*Gypsophila paniculata*	Alien			
Seabeach Sandwort	*Honckenya peploides*	Secure			
Blunt-leaved Sandwort	*Moehringia lateriflora*	Secure			
Large-Leaved Sandwort	*Moehringia macrophylla*	Sensitive			
Long-pod Stitchwort	*Pseudocherleria macrocarpa*	May Be At Risk			
Rock Stitchwort	*Sabulina dawsonensis*	Secure			
Elegant Stitchwort	*Sabulina elegans*	Secure			
Ross' Stitchwort	*Sabulina rossii*	Secure			
Boreal Stitchwort	*Sabulina rubella*	Secure			
Bog Stitchwort	*Sabulina stricta*	Sensitive			
Tufted Pearlwort	*Sagina caespitosa*	Undetermined	∃[6]		
Snow Pearlwort	*Sagina nivalis*	Secure			
Knotted Pearlwort	*Sagina nodosa*	Sensitive			
Procumbent Pearlwort	*Sagina procumbens*	Alien			
Alpine Pearlwort	*Sagina saginoides*	Sensitive			
Moss Campion	*Silene acaulis*	Secure			
Balkan Cathfly	*Silene csereii*	Alien			
Drummond's Campion	*Silene drummondii*	Presence Expected			
Arctic Campion	*Silene involucrata*	Secure			
Menzies Pink Campion	*Silene menziesii*	Secure			
Ostenfeld's Campion	*Silene ostenfeldii*	Secure			
Creeping Campion	*Silene repens*	Secure			
Sorensen's Campion	*Silene sorensenis*	Secure			
Apetalous Campion	*Silene uralensis*	Secure			
Corn Spurrey	*Spergula arvensis*	Alien			
Saltmarsh Sandspurry	*Spergularia salina*	May Be At Risk			
Boreal Stitchwort	*Stellaria borealis*	Secure			
Northern Bog Starwort	*Stellaria calycantha*	Undetermined			
Fleshy Stitchwort	*Stellaria crassifolia*	Secure			
Saltmarch Sandwort	*Stellaria humifusa*	Secure			
Longleaf Stitchwort	*Stellaria longifolia*	Secure			
Long-stalked Stitchwort	*Stellaria longipes*	Secure			

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Common Starwort	*Stellaria media*	Alien			
Umbellate Stitchwort	*Stellaria umbellata*	May Be At Risk			
Arctic-Flower (Merkia)	*Wilhelmsia physodes*	Secure			
Caryophyllales – Droseraceae					Pink-like plants – Sundews
English Sundew	*Drosera anglica*	Secure			
Slenderleaf Sundew	*Drosera linearis*	Sensitive			
Round-leaved Sundew	*Drosera rotundifolia*	Secure			
Caryophyllales – Plumbaginaceae					Pink-like plants – Thrifts
Western Thrift	*Armeria maritima*	Secure			
Caryophyllales – Polygonaceae					Pink-like plants – Rhubarbs
Meadow Bistort	*Bistorta plumosa*	Secure			
Alpine Knotweed	*Bistorta vivipara*	Secure			
Black Bindweed	*Fallopia convolvulus*	Alien			
Alaska Wild-rhubarb	*Koenigia alaskana*	Secure			
Iceland Purslane	*Koenigia islandica*	Sensitive			
Mountain Sorrel	*Oxyria digyna*	Secure			
Water Smartweed	*Persicaria amphibia*	Secure			
Pale Smartweed	*Persicaria lapathifolia*	Alien			
Striate Knotweed	*Polygonum achoreum*	Alien			
Prostrate Knotweed	*Polygonum aviculare*	Alien			
Fowler Knotweed	*Polygonum fowleri*	May Be At Risk			
Alaska Knotweed	*Polygonum humifusum*	Secure			
Bushy Knotweed	*Polygonum ramosissimum*	Undetermined			
Rhubarb	*Rheum rhabarbarum*	Alien			
Arctic Dock	*Rumex arcticus*	Secure			
Great Water Dock	*Rumex britannica*	Undetermined			
Curly Dock	*Rumex crispus*	Alien			
Tierra del Fuego Dock	*Rumex fueginus*	Secure			
Lapland Sorrel	*Rumex lapponicus*	May Be At Risk			
Western Dock	*Rumex occidentalis*	Secure			
Siberian Willow Dock	*Rumex sibiricus*	Secure			
Triangular-valved Dock	*Rumex triangulivalvis*	Secure			
Caryophyllales – Portulacaceae					Pink-like plants – Spring beauties
Alpine Spring Beauty	*Claytonia megarhiza*	May Be At Risk			
Alaska Spring Beauty	*Claytonia sarmentosa*	Presence Expected			
Tuberous Spring Beauty	*Claytonia tuberosa*	Secure			
Water Blinks	*Montia fontana*	Secure			
Celestrales – Celestraceae					Grass-of-parnassus-like plants – Grass of parnassus
Fringed Grass-of-parnassus	*Parnassia fimbriata*	Secure			
Kotzebue's Grass-of-parnassus	*Parnassia kotzebuei*	Secure			
Marsh Grass-of-parnassus	*Parnassia palustris*	Secure			

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Ceratophyllales – Ceratophyllaceae					Hornwort-like plants – Hornworts
Common Hornwort	*Ceratophyllum demersum*	Sensitive			
Cornales – Cornaceae					Dogwood-like plants – Dogwoods
Dwarf Dogwood	*Cornus canadensis*	Secure			
Red Osier Dogwood	*Cornus sericea*	Secure			
Swedish Dogwood	*Cornus suecica*	May Be At Risk			
Dipsacales – Caprifoliaceae					Teasel-like plants – Honeysuckles
Twinflower	*Linnaea borealis*	Secure			
Mountain Honeysuckle	*Lonicera dioica*	Secure			
Tatarian Honeysuckle	*Lonicera tatarica*	Alien			
White Snowberry	*Symphoricarpos albus*	Undetermined			
Northern Snowberry	*Symphoricarpos occidentalis*	Secure			
Clustered Valerian	*Valeriana capitata*	Secure			
Wood Valerian	*Valeriana dioica*	Sensitive			
Sitka Valerian	*Valeriana sitchensis*	Secure			
Dipsacales – Viburnaceae					Teasel-like plants – Sqashberries
Musk-root	*Adoxa moschatellina*	Undetermined			
Squashberry	*Viburnum edule*	Secure			
Ericales – Balasaminaceae					Blueberry-like plants – Impatiens
Spotted Jewel-weed	*Impatiens capensis*	Undetermined			



Leatherleaf Photo Credit: S. Carrière



Prickly Rose Photo Credit: S. Carrière

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Ericales – Diapensiaceae					Blueberry-like plants – Diapensias
Lapland Diapensia	*Diapensia lapponica*	Undetermined			
Alaskan Pincushion	*Diapensia obovata*	Secure			
Ericales – Ericaceae					Blueberry-like plants – Blueberries and relatives
Bog Rosemary	*Andromeda polifolia*	Secure			
Common Bearberry (Kinnikinnik)	*Arctostaphylos uva-ursi*	Secure			
Alpine Bearberry	*Arctous alpina*	Secure			
Red Bearberry	*Arctous rubra*	Secure			
Arctic White Heather	*Cassiope tetragona*	Secure			
Leatherleaf	*Chamaedaphne calyculata*	Secure			
Pipsissewa	*Chimaphila umbellata*	May Be At Risk			
Black Crowberry	*Empetrum nigrum*	Secure			
Moss Heather	*Harrimanella hypnoides*	May Be At Risk			
Alpine Laurel	*Kalmia microphylla*	Secure			
Bog Laurel	*Kalmia polifolia*	Secure			
Alpine Azalea	*Kalmia procumbens*	Secure			
One-flowered Wintergreen	*Moneses uniflora*	Secure			
Ghost Pipe	*Monotropa uniflora*	Undetermined			
One-sided Wintergreen	*Orthilia secunda*	Secure			
Purple Mountain Heather	*Phyllodoce caerulea*	Sensitive			
Pink Mountain Heather	*Phyllodoce empetriformis*	Secure			
Yellow Moutnain Heather	*Phyllodoce glanduliflora*	Secure			
Pink Pyrola	*Pyrola asarifolia*	Secure			
Greenish-flowered Pyrola	*Pyrola chlorantha*	Secure			
Arctic Pyrola	*Pyrola grandiflora*	Secure			
Lesser Pyrola	*Pyrola minor*	Secure			
Common Labrador Tea	*Rhododendron groenlandicum*	Secure			
Lapland Rosebay	*Rhododendron lapponicum*	Secure			
Narrow-leaved Labrador Tea	*Rhododendron tomentosum*	Secure			
Dwarf Bilberry	*Vaccinium caespitosum*	Undetermined			
Mountain Huckleberry	*Vaccinium membranaceum*	May Be At Risk			
Small Bog Cranberry	*Vaccinium microcarpum*	Undetermined	T[6]		
Velvetleaf Blueberry	*Vaccinium myrtilloides*	Sensitive			
Oval-leaved blueberry	*Vaccinium ovalifolium*	Undetermined			
Small Cranberry	*Vaccinium oxycoccos*	Secure			
Alpine Bilberry	*Vaccinium uliginosum*	Secure			
Rock Cranberry (Lingonberry)	*Vaccinium vitis-idaea*	Secure			

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Ericales – Polemoniaceae					Blueberry-like plants – Phlox and relatives
Narrow-leaved Collomia	*Collomia linearis*	Alien			
Hood's Phlox	*Phlox hoodii*	Undetermined			
Richarson's Phlox	*Phlox richardsonii*	Secure			
Tall Jacob's Ladder	*Polemonium acutiflorum*	Secure			
Northern Jacob's Ladder	*Polemonium boreale*	Secure			
Showy Jacob's Ladder	*Polemonium pulcherrimum*	Secure			
Ericales – Sarraceniaceae					Blueberry-like plants – Sarracenia
Northern Pitcher Plant	*Sarracenia purpurea*	Secure			
Ericales – Primulaceae					Blueberry-like plants – Primroses
Sweet-flower Rock-jasmine	*Androsace chamaejasme*	Secure			
Pygmy-flower Rock-jasmine	*Androsace septentrionalis*	Secure			
Mackenzie River Dwarf Primrose	*Douglasia arctica*	Secure			
Gorman's Dwarf Primrose	*Douglasia gormanii*	Undetermined	#		
Arctic Mountain Dwarf Primrose	*Douglasia ochotensis*	Undetermined			
Northern Starflower	*Lysimachia borealis*	Presence Expected			
Arctic Starflower	*Lysimachia europaea*	Sensitive			
Sea Milkwort	*Lysimachia maritima*	May Be At Risk			
Tufted Yellow Loosetrife	*Lysimachia thyrsiflora*	Secure			
Slender Primrose	*Primula borealis*	Secure			
Greenland Primrose	*Primula egaliksensis*	Secure			
Northern Shooting-star	*Primula frigida*	Secure			
Mealy Primrose	*Primula incana*	Secure			
Lake Mistassini Primrose	*Primula mistassinica*	Secure			
Few-flower Shooting-star	*Primula pauciflora*	Secure			
Arctic Primrose	*Primula pumila*	May Be At Risk			
Stiff Primrose	*Primula stricta*	Secure			
Fabales – Fabaceae					Pea-like plants – Peas
Meadow Milk-vetch	*Astragalus agrestis*	Secure			
Alpine Milk-vetch	*Astragalus alpinus*	Secure			
American Milk-vetch	*Astragalus americanus*	Secure			
Indian Milk-vetch	*Astragalus australis*	Secure			
Bodin's Milk-vetch	*Astragalus bodinii*	Secure			
Canadian Milk-vetch	*Astragalus canadensis*	Sensitive			
Elegant Milk-vetch	*Astragalus eucosmus*	Secure			
Rattle Milk-vetch	*Astragalus laxmannii*	Secure			
Loose-flowered Milk-vetch	*Astragalus tenellus*	Secure			
Tundra Milk-vetch	*Astragalus umbellatus*	Secure			
Siberian Pea-tree	*Caragana arborescens*	Alien			

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Alpine Sweet-vetch	*Hedysarum americanum*	Secure			
Boreal Sweet-vetch	*Hedysarum boreale*	Secure			
Beach Pea	*Lathyrus japonicus*	May Be At Risk			
Cream Vetchling	*Lathyrus ochroleucus*	Secure			
Bird's-foot Trefoil	*Lotus corniculatus*	Alien			
Arctic Lupine	*Lupinus arcticus*	Secure			
Black Medick	*Medicago lupulina*	Alien			
Alfalfa	*Medicago sativa*	Alien			
White Sweet-clover	*Melilotus albus*	Alien			
Yellow Sweet-clover	*Melilotus officinalis*	Alien			
Sainfoin	*Onobrychis viciifolia*	Alien			
Arctic Locoweed	*Oxytropis arctica*	Secure			
Boreal Locoweed	*Oxytropis borealis*	Secure			
Field Locoweed	*Oxytropis campestris*	Secure			
Pendant-pod Locoweed	*Oxytropis deflexa*	Secure			
Maydell Locoweed	*Oxytropis maydelliana*	Secure			
Blackish Locoweed	*Oxytropis nigrescens*	Secure			
Scamman's Locoweed	*Oxytropis scammaniana*	May Be At Risk			
Showy Locoweed	*Oxytropis splendens*	Secure			
Alsike Clover	*Trifolium hybridum*	Alien			
Red Clover	*Trifolium pratense*	Alien			
White Clover	*Trifolium repens*	Alien			
American Purple Vetch	*Vicia americana*	Secure			
Tufted Vetch	*Vicia cracca*	Alien			
Fagales – Betulaceae					Beech-like plants – Birches and alders
Green Alder	*Alnus alnobetula*	Secure			
Speckled Alder	*Alnus incana*	Secure			
Glandular Birch	*Betula glandulosa*	Secure			
Arctic Dwarf Birch	*Betula nana*	Secure			
Alaska Paper Birch	*Betula neoalaskana*	Secure			
Water Birch	*Betula occidentalis*	Secure			
Paper Birch	*Betula papyrifera*	Secure			
Northern Bog Birch	*Betula pumila*	Secure			
Fagales – Myricaceae					Beech-like plants – Gales
Sweet Gale	*Myrica gale*	Secure			
Gentianales – Apocynaceae					Gentian-like plants – Hemps
Spreading Dogbane	*Apocynum androsaemifolium*	Secure			
Indian Hemp	*Apocynum cannabinum*	Secure			
Gentianales – Gentianaceae					Gentian-like plants – Gentians
Dane's Gentian	*Comastoma tenellum*	May Be At Risk			
Prairie Gentian	*Gentiana affinis*	Secure			
Pale Gentian	*Gentiana glauca*	Secure			

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Pygmy Gentian	*Gentiana prostrata*	Sensitive			
Northern Gentian	*Gentianella amarella*	Secure			
Four-parted Gentian	*Gentianella propinqua*	Secure			
Raup's Sheared Gentian	*Gentianopsis detonsa*	Secure			
Macoun's Fringed Gentian	*Gentianopsis virgata*	Sensitive			
Spurred Gentian	*Halenia deflexa*	Undetermined			
Marsh Felwort	*Lomatogonium rotatum*	Secure			
Gentianales – Rubiaceae					Gentian-like plants – Bedstraws
Catchweed Bedstraw	*Galium aparine*	Alien			
Northern Bedstraw	*Galium boreale*	Secure			
Bog Bedstraw	*Galium labradoricum*	Secure			
Small Bedstraw	*Galium trifidum*	Secure			
Fragrant Bedstraw	*Galium triflorum*	Secure			
Geraniales – Geraniaceae					Geranium-like plants – Geraniums
Bicknell Geranium	*Geranium bicknellii*	Secure			
Richardson Geranium	*Geranium richardsonii*	Sensitive			
Herb-Robert	*Geranium robertianum*	Alien			
Lamiales – Lamiaceae					Mint-like plants – Mints and relatives
Blue Giant Hyssop	*Agastache foeniculum*	May Be At Risk			
American Dragonhead	*Dracocephalum parviflorum*	Secure			
Thyme-leaf Dragonhead	*Dracocephalum thymiflorum*	Alien			
Brittle-stemmed Hemp-nettle	*Galeopsis tetrahit*	Alien			
Common Dead Nettle	*Lamium amplexicaule*	Alien			
Northern Bugleweed	*Lycopus uniflorus*	Secure			
Canada Mint	*Mentha canadensis*	Secure			
Wild Bergamot	*Monarda fistulosa*	May Be At Risk			
Ledingham's False Dragonhead	*Physostegia ledinghamii*	May Be At Risk			
Hooded Skullcap	*Scutellaria galericulata*	Secure			
Hispid Hedge-nettle	*Stachys hispida*	Alien			
Hairy Hedge Nettle	*Stachys pilosa*	Secure			
Lamiales – Lentibulariaceae					Mint-like plants – Butterworts
Hairy Butterwort	*Pinguicula villosa*	Secure			
Common Butterwort	*Pinguicula vulgaris*	Secure			
Flatleaf Bladderwort	*Utricularia intermedia*	Secure			
Lesser Bladderwort	*Utricularia minor*	Secure			
Northern Bladderwort	*Utricularia ochroleuca*	Sensitive			
Greater Bladderwort	*Utricularia vulgaris*	Secure			
Lamiales – Orobanchaceae					Mint-like plants – Louseworts and relatives
Northern Groundcone	*Boschniakia rossica*	Secure			
Elegant Paintbrush	*Castilleja elegans*	Secure			

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Northern Paintbrush	*Castilleja hyperborea*	Secure			
Boreal Paintbrush	*Castilleja pallida*	Secure			
Raup's Paintbrush	*Castilleja raupii*	Secure			
Northeastern Paintbrush	*Castilleja septentrionalis*	Undetermined			
Arctic Eyebright	*Euphrasia subarctica*	Secure			
Yellow Owl's Clover	*Orthocarpus luteus*	May Be At Risk			
Capitate Lousewort	*Pedicularis capitata*	Secure			
Red-tip Lousewort	*Pedicularis flammea*	Sensitive			
Greenland Lousewort	*Pedicularis groenlandica*	Undetermined			
Hairy Lousewort	*Pedicularis hirsuta*	Undetermined			
Labrador Lousewort	*Pedicularis labradorica*	Secure			
Woolly Lousewort	*Pedicularis lanata*	Secure			
Langsdorff's Lousewort	*Pedicularis langsdorffii*	Secure			
Lapland Lousewort	*Pedicularis lapponica*	Secure			
Oeder's Lousewort	*Pedicularis oederi*	May Be At Risk			
Muskeg Lousewort	*Pedicularis parviflora*	Secure			
Sudetan Lousewort	*Pedicularis sudetica*	Secure			
Whorled Lousewort	*Pedicularis verticillata*	May Be At Risk			
Little Yellow Rattle	*Rhinanthus minor*	Secure			
Lamiales – Phrymaceae					Mint-like plants – Lopseeds
Common Large Monkey Flower	*Erythranthe guttata*	May Be At Risk			
Lamiales – Plantaginaceae					Mint-like plants – Plantains and relatives
Northern Waterstarwort	*Callitriche hermaphroditica*	Secure			
Large Waterstarwort	*Callitriche heterophylla*	Undetermined			
Marsh Waterstarwort	*Callitriche palustris*	Secure			
Dwarf Snapdragon	*Chaenorhinum minus*	Alien			
Lance-leaved Mare's-tail	*Hippuris lanceolata*	Secure			
Four-leaved Marestail	*Hippuris tetraphylla*	Sensitive			
Common Marestail	*Hippuris vulgaris*	Secure			
Pale Weaselsnout	*Lagotis glauca*	Secure			
Butter-and-Eggs	*Linaria vulgaris*	Alien			
Gorman's Beardtongue	*Penstemon gormanii*	May Be At Risk			
Small-flowered Beardtongue	*Penstemon procerus*	Presence Expected			
Hairy Plantain	*Plantago canescens*	Secure			
Saline Plantain	*Plantago eriopoda*	Secure			
Common Plantain	*Plantago major*	Alien			
Seaside Plantain	*Plantago maritima*	Sensitive			
Alaska Kitten-tail	*Veronica alaskensis*	May Be At Risk			
American Speedwell	*Veronica americana*	Sensitive			
Long-leaf Speedwell	*Veronica longifolia*	Alien			
Purslane Speedwell	*Veronica peregrina*	Secure			

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Marsh Speedwell	*Veronica scutellata*	Secure			
Alpine Speedwell	*Veronica wormskjoldii*	Secure			
Lamiales – Scrophulariaceae					Mint-like plants – Figworts
Northern Mudwort	*Limosella aquatica*	May Be At Risk			
Malpighiales – Linaceae					Malpighic plants – Flaxes
Lewis Blue Flax	*Linum lewisii*	Secure			
Common Yellow Flax	*Linum usitatissimum*	Alien			
Malpighiales – Elatinaceae					Malpighic plants – Waterworts
Long-stemmed Waterwort	*Elatine americana*	Undetermined			
Three-stamened Waterwort	*Elatine triandra*	Alien	#		
Malpighiales – Salicaceae					Malpighic plants – Willows and relatives
Balsam Poplar	*Populus balsamifera*	Secure			
Trembling Aspen	*Populus tremuloides*	Secure			
Alaska Willow	*Salix alaxensis*	Secure			
Littletree Willow	*Salix arbusculoides*	Secure			
Arctic Willow	*Salix arctica*	Secure			
Northern Willow	*Salix arctophila*	Secure			
Athabasca Willow	*Salix athabascensis*	Secure			
Barclay Willow	*Salix barclayi*	Secure			
Barratt Willow	*Salix barrattiana*	Secure			
Bebb Willow	*Salix bebbiana*	Secure			
Short-fruit Willow	*Salix brachycarpa*	Secure			
Hoary Willow	*Salix candida*	Secure			
Chamisso's willow	*Salix chamissonis*	Sensitive			
Undergreen Willow	*Salix commutata*	Secure			
Pussy Willow	*Salix discolor*	Sensitive			
Drummond's Willow	*Salix drummondiana*	Undetermined			
Yellow Willow	*Salix famelica*	Secure			
Farr's Willow	*Salix farriae*	May Be At Risk			
Alaska Bog Willow	*Salix fuscescens*	Secure			
Gray willow	*Salix glauca*	Secure			
Halberd Willow	*Salix hastata*	Secure			
Snowbed Willow	*Salix herbacea*	Secure			
Sandbar Willow	*Salix interior*	Secure			
Pacific Willow	*Salix lasiandra*	Secure			
Maccalla Willow	*Salix maccalliana*	Secure			
Blueberry Willow	*Salix myrtillifolia*	Secure			
Barren-ground Willow	*Salix niphoclada*	Secure			
Arctic Seashore Willow	*Salix ovalifolia*	May Be At Risk			
Bog Willow	*Salix pedicellaris*	Secure			
Meadow Willow	*Salix petiolaris*	Secure			
Skeleton-leaved Willow	*Salix phlebophylla*	Secure			
Diamond-leaved Willow	*Salix planifolia*	Secure			

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Polar Willow	*Salix polaris*	Secure			
Mackenzie Willow	*Salix prolixa*	Secure			
False Mountain Willow	*Salix pseudomonticola*	Secure			
Firm-Leaf Willow	*Salix pseudomyrsinites*	Secure			
Tea-leaved Willow	*Salix pulchra*	Secure			
Balsam Willow	*Salix pyrifolia*	Secure			
Raup's Willow	*Salix raupii*	May Be At Risk			
Net-veined Willow	*Salix reticulata*	Secure			
Richardson Willow	*Salix richardsonii*	Secure			
Round-leaved Willow	*Salix rotundifolia*	Secure			
Scouler Willow	*Salix scouleriana*	Secure			
Autumn Willow	*Salix serissima*	Secure			
Wedgeleaf Willow	*Salix sphenophylla*	May Be At Risk			
Tyrrell's Willow	*Salix tyrrellii*	May Be At Risk			
Malpighiales – Violaceae					Malpighic plants – Violets
Sand Violet	*Viola adunca*	Secure			
Canada Violet	*Viola canadensis*	Undetermined			
Northern Marsh Violet	*Viola epipsila*	Secure			
Labrador Violet	*Viola labradorica*	Secure			
Smooth White Violet	*Viola macloskeyi*	Secure			
Northern Bog Violet	*Viola nephrophylla*	Secure			
Alpine Marsh Violet	*Viola palustris*	Sensitive			
Kidney-leaf White Violet	*Viola renifolia*	Secure			
Great-spurred Violet	*Viola selkirkii*	Undetermined			
Johnny-jump-up	*Viola tricolor*	Alien			
Malvales – Cistaceae					Malpighic plants – Beach-heaths
Woolly Beach-heath	*Hudsonia tomentosa*	Sensitive			
Malvales – Malvaceae					Malpighic plants – Mallows
Dwarf mallow	*Malva neglecta*	Alien			
Myricales – Myricaceae					Bayberry-like plants – Gales
Sweet Gale	*Myrica gale*	Secure			
Myrtales – Onagraceae					Myrtle-like plants – Fireweeds
Fireweed	*Chamerion angustifolium*	Secure			
River Beauty	*Chamerion latifolium*	Secure			
Small Enchanter's Nightshade	*Circaea alpina*	Secure			
Alpine Willowherb	*Epilobium anagallidifolium*	Secure			
Arctic Willowherb	*Epilobium arcticum*	Secure			
Hairy Willowherb	*Epilobium ciliatum*	Secure			
Dahuria Willowherb	*Epilobium davuricum*	Secure			
Hornemann Willowherb	*Epilobium hornemannii*	Undetermined			
White-flower Willowherb	*Epilobium lactiflorum*	Sensitive			
Linear-leaved Willowherb	*Epilobium leptophyllum*	Secure			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Marsh Willowherb	*Epilobium palustre*	Secure			
Nymphaeales – Nymphaeaceae					Waterlily-like plants – Waterlilies
Rocky Mountain Pond Lily	*Nuphar polysepala*	May Be At Risk			
Variegated Pond Lily	*Nuphar variegata*	Secure			
Dwarf White Waterlily	*Nymphaea leibergii*	May Be At Risk			
Pygmy White Waterlily	*Nymphaea tetragona*	Sensitive			
Ranunculales – Papaveraceae					Buttercup-like plants – Poppies
Pale Corydalis	*Capnoides sempervirens*	Secure			
Golden Corydalis	*Corydalis aurea*	Secure			
Few-flowered Corydalis	*Corydalis pauciflora*	Secure			
Cornwallis Island Poppy	*Papaver cornwallisense*	Secure			
Polar Poppy	*Papaver dahlianum*	Secure			
Hultén's poppy	*Papaver hultenii*	Secure			
Keel River Poppy	*Papaver keelei*	Secure			
Lapland Poppy	*Papaver lapponicum*	Secure			
McConnell's Poppy	*Papaver mcconnellii*	Sensitive			
Walpole Poppy	*Papaver walpolei*	Presence Expected			
Ranunculales – Ranunculaceae					Buttercup-like plants – Buttercups and relatives
Mountain Monkshood	*Aconitum delphinifolium*	Secure			
Red Baneberry	*Actaea rubra*	Secure			
Canada Anemone	*Anemonastrum canadense*	Secure			
Richardson's Yellow Anemone	*Anemonastrum richardsonii*	Secure			
One-flowered Anemone	*Anemonastrum sibiricum*	Secure			
Alpine Anemone	*Anemone drummondii*	Secure			
Purple Anemone	*Anemone multiceps*	Undetermined	ⓘ[10]		
Cut-leaved Anemone	*Anemone multifida*	Secure			
Small-flower Anemone	*Anemone parviflora*	Secure			
Blue Columbine	*Aquilegia brevistyla*	Secure			
Floating Marsh Marigold	*Caltha natans*	Secure			
Marsh Marigold	*Caltha palustris*	Secure			
Golden Clematis	*Clematis tangutica*	Alien	#		
Lapland Buttercup	*Coptidium lapponicum*	Secure			
Pallas' Buttercup	*Coptidium pallasii*	Secure			
Northern Larkspur	*Delphinium brachycentrum*	Undetermined			
Dwarf Delphinium	*Delphinium elatum*	Alien			
Pale Larkspur	*Delphinium glaucum*	Secure			
Seaside Buttercup	*Halerpestes cymbalaria*	Secure			
Prairie Crocus	*Pulsatilla nuttalliana*	Secure			
Kidney-leaved Buttercup	*Ranunculus abortivus*	Sensitive			
Common Buttercup	*Ranunculus acris*	Alien			
Northern Buttercup	*Ranunculus arcticus*	Secure			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Subalpine Buttercup	*Ranunculus eschscholtzii*	Secure			
Lesser Spearwort	*Ranunculus flammula*	Secure			
Small Yellow Water-buttercup	*Ranunculus gmelinii*	Secure			
Tundra Buttercup	*Ranunculus grayi*	Sensitive			
High-Arctic Buttercup	*Ranunculus hyperboreus*	Secure			
Macoun Buttercup	*Ranunculus macounii*	Secure			
Mongolia Buttercup	*Ranunculus mongolicus*	Undetermined	T[6]		
Snowy Buttercup	*Ranunculus nivalis*	Secure			
Bristly Crowfoot	*Ranunculus pensylvanicus*	Undetermined			
Dwarf Buttercup	*Ranunculus pygmaeus*	Secure			
Prairie Buttercup	*Ranunculus rhomboideus*	May Be At Risk			
Sardine's Buttercup	*Ranunculus sabinei*	Secure			
Cursed Crowfoot	*Ranunculus sceleratus*	Secure			
Sulphur Buttercup	*Ranunculus sulphureus*	Secure			
Thread-leaved Water Buttercup	*Ranunculus trichophyllus*	Secure			
Turner's Buttercup	*Ranunculus turneri*	May Be At Risk			
Alpine Meadow Rue	*Thalictrum alpinum*	Secure			
Few Flower Meadow Rue	*Thalictrum sparsiflorum*	Secure			
Veined Meadow Rue	*Thalictrum venulosum*	Secure			
Rosales – Grossulariaceae					Rose-like plants – Currants
Skunk Currant	*Ribes glandulosum*	Secure			
Northern Black Currant	*Ribes hudsonianum*	Secure			
Bristly Black Currant	*Ribes lacustre*	Secure			
Canada Gooseberry	*Ribes oxyacanthoides*	Secure			
Swamp Red Currant	*Ribes triste*	Secure			
Rosales – Elaeagnaceae					Rose-like plants – Elaeagnas
American Silverberry	*Elaeagnus commutata*	Secure			
Buffalo-berry	*Shepherdia canadensis*	Secure			
Rosales – Rosaceae					Rose-like plants – Roses
Saskatoon Berry	*Amelanchier alnifolia*	Secure			
Rose Chamaerhodos	*Chamaerhodos erecta*	May Be At Risk			
Marsh Cinquefoil	*Comarum palustre*	Secure			
Shrubby Cinquefoil	*Dasiphora fruticosa*	Secure			
Beringian Mountain Avens	*Dryas ajanensis*	Undetermined			
Alaska Mountain Avens	*Dryas alaskensis*	Secure			
Yellow Mountain Avens	*Dryas drummondii*	Secure			
Hooker's Mountain Avens	*Dryas hookeriana*	Secure			
Crenulate-leaved Mountain Avens	*Dryas incisa*	Secure			
Entire-leaved Mountain Avens	*Dryas integrifolia*	Secure			
Tall Cinquefoil	*Drymocallis arguta*	Secure			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Woodland Strawberry	*Fragaria vesca*	Secure			
Virginia Strawberry	*Fragaria virginiana*	Secure			
Yellow Avens	*Geum aleppicum*	Secure			
Glacier Avens	*Geum glaciale*	Sensitive			
Large-leaved Avens	*Geum macrophyllum*	Secure			
Ross Avens	*Geum rossii*	Secure			
Prairie-smoke	*Geum triflorum*	May Be At Risk			
Segmented Luetkea	*Luetkea pectinata*	May Be At Risk			
Silverweed	*Potentilla anserina*	Secure			
Bluff Cinquefoil	*Potentilla arenosa*	Secure			
Two-flowered Cinquefoil	*Potentilla biflora*	Secure			
Staghorn Cinquefoil	*Potentilla bimundorum*	Secure			
Bipinnate Cinquefoil	*Potentilla bipinnatifida*	Undetermined			
Elegant Cinquefoil	*Potentilla elegans*	Secure			
Mountain Meadow Cinquefoil	*Potentilla glaucophylla*	Secure			
Hipp's Cinquefoil	*Potentilla hippiana*	Undetermined			
Arctic Cinquefoil	*Potentilla hyparctica*	Secure			
Coast Cinquefoil	*Potentilla litoralis*	Secure			
Snow Cinquefoil	*Potentilla nivea*	Secure			
Norwegian Cinquefoil	*Potentilla norvegica*	Secure			
Pedersen's Cinquefoil	*Potentilla pedersenii*	Undetermined			
Pennsylvania Cinquefoil	*Potentilla pensylvanica*	Secure			
Pretty Cinquefoil	*Potentilla pulchella*	Secure			
Rocky Mountain Cinquefoil	*Potentilla rubricaulis*	Secure			
North American Gorodkov's Cinquefoil	*Potentilla subgorodkovii*	Secure			
High Arctic Cinquefoil	*Potentilla subvahliana*	Secure			
Ushakov's Cinquefoil	*Potentilla uschakovii*	Undetermined			
Beringian Hairy Potentilla	*Potentilla villosula*	May Be At Risk			
Kamtchatka Cinquefoil	*Potentilla vulcanicola*	Undetermined			
Pin Cherry	*Prunus pensylvanica*	Secure			
Choke Cherry	*Prunus virginiana*	Sensitive			
Prickly Rose	*Rosa acicularis*	Secure			
Smooth Rose	*Rosa blanda*	Undetermined			
Nootka Rosa	*Rosa nutkana*	Undetermined	#		
Woods Rose	*Rosa woodsii*	Secure			
Arctic Raspberry	*Rubus arcticus*	Secure			
Cloudberry	*Rubus chamaemorus*	Secure			
Red Raspberry	*Rubus idaeus*	Secure			
Dwarf Red Raspberry	*Rubus pubescens*	Secure			
Canada Burnet	*Sanguisorba canadensis*	Presence Expected			
Great Burnet	*Sanguisorba officinalis*	Undetermined			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Creeping Sibbaldia	*Sibbaldia procumbens*	Secure			
Three-toothed Cinquefoil	*Sibbaldia tridentata*	Secure			
False Spiraea	*Sorbaria sorbifolia*	Alien			
Green Mountain-ash	*Sorbus scopulina*	Secure			
Steven Meadow-sweet	*Spiraea stevenii*	Secure			
Rosales – Urticaceae					Rose-like plants – Nettles
Stinging Nettle	*Urtica dioica*	Secure			
Santalales – Santalaceae					Sandalwood-like plants – Sandalwoods
Northern Comandra	*Geocaulon lividum*	Secure			
Sapindales – Sapindaceae					Samara-like plants – Samaras
Manitoba Maple	*Acer negundo*	Alien			
Saxifragales – Crassulaceae					Soap plants – Stonecrops
Water Pigmyweed	*Crassula aquatica*	May Be At Risk			
Two-row Stonecrop	*Phedimus spurius*	Alien			
Entire-leaved Stonecrop	*Rhodiola integrifolia*	Secure			
Saxifragales – Grossulariaceae					Saxifrage-like plants – Currants
Skunk Currant	*Ribes glandulosum*	Secure			
Northern Black Currant	*Ribes hudsonianum*	Secure			
Bristly Black Currant	*Ribes lacustre*	Secure			
Canada Gooseberry	*Ribes oxyacanthoides*	Secure			
Swamp Red Currant	*Ribes triste*	Secure			
Saxifragales – Haloragaceae					Saxifrage-like plants – Water milfoils
Alternate-flower Water Milfoil	*Myriophyllum alterniflorum*	Sensitive			
Spiked Water Milfoil	*Myriophyllum sibiricum*	Secure			
Whorled Water Milfoil	*Myriophyllum verticillatum*	Secure			
Saxifragales – Saxifragaceae					Saxifragales – Saxigrages
Northern Golden Saxifrage	*Chrysosplenium tetrandrum*	Secure			
Wright Golden Saxifrage	*Chrysosplenium wrightii*	Sensitive			
Richardson Alumroot	*Heuchera richardsonii*	May Be At Risk			
Leather-leaved Saxifrage	*Leptarrhena pyrolifolia*	Secure			
Rusty-hair Saxifrage	*Micranthes ferruginea*	May Be At Risk			
Leafy Saxifrage	*Micranthes foliolosa*	Secure			
Stiff Stem Saxifrage	*Micranthes hieraciifolia*	Secure			
Red Stemmed Saxifrage	*Micranthes lyallii*	Secure			
Heart-leaved Saxifrage	*Micranthes nelsoniana*	Secure			
Snow Saxifrage	*Micranthes nivalis*	Secure			
Razshivin's Saxifrage	*Micranthes razshivinii*	Secure			
Yukon Saxifrage	*Micranthes reflexa*	Secure			
Slender Saxifrage	*Micranthes tenuis*	Secure			
Bare-stem Bishop's Cap	*Mitella nuda*	Secure			
Five-stamen Mitrewort	*Mitella pentandra*	Undetermined			
Ascending Saxifrage	*Saxifraga adscendens*	Secure			

Common Name	Scientific Species Name	Rank	Reason for Change[a]	SARC Status in the NWT[b]	COSEWIC Status in Canada/Global Conservation Concern[b]
Yellow Mountain Saxifrage	*Saxifraga aizoides*	Secure			
Nodding Saxifrage	*Saxifraga cernua*	Secure			
Tufted Saxifrage	*Saxifraga cespitosa*	Secure			
Cushion Saxifrage	*Saxifraga eschscholtzii*	May Be At Risk			
Spider Saxifrage	*Saxifraga flagellaris*	Secure			
Yellowdot Saxifrage	*Saxifraga funstonii*	Sensitive			
Yellow Marsh Saxifrage	*Saxifraga hirculus*	Secure			
Arctic Saxifrage	*Saxifraga hyperborea*	Secure			
Purple Mountain Saxifrage	*Saxifraga oppositifolia*	Secure			
White Mountain Saxifrage	*Saxifraga paniculata*	May Be At Risk			
Spreading Saxifrage	*Saxifraga radiata*	Secure			
Thyme-leaf Saxifrage	*Saxifraga serpyllifolia*	Secure			
Prickly Saxifrage	*Saxifraga tricuspidata*	Secure			

[a] Describes reasons for a change in status rank between 2016 and 2021. ↗: Increasing Risk, ↘: Decreasing Risk, ∃: Error correction, #: Species new to the NWT, T: Taxonomic change, ⓘ: Information added, A: Changed due to detailed assessment by COSEWIC since 2016. See Data Sources and Methods for more details.

[b] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. SARC Status: Status for a species in the NWT that has already been assessed in detail by SARC as of December 2021. COSEWIC Status: Status for a species in Canada if it has already been assessed in a detailed manner by COSEWIC as of December 2021. The year of each assessment is given with each status. After 2021, please consult current and additional status assessments using references given at the end of this report. Rank of a species in the world as designated by NatureServe. GH: Possibly Extinct, G1: Critically Imperilled, G2: Imperilled, G3: Vulnerable. Definitions and more information can be found at www.natureserve.org.

1 Changed from At Risk
2 Changed from May Be at Risk
3 Changed from Sensitive
4 Changed from Secure
5 Changed from Undetermined
6 Changed from Not Ranked
7 Changed from Alien
8 Changed from Extirpated
9 Changed from Vagrant
10 Changed from Presence Expected



Variegated Pond Lily Photo Credit: S. Carrière



Wild Calla Photo Credit: S. Carrière

6.27 Liverworts



Cilliate Fringewort
Photo Credit: J. Hollett

Liversworts are non-vascular plants related to mosses and hornworts. They share with their cousins a number of unique characteristics, including small size, restriction to microhabitats, and an adaptation called "desiccation tolerance".

Desiccation tolerance is the ability to completely dry out and yet come to life minutes after they are re-wetted. Unlike other plants, liverworts don't have thick outer cuticle that prevents water loss. This allows liverworts to survive on rock surfaces or tree bark that do not hold water very long after a rainfall.

Liverworts have a complex life cycle, starting with a spore, then producing a mass of filaments (protonema), maturing in a gametophore ("gamete-bearer") plant that produces the sex organs. These organs are either male (antheridium) and protected by specialized cells called a perigonium, or female (archegonium) and protected by a perichaetum. Liverworts may have both female and male organs on the different indivisuals (dioicous) or are monoicous, where sex organs are borne on different branch of the same plants. In either case, the sperm must move where they are produced to the archegonium where the eggs are held. The sperm of liverworts is biflagellate (they have two tail-like flagellae that enable them to swim short distances provided that at least a thin film of water is present). Their journey may be assisted by the splashing of raindrops.

Liverworts are so named because they resembled lobed livers to early observers! In fact only a portion of the liverworts known to be present in the NWT have the "lobed liver" look. These are the thallose liverworts. The other group are the leafy liverworts, often confused with mosses. Leafy liverworts are smaller and have distinct leaves arranged neatly along a stem.

Unlike most plants, liverworts are not able to produce wood (cellulose), which provides plants with the rigidity to grow to enormous size. So liverworts are destined to remain small. They are not able to compete for light and water with plants that grow much larger and taller; however, their small size allows them to grow in thigh places where there is less competition. These small places are called microhabitats and they often differ significantly in temperature and humidity (and nutrients) from the entire landscape.

These small plants have a role in the landscapes where they occur. Liverworts can be ubiquitous in our forests. The species, *Marchantia polymorpha* can form large blankets of green soon after a forest fire and are thus important in erosion prevention. Other species can form significant soil crust ecosystems in extreme environments, such as in our polar regions.

Dr. René Belland
University of Alberta
Edmonton, AB



Purple-fringed Liverwort Photo Credit: J. Stewart

List 27. **Liverworts**

There are 141 species of liverworts confirmed present in the NWT. An additional five species are expected to be present. Species are listed alphabetically according to the scientific Phylum, Class and Order they belong to, then by Family, then by scientific species name. Taxonomy follows Stotler and Crandall-Stotler (1977). Common names are from various sources.

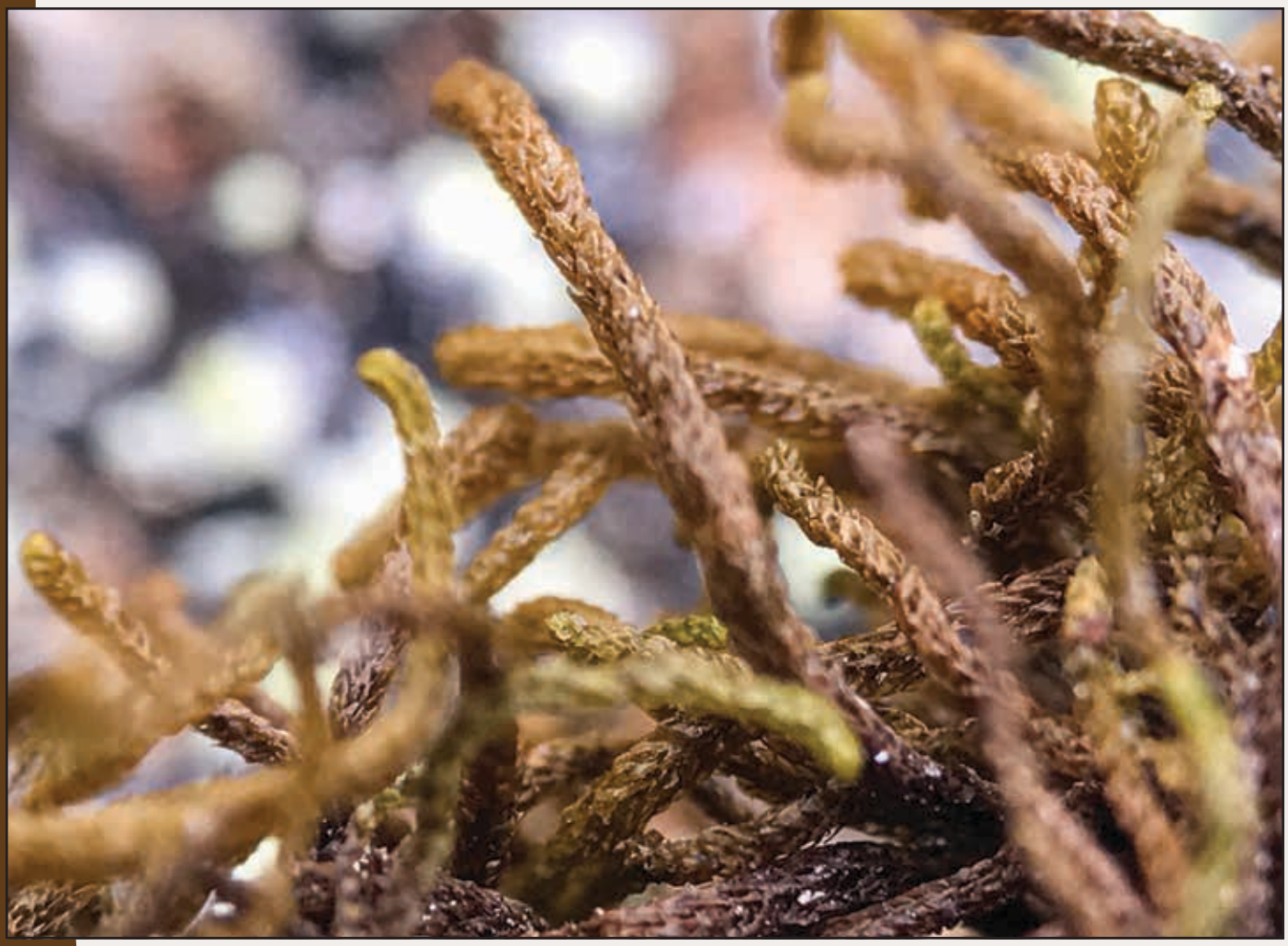


Cliliate Fringewort Photo Credit: C. McLennan

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Marchantiophyta – Jungermanniopsida – Jungermanniidae			Liverworts – Leafy hepatics
Jungermanniales – Adelanthaceae			Leafy liverworts – Adelantid liverworts
Macoun's Flapwort	*Odontoschisma macounii*	Secure	
Jungermanniales – Antheliaceae			Leafy liverworts – Silverworts
Alpine Silverwort	*Anthelia julacea*	Undetermined	
Juratzka's Silverwort	*Anthelia juratzkana*	Undetermined	
Jungermanniales – Arnelliaceae			Leafy liverworts – Arnellid liverworts
Tundra Liverwort	*Arnellia fennica*	Undetermined	
Jungermanniales – Calypogeiaceae			Leafy liverworts – Pouchworts
Meylan's Pouchwort	*Calypogeia integristipula*	Undetermined	
Hairy Pouchwort	*Calypogeia muelleriana*	Undetermined	
Nees' Pouchwort	*Calypogeia neesiana*	Undetermined	
Bog Pouchwort	*Calypogeia sphagnicola*	Undetermined	
Schuster's Pouchwort	*Eocalypogeia schusterana*	Undetermined	
Jungermanniales – Cephaloziaceae			Leafy liverworts – Pincerworts
Snow Pincerwort	*Cephalozia ambigua*	Undetermined	
Two-horned Pincerwort	*Cephalozia bicuspidata*	Undetermined	
Forcipated Pincerwort	*Cephalozia connivens*	Undetermined	
Scissors Pincerwort	*Cephalozia loitlesbergeri*	Undetermined	
Francis' Notchwort	*Cladopodiella francisci*	Undetermined	
Snow Threadwort	*Fuscocephaloziopsis albescens*	Undetermined	
Moon-leaved Pincerwort	*Fuscocephaloziopsis lunulifolia*	Undetermined	
Blunt Pincerwort	*Fuscocephaloziopsis pleniceps*	Undetermined	
Brown Flapwort	*Odontoschisma elongatum*	Undetermined	
Bog Notchwort	*Odontoschisma fluitans*	Undetermined	

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Jungermanniales – Cephaloziellaceae			Leafy liverworts – Threadworts
Spreading Threadwort	*Cephaloziella divaricata*	Undetermined	
Red Threadwort	*Cephaloziella rubella*	Undetermined	
Spiny Threadwort	*Cephaloziella spinigera*	Undetermined	
Hooked Threadwort	*Cephaloziella uncinata*	Undetermined	
Arctic Threadwort	*Cephaloziella varians*	Undetermined	
Jungermanniales – Geocalycaceae			Leafy liverworts – Geocalid liverworts
Turps Pouchwort	*Geocalyx graveolens*	Undetermined	
Drummond's Flapwort	*Harpanthus drummondii*	Presence Expected	
Great Mountain Flapwort	*Harpanthus flotovianus*	Undetermined	
Stipular Flapwort	*Harpanthus scutatus*	Undetermined	
Jungermanniales – Gymnomitriaceae			Leafy liverworts – Frostworts
Braided Frostwort	*Gymnomitrion concinnatum*	Undetermined	
Coral Frostwort	*Gymnomitrion corallioides*	Secure	
Blunt Frostwort	*Gymnomitrion obtusum*	Undetermined	
Revolute Rustwort	*Gymnomitrion revoluta*	Undetermined	
Arctic Rustwort	*Marsupella arctica*	Presence Expected	
Notched Rustwort	*Marsupella emarginata*	Undetermined	
Jungermanniales – Herbertaceae			Leafy liverworts – Scissor-leaved liverworts
Bent Scissor-leaved Liverwort	*Herbertus aduncus*	Undetermined	
Pacific Scissor-leaved Liverwort	*Herbertus dicranus*	Undetermined	
Jungermanniales – Jamesoniellaceae			Leafy liverworts – Jamesonid liverworts
Jameson's Liverwort	*Syzygiella autumnalis*	Undetermined	
Jungermanniales – Jungermanniaceae			Leafy liverworts – True leafy liverworts
Imbricated Flapwort	*Cryptocolea imbricata*	Undetermined	
Cordate Flapwort	*Jungermannia exsertifolia*	Presence Expected	
Polar Flapwort	*Jungermannia polaris*	Undetermined	
Dwarf Flapwort	*Jungermannia pumila*	Undetermined	
Compressed Flapwort	*Nardia compressa*	Undetermined	
Japanese Flapwort	*Nardia japonica*	Undetermined	
Round-fruited Flapwort	*Solenostoma sphaerocarpum*	Undetermined	
Jungermanniales – Lepidoziaceae			Leafy liverworts – Fingerworts
Creeping Fingerwort	*Lepidozia reptans*	Undetermined	
Jungermanniales – Lophocoleaceae			Leafy liverworts – Crestworts
United Crestwort	*Chiloscyphus coadunatus*	Undetermined	
Lesser Crestwort	*Chiloscyphus minor*	Undetermined	
Pale Liverwort	*Chiloscyphus pallescens*	Undetermined	
Many-flowered Crestwort	*Chiloscyphus polyanthos*	Undetermined	
Profund Crestwort	*Chiloscyphus profundus*	Undetermined	

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Jungermanniales – Mesoptychiaceae			Leafy liverworts – Mesoptychid liverworts
Sahlberg's Liverwort	*Mesoptychia sahlbergii*	Undetermined	
Jungermanniales – Myliaceae			Leafy liverworts – Myliacid liverworts
Taylor's Flapwort	*Mylia taylorii*	Undetermined	
Jungermanniales – Plagiochilaceae			Leafy liverworts – Featherworts
Arctic Featherwort	*Plagiochila arctica*	Undetermined	
Greater Featherwort	*Plagiochila asplenioides*	Undetermined	
Lesser Featherwort	*Plagiochila porelloides*	Undetermined	
Jungermanniales – Pseudolepicoleaceae			Leafy liverworts – Pseudolepicolid liverworts
Hairy Threadwort	*Blepharostoma trichophyllum*	Secure	
Frye's Alaskan Threadwort	*Pseudolepicolea fryei*	Undetermined	
Jungermanniales – Scapaniaceae			Leafy liverworts – Scapaniacid liverworts
Similar Notchwort	*Anastrophyllum assimile*	Undetermined	
Hollow-leaved Notchwort	*Anastrophyllum cavifolium*	Undetermined	
Wedge Notchwort	*Anastrophyllum sphenoloboides*	Undetermined	
Bearded Pawwort	*Barbilophozia barbata*	Secure	



Monster Pawwort

Photo Credit: B. T. Spellman

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Hatcher's Pawwort	*Barbilophozia hatcheri*	Secure	
Northern Pawwort	*Barbilophozia hyperborea*	Undetermined	
Greater Pawwort	*Barbilophozia lycopodioides*	Undetermined	
Hill Notchwort	*Barbilophozia sudetica*	Undetermined	
Heller's Notchwort	*Crossocalyx hellerianus*	Undetermined	
Yew-leaved Earwort	*Diplophyllum taxifolium*	Undetermined	
Inflated Notchwort	*Gymnocolea inflata*	Undetermined	
Lesser Notchwort	*Isopaches bicrenatus*	Undetermined	
Anomalous Flapwort	*Leiomylia anomala*	Secure	
Small Notchwort	*Lophozia ascendens*	Undetermined	
Elongated Notchwort	*Lophozia elongata*	Presence Expected	
Murmansk Notchwort	*Lophozia murmanica*	Undetermined	
Chalk Notchwort	*Lophozia perssonii*	Undetermined	
Polar Notchwort	*Lophozia polaris*	Undetermined	
Ash Notchwort	*Lophozia propagulifera*	Undetermined	
Forest Notchwort	*Lophozia silvicola*	Undetermined	
Tumid Notchwort	*Lophozia ventricosa*	Undetermined	
Wenzell's Notchwort	*Lophozia wenzelii*	Undetermined	
Cut Notchwort	*Lophoziopsis excisa*	Undetermined	
Horned Notchwort	*Lophoziopsis longidens*	Undetermined	
Dwarf Notchwort	*Mesoptychia badensis*	Undetermined	
Pan Notchwort	*Mesoptychia bantriensis*	Undetermined	
Collared Notchwort	*Mesoptychia collaris*	Undetermined	
Gillman's Notchwort	*Mesoptychia gillmanii*	Undetermined	
Whip Notchwort	*Mesoptychia heterocolpos*	Undetermined	
Fen Notchwort	*Mesoptychia rutheana*	Undetermined	
Binstead's Pawwort	*Neoorthocaulis binsteadii*	Undetermined	
Floerke's Pawwort	*Neoorthocaulis floerkei*	Undetermined	
Obtuse Notchwort	*Obtusifolium obtusum*	Undetermined	
Atlantic Pawwort	*Orthocaulis atlanticus*	Undetermined	
American Earwort	*Scapania americana*	Undetermined	
Pointed Earwort	*Scapania apiculata*	Undetermined	
Short-stemmed Earwort	*Scapania brevicaulis*	Undetermined	
Knobby Earwort	*Scapania crassiretis*	Undetermined	
Least Earwort	*Scapania curta*	Undetermined	
Untidy Earwort	*Scapania cuspiduligera*	Undetermined	
Glaucous-headed Earwort	*Scapania glaucocephala*	Undetermined	
Narrow-lobed Earwort	*Scapania gymnostomophila*	Undetermined	
Tundra Earwort	*Scapania hyperborea*	Undetermined	
Heath Earwort	*Scapania irrigua*	Undetermined	
Patch Earwort	*Scapania obcordata*	Undetermined	
Bog Earwort	*Scapania paludicola*	Undetermined	
Norwegian Earwort	*Scapania scandica*	Undetermined	
Simmons' Earwort	*Scapania simmonsii*	Secure	
Spitsbergen Earwort	*Scapania spitzbergensis*	Undetermined	

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Marsh Earwort	*Scapania uliginosa*	Undetermined	
Water Earwort	*Scapania undulata*	Undetermined	
Purple-lobed Notchwort	*Schistochilopsis grandiretis*	Undetermined	
Jagged Notchwort	*Schistochilopsis incisa*	Undetermined	
Marsh Notchwort	*Schistochilopsis laxa*	Presence Expected	
Kunze's Pawwort	*Schljakovia kunzeana*	Undetermined	
Four-fingered Pawwort	*Schljakovianthus quadrilobus*	Undetermined	
Comb Notchwort	*Sphenolobus minutus*	Secure	
Curled Notchwort	*Sphenolobus saxicola*	Undetermined	
Monster Pawwort	*Tetralophozia setiformis*	Secure	
Cut Notchwort	*Tritomaria exsecta*	Undetermined	
Large Cut Notchwort	*Tritomaria exsectiformis*	Undetermined	
Mixed-leaved Notchwort	*Tritomaria heterophylla*	Undetermined	
Five-laced Notchwort	*Tritomaria quinquedentata*	Secure	
Mountain Notchwort	*Tritomaria scitula*	Undetermined	
Porellales – Lejeuneaceae			Leafy epiphytic liverworts – Lejeune liverworts
Alaska Pouncewort	*Lejeunea alaskana*	Undetermined	
Porellales – Radulaceae			Leafy epiphytic liverworts – Scaleworts
Flat-leaved Scalewort	*Radula complanata*	Undetermined	
Arctic Scalewort	*Radula prolifera*	Undetermined	
Porellales – Ptilidiaceae			Leafy epiphytic liverworts – Feathery liverworts
Ciliate Fringewort	*Ptilidium ciliare*	Secure	
Tree Fringewort	*Ptilidium pulcherrimum*	Undetermined	
Marchantiophyta – Jungermanniopsida – Metzgeriidae			Liverworts – Simple thalloid hepatics
Metzgeriales – Aneuraceae			Simple thallose liverworts – Greaseworts
Small Greasewort	*Aneura pinguis*	Undetermined	
Jagged Germanderwort	*Riccardia chamedryfolia*	Undetermined	
Bog Germanderwort	*Riccardia latifrons*	Undetermined	
Palmate Germanderwort	*Riccardia palmata*	Undetermined	
Metzgeriales – Metzgeriaceae			Simple thallose liverworts – Veilworts
Downy Veilwort	*Metzgeria pubescens*	Undetermined	
Pallaviciniales – Moerckiaceae			Pallavicinid liverworts – Ruffworts
Blytt's Ruffwort	*Moerckia blyttii*	Undetermined	
Flotow's Ruffwort	*Moerckia flotoviana*	Undetermined	
Marchantiophyta – Jungermanniopsida – Pelliidae			Liverworts – Simple pellid hepatics
Pelliales – Pelliaceae			Pellialid liverworts – Pellias
Large-spored Pellia	*Apopellia alpicola*	Undetermined	
Common Pellia	*Pellia epiphylla*	Undetermined	
Nees' Pellia	*Pellia neesiana*	Undetermined	
Marchantiophyta – Marchantiopsida			Liverworts – Thallose hepatics
Marchantiales – Aytoniaceae			Thallose liverworts – Maceworts
Thin Macewort	*Mannia gracilis*	Undetermined	
Hairy Macewort	*Mannia pilosa*	Undetermined	
Field Macewort	*Mannia triandra*	Undetermined	

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Marchantiales – Cleveaceae			Thallose liverworts – Lungworts
Hyaline Liverwort	*Clevea hyalina*	Undetermined	
Snow Lungwort	*Sauteria alpina*	Undetermined	
Marchantiales – Conocephalaceae			Thallose liverworts – Conocephalid liverworts
Cat-tongue Liverwort	*Conocephalum salebrosum*	Undetermined	
Marchantiales – Marchantiaceae			Thallose liverworts – True thallose liverworts
Green-tongue Liverwort	*Marchantia polymorpha*	Secure	
Narrow Mushroom-headed Liverwort	*Marchantia quadrata*	Secure	
Ricciales – Ricciaceae			Thallose riccid liverworts – Crystalworts
Floating Crystalwort	*Riccia fluitans*	Undetermined	
Purple-fringed Liverwort	*Ricciocarpos natans*	Undetermined	

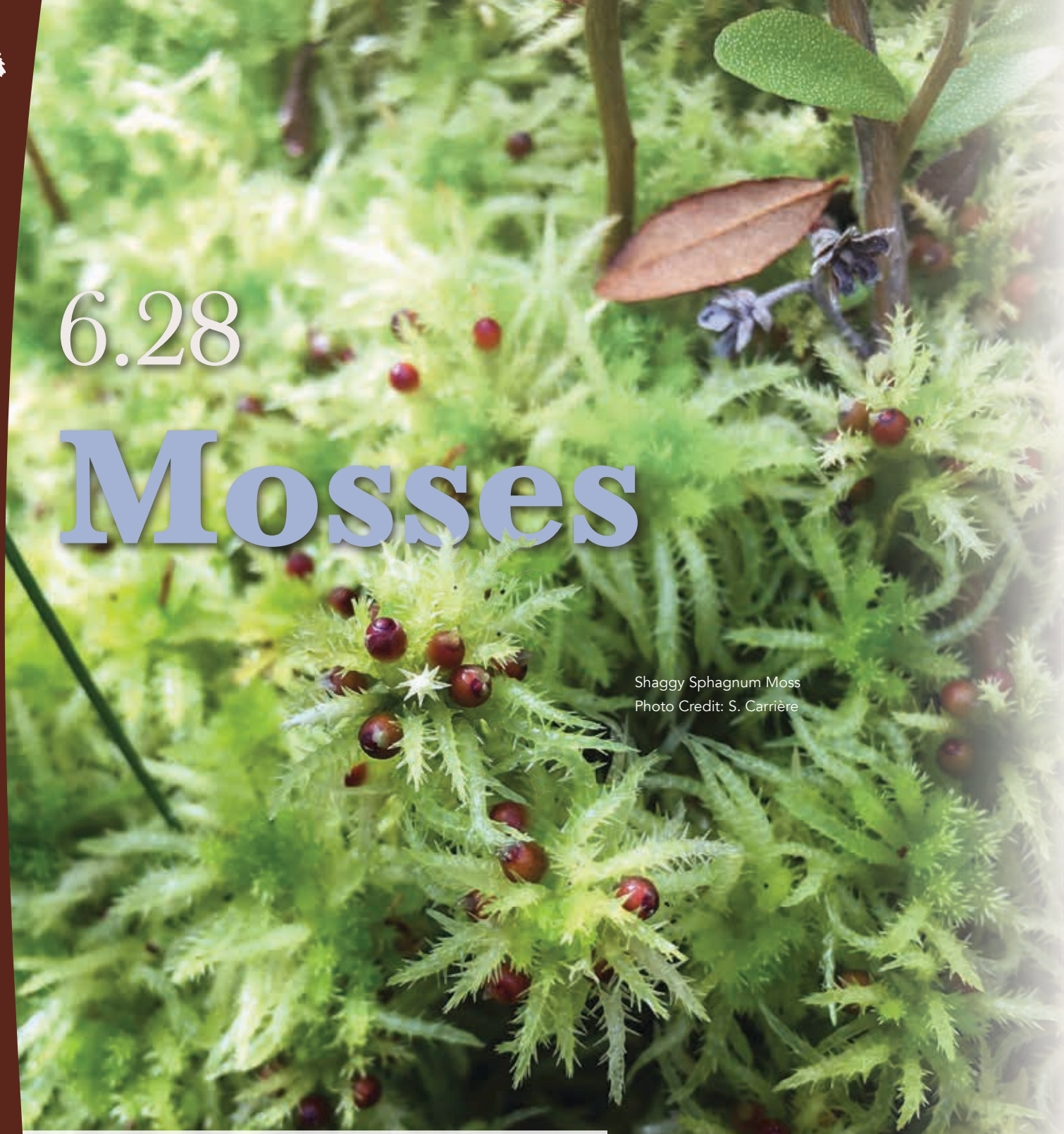
[a] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. Rank of a species in the world as designated by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org.



Green-tongue Liverwort

Photo Credit: beargrl iNaturalist.ca

6.28 Mosses



Shaggy Sphagnum Moss
Photo Credit: S. Carrière

Mosses are small, green, terrestrial plants that most people usually associate with the tropics or coastal rainforests. They are indeed a dominant plant type in those habitats, but also are able to grow in steppe desert or tundra habitats, in addition to many other habitats where most plants are unable to grow.

Although mosses share many features with vascular plants, they have many more unique adaptations or habits that make them different from these. There are three in particular that are of special interest: their small size, their restriction to microhabitats, and desiccation tolerance. It is the combination of all three that allows these small plants to grow in places that most plants can only dream about!

Compared to most vascular plants, mosses are quite small. The largest mosses in Canada are at most 20 cm tall and the smallest is less than 2 mm tall! The reason for their small size is their lack of wood. Wood provides most plants, like trees, the rigidity and strength that allow them to grow to enormous size. Being small may seem like a disadvantage because it prevents mosses from competing against larger plants for light and water. Far from being a disadvantage, small size allows mosses to grow in microhabitats where there is no competition with other plants. Microhabitats are 'mini-habitats' that differ from the surrounding environment in humidity or moisture levels, light, temperature, or substrate. Examples include rock crevices, tree trunks, and rotting logs.

The third feature that is unique to mosses is an adaptation termed 'desiccation tolerance'. Desiccation tolerance allows mosses to dry out completely but upon re-wetting to become active and start growing again within minutes. This enables the mosses to grow on surfaces that dry out very quickly after they have been wetted, or to grow in extreme habitats.

During a 2013 survey of mosses in the Mackenzie Mountains we found several species that showcase the ability of mosses to grow in difficult places. For instance, at one site near Carcajou Lake, a very small moss (Seligeria sp, "small limestone mosses") that barely reaches two mm in height was found growing on the side of small rock crevices near the top of a barren rock knoll in the middle of wide expanse of tundra. Another species, Blytt's Granite Moss (*Andreaea blyttii*), was found growing on boulders that had been recently exposed from under a cover of snow in a late melting snow patch at high elevation in the middle of August. And, a third species newly discovered in the NWT, Water Grimmia Moss (*Grimmia mollis*), was found at high elevation growing on rock in a stream of meltwater from late snow. These are just a few examples of mosses that eke out a living in difficult habitats that are common in the mountains of NWT.

Although numerous interesting mosses were found on this 2013 survey, large areas of the NWT remain unexplored and poorly documented for their mosses. Effective conservation of these small plants will depend on further surveys to determine in some detail their diversity and occurrence on the landscape. Unfortunately, such surveys are few and far between.

The most recent, extensive, survey in 2018 focused on cataloguing the mosses associated with waterfalls along the Waterfalls Route, and searches were also conducted for species at risk Porsild's Bryum. This species is listed as Threatened in Canada and is associated with shaded limestone cliffs that are bathed in seepage. While numerous new records of mosses were recorded, Porsild's Bryum was not found, a result that supports its rare status in Canada.

There are many questions asked about mosses, perhaps the most common is "How are they useful and can they benefit people?" From an ecological perspective, mosses are known to be important components of the environment. For instance, in peatlands, they control water flow over large areas by quickly absorbing large amounts of water (like a sponge) and releasing it slowly, thereby avoiding flooding. Peatlands are especially important in the NWT. Further, while mosses generally comprise a relatively small proportion of the biodiversity in many areas, they are nevertheless important in northern regions. About 35% of the total moss species known from Canada occur in the NWT!

Mosses have benefited northern peoples in many direct ways. For instance, peat moss and false willow moss are both used to mask smells from traps in winter. Also, peat moss and other mosses have been used in children diapers because of their absorptive properties and softness against the skin. Several mosses have been used as absorbents, fire starters and for chinking; many generations have stayed warm during long winters with the help of mosses.

Dr. René Belland
University of Alberta
Edmonton, AB

List 28. **Mosses**

There are 495 species of mosses confirmed present in the NWT. At least one additional species is expected to be present. Species are listed alphabetically according to the scientific Phylum, Class and Order they belong to, then by Family, then by scientific species name. Taxonomy follows mainly Flora of North America Editorial Committee (FNA 2007-2021). Common Names are from various sources.



Bristly Haircap Moss Photo Credit: C. Graydon

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC status in Canada/Global Conservation Concern[b]
Bryophyta – Andreaeopsida				Mosses – Lantern mosses
Andreaeales – Andreaeaceae				Andreaeid mosses – Granite mosses
Blytl's Granite Moss	*Andreaea blyttii*	Undetermined		
Snow Rock Moss	*Andreaea nivalis*	Undetermined	ⓘ[10]	
Obovate Rock Moss	*Andreaea obovata*	Sensitive	∃[4]	
Black Rock Moss	*Andreaea rupestris*	Secure		
Andreaeales – Andreaeobryaceae				Andreaeid mosses – Granite mosses
Bigspore Arctic Granite Moss	*Andreaeobryum macrosporum*	May Be At Risk		G2G3 – 2009
Bryophyta – Bryopsida				Mosses – True mosses
Bryales – Aulacomniaceae				Bryum mosses – Groove mosses
Acute-tip Groove Moss	*Aulacomnium acuminatum*	Secure		
Ribbed Bog Moss	*Aulacomnium palustre*	Secure		
Mountain Groove Moss	*Aulacomnium turgidum*	Secure		
Bryales – Bartramiaceae				Bryum mosses – Apple mosses
Straight-leaved Apple Moss	*Bartramia ithyphylla*	Secure		
Common Apple Moss	*Bartramia pomiformis*	Sensitive		
Helmet Moss	*Conostomum tetragonum*	Secure		
Hairy Apple Moss	*Philonotis capillaris*	Undetermined		
Fountain Apple Moss	*Philonotis fontana*	Undetermined		
Oeder Apple Moss	*Plagiopus oederianus*	Secure		
Bryales – Bryaceae				Bryum mosses – Bryum mosses
Slender Silver Moss	*Anomobryum filiforme*	May Be At Risk		
Silver Bryum Moss	*Bryum argenteum*	Secure		
Tufted Bryum Moss	*Gemmabryum caespiticium*	Secure		
Golden Thread Moss	*Leptobryum pyriforme*	Secure		
Drooping Hump Moss	*Plagiobryum demissum*	May Be At Risk		
Zier's Hump Moss	*Plagiobryum zieri*	May Be At Risk		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC status in Canada/Global Conservation Concern[b]
Andalusian Nodding Moss	*Pohlia andalusica*	Undetermined		
Andrews' Nodding Moss	*Pohlia andrewsii*	Undetermined		
Pale-fruited Nodding Moss	*Pohlia annotina*	Undetermined		
Purplish Nodding Moss	*Pohlia atropurpurea*	Undetermined		
Small-nerved Nodding Moss	*Pohlia brevinervis*	Presence Expected		
Blunt-bud Nodding Moss	*Pohlia bulbifera*	Undetermined		
Cardot's Nodding Moss	*Pohlia cardotii*	May Be At Risk		
Opal Nodding Moss	*Pohlia cruda*	Secure		
Pipe Nodding Moss	*Pohlia crudoides*	May Be At Risk		
Drummond's Nodding Moss	*Pohlia drummondii*	Undetermined		
Elongated Nodding Moss	*Pohlia elongata*	Undetermined		
Erect Nodding Moss	*Pohlia erecta*	Undetermined		
Slender Nodding Moss	*Pohlia filum*	Undetermined		
Pear-shaped Nodding Moss	*Pohlia lescuriana*	Undetermined		
Long-necked Nodding Moss	*Pohlia longicollia*	Sensitive		
Ludwig's Nodding Moss	*Pohlia ludwigii*	Undetermined		
Common Nodding Moss	*Pohlia nutans*	Secure		
Cottony Nodding Moss	*Pohlia proligera*	Sensitive		
Northwestern Nodding Moss	*Pohlia vexans*	May Be At Risk		
Wahlenberg's Nodding Moss	*Pohlia wahlenbergii*	Secure		
Bronze Bryum Moss	*Ptychostomum aeneum*	Undetermined	#	
Archangel Bryum Moss	*Ptychostomum archangelicum*	Undetermined		
Arctic Bryum Moss	*Ptychostomum arcticum*	Secure		
Matted Bryum Moss	*Ptychostomum calophyllum*	Sensitive		
Tight-tufted Bryum Moss	*Ptychostomum creberrimum*	Secure		
Round-leaved Bryum Moss	*Ptychostomum cyclophyllum*	Secure		
Small-mouthed Bryum Moss	*Ptychostomum inclinatum*	Undetermined		
Knowlton's Bryum Moss	*Ptychostomum knowltonii*	Sensitive		
Polished Bryum Moss	*Ptychostomum nitidulum*	Undetermined		
Pale Bryum Moss	*Ptychostomum pallens*	Undetermined		
Tall-clustered Bryum Moss	*Ptychostomum pallescens*	Secure		
Drooping Bryum Moss	*Ptychostomum pendulum*	Secure		
Common Green Bryum Moss	*Ptychostomum pseudotriquetrum*	Secure		
Dark-red Arctic Bryum Moss	*Ptychostomum rutilans*	Undetermined		
Saltmarsh Bryum Moss	*Ptychostomum salinum*	Undetermined		
Topshape Bryum Moss	*Ptychostomum turbinatum*	Undetermined		
Weigel's Bryum Moss	*Ptychostomum weigelii*	Secure		
Wright's Bryum Moss	*Ptychostomum wrightii*	Secure		
Capillary Bryum Moss	*Rosulabryum capillare*	Secure		
Bryales – Catoscopiaceae				Bryum mosses – Golf club mosses
Black Golf Club Moss	*Catoscopium nigritum*	Secure		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC status in Canada/Global Conservation Concern[b]
Bryales – Meesiaceae				Bryum mosses – Thread mosses
Short-toothed Hump Moss	*Amblyodon dealbatus*	Undetermined		
Long-stalked Thread Moss	*Meesia longiseta*	Undetermined		
Three-angled Thread Moss	*Meesia triquetra*	Secure		
Capillary Thread Moss	*Meesia uliginosa*	Secure		
Tufted Fen Moss	*Paludella squarrosa*	Secure		
Bryales – Mniaceae				Bryum mosses – Leafy mosses
Blytt's Thyme-moss	*Blytt's Leafy Moss*	Secure		
Arctic Cupola Moss	*Cinclidium arcticum*	Secure		
Wide-leaved Cupola Moss	*Cinclidium latifolium*	Secure		
Sooty Cupola Moss	*Cinclidium stygium*	Secure		
Ovate Cupola Moss	*Cinclidium subrotundum*	Secure		
Short-pointed Lantern Moss	*Cyrtomnium hymenophylloides*	Secure		
Obtuse-pointed Lantern Moss	*Cyrtomnium hymenophyllum*	Secure		
Blytt's Thyme-moss	*Mnium blytii*	Secure		
Arizona Leafy Moss	*Mnium arizonicum*	Undetermined		
Clubmoss Leafy Moss	*Mnium lycopodioides*	Undetermined		
Bordered Leafy Moss	*Mnium marginatum*	Secure		
Spiny Leafy Moss	*Mnium spinosum*	Undetermined		
Red-mouthed Leafy Moss	*Mnium spinulosum*	Undetermined		
Thomson's Leafy Moss	*Mnium thomsonii*	Secure		
Toothed Leafy Moss	*Plagiomnium ciliare*	Sensitive		
Woodsy Leafy Moss	*Plagiomnium cuspidatum*	Undetermined	∃[3]	
Drummond's Leafy Moss	*Plagiomnium drummondii*	Undetermined	∃[3]	
Marsh Leafy Moss	*Plagiomnium ellipticum*	Secure		
Alpine Leafy Moss	*Plagiomnium medium*	Sensitive		
Long-beaked Leafy Moss	*Plagiomnium rostratum*	Undetermined	∃[3]	
River Thyme Moss	*Pseudobryum cinclidioides*	Sensitive		
Andrew Thyme Moss	*Rhizomnium andrewsianum*	Sensitive		
Slender Leafy Moss	*Rhizomnium gracile*	Secure		
Large-leaved Leafy Moss	*Rhizomnium magnifolium*	Undetermined		
Felted Leafy Moss	*Rhizomnium pseudopunctatum*	Secure		
Dotted Leafy Moss	*Rhizomnium punctatum*	Undetermined		
Bryales – Timmiaceae				Bryum mosses – Timmia mosses
Austrian Timmia Moss	*Timmia austriaca*	Secure		
Megapolitan Timmia Moss	*Timmia megapolitana*	Undetermined	∃[4]	
Norwegian Timmia Moss	*Timmia norvegica*	Secure		
Siberian Timmia Moss	*Timmia sibirica*	Undetermined		
Dicranales – Bruchiaceae				Dicranid mosses – Bruch's mosses
Short-neck Trematodon Moss	*Trematodon brevicollis*	May Be At Risk	∃[3]	
Dicranales – Dicranaceae				Dicranid mosses – Fork mosses
Sprig Moss	*Aongstroemia longipes*	May Be At Risk		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC status in Canada/Global Conservation Concern[b]
Andersson's Arctic Moss	*Arctoa anderssonii*	May Be At Risk		
Tawny Fork Moss	*Arctoa fulvella*	May Be At Risk		
Mountain Dogtooth Moss	*Cynodontium alpestre*	Undetermined		
Glaucous Dogtooth Moss	*Cynodontium glaucescens*	Sensitive		
Slender Dogtooth Moss	*Cynodontium gracilescens*	Undetermined		
Jenner's Dogtooth Moss	*Cynodontium jenneri*	May Be At Risk	∃[3]	
Many-fruited Dogtooth Moss	*Cynodontium polycarpon*	Undetermined		
Hairy Dogtooth Moss	*Cynodontium schisti*	Sensitive		
Swollen Dogtooth Moss	*Cynodontium strumiferum*	Secure		
Delicate Dogtooth Moss	*Cynodontium tenellum*	Sensitive		
Transparent Fork Moss	*Dichodontium pellucidum*	Undetermined		
Spur-necked Forklet Moss	*Dicranella cerviculata*	Undetermined		
Curl-leaved Forklet Moss	*Dicranella crispa*	Secure		
Silky Forklet Moss	*Dicranella heteromalla*	Undetermined		
Marsh Forklet Moss	*Dicranella palustris*	Undetermined		
Schreber's Forklet Moss	*Dicranella schreberiana*	Secure		
Awl-leaved Forklet Moss	*Dicranella subulata*	Undetermined		
Variable Forklet Moss	*Dicranella varia*	Undetermined		
Beaked Bow Moss	*Dicranodontium denudatum*	Undetermined		
Curly Thatch Moss	*Dicranoweisia cirrata*	Undetermined		
Mountain Thatch Moss	*Dicranoweisia crispula*	Sensitive	ⓘ[4]	
Sharp-leaved Broom Moss	*Dicranum acutifolium*	Secure		
Bonjean's Broom Moss	*Dicranum bonjeanii*	Undetermined		
Short-leaved Broom Moss	*Dicranum brevifolium*	May Be At Risk	∃[3]	
Long-forked Broom Moss	*Dicranum elongatum*	Secure		
Whip Broom Moss	*Dicranum flagellare*	Undetermined		
Fragile-leaved Broom Moss	*Dicranum fragilifolium*	Secure		
Curly Broom Moss	*Dicranum fuscescens*	Secure		
Greenland Broom Moss	*Dicranum groenlandicum*	Secure		
Fuzzy Broom Moss	*Dicranum leioneuron*	Undetermined		
Magic Cushion Moss	*Dicranum majus*	Undetermined		
Mountain Cushion Moss	*Dicranum montanum*	Undetermined		
Muehlenbeck's Cushion Moss	*Dicranum muehlenbeckii*	Undetermined		
Ontarian Cushion Moss	*Dicranum ontariense*	Undetermined		
Many-leaved Cushion Moss	*Dicranum polysetum*	Secure		
Common Broom Moss	*Dicranum scoparium*	Secure		
Confusing Broom Moss	*Dicranum spadiceum*	Secure		
Fragile Broom Moss	*Dicranum tauricum*	Undetermined		
Wavy Broom Moss	*Dicranum undulatum*	Secure		
Blytt's Fork Moss	*Kiaeria blyttii*	Sensitive		
Sickle Fork Moss	*Kiaeria falcata*	Undetermined		
Snow Fork Moss	*Kiaeria glacialis*	Secure		
Starke's Fork Moss	*Kiaeria starkei*	Sensitive		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC status in Canada/Global Conservation Concern[b]
Green Spur Moss	*Oncophorus virens*	Secure		
Wahlenberg's Spur Moss	*Oncophorus wahlenbergii*	Secure		
Alpine Notchleaf Moss	*Paraleucobryum enerve*	Undetermined		
Long-leaved Fork Moss	*Paraleucobryum longifolium*	Undetermined		
Fine-toothed Streak Moss	*Rhabdoweisia crispata*	May Be At Risk		
Dicranales – Ditrichaceae				Dicranid mosses – Double-leaf mosses
Round-leaved Ceratodon Moss	*Ceratodon heterophyllus*	Undetermined		
Fire Moss	*Ceratodon purpureus*	Secure		
Erect-fruited Iris Moss	*Distichium capillaceum*	Secure		
Hagen's Iris Moss	*Distichium hagenii*	Undetermined		
Inclined Iris Moss	*Distichium inclinatum*	Secure		
Flexible Cow-hair Moss	*Ditrichum flexicaule*	Secure		
Slender Cow-hair Moss	*Ditrichum gracile*	Undetermined		
Blue Dew Moss	*Saelania glaucescens*	Undetermined		
Cylindric Hairy-teeth Moss	*Trichodon cylindricus*	Undetermined		
Dicranales – Fissidentaceae				Dicranid mosses – Pocket mosses
Maidenhair Pocket Moss	*Fissidens adianthoides*	Sensitive		
Arctic Pocket Moss	*Fissidens arcticus*	Undetermined		
Lesser Pocket Moss	*Fissidens bryoides*	Undetermined		
Large-leaved Pocket Moss	*Fissidens grandifrons*	Undetermined		
Purple-stalked Pocket Moss	*Fissidens osmundoides*	Secure		
Yew-leaved Pocket Moss	*Fissidens taxifolius*	Undetermined		
Dicranales – Grimmiaceae				Dicranidh mosses – Rock mosses
Yellow-green Rock Moss	*Bucklandiella heterosticha*	Undetermined		
Small-fruited Rock Moss	*Bucklandiella microcarpa*	Undetermined		
Narrow-leaved Rock Moss	*Bucklandiella sudetica*	May Be At Risk		
Clustered Rock Moss	*Codriophorus fascicularis*	Undetermined		
Great Bear Lake Sieve-tooth Moss	*Coscinodon arctolimnius*	Undetermined		
Copper Sieve-tooth Moss	*Coscinodon cribrosus*	Undetermined		
Toothless Grimmia Moss	*Grimmia anodon*	Undetermined		



Wahlenberg's Nodding Moss Photo Credit: B. Bennett



Bristly Haircap Moss Photo Credit: S. Carrière

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC status in Canada/Global Conservation Concern[b]
Bow-stalked Grimmia Moss	*Grimmia crinitoleucophaea*	Undetermined		
Donn's Grimmia Moss	*Grimmia donniana*	Undetermined		
Brown Grimmia Moss	*Grimmia elongata*	Undetermined		
Long-beaked Grimmia Moss	*Grimmia longirostris*	Undetermined		
Water Grimmia Moss	*Grimmia mollis*	Undetermined	ⓘ[10]	
Curved-stalk Grimmia Moss	*Grimmia plagiopodia*	Undetermined		
Spreading-leaved Grimmia Moss	*Grimmia ramondii*	Undetermined		
Alpine Grimmia Moss	*Grimmia sessitana*	Undetermined		
Round-nerved Grimmia Moss	*Grimmia teretinervis*	Undetermined		
Twisted Grimmia Moss	*Grimmia torquata*	May Be At Risk		
Dingy Grimmia Moss	*Grimmia unicolor*	May Be At Risk		
Grey Rock Moss	*Niphotrichum canescens*	Secure		
Dense Rock Moss	*Racomitrium ericoides*	Undetermined		
Hoary Rock Moss	*Racomitrium lanuginosum*	Secure		
Agassiz's Bloom Moss	*Schistidium agassizii*	Undetermined		
Radiate Bloom Moss	*Schistidium apocarpum*	Secure		
Boreal Bloom Moss	*Schistidium boreale*	Undetermined		
Cryptic Bloom Moss	*Schistidium cryptocarpum*	Undetermined		
Dupret's Bloom Moss	*Schistidium dupretii*	Undetermined		
Arctic-alpine Bloom Moss	*Schistidium frigidum*	Undetermined		
Frisvoll's Bloom Moss	*Schistidium frisvollianum*	Undetermined		
Large-celled Bloom Moss	*Schistidium grandirete*	Undetermined		
Holmen's Bloom Moss	*Schistidium holmenianum*	Undetermined		
Papillose Bloom Moss	*Schistidium papillosum*	Undetermined		
Showy Bloom Moss	*Schistidium pulchrum*	Undetermined		
River Bloom Moss	*Schistidium rivulare*	Secure		
Robust Bloom Moss	*Schistidium robustum*	Undetermined		
Slender Bloom Moss	*Schistidium tenerum*	Sensitive		
Black Bloom Moss	*Schistidium trichodon*	May Be At Risk		
Bluish Bloom Moss	*Schistidium venetum*	Undetermined		
Dicranales – Scouleriaceae				Dicranid mosses – Scouler mosses
Streamside Moss	*Scouleria aquatica*	Undetermined		
Dicranales – Seligeriaceae				Dicranid mosses – Limestone mosses
Sharp-leaved Blind's Moss	*Blindia acuta*	Sensitive	ⓘ[4]	
Chalk Bristle Moss	*Seligeria calcarea*	Sensitive		
Bent-foot Bristle Moss	*Seligeria campylopoda*	May Be At Risk		
Donn's Bristle Moss	*Seligeria donniana*	Sensitive	ⓘ[5]	
Irish Bristle Moss	*Seligeria oelandica*	May Be At Risk		
Polar Limestone Moss	*Seligeria polaris*	May Be At Risk		
Small Bristle Moss	*Seligeria subimmersa*	May Be At Risk		
Three-ranked Bristle Moss	*Seligeria tristichoides*	Undetermined		
Funariales – Disceliaceae				Funarid mosses – Flag mosses
Naked Flag Moss	*Discelium nudum*	May Be At Risk		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC status in Canada/Global Conservation Concern[b]
Funariales – Epemeraceae				Funarid mosses – Earth mosses
Serrated Earth Moss	*Ephemerum serratum*	Undetermined		
Funariales – Funariaceae				Funarid mosses – Rope mosses
Arctic Cord Moss	*Funaria arctica*	May Be At Risk		
Common Cord Moss	*Funaria hygrometrica*	Secure		
Small Cord Moss	*Funaria microstoma*	Undetermined		
Polar Cord Moss	*Funaria polaris*	May Be At Risk		
Funariales – Pseudoditrichaceae				Funarid mosses – Double-rope mosses
Great Bear Lake Double-rope Moss	*Pseudoditrichum mirabile*	Undetermined		
Funariales – Splachnaceae				Funarid mosses – Dung mosses
Carrion Moss	*Aplodon wormskjoldii*	Secure	ⓘ[5]	
Yellow Dung Moss	*Splachnum luteum*	Sensitive		
Red Dung Moss	*Splachnum rubrum*	Undetermined		
Round-fruited Dung Moss	*Splachnum sphaericum*	Secure		
Rugged Dung Moss	*Splachnum vasculosum*	Sensitive		
Acuminate Trumpet Moss	*Tayloria acuminata*	Undetermined		
Froelich's Trumpet Moss	*Tayloria froelichiana*	Undetermined		
Tongued Taylor Moss	*Tayloria lingulata*	Undetermined		
Tooth-leaved Nitrogen Moss	*Tetraplodon angustatus*	Sensitive		
Entire-leaved Nitrogen Moss	*Tetraplodon mnioides*	Secure		
Pale Nitrogen Moss	*Tetraplodon pallidus*	Undetermined		
Paradox Nitrogen Moss	*Tetraplodon paradoxus*	Sensitive		
Urceolate Nitrogen Moss	*Tetraplodon urceolatus*	Sensitive	ⓘ[4]	
Arctic Voit's Moss	*Voitia hyperborea*	Undetermined		
Hypnales – Amblystegiaceae				Hypnid mosses – Spear mosses
Jurkatzka's Feather Moss	*Amblystegium serpens*	Secure		
Heart-leaved Spear Moss	*Calliergon cordifolium*	Secure		
Giant Spear Moss	*Calliergon giganteum*	Secure		
Large Spear Moss	*Calliergon megalophyllum*	Undetermined		
Nunavut Spear Moss	*Calliergon orbicularicordatum*	Undetermined		G1G2 – 2016
Richardson's Spear Moss	*Calliergon richardsonii*	Secure		
Common Large Wetland Moss	*Calliergonella cuspidata*	Undetermined		
Golden Creeping Moss	*Campyliadelphus chrysophyllus*	Secure		
Yellow Starry Fen Moss	*Campylium stellatum*	Secure		
Haller's Fine Wet Moss	*Campylophyllum halleri*	Undetermined		
Common Fine Wet Moss	*Campylophyllum hispidulum*	Secure		
Coast Creeping Moss	*Conardia compacta*	Undetermined		
Fern-leaved Hook Moss	*Cratoneuron filicinum*	Secure		
Knieff's Hook Moss	*Drepanocladus aduncus*	Secure		
Long-leaved Hook Moss	*Drepanocladus longifolius*	Undetermined		
Polygamous Hook Moss	*Drepanocladus polygamus*	Undetermined		
Dingy Hook Moss	*Drepanocladus sordidus*	Undetermined		
Lapland Hook Moss	*Hamatocaulis lapponicus*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC status in Canada/Global Conservation Concern[b]
Varnished Hook Moss	*Hamatocaulis vernicosus*	Secure		
Willow Feather Moss	*Hygroamblystegium varium*	Sensitive		
Northern Brook Moss	*Hygrohypnum alpestre*	Undetermined		
Inflated Brook Moss	*Hygrohypnum eugyrium*	Undetermined		
Drab Brook Moss	*Hygrohypnum luridum*	Secure		
Claw Brook Moss	*Hygrohypnum ochraceum*	Undetermined		
Polar Brook Moss	*Hygrohypnum polare*	Sensitive		
Snow Brook Moss	*Hygrohypnum styriacum*	Undetermined		
Riparian Feather Moss	*Leptodictyum riparium*	Secure		
Sickle-leaved Loeskypnum Moss	*Loeskypnum badium*	Secure		
Curled Hook Moss	*Palustriella falcata*	Undetermined		
Short-leaved Spear Moss	*Pseudocalliergon brevifolium*	Secure		
Three-ranked Spear Moss	*Pseudocalliergon trifarium*	Secure		
Turgid Scorpion Moss	*Pseudocalliergon turgescens*	Secure		
Long-stalked Fine Wet Moss	*Pseudocampylium radicale*	Sensitive		
Snowbed Hook Moss	*Sanionia georgico-uncinata*	Undetermined		
Coastal Hook Moss	*Sanionia orthothecioides*	Undetermined		
Sickle Moss	*Sanionia uncinata*	Secure		
Ringless Spoon Moss	*Sarmentypnum exannulatum*	Secure		
Twiggy Spoon Moss	*Sarmentypnum sarmentosum*	Secure		
Pencil-like Spoon Moss	*Sarmentypnum trichophyllum*	Undetermined		
Tundra Spoon Moss	*Sarmentypnum tundrae*	Undetermined		
Cosson's Hook Moss	*Scorpidium cossonii*	Undetermined		
Rusty Hook Moss	*Scorpidium revolvens*	Secure		
Hooked Scorpion Moss	*Scorpidium scorpioides*	Secure		
Straw Moss	*Straminergon stramineum*	Secure		
Floating Hook Moss	*Warnstorfia fluitans*	Secure		
Spring Hook Moss	*Warnstorfia pseudostraminea*	Undetermined		
Hypnales – Brachytheciaceae				Hypnid mosses – Ragged mosses
Mountain Ragged Moss	*Brachytheciastrum collinum*	Sensitive	ⓘ[4]	
Lawer's Ragged Moss	*Brachytheciastrum trachypodium*	Undetermined		
Velvet Ragged Moss	*Brachytheciastrum velutinum*	Secure		
Sharp Ragged Moss	*Brachythecium acutum*	Undetermined	T[6]	
Whitish Ragged Moss	*Brachythecium albicans*	Secure		
Field Ragged Moss	*Brachythecium campestre*	Undetermined		
Taiga Ragged Moss	*Brachythecium erythrorrhizon*	Undetermined		
Cold Ragged Moss	*Brachythecium frigidum*	Undetermined		
Greenland Ragged-moss	*Brachythecium groenlandicum*	Undetermined		
Leigerg's Ragged-moss	*Brachythecium leibergii*	Undetermined		
Sand Ragged-moss	*Brachythecium mildeanum*	Undetermined		
Nelson's Ragged-moss	*Brachythecium nelsonii*	Undetermined		
Oedipodium Ragged-moss	*Brachythecium oedipodium*	Undetermined		
Snow Ragged Moss	*Brachythecium plumosum*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC status in Canada/Global Conservation Concern[b]
River Ragged Moss	*Brachythecium rivulare*	Undetermined		
Rough-stalked Ragged Moss	*Brachythecium rutabulum*	Undetermined		
Golden Ragged Moss	*Brachythecium salebrosum*	Secure		
Thick Ragged Moss	*Brachythecium turgidum*	Secure		
Hair-pointed Moss	*Cirriphyllum cirrosum*	Secure		
Elegant Beaked Moss	*Eurhynchiastrum pulchellum*	Secure		
Dark Beaked Moss	*Rhynchostegium serrulatum*	Sensitive		
Glacier Ragged-moss	*Sciuro-hypnum glaciale*	May Be At Risk		
Reflexed Ragged Moss	*Sciuro-hypnum reflexum*	Undetermined		
Sickle-leaved Golden Moss	*Tomentypnum falcifolium*	Undetermined		
Golden Fuzzy Fen Moss	*Tomentypnum nitens*	Secure		
Hypnales – Entodontaceae				Hypnid mosses – Entodon mosses
Flat-stemmed Entodon Moss	*Entodon cladorrhizans*	Sensitive		
Lime Entodon Moss	*Entodon concinnus*	May Be At Risk		
Schleicher's Entodon Moss	*Entodon schleicheri*	May Be At Risk		
Hypnales – Fontinalaceae				Hypnid mosses – Water mosses
Lance-leaved Claw Moss	*Dichelyma falcatum*	May Be At Risk		
Slender Water Moss	*Fontinalis dalecarlica*	Undetermined		
River Moss	*Fontinalis hypnoides*	Undetermined		
Hypnales – Helodiaceae				Hypnid mosses – Bog mosses
Blandow's Wetland Plume Moss	*Helodium blandowii*	Undetermined		
Hypnales – Hylocomiaceae				Hypnid mosses – Stair-step mosses
Oake's Wood Moss	*Hylocomiastrum pyrenaicum*	Undetermined		
Stair-step Moss	*Hylocomium splendens*	Secure		
Red-stemmed Feather Moss	*Pleurozium schreberi*	Secure		
Square Shaggy Moss	*Rhytidiadelphus squarrosus*	Undetermined		
Subpinnate Gooseneck Moss	*Rhytidiadelphus subpinnatus*	Undetermined		
Electrified Cat's-tail Moss	*Rhytidiadelphus triquetrus*	Undetermined		
Hypnales – Hypnaceae				Hypnid mosses – Plait mosses
Chalk Comb Moss	*Ctenidium molluscum*	Undetermined		
Flat Stump Moss	*Herzogiella turfacea*	Sensitive		
Bamberger's Golden Plait Moss	*Hypnum bambergeri*	Secure		
Downy Plait Moss	*Hypnum callichroum*	Sensitive		
Cypress-leaved Plait Moss	*Hypnum cupressiforme*	Secure		
Hook-leaved Plait Moss	*Hypnum hamulosum*	Secure		
Holmen's Plait Moss	*Hypnum holmenii*	Secure		
Pellucid Plait Moss	*Hypnum imponens*	Undetermined		
Lindberg's Plait Moss	*Hypnum lindbergii*	Secure		
Stump Plait Moss	*Hypnum pallescens*	Sensitive		
Northern Plait Moss	*Hypnum plicatulum*	Secure		
Meadow Plait Moss	*Hypnum pratense*	Secure		
Tundra Plait Moss	*Hypnum procerrimum*	Secure		
Recurved Plait Moss	*Hypnum recurvatum*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC status in Canada/Global Conservation Concern[b]
Revolute Plait Moss	*Hypnum revolutum*	Secure		
Curly Plait Moss	*Hypnum subimponens*	Sensitive		
Vaucher's Plait Moss	*Hypnum vaucheri*	Secure		
Mueller's Silk Moss	*Isopterygiopsis muelleriana*	May Be At Risk		
Neat Silk Moss	*Isopterygiopsis pulchella*	Secure		
Acuminate Erect-capsule Moss	*Orthothecium acuminatum*	Undetermined		
Golden Erect-capsule Moss	*Orthothecium chryseum*	Secure		
Fine-leaved Erect-capsule Moss	*Orthothecium intricatum*	Sensitive		
Reddish Erect-capsule Moss	*Orthothecium rufescens*	Undetermined		
Shiny Erect-capsule Moss	*Orthothecium strictum*	Sensitive		
False Willow Moss	*Platydictya jungermannioides*	Secure		
Flat-Brocade Moss	*Platygyrium repens*	May Be At Risk		
Knight's Plume Moss	*Ptilium crista-castrensis*	Secure		
Many-flowered Pylaisia Moss	*Pylaisia polyantha*	Secure		
Selwyn's Pylaisia Moss	*Pylaisiella selwynii*	Undetermined		
Hypnales – Myriniaceae				Hypnid mosses – Myrinia mosses
Flood Moss	*Myrinia pulvinata*	Sensitive		
Hypnales – Neckeraceae				Hypnid mosses – Neckera mosses
Feathery Neckera Moss	*Neckera pennata*	Sensitive		
Hypnales – Plagiotheciaceae				Hypnid mosses – Silk mosses
Berggren's Silk Moss	*Plagiothecium berggrenianum*	Undetermined		
Round Silk Moss	*Plagiothecium cavifolium*	Undetermined		
Dented Silk Moss	*Plagiothecium denticulatum*	Undetermined		
Bright Silk Moss	*Plagiothecium laetum*	Secure		
Hair Silk Moss	*Plagiothecium piliferum*	Undetermined		
Hypnales – Rhytidiaceae				Hypnid mosses – Glade mosses
Wrinkle-leaved Moss	*Rhytidium rugosum*	Secure		
Hypnales – Thuidiaceae				Hypnid mosses – Fern mosses
Wiry Fern Moss	*Abietinella abietina*	Secure		
Delicate Fern Moss	*Thuidium delicatulum*	Undetermined		
Hook-leaved Fern Moss	*Thuidium recognitum*	Undetermined		
Isobryales – Climaciaceae				Isobrid mosses – Tree mosses
Northern Tree Moss	*Climacium dendroides*	Secure		
Isobryales – Hedwigiaceae				Isobrid mosses – Hoar mosses
Fringed Hoar Moss	*Hedwigia ciliata*	Undetermined		
Isobryales – Leskeaceae				Isobrid mosses – Leskea mosses
Nerved Leske's Moss	*Leskeella nervosa*	Secure		
Brown Mountain Leske's Moss	*Pseudoleskea incurvata*	Undetermined		
Patent Leske's Moss	*Pseudoleskea patens*	Undetermined		
Dense-rooted Leske's Moss	*Pseudoleskea radicosa*	Undetermined		
Narrow-leaved Leske's Moss	*Pseudoleskea stenophylla*	May Be At Risk		
Rooftop Leske's Moss	*Pseudoleskeella tectorum*	Secure		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC status in Canada/Global Conservation Concern[b]
Isobryales – Pterigynandraceae				Isobrid mosses – Wing mosses
Small Mousetail Moss	*Myurella julacea*	Secure		
Siberian Mousetail Moss	*Myurella sibirica*	Undetermined		
Dwarf Mousetail Moss	*Myurella tenerrima*	Secure		
Capillary Wing Moss	*Pterigynandrum filiforme*	Undetermined		
Orthotrichales – Orthotrichaceae				Orthotrichid mosses – Bristle mosses
Lapland Yoke Moss	*Amphidium lapponicum*	Secure		
Mougeot's Yoke Moss	*Amphidium mougeotii*	Undetermined		
Sharp-leaved Bristle Moss	*Orthotrichum alpestre*	Sensitive		
Anomalous Bristle Moss	*Orthotrichum anomalum*	Undetermined		
Hooded Bristle Moss	*Orthotrichum cupulatum*	Sensitive		
Smooth Bristle Moss	*Orthotrichum laevigatum*	Sensitive		
Blunt-leaved Bristle Moss	*Orthotrichum obtusifolium*	Sensitive		
Pale Bristle Moss	*Orthotrichum pallens*	Sensitive		
Glaucous Bristle Moss	*Orthotrichum pellucidum*	Sensitive		
Pylaie's Bristle Moss	*Orthotrichum pylaisii*	Sensitive		
Rock Bristle Moss	*Orthotrichum rupestre*	Undetermined		
Dark-green Bristle Moss	*Orthotrichum sordidum*	Undetermined		
Showy Bristle Moss	*Orthotrichum speciosum*	Secure		
Curve-leaved Pincushion Moss	*Ulota curvifolia*	Undetermined		
Pottiales – Encalyptaceae				Pottid mosses – Extinguisher mosses
Britton's Moss	*Bryobrittonia longipes*	Sensitive		
Cylindrical Extinguisher Moss	*Encalypta affinis*	Sensitive		
Alpine Extinguisher Moss	*Encalypta alpina*	Secure		
White-mouthed Extinguisher Moss	*Encalypta brevicollis*	Sensitive		
Fringed Extinguisher Moss	*Encalypta ciliata*	Sensitive		
Long-necked Candlesnuffer	*Encalypta longicollis*	Sensitive		
Blunt Extinguisher Moss	*Encalypta mutica*	May Be At Risk		G3 – 2015
Spiral Extinguisher Moss	*Encalypta procera*	Secure		
Ribbed Extinguisher Moss	*Encalypta rhaptocarpa*	Secure		
Vitt's Extinguisher Moss	*Encalypta vittiana*	May Be At Risk		
Common Extinguisher Moss	*Encalypta vulgaris*	Undetermined		
Pottiales – Pottiaceae				Pottid mosses – Pottia mosses
Short-beaked Screw Moss	*Aloina brevirostris*	Sensitive		
Rigid Screw Moss	*Aloina rigida*	Sensitive		
Clasping-leaved Beard Moss	*Barbula amplexifolia*	Undetermined		
Curly Beard Moss	*Barbula convoluta*	Undetermined		
Twisted-teeth Beard Moss	*Barbula indica*	Undetermined		
Prickly Beard Moss	*Barbula unguiculata*	Undetermined		
Rufous Beard Moss	*Bryoerythrophyllum ferruginascens*	Undetermined		
Red Beard Moss	*Bryoerythrophyllum recurvirostre*	Secure		
Rough-leaved Beard Moss	*Didymodon asperifolius*	Secure		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC status in Canada/Global Conservation Concern[b]
False Beard Moss	*Didymodon fallax*	Undetermined		
Rusty Beard Moss	*Didymodon ferrugineus*	Undetermined		
Gigantic Beard Moss	*Didymodon giganteus*	Undetermined		
Johansen's Beard Moss	*Didymodon johansenii*	Undetermined		
Leskea-like Beard Moss	*Didymodon leskeoides*	Undetermined		
Michigan Beard Moss	*Didymodon maschalogena*	Undetermined		
Big Beard Moss	*Didymodon maximus*	Undetermined		
Black Beard Moss	*Didymodon nigrescens*	Undetermined		
Obtuse Beard Moss	*Didymodon perobtusus*	Undetermined		
Pointed Beard Moss	*Didymodon rigidulus*	Undetermined		
Spoon-shaped Beard Moss	*Didymodon subandreaeoides*	Sensitive		
Olive Beard Moss	*Didymodon tophaceus*	Undetermined		
Soft Beard Moss	*Didymodon vinealis*	Undetermined		
Whorled Tufa Moss	*Eucladium verticillatum*	Undetermined		
Tufted Rock Beardless Moss	*Gymnostomum aeruginosum*	Undetermined		
Slender Stubble Moss	*Gyroweisia tenuis*	May Be At Risk		
Heim's Chain-teeth Moss	*Hennediella heimii*	Sensitive	ⓘ[4]	
Velenovsky's Moss	*Hilpertia velenovskyi*	May Be At Risk		
Curved-beaked Beardless Moss	*Hymenostylium recurvirostrum*	Secure		
Sendtner's Moss	*Molendoa sendtneriana*	Undetermined		
Spiral Wing-nerved Moss	*Pterygoneurum lamellatum*	Undetermined		
Oval-leaved Wing-nerved Moss	*Pterygoneurum ovatum*	Undetermined		
Broad-leaved Stegonia Moss	*Stegonia latifolia*	Sensitive		
Steppe Screw Moss	*Syntrichia caninervis*	Undetermined		
Norway Screw Moss	*Syntrichia norvegica*	Sensitive		
Sidewalk Screw Moss	*Syntrichia ruralis*	Secure		
Alpine Twisted Moss	*Tortella alpicola*	Undetermined		
Brittle Crisp-moss	*Tortella fragilis*	Secure		
Inclined Twisted Moss	*Tortella inclinata*	Undetermined		
Frizzled Twisted Moss	*Tortella tortuosa*	Secure		
Clasping-leaved Screw Moss	*Tortula amplexa*	Undetermined		
Narrow-leaved Screw Moss	*Tortula cernua*	Undetermined		
Hoppe's Screw Moss	*Tortula hoppeana*	Secure		
Laurer's Screw Moss	*Tortula laureri*	Undetermined		
Alpine Screw Moss	*Tortula leucostoma*	Sensitive	ⓘ[4]	
Mucronate Screw Moss	*Tortula mucronifolia*	Secure		
Blunt-leaved Screw Moss	*Tortula obtusifolia*	Undetermined		
Systylous Screw Moss	*Tortula systylia*	Sensitive		
Arctic Crisp Moss	*Trichostomum arcticum*	Sensitive		
Curly Crisp Moss	*Trichostomum crispulum*	Undetermined		
Narrow-fruited Crisp Moss	*Trichostomum tenuirostre*	Undetermined		
Green-tufted Stubble Moss	*Weissia controversa*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC status in Canada/Global Conservation Concern[b]
Bryophyta – Polytrichopsida				Mosses – Hair mosses
Polytrichales – Buxaumiaceae				Polytrichid mosses – Elfcap mosses
Brown Shield Moss	*Buxbaumia aphylla*	May Be At Risk		
Polytrichales – Polytrichaceae				Polytrichid mosses – Haircap mosses
Selwyn's Smoothcap Moss	*Atrichum selwynii*	Undetermined		
Slender Smoothcap Moss	*Atrichum tenellum*	Undetermined		
Lyall's Haircap Moss	*Meiotrichum lyallii*	Undetermined		
Sickle-leaved Hair Moss	*Oligotrichum falcatum*	May Be At Risk		
Mountain Hair Moss	*Pogonatum dentatum*	Undetermined		
Urn Hair Moss	*Pogonatum urnigerum*	Undetermined		
Alpine Haircap Moss	*Polytrichastrum alpinum*	Secure		
Bank Haircap Moss	*Polytrichastrum formosum*	Undetermined		
Long-stalked Haircap Moss	*Polytrichastrum longisetum*	Undetermined		
Northern Haircap Moss	*Polytrichastrum sexangulare*	May Be At Risk		
Common Haircap Moss	*Polytrichum commune*	Secure		
Hyperboreal Haircap Moss	*Polytrichum hyperboreum*	Sensitive		
Jensen's Haircap Moss	*Polytrichum jensenii*	Undetermined		
Juniper Haircap Moss	*Polytrichum juniperinum*	Secure		
Bristly Haircap Moss	*Polytrichum piliferum*	Secure		
Bog Haircap Moss	*Polytrichum strictum*	Secure		
Swartz's Haircap Moss	*Polytrichum swartzii*	Undetermined		
Little Wolverine Moss	*Psilopilum cavifolium*	Secure		
Large Wolverine Moss	*Psilopilum laevigatum*	May Be At Risk		
Polytrichales – Tetraphidaceae				Polytrichid mosses – Four-toothed mosses
Common Four-toothed Moss	*Tetraphis pellucida*	Undetermined		
Bryophyta – Sphagnopsida				Mosses – Peat mosses
Sphagnales – Sphagnaceae				Sphagnid mosses – Sphagnum mosses
Large Sphagnum Moss	*Sphagnum angustifolium*	Secure		
Ringed Sphagnum Moss	*Sphagnum annulatum*	Undetermined		
Aongstroem's Peat Moss	*Sphagnum aongstroemii*	Secure		
Baltic Sphagnum Moss	*Sphagnum balticum*	Secure		
Small Red Sphagnum Moss	*Sphagnum capillifolium*	Secure		
Central Shagnum Moss	*Sphagnum centrale*	Undetermined		
Compact Sphagnum Moss	*Sphagnum compactum*	Secure		
Fringed Sphagnum Moss	*Sphagnum concinnum*	Secure		
Twisted Sphagnum Moss	*Sphagnum contortum*	Undetermined		
Feathery Sphagnum Moss	*Sphagnum cuspidatum*	Undetermined		
Fat-top Sphagnum Moss	*Sphagnum fallax*	Undetermined		
Brown Sphagnum Moss	*Sphagnum fuscum*	Secure		
Girgensohn's Sphagnum Moss	*Sphagnum girgensohnii*	Secure		
Jensen's Sphagnum Moss	*Sphagnum jensenii*	Undetermined		
Lena River Sphagnum Moss	*Sphagnum lenense*	Secure		
Lindberg's Sphagnum Moss	*Sphagnum lindbergii*	Secure		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	COSEWIC status in Canada/Global Conservation Concern[b]
Magellan Sphagnum Moss	*Sphagnum magellanicum*	Secure		
Greater Sphagnum Moss	*Sphagnum majus*	Undetermined		
Mendocino Sphagmun Moss	*Sphagnum mendocinum*	Undetermined		
Blunt Sphagnum Moss	*Sphagnum obtusum*	Undetermined		
Oriental Sphagnum Moss	*Sphagnum orientale*	Undetermined		
Glossy Sphagnum Moss	*Sphagnum perfoliatum*	Undetermined		
Flat-leaved Sphagnum Moss	*Sphagnum platyphyllum*	Undetermined		
Beautiful Sphagnum Moss	*Sphagnum pulchrum*	Undetermined		
Recurved Sphagnum Moss	*Sphagnum recurvum*	Undetermined	T[4]	
Streamside Sphagnum Moss	*Sphagnum riparium*	Secure		
Red Sphagnum Moss	*Sphagnum rubellum*	Undetermined	T[4]	
Russow's Sphagnum Moss	*Sphagnum russowii*	Secure		
Shaggy Sphagnum Moss	*Sphagnum squarrosum*	Secure		
Steere's Sphagnum Moss	*Sphagnum steerei*	Undetermined		
Lustrous Sphagnum Moss	*Sphagnum subnitens*	Undetermined		
Orange Sphagnum Moss	*Sphagnum subsecundum*	Secure		
Rigid Sphagnum Moss	*Sphagnum teres*	Secure		
Warnstorf's Sphagnum Moss	*Sphagnum warnstorfii*	Secure		
Wilf's Sphagnum Moss	*Sphagnum wilfii*	Undetermined		G2G3 – 2015
Wulf Peat Moss	*Sphagnum wulfianum*	Sensitive		

[a] Describes reasons for a change in status rank between 2016 and 2021. ↗: Increasing Risk, ↘: Decreasing Risk, ∃: Error correction, #: Species new to the NWT, T: Taxonomic change, ⓘ: Information added, A: Changed due to detailed assessment by COSEWIC since 2016. See Data Sources and Methods for more details.

[b] COSEWIC Status: Status for a species in Canada if it has already been assessed in a detailed manner by COSEWIC as of December 2021. The year of each assessment is given with each status. After 2021, please consult current and additional status assessments using references given at the end of this report. Rank of a species in the world as designated by NatureServe. GH: Possibly Extinct, G1: Critically Imperilled, G2: Imperilled, G3: Vulnerable. Definitions and more information can be found at www.natureserve.org.

[1] Changed from At Risk
[2] Changed from May Be at Risk
[3] Changed from Sensitive
[4] Changed from Secure
[5] Changed from Undetermined
[6] Changed from Not Ranked
[7] Changed from Alien
[8] Changed from Extirpated
[9] Changed from Vagrant
[10] Changed from Presence Expected



Acute-tip Groove Moss
Photo Credit: S. Carrière

6.29 Lichens



Powdered Sunshine Lichen
Photo Credit: S. Carrière

Fungi

Fungi (Kingdoom Fungi) are complex (eukaryotic) organisms who obtain nutrients from any source by digesting food using enzymes and absorbing it. Their cell walls are made with chitin. Unlike plants, fungi cannot obtain nutrients by photosynthesis. Some fungi will form an alliance with other organisms and these partners will obtain nutrients in different ways, including by photosynthesis. The best known such symbiotic relationships between a fungus and other organisms are lichens.

Lichens

Lichens are unique organisms. They live in a symbiotic relationship in which each species helps the other – a fungus protects an alga while the alga obtains food through photosynthesis for the fungus. It was discovered in 2016 that yeast is involved as a third partner in lichen symbiosis[1]. Shape, colour and reproduction are determined by the fungus.

Lichens are identified by growth form, colour, asexual reproduction forms, as well as the characters of the fungal spore sac tip and the fungal spores. Keys of the lichen characters are used to systematically obtain a name for the lichen. Photos help as well!

In the previous report, all macro-lichens were included. These are the larger more colourful lichens that grow on trees, rocks and the ground, especially in the northern regions. With this report, micro-lichens were added for the first time. The list now includes all lichens ever reported in the NWT.

Updated from text by
Janet Marsh
Lichenology Consultant
Okotoks, AB



Crinkled Snow Lichen Photo Credit: S. Carrière

Micro-lichens

Micro-lichens can be generally defined as lichen with a crustose growth form. Morphologically lacking a lower surface, they grow directly into their substrate. This relationship to their substrate can, using rock as an example, be over growing (epilithic) or directly within (endolithic) the substrate, with only the fruiting bodies visible above the surface. Often overlooked or mistaken as features of the rocks, soils, bryophytes and wood where they are found, micro-lichens are abundant and diverse. Crustose lichens are estimated to represent about 75% of all lichens.[1]

Collecting and identifying micro-lichens is more challenging compared to the larger macro-lichens. Collecting the substrate is necessary for a complete sample of the micro-lichen. As a result, a variety of tools may be required depending on the substrate. General field identifications are possible for some species, but confirmations require laboratory dissections and chemical tests. Access to a compound microscope and chemical reagents are necessary for studying these lichens.

Ecologically, micro-lichens perform several important environmental services. Rock-dwelling species contribute to weathering and soil formation. Soil-dwelling micro-lichens form part of the biological soil crusts that help stabilize soils from erosion, facilitate vascular plant colonization and participate in nutrient and water cycling. The colouration of lichen thalli can influence surface albedo and affect boundary layer temperatures and water availability.

We invite the reader to contribute to improving the knowledge of lichen distribution and diversity along with sharing the beauty and importance of these species.

Dr. Chris Deduke
Research Associate
Canadian Museum of Nature
Ottawa, ON

[1] See Further Your Knowledge sections for references. https://www.purdue.edu/newsroom/releases/2016/Q3/yeast-emerges-as-hidden-third-partner-in-lichen-symbiosis.html.

List 29. **Lichens**

There are 761 species of lichens confirmed present in the NWT. An additional 24 species are expected to be present. Species are listed alphabetically according to the scientific Phylum, Class and Order they belong to, then by Family, then by scientific species name. Taxonomy follows Esslinger (2021). Common names are from various sources.



Smooth Rock Tripe Lichen Photo Credit: S. Carrière

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Ascomycota – Arthoniomycetes				Ascomycete sac fungi – Arthoniomycete fungi
Arthoniales – Chrysotrichaceae				Arthonid lichens – Dust lichens
Gold Dust Lichen	*Chrysothrix candelaris*	Undetermined		
Arthoniales – Chrysotrichaceae				Arthonid lichens – Dust lichens
Calcareous Arthonia Lichen	*Arthonia lapidicola*	Undetermined		
Ascomycota – Coniocybomycetes				Ascomycete sac fungi – Coniocybomycete fungi
Coniocybales – Coniocybaceae				Coniocyb lichens – Stubble lichens
Gold Stubble Lichen	*Chaenotheca chrysocephala*	Undetermined		
Sulphur Stubble Lichen	*Chaenotheca furfuracea*	Undetermined		
Silver Stubble Lichen	*Chaenotheca phaeocephala*	Undetermined		
Ascomycota – Dothideomycetes				Ascomycete sac fungi – Dothideomycete fungi
Incertae sedi – Dacampiaceae				Order unclassified micro-lichens – Camp lichens
Hooker's Camp Lichen	*Dacampia hookeri*	Undetermined		
Ascomycota – Eurotiomycetes				Ascomycete sac fungi – Eurotiomycete fungi
Verrucariales – Verrucariaceae				Verrucarid lichens – Speck lichens
Gelatinous Bubble Lichen	*Agonimia gelatinosa*	Undetermined		
Brown Stipplescale Lichen	*Clavascidium lacinulatum*	Undetermined		
Quilted Stippleback Lichen	*Dermatocarpon intestiniforme*	Sensitive		
Brookside Stippleback Lichen	*Dermatocarpon luridum*	Undetermined		
Grounded Stippleback Lichen	*Dermatocarpon miniatum*	Undetermined		
Cold-Water Stippleback Lichen	*Dermatocarpon rivulorum*	Presence Expected		
Soil Stipplescale Lichen	*Endocarpon pusillum*	Presence Expected		
Capsuled Polybliastia Lichen	*Henrica theleodes*	Undetermined		
Ashy Scale Lichen	*Placidiopsis pseudocinerea*	Undetermined		
Moss Polyblastia Lichen	*Polyblastia bryophila*	Undetermined		
Cupped Polybiastia Lichen	*Polyblastia cupularis*	Undetermined		
Northern Polyblastia Lichen	*Polyblastia hyperborea*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Obsolete Polybiastia Lichen	*Polyblastia obsoleta*	Undetermined		
Round Rock Pimple Lichen	*Staurothele areolata*	Undetermined		
Flat Rock Pimple Lichen	*Staurothele discedens*	Undetermined		
Drummond's Rock Pimple Lichen	*Staurothele drummondii*	Undetermined		
Elenkin's Rock Pimple Lichen	*Staurothele elenkinii*	Undetermined		
Lakezone Rock Pimple Lichen	*Staurothele fissa*	Secure		
Absconded Pimple Lichen	*Thelidium absconditum*	Undetermined		
Microspore Pimple Lichen	*Thelidium microsporum*	Undetermined		
Minute Pimple Lichen	*Thelidium minimum*	Undetermined		
Blotchy Pimple Lichen	*Thelidium pyrenophorum*	Undetermined		
Velvet Pimple Lichen	*Thelidium velutinum*	Undetermined		
Acrota Speck Lichen	*Verrucaria acrotella*	Undetermined		
Inkdrop Speck Lichen	*Verrucaria aethiobola*	Undetermined		
Arctic Speck Lichen	*Verrucaria arctica*	Undetermined		
Chinky Speck Lichen	*Verrucaria cataleptoides*	Undetermined		
Diverse Speck Lichen	*Verrucaria deversa*	Undetermined		
Diverged Speck Lichen	*Verrucaria divergens*	Undetermined		
Pale Speck Lichen	*Verrucaria glaucovirens*	Undetermined		
Wall Speck Lichen	*Verrucaria muralis*	Undetermined		
Black Speck Lichen	*Verrucaria nigrescens*	Undetermined		
Thin Speck Lichen	*Verrucaria prominula*	Undetermined		
Warty Speck Lichen	*Verrucaria sphinctrina*	Undetermined		
Brown Speck Lichen	*Verrucaria umbrinula*	Undetermined		
Ascomycota – Incertae sedis (Class in Subphylum Pezizomycotina)				Ascomycete sac fungi – Unclassified pezizomycotine fungi
Thelocarpales – Thelocarpaceae				Thelocarp lichens – Snap lichens
Lime Snap Lichen	*Thelocarpon epibolum*	Undetermined		
Lemon Snap Lichen	*Thelocarpon sphaerosporum*	Undetermined		
Ascomycota – Lecanoromycetes				Ascomycete sac fungi – Lichenized fungi
Acarosporales – Acarosporaceae				Acarosporid lichens – Cobblestone lichens
Mountain Cobblestone Lichen	*Acarospora badiofusca*	Secure		
Brown Cobblestone Lichen	*Acarospora fuscata*	Secure		
Cracked Coblestone Lichen	*Acarospora squamulosa*	Undetermined		
Mocha Coblestone Lichen	*Acarospora veronensis*	Undetermined		
Yellow Eiglera Lichen	*Eiglera flavida*	Undetermined		
Desert Rockscab Lichen	*Glypholecia scabra*	May Be At Risk		
Rough Coblestone Lichen	*Myriospora scabrida*	Undetermined		
Gold Cobblestone Lichen	*Pleopsidium chlorophanum*	Undetermined		
Common Coal-dust Lichen	*Polysporina simplex*	Undetermined		
Urned Coal-dust Lichen	*Polysporina urceolata*	Undetermined		
Frosted Grain-spored Lichen	*Sarcogyne regularis*	Undetermined		
Rimmed Cobblestone Lichen	*Sarcogyne wheeleri*	Secure		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Baeomycetales – Anamylopsoraceae				Baeomycet lichens – Almond lichens
Beautiful Almond Lichen	*Anamylopsora pulcherrima*	Undetermined		
Baeomycetales – Baeomycetaceae				Baeomycet lichens – Beret lichens
Fleshy Beret Lichen	*Baeomyces carneus*	Undetermined		
Carpet Beret Lichen	*Baeomyces placophyllus*	Secure		
Brown Beret Lichen	*Baeomyces rufus*	Secure		
Pink Earth Lichen	*Dibaeis baeomyces*	Sensitive		
Caliciales – Caliciaceae				Calicid lichens – Chalice lichens
Staining Soot Lichen	*Acolium inquinans*	Undetermined		
Summit Amandine Lichen	*Amandinea cacuminum*	Undetermined		
Spotted Amandine Lichen	*Amandinea punctata*	Secure		
Darkened Button Lichen	*Buellia aethalea*	Undetermined		
Boreal Button Lichen	*Buellia disciformis*	Secure		
Elegant Button Lichen	*Buellia elegans*	Undetermined		
Blushing Button Lichen	*Buellia erubescens*	Undetermined		
Immersed Button Lichen	*Buellia immersa*	Undetermined		
Milky Button Lichen	*Buellia lacteoidea*	Undetermined		
Fine Button Lichen	*Buellia leptocline*	Undetermined		
Sunken Button Lichen	*Buellia spuria*	Undetermined		
Dispersed Button Lichen	*Buellia subdispersa*	Undetermined		
Cheap Button Lichen	*Buellia vilis*	Undetermined		
Fir Stubble Lichen	*Calicium abietinum*	Undetermined		
Willow Stubble Lichen	*Calicium salicinum*	Undetermined		
Wood Soot Lichen	*Calicium tigillare*	Secure		
Yellow Collar Stubble Lichen	*Calicium trabinellum*	Undetermined		
Green Stubble Lichen	*Calicium viride*	Undetermined		
Golden Moonglow Lichen	*Dimelaena oreina*	Secure		
Grey Cloud Lichen	*Diplotomma alboatrum*	Undetermined		
Snow Cloud Lichen	*Diplotomma nivale*	Undetermined		
Charming Cloud Lichen	*Diplotomma venustum*	Undetermined		
Western Nipple Lichen	*Pseudothelomma occidentale*	Undetermined		
Eyed Nipple Lichen	*Pseudothelomma ocellatum*	Undetermined		
Signed Disc Lichen	*Tetramelas insignis*	Undetermined		
Nippled Disc Lichen	*Tetramelas papillatus*	Undetermined		
Button Disc Lichen	*Tetramelas terricolus*	Undetermined		
Tri-latticed Disc Lichen	*Tetramelas triphragmioides*	Undetermined		
Arboreal Bottle-collection Lichen	*Tholurna dissimilis*	May Be At Risk		
Caliciales – Physciaceae				Calicid lichens – Rosette lichens
Hairy Fringe Lichen	*Anaptychia crinalis*	Sensitive		
Powdered Fringe Lichen	*Heterodermia speciosa*	May Be At Risk		
Upstanding Shadow Lichen	*Phaeophyscia constipata*	Sensitive		
Smiling Shadow Lichen	*Phaeophyscia endococcinodes*	Undetermined		
Dark Shadow Lichen	*Phaeophyscia sciastra*	Secure		
Browning Molar Lichen	*Phaeorrhiza nimbosa*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Creeping Molar Lichen	*Phaeorrhiza sareptana*	Undetermined		
Hooded rosette Lichen	*Physcia adscendens*	Secure		
Hoary rosette Lichen	*Physcia aipolia*	Secure		
Outward-looking Rosette Lichen	*Physcia alnophila*	Undetermined		
Blue-gray Rosette Lichen	*Physcia caesia*	Secure		
Powder-tipped Rosette Lichen	*Physcia dubia*	Secure		
Black-eyed Rosette Lichen	*Physcia phaea*	Sensitive		
Immaculate Rosette Lichen	*Physcia stellaris*	Undetermined		
Beaded Rosette Lichen	*Physcia tribacia*	Undetermined		
Petaled Frost Lichen	*Physconia americana*	Undetermined		
Bottlebrush Frost Lichen	*Physconia detersa*	Undetermined		
Ground Frost Lichen	*Physconia muscigena*	Secure		
Crescent Frost Lichen	*Physconia perisidiosa*	Secure		
Conifer Pepper-spore Lichen	*Rinodina archaea*	Undetermined		
Scaly Pepper-spore Lichen	*Rinodina ascociscana*	Undetermined		
Boreal Pepper-spore Lichen	*Rinodina austroborealis*	Undetermined		
Bischoff's Pepper-spore Lichen	*Rinodina bischoffii*	Undetermined		
Tundra Pepper-spore Lichen	*Rinodina calcigena*	Undetermined		
Conrad's Pepper-spore Lichen	*Rinodina conradii*	Undetermined		
Variable Pepper-spore Lichen	*Rinodina metaboliza*	Undetermined		
Moss Pepper-spore Lichen	*Rinodina mniaraea*	Undetermined		
Notable Pepper-spore Lichen	*Rinodina notabilis*	Undetermined		
Red Pepper-spore Lichen	*Rinodina ochracea*	Undetermined		
Olive-brown Pepper-spore Lichen	*Rinodina olivaceobrunnea*	Undetermined		
Casked Pepper-spore Lichen	*Rinodina orculata*	Undetermined		
Fiery Pepper-spore Lichen	*Rinodina pyrina*	Undetermined		
Moist Pepper-spore Lichen	*Rinodina roscida*	Undetermined		
Northern Pepper-spore Lichen	*Rinodina septentrionalis*	Undetermined		
Siberian Pepper-spore Lichen	*Rinodina sibirica*	Undetermined		
Earth Pepper-spore Lichen	*Rinodina terrestris*	Undetermined		
Trevisan's Pepper-spore Lichen	*Rinodina trevisanii*	Undetermined		
Tundra Pepper-spore Lichen	*Rinodina turfacea*	Undetermined		
Caliciales – Sphaerophoraceae				Calicid lichens – Coral lichens
Cushion Coral Lichen	*Sphaerophorus fragilis*	Sensitive		
Northern Coral Lichen	*Sphaerophorus globosus*	Secure		
Candelariales – Candelariaceae				Candelarid lichens – Candle lichens
Elfin Candleflame Lichen	*Candelaria concolor*	Undetermined		
Arctic Goldspeck Lichen	*Candelariella arctica*	Undetermined		
Hidden Goldspeck Lichen	*Candelariella aurella*	Secure		
Canada Goldspeck Lichen	*Candelariella canadensis*	Undetermined		
Eggyolk Goldspeck Lichen	*Candelariella citrina*	Undetermined		
Powdery Goldspeck Lichen	*Candelariella efflorescens*	Undetermined		
Granular Goldspeck Lichen	*Candelariella granuliformis*	Undetermined		
Honey Goldspeck Lichen	*Candelariella lutella*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Lemon Goldspeck Lichen	*Candelariella placodizans*	Undetermined		
Common Goldspeck Lichen	*Candelariella vitellina*	Secure		
Butter Goldspeck Lichen	*Candelariella xanthostigma*	Undetermined		
Hymeneliales – Hymeneliaceae				Hymenelid lichens – Rock lichens
Blushing Rock Lichen	*Hymenelia epulotica*	Undetermined		
Variable Rock Lichen	*Hymenelia heteromorpha*	Undetermined		
Melanocarp Rock Lichen	*Hymenelia melanocarpa*	Undetermined		
Rusty Brook Lichen	*Ionaspis lacustris*	Undetermined		
Rusty-rock Lichen	*Tremolecia atrata*	Undetermined		
Dickson's Rock Lichen	*Tremolecia dicksonii*	Undetermined		
Lecanorales – Alectoriaceae				Lecanorid lichens – Alectoria lichens
Green Witch's Hair	*Alectoria ochroleuca*	Secure		
Familiar Witch's Hair Lichen	*Alectoria sarmentosa*	Presence Expected		



Boreal Cup Lichen

Photo Credit: S. Carrière

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Lecanorales – Arctomiaceae				Lecanorid lichens – Arctomia lichens
Delicate Arctomia Lichen	*Arctomia delicatula*	Undetermined		
Rust-brown Tiny Rosette Lichen	*Arctomia interfixa*	Sensitive		
Lecanorales – Arthrorhaphidaceae				Lecanorid lichens – Dot lichens
Alpine Dot Lichen	*Arthrorhaphis alpina*	Undetermined		
Golden Dot Lichen	*Arthrorhaphis citrinella*	Undetermined		
Lecanorales – Biatorellaceae				Lecanorid lichens – Patch lichens
Rounded Patch Lichen	*Biatorella hemisphaerica*	Undetermined		
Lecanorales – Cladoniaceae				Lecanorid lichens – Pixie lichens
Scantily Clad Pixie Lichen	*Cladonia acuminata*	Secure		
Alaska Pixie Lichen	*Cladonia alaskana*	Secure		
Quill Pixie Lichen	*Cladonia amaurocraea*	Secure		
Combed Reindeer Lichen	*Cladonia arbuscula*	Secure		
Yellowhorn Pixie Lichen	*Cladonia bacilliformis*	Undetermined		
Toy Soldiers Lichen	*Cladonia bellidiflora*	Undetermined		
Boreal Pixie-cup Lichen	*Cladonia borealis*	Secure		
Stump Soldiers Lichen	*Cladonia botrytes*	Secure		
Lesser Ribbed Pixie Lichen	*Cladonia cariosa*	Secure		
Crowned Pixie-cup Lichen	*Cladonia carneola*	Undetermined		
Singing Pixie Lichen	*Cladonia cenotea*	Secure		
Browned Pixie-cup Lichen	*Cladonia cervicornis*	Undetermined		
Granulating Pixi-cup Lichen	*Cladonia chlorophaea*	Secure		
Madame Pixie Lichen	*Cladonia coccifera*	Secure		
Mama Littlehorn Pixie Lichen	*Cladonia coniocraea*	Secure		
Humble Pixie-cup Lichen	*Cladonia conista*	Undetermined		
Bighorn Pixie Lichen	*Cladonia cornuta*	Secure		
Organ-pipe Lichen	*Cladonia crispata*	Secure		
British Soldiers Lichen	*Cladonia cristatella*	Secure		
Ambiguous Pixie-cup Lichen	*Cladonia cryptochlorophaea*	Undetermined		
Blue-footed Pixie Lichen	*Cladonia cyanipes*	Secure		
Strip-tease Pixie Lichen	*Cladonia decorticata*	Secure		
Lesser Sulphur-cup Lichen	*Cladonia deformis*	Secure		
Finger pixie-cup	*Cladonia digitata*	Sensitive		
Orange-footed Pixie Lichen	*Cladonia ecmocyna*	Secure		
Trumpeting Pixie Lichen	*Cladonia fimbriata*	Secure		
Smooth Pixie Lichen	*Cladonia gracilis*	Secure		
Grainy Cladonia	*Cladonia granulans*	May Be At Risk		
Gray's Pixie-cup Lichen	*Cladonia grayi*	Sensitive		
Kanewski's Cladonia	*Cladonia kanewskii*	Presence Expected		
Brown-pebbled Pixie-cup	*Cladonia libifera*	Undetermined		
Lipstick Pixie Lichen	*Cladonia macilenta*	Undetermined		
Bullet-proof Pixie Lichen	*Cladonia macroceras*	Undetermined		
Fig-Leaf Pixie Lichen	*Cladonia macrophylla*	Secure		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Large-leaved Pixie Lichen	*Cladonia macrophyllodes*	Secure		
Towering Pixie Lichen	*Cladonia maxima*	Undetermined		
Gritty Pixie-cup Lichen	*Cladonia merochlorophaea*	Undetermined		
Shape-shifting Pixie Lichen	*Cladonia multiformis*	Secure		
Lapland Cladonia	*Cladonia nipponica*	Presence Expected		
Greater Pied Pixie Lichen	*Cladonia phyllophora*	Secure		
Moderate Sulphur-cup Lichen	*Cladonia pleurota*	Secure		
Rosetted Pixie-cup Lichen	*Cladonia pocillum*	Secure		
Pebbled Pixie-cup Lichen	*Cladonia pyxidata*	Secure		
Gray Reindeer Lichen	*Cladonia rangiferina*	Secure		
Wand Lichen	*Cladonia rei*	Undetermined		
Winged Pixie Lichen	*Cladonia scabriuscula*	Sensitive		
Scotter's Cladonia	*Cladonia scotteri*	Undetermined		
Dragon Pixie Lichen	*Cladonia squamosa*	Secure		
Star-Nosed Reindeer Lichen	*Cladonia stellaris*	Secure		
Reptilian Pixie-cup Lichen	*Cladonia straminea*	Secure		
Lesser Pied Pixie Lichen	*Cladonia stricta*	Undetermined		
Black-footed reindeer Lichen	*Cladonia stygia*	Secure		
Subcariosa-club Lichen	*Cladonia subcariosa*	Undetermined		
Rosegarden Pixie Lichen	*Cladonia subfurcata*	Secure		
Antlered Pixie Lichen	*Cladonia subulata*	Secure		
Greater Sulphur-cup Lichen	*Cladonia sulphurina*	Secure		
Greater Ribbed Pixie Lichen	*Cladonia symphycarpia*	Secure		
Blue Pork Pixie Lichen	*Cladonia thomsonii*	Sensitive		
Arctic Pied Pixie Lichen	*Cladonia trassii*	Undetermined		
Crazy-scale Pixie Lichen	*Cladonia turgida*	Undetermined		
Thorn Pixie Lichen	*Cladonia uncialis*	Secure		
Wainio's Reindeer Pixie Lichen	*Cladonia wainioi*	Undetermined		
Lecanorales – Gypsoplacaceae				Lecanorid lichens – Earthscale lichens
Gypsum Earthscale Lichen	*Gypsoplaca macrophylla*	Undetermined		
Lecanorales – Lecanoraceae				Lecanorid lichens – Rim lichens
Chestnut Moss Lichen	*Bryonora castanea*	Undetermined		
Northern Moss Lichen	*Bryonora septentrionalis*	Undetermined		
Vortex Carbon Lichen	*Carbonea vorticosa*	Undetermined		
White Rim Lichen	*Lecanora albella*	Undetermined		
Bright Rim Lichen	*Lecanora albellula*	Undetermined		
Brown-eyed Rim Lichen	*Lecanora allophana*	Undetermined		
Silver Rim Lichen	*Lecanora argentea*	Undetermined		
Varying Rim Lichen	*Lecanora argopholis*	Undetermined		
Sulphur Rim Lichen	*Lecanora atrosulphurea*	Undetermined		
Double-girdled Rim Lichen	*Lecanora bicincta*	Undetermined		
Cheese Rim Lichen	*Lecanora cadubriae*	Undetermined		
Smoky Rim Lichen	*Lecanora cenisia*	Undetermined		
Pruinose Rim Lichen	*Lecanora chlarotera*	Undetermined		

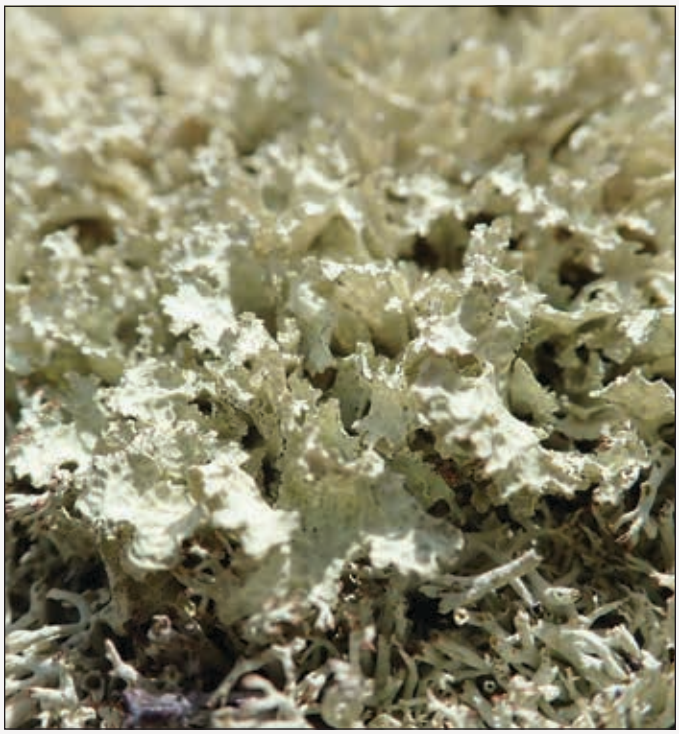
Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Circumboreal Rim Lichen	*Lecanora circumborealis*	Secure		
Congested Rim Lichen	*Lecanora congesta*	Undetermined		
Disc Rim Lichen	*Lecanora discoensis*	Undetermined		
Mosstop Rim Lichen	*Lecanora epibryon*	Undetermined		
Pale Rim Lichen	*Lecanora expallens*	Undetermined		
Mountain Pine Rim Lichen	*Lecanora fuscescens*	Undetermined		
Earth Rim Lichen	*Lecanora geophila*	Undetermined		
Smooth Rim Lichen	*Lecanora glabrata*	Undetermined		
Bark Rim Lichen	*Lecanora hypopta*	Undetermined		
Impudent Rim Lichen	*Lecanora impudens*	Undetermined		
Intricate Rim Lichen	*Lecanora intricata*	Undetermined		
Kariana Rim Lichen	*Lecanora kariana*	Undetermined		
Arctic Ground Rim Lichen	*Lecanora leptacinella*	Undetermined		
Saffron Rim Lichen	*Lecanora luteovernalis*	Undetermined		
Margined Rim Lichen	*Lecanora marginata*	Undetermined		
Nordenskiold's Rim Lichen	*Lecanora nordenskioeldii*	Undetermined		
Frozen Rim Lichen	*Lecanora orae-frigidae*	Undetermined		
Permutated Rim Lichen	*Lecanora permutata*	Undetermined		
Perplexed Rim Lichen	*Lecanora perplexa*	Undetermined		
Granite-speck Rim Lichen	*Lecanora polytropa*	Secure		
Leaf Rim Lichen	*Lecanora populicola*	Undetermined		
Common Rim Lichen	*Lecanora pulicaris*	Secure		
Cliff Rim Lichen	*Lecanora rupicola*	Secure		
Willow Rim Lichen	*Lecanora salicicola*	Undetermined		
Bark Rim Lichen	*Lecanora saligna*	Undetermined		
Alpine Rim Lichen	*Lecanora stenotropa*	Undetermined		
Rounded Rim Lichen	*Lecanora subintricata*	Undetermined		
Red-brown Rim Lichen	*Lecanora subrugosa*	Undetermined		
Swartz's Rim Lichen	*Lecanora swartzii*	Undetermined		
Fawn Rim Lichen	*Lecanora symmicta*	Secure		
Variable Rim Lichen	*Lecanora varia*	Secure		
Wisconsin Rim Lichen	*Lecanora wisconsinensis*	Undetermined		
Anomaly Disk Lichen	*Lecidella anomaloides*	Undetermined		
Rock Disk Lichen	*Lecidella carpathica*	Undetermined		
Shaded Disk Lichen	*Lecidella elaeochroma*	Undetermined		
Hillside Disk Lichen	*Lecidella euphorea*	Undetermined		
Yellow Disk Lichen	*Lecidella flavosorediata*	Undetermined		
Padoua Disk Lichen	*Lecidella patavina*	Undetermined		
Powder Disk Lichen	*Lecidella pulveracea*	Undetermined		
Marked Disk Lichen	*Lecidella stigmatea*	Undetermined		
Wulfen's Disk Lichen	*Lecidella wulfenii*	Undetermined		
Tawny Pebble Lichen	*Miriquidica atrofulva*	Undetermined		
Garovagl's Pebble Lichen	*Miriquidica garovaglii*	Undetermined		
Grey Pebble Lichen	*Miriquidica leucophaea*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Flacky Pebble Lichen	*Miriquidica lulensis*	Undetermined		
Pillow Pebble Lichen	*Miriquidica pulvinatula*	Undetermined		
Crenulated Rim Lichen	*Myriolecis crenulata*	Undetermined		
Mortar Rim Lichen	*Myriolecis dispersa*	Undetermined		
Hagen's Rim Lichen	*Myriolecis hagenii*	Secure		
Sambuc's Rim Lichen	*Myriolecis sambuci*	Undetermined		
Pale Rim Lichen	*Myriolecis semipallida*	Undetermined		
Buff Rim Lichen	*Myriolecis straminea*	Undetermined		
Torrid Rim Lichen	*Myriolecis torrida*	Undetermined		
Eelgrass Rim Lichen	*Myriolecis zosterae*	Undetermined		
Stonewall Rim Lichen	*Protoparmeliopsis muralis*	Undetermined		
Pink-eyed Rockbright Lichen	*Rhizoplaca chrysoleuca*	Undetermined		
Green-eyed Rockbright Lichen	*Rhizoplaca melanophthalma*	Undetermined		
Scattered Rock-posy Lichen	*Rhizoplaca subdiscrepans*	Undetermined		
Lecanorales – Parmeliaceae				Lecanorid lichens – Shield lichens
Mountain Candlewax Lichen	*Ahtiana sphaerosporella*	Sensitive		
Lesser Rock Grub Lichen	*Allantoparmelia almquistii*	Undetermined		
Greater Rock Grub Lichen	*Allantoparmelia alpicola*	Secure		
Siberian Rock Grub Lichen	*Allantoparmelia sibirica*	Presence Expected		
V-fingers Lichen	*Allocetraria madreporiformis*	Secure		
Thin-man's Icelandmoss Lichen	*Arctocetraria andrejevii*	Secure		
Tentacled Icelandmoss Lichen	*Arctocetraria nigricascens*	Undetermined		
Ripple Ring Lichen	*Arctoparmelia centrifuga*	Secure		
Finger Ring Lichen	*Arctoparmelia incurva*	Secure		
Arctic Ring Lichen	*Arctoparmelia separata*	Secure		
Abrading Ring Lichen	*Arctoparmelia subcentrifuga*	Undetermined		
Golden Hankie Lichen	*Asahinea chrysantha*	Secure		
Silver Hankie Lichen	*Asahinea scholanderi*	Secure		
Mountain Diamondback Lichen	*Brodoa oroarctica*	Secure		
Arctic Pretzel Lichen	*Bryocaulon divergens*	Secure		
Mottled Horsehair Lichen	*Bryoria cervinula*	Presence Expected		
Burrhed horsehair Lichen	*Bryoria furcellata*	Undetermined		
Pale-footed Horsehair Lichens	*Bryoria fuscescens*	Secure		
Wire Horsehair Lichen	*Bryoria glabra*	Undetermined		
Boreal Horsehair Lichen	*Bryoria implexa*	Presence Expected		
Blonde Horsehair Lichen	*Bryoria nadvornikiana*	Secure		
Tundra Horsehair Lichen	*Bryoria nitidula*	Secure		
Pike's Horsehair Lichen	*Bryoria pikei*	Undetermined		
Mountain Horsehair Lichen	*Bryoria pseudofuscescens*	Undetermined		
Spangled Horsehair Lichen	*Bryoria simplicior*	Secure		
Pied Horsehair Lichen	*Bryoria tenuis*	Presence Expected		
Elegant Horsehair Lichen	*Bryoria trichodes*	Undetermined		
Spiny Heath Lichen	*Cetraria aculeata*	Secure		
Heath Icelandmoss Lichen	*Cetraria ericetorum*	Secure		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
True Icelandic Lichen	*Cetraria islandica*	Secure		
Kamchatka Icelandmoss Lichen	*Cetraria kamczatica*	Sensitive		
Striped Icelandic Lichen	*Cetraria laevigata*	Secure		
Dubious Heath Lichen	*Cetraria muricata*	Undetermined		
Ciliated Icelandmoss Lichen	*Cetraria nigricans*	Secure		
Small-toothed Icelanmoss Lichen	*Cetraria odontella*	Undetermined		
Intermingled Icelandmoss Lichen	*Cetrariella commixta*	Secure		
Snow-bed Iceland Lichen	*Cetrariella delisei*	Secure		
Greater Ruffled Icelandmoss Lichen	*Cetrariella fastigiata*	Undetermined		
Arctic Butterfingers Lichen	*Dactylina arctica*	Secure		
Pacific Butterfingers Lichen	*Dactylina beringica*	Secure		
Frost Fingers Lichen	*Dactylina ramulosa*	Secure		
Mountain Oakmoss Lichen	*Evernia divaricata*	Undetermined		
Boreal Oakmoss Lichen	*Evernia mesomorpha*	Secure		
Arctic Oakmoss Lichen	*Evernia perfragilis*	Secure		
Curled Snow Lichen	*Flavocetraria cucullata*	Secure		
Crinkled Snow Lichen	*Flavocetraria nivalis*	Secure		
Black Witch's Beard Lichen	*Gowardia arctica*	May Be At Risk		
Gray Witch's Beard Lichen	*Gowardia nigricans*	Secure		
Varnished Tube Lichen	*Hypogymnia austerodes*	Secure		
Powdered Tube Lichen	*Hypogymnia bitteri*	Secure		
Monks-hood Lichen	*Hypogymnia physodes*	Secure		
Shape-shifting Hood Lichen	*Hypogymnia protea*	Undetermined	#	
Salted Tube Lichen	*Hypogymnia salsa*	Undetermined	#	
Viviparous Tube Lichen	*Hypogymnia subobscura*	Secure		
Umber Monk's Hood Lichen	*Hypogymnia vittata*	Undetermined		
Salted Starburst Lichen	*Imshaugia aleurites*	Secure		
Wolf Lichen	*Letharia vulpina*	Undetermined		
Thornless Tumbleweed Lichen	*Masonhalea inermis*	Sensitive		
Arctic Tumbleweed Lichen	*Masonhalea richardsonii*	Secure		
Rimmed Camouflage Lichen	*Melanelia hepatizon*	Secure		
Alpine Camouflage Lichen	*Melanelia stygia*	Secure		
Polished Camouflage Lichen	*Melanelixia glabratula*	Undetermined		
Abraded Camouflage Lichen	*Melanelixia subaurifera*	Secure		
Elegant Camouflage Lichen	*Melanohalea elegantula*	Secure		
Lustrous Camouflage Lichen	*Melanohalea exasperatula*	Secure		
Townhall Camouflage Lichen	*Melanohalea infumata*	Secure		
Spotted Camouflage Lichen	*Melanohalea olivacea*	Secure		
Olive Camouflage Lichen	*Melanohalea olivaceoides*	Presence Expected		
Northern Camouflage Lichen	*Melanohalea septentrionalis*	Secure		
Mealy Camouflage Lichen	*Montanelia disjuncta*	Secure		
Shingled Camouflage Lichen	*Montanelia panniformis*	Secure		
Dimpled Camouflage Lichen	*Montanelia secwepemc*	Undetermined		
Powdered Camouflage Lichen	*Montanelia sorediata*	Secure		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Fraudans Shield Lichen	*Parmelia fraudans*	Secure		
Smoky Crottle	*Parmelia omphalodes*	Secure		
Salted Shield Lichen	*Parmelia saxatilis*	Secure		
Silver-rimmed Crottle Lichen	*Parmelia skultii*	Undetermined		
Hammered Shield Lichen	*Parmelia sulcata*	Secure		
Green Starburst Lichen	*Parmeliopsis ambigua*	Secure		
Gray Starburst Lichen	*Parmeliopsis hyperopta*	Secure		
Varied Rag Lichen	*Platismatia glauca*	Sensitive		
Chocolate Rim Lichen	*Protoparmelia badia*	Undetermined		
Coarse Rockwool	*Pseudephebe minuscula*	Secure		
Fine Rockwool	*Pseudephebe pubescens*	Secure		
Fringed Wrinkle-lichen	*Tuckermannopsis americana*	Secure		
Powdered Wrinkle-lichen	*Tuckermannopsis chlorophylla*	Sensitive		
Broad Wrinkle-lichen	*Tuckermannopsis platyphylla*	Undetermined		
Chestnut Wrinkle-lichen	*Tuckermannopsis sepincola*	Secure		
Huckleberry Icelandmoss Lichen	*Tuckermannopsis subalpina*	Presence Expected		
Pitted Beard Lichen	*Usnea cavernosa*	Undetermined		
Fishbone Beard Lichen	*Usnea dasopoga*	Undetermined		
Lustrous Beard Lichen	*Usnea glabrata*	Undetermined		
Spotted Beard Lichen	*Usnea glabrescens*	Undetermined		
Bristly Beard Lichen	*Usnea hirta*	Undetermined		
Powder-ringed Beard Lichen	*Usnea lapponica*	Undetermined		
Straw Beard Lichen	*Usnea scabrata*	Secure		
Zebra Beard Lichen	*Usnea sphacelata*	May Be At Risk		
Nit Beard Lichen	*Usnea subfloridana*	Undetermined		
Limestone Sunshine Lichen	*Vulpicida juniperina*	Secure		
Powdered Sunshine Lichen	*Vulpicida pinastri*	Secure		
Greater Leaping Rock Frog Lichen	*Xanthoparmelia chlorochroa*	Undetermined		
Colorado Rockfrog Lichen	*Xanthoparmelia coloradoensis*	Undetermined		
Palomino Rockfrog Lichen	*Xanthoparmelia stenophylla*	Undetermined		
Barely Hopping Rockfrog Lichen	*Xanthoparmelia wyomingica*	Sensitive		
Lecanorales – Pilocarpaceae				Lecanorid lichens – Pilocarpid dot lichens
Assimilative Dot Lichen	*Micarea assimilata*	Undetermined		
Flattened Dot Lichen	*Micarea incrassata*	Undetermined		
Wood Dot Lichen	*Micarea lignaria*	Undetermined		
Edged Dot Lichen	*Micarea marginata*	Undetermined		
Dark Dot Lichen	*Micarea melaena*	Secure		
Wand Dot Lichen	*Micarea rhabdogena*	Undetermined		
Earthy Dot Lichen	*Micarea ternaria*	Undetermined		
Lecanorales – Psoraceae				Lecanorid lichens – Scale lichens
Amber Dot Lichen	*Protoblastenia calva*	Undetermined		
Arctic Orange Dot Lichen	*Protoblastenia rupestris*	Undetermined		
Ground Dot Lichen	*Protoblastenia terricola*	Undetermined		
Limosa Dot Lichen	*Protomicarea limosa*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Blushing Scale Lichen	*Psora decipiens*	Secure		
Mountain Scale Lichen	*Psora himalayana*	Secure		
Pea-green Scale Lichen	*Psora rubiformis*	Undetermined		
High Arctic Scale Lichen	*Psora tenuifolia*	Undetermined		
Blue-edged scale Lichen	*Psorula rufonigra*	Undetermined		
Lecanorales – Ramalinaceae				Lecanorid lichens – Ribbon lichens
Kola Peninsula Lichen	*Adelolecia kolaensis*	Undetermined		
Pilate's Lichen	*Adelolecia pilati*	Undetermined		
Stick Dot Lichen	*Bacidia bagliettoana*	Secure		
Herb Dot Lichen	*Bacidia herbarum*	Undetermined		
Mocking Dot Lichen	*Bacidia illudens*	Undetermined		
Lace Dot Lichen	*Bacidia subincompta*	Undetermined		
Beckhaus' Dot Lichen	*Biatora beckhausii*	Undetermined		
Cupper Dot Lichen	*Biatora cuprea*	Secure		
Pale Dot Lichen	*Biatora pallens*	Undetermined		
Two Dot Lichen	*Biatora subduplex*	Undetermined		
Spring Dot Lichen	*Biatora vernalis*	Secure		
Lobed Blister Lichen	*Bilimbia lobulata*	Undetermined		
Hidden Dot Lichen	*Japewia tornoensis*	Secure		
Coffee Rim Lichen	*Lecania subfuscula*	Undetermined		
Jamtland Megalaria Lichen	*Megalaria jemtlandica*	Undetermined		
Arctic Ribbon Lichen	*Ramalina almquistii*	Undetermined		
Punctured Ribbon Lichen	*Ramalina dilacerata*	Sensitive		



Crinkled Snow Lichen Photo Credit: S. Carrière



Limestone Sunshine Lichen Photo Credit: Aerin J, iNaturalist.ca

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Rock Ribbon Lichen	*Ramalina intermedia*	Undetermined		
Chalky Ribbon Lichen	*Ramalina labiosorediata*	Undetermined		
Hooded Ribbon Lichen	*Ramalina obtusata*	Undetermined		
Frayed Ribbon Lichen	*Ramalina roesleri*	Undetermined		
Broom Ribbon Lichen	*Ramalina scoparia*	Presence Expected		
Fan Ribbon Lichen	*Ramalina sinensis*	Undetermined		
Angel's Hair	*Ramalina thrausta*	Presence Expected		
Frosted Blister Lichen	*Toninia alutacea*	Undetermined		
Arctic Blister Lichen	*Toninia arctica*	Undetermined		
Aromatic Blister Lichen	*Toninia aromatica*	Undetermined		
Noble Blister Lichen	*Toninia athallina*	Undetermined		
White Blister Lichen	*Toninia candida*	Undetermined		
Blue Blister Lichen	*Toninia sedifolia*	Undetermined		
Stiff Blister Lichen	*Toninia squalida*	Undetermined		
Pitted blister Lichen	*Toninia tristis*	Undetermined		
Lecanorales – Ramboldiaceae				Lecanorid lichens – Ramboldid ichens
Northern Crimson Dot Lichen	*Ramboldia cinnabarina*	Undetermined		
Lecanorales – Scoliciosporaceae				Lecanorid lichens – Scolicio ichens
Umber Scolicio Lichen	*Scoliciosporum umbrinum*	Undetermined		
Lecanorales – Stereocaulaceae				Lecanorid lichens – Foam lichens
Burnt Log Lichen	*Hertelidea botryosa*	Undetermined		
Ivory Dust Lichen	*Lepraria eburnea*	Undetermined		
Royal Dust Lichen	*Lepraria elobata*	Undetermined		
Fink's Dust Lichen	*Lepraria finkii*	Undetermined		
Membrane Dust Lichen	*Lepraria membranacea*	Undetermined		
Neglected Dust Lichen	*Lepraria neglecta*	Secure		
Rigid Dust Lichen	*Lepraria rigidula*	Undetermined		
Vouaux's Dust Lichen	*Lepraria vouauxii*	Undetermined		
Robust Matchstick Lichen	*Pilophorus robustus*	May Be At Risk		
Alpine Foam Lichen	*Stereocaulon alpinum*	Secure		
Sandy Foam Lichen	*Stereocaulon arenarium*	May Be At Risk		
Cauliflower Foam Lichen	*Stereocaulon botryosum*	Sensitive		
Granular Soil Foam Lichen	*Stereocaulon condensatum*	Sensitive		
Finger-scale Foam Lichen	*Stereocaulon dactylophyllum*	Undetermined		
Alpine Soil Foam Lichen	*Stereocaulon glareosum*	Secure		
Grand Foam Lichen	*Stereocaulon grande*	Secure		
Groendland Foam lichen	*Stereocaulon groenlandicum*	Presence Expected		
Encrusted Foam Lichen	*Stereocaulon incrustatum*	Undetermined		
Pacific Brain Foam Lichen	*Stereocaulon intermedium*	Presence Expected		
High Arctic Foam Lichen	*Stereocaulon leprocephalum*	Undetermined		
Cottontail Foam Lichen	*Stereocaulon paschale*	Secure		
Snow Foam Lichen	*Stereocaulon rivulorum*	Secure		
Woolly Foam Lichen	*Stereocaulon savickii*	Presence Expected		
Rock Foam Lichen	*Stereocaulon saxatile*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Two-toned Foam Lichen	*Stereocaulon symphycheilum*	Undetermined		
Eyed Foam Lichen	*Stereocaulon tomentosum*	Secure		
Variegated Foam Lichen	*Stereocaulon vesuvianum*	Sensitive		
Incertae sedis (Order in Subphylum Pezizomycotina) – Strangosporaceae				Unclassified pezizomycotine lichens – Strange lichens
Wall-forming Strange Lichen	*Strangospora moriformis*	Undetermined		
Lecanorales – Tephromelataceae				Lecanorid lichens – Black-eye lichens
Splendid Black-eye Lichen	*Calvitimela aglaea*	Undetermined		
Tundra Black-eye Lichen	*Calvitimela armeniaca*	Undetermined		
Talayana Black-eye Lichen	*Calvitimela talayana*	Undetermined		
Kindred Blood Lichen	*Mycoblastus affinis*	Undetermined		
Alpine Blood Lichen	*Mycoblastus alpinus*	Undetermined		
Black-eye Lichen	*Tephromela atra*	Undetermined		
Lecideales – Helocarpaceae				Lecideid lichens – Helocarpon lichens
Thick-footed Helocarpon Lichen	*Helocarpon crassipes*	Undetermined		
Lecideales – Lecideaceae				Lecideid lichens – Tile lichens
Powdery almond Lichen	*Amygdalaria panaeola*	Undetermined		
Hairy Almond Lichen	*Amygdalaria pelobotryon*	Undetermined		
Alpine Bellemere Lichen	*Bellemerea alpina*	Undetermined		
Ashy-rust Bellemere Lichen	*Bellemerea cinereorufescens*	Undetermined		
Flat Bellemere Lichen	*Bellemerea subsorediza*	Undetermined		
Blackdisc Moss Lichen	*Bryobilimbia hypnorum*	Undetermined		
Mountain Clauzade Lichen	*Clauzadea monticola*	Undetermined		
Sandstone Farnold Lichen	*Farnoldia hypocrita*	Undetermined		
Jura Farnold Lichen	*Farnoldia jurana*	Undetermined		
Glossy White Tile Lichen	*Lecidea albofuscescens*	Undetermined		
Dusky White Tile Lichen	*Lecidea albohyalina*	Undetermined		
Brown Tile Lichen	*Lecidea atrobrunnea*	Secure		
Dark Margined Tile Lichen	*Lecidea atromarginata*	Undetermined		
Gold Tile Lichen	*Lecidea auriculata*	Secure		
Confluent Tile Lichen	*Lecidea confluens*	Undetermined		
Divided Tile Lichen	*Lecidea diducens*	Undetermined		
Berry Tile Lichen	*Lecidea erythrophaea*	Undetermined		
Rusty Tile Lichen	*Lecidea homosema*	Undetermined		
Milky Tile Lichen	*Lecidea lactea*	Undetermined		
Gray-orange Tile Lichen	*Lecidea lapicida*	Undetermined		
Prune Tile Lichen	*Lecidea lithophila*	Undetermined		
Nylender's Tile Lichen	*Lecidea nylanderi*	Undetermined		
Pauper Tile Lichen	*Lecidea paupercula*	Undetermined		
Black Tile Lichen	*Lecidea phaeopelidna*	Undetermined		
Plane Tile Lichen	*Lecidea plana*	Secure		
Common Tile Lichen	*Lecidea plebeja*	Secure		
Shadow Tile Lichen	*Lecidea polycocca*	Undetermined		
PrickingTile Lichen	*Lecidea pungens*	Undetermined		
Branching Tile Lichen	*Lecidea ramulosa*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Rough Tile Lichen	*Lecidea scabridula*	Undetermined		
Flint Tile Lichen	*Lecidea silacea*	Undetermined		
Sphalerite Tile Lichen	*Lecidea sphaerella*	Undetermined		
Nordic Tile Lichen	*Lecidea subcandida*	Undetermined		
Bone Tile Lichen	*Lecidea syncarpa*	Undetermined		
Tessellated Tile Lichen	*Lecidea tessellata*	Secure		
Theodor's Tile Lichen	*Lecidea theodori*	Undetermined		
Turf Tile Lichen	*Lecidea turficola*	Undetermined		
Turgid Tile Lichen	*Lecidea turgidula*	Undetermined		
Coal-on-snow Tile Lichen	*Lecidea umbonata*	Undetermined		
Brown Earth-crust	*Lecidoma demissum*	Undetermined		
Bering Moss-dot Lichen	*Mycobilimbia berengeriana*	Secure		
Boreal Moss-dot Lichen	*Mycobilimbia carneoalbida*	Undetermined		
Pellet Moss-dot Lichen	*Mycobilimbia pilularis*	Undetermined		
Four-celled Moss-dot Lichen	*Mycobilimbia tetramera*	Undetermined		
Concentric Boulder Lichen	*Porpidia crustulata*	Undetermined		
Orange Boulder Lichen	*Porpidia flavicunda*	Undetermined		
Grey Boulder Lichen	*Porpidia grisea*	Undetermined		
Iowia Boulder Lichen	*Porpidia lowiana*	Undetermined		
Large Boulder Lichen	*Porpidia macrocarpa*	Undetermined		
Ochre Boulder Lichen	*Porpidia ochrolemma*	Undetermined		
Rough Boulder Lichen	*Porpidia rugosa*	Undetermined		
Pitch Boulder Lichen	*Porpidia speirea*	Undetermined		
Superb Boulder Lichen	*Porpidia superba*	Undetermined		
Thomson's Boulder Lichen	*Porpidia thomsonii*	Undetermined		
Tubercular Boulder Lichen	*Porpidia tuberculosa*	Undetermined		
White Toensberg Lichen	*Toensbergia leucococca*	Undetermined		
Incertae sedis (Order in Class Lecanoromycetes) – Lopadiaceae				Unclassified lichenized fungi – Urn lichens
Coral Urn Lichen	*Lopadium coralloideum*	Undetermined		
Moss Urn Lichen	*Lopadium pezizoideum*	Secure		
Ostropales – Graphidaceae				Ostropid lichens – Crater lichens
Shore Crater Lichen	*Diploschistes actinostomus*	Undetermined		
Cowpie Lichen	*Diploschistes muscorum*	Secure		
Rough Crater Lichen	*Diploschistes scruposus*	Secure		
Ostropales – Gyalectaceae				Ostropid lichens – Dimple lichens
Pitted Dimple Lichen	*Gyalecta foveolaris*	Undetermined		
Rock Dimple Lichen	*Gyalecta jenensis*	Undetermined		
Kurkiyeki Dimple Lichen	*Gyalecta kukriensis*	Undetermined		
Ostropales – Protothelenellaceae				Ostropid lichens – Turf lichens
Pale Arctic Turf Lichen	*Protothelenella leucothelia*	Undetermined		
Ostropales – Sagiolechiaceae				Ostropid lichens – Popcorn lichens
Black Popcorn Lichen	*Sagiolechia protuberans*	Undetermined		
Burnt Popcorn Lichen	*Sagiolechia rhexoblephara*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Incertae sedis (Order in Class Lecanoromycetes) – Thelenellaceae				Unclassified lichenized fungi – Terrace lichens
Myrin's Terrace Lichen	*Aspilidea myrinii*	Undetermined		
Ostropales – Thrombiaceae				Ostropid lichens – Clot lichens
Epigeal Clot Lichen	*Thrombium epigaeum*	Undetermined		
Peltigerales – Coccocarpiaceae				Peltigerid lichens – Hairball lichens
Rock Hairball Lichen	*Spilonema revertens*	Undetermined		
Peltigerales – Collemataceae				Peltigerid lichens – Tarpaper lichens
Ten-Cent Tarpaper Lichen	*Blennothallia crispa*	Undetermined		
Protracted Tarpaper Lichen	*Callome multipartita*	Undetermined		
Flaking Tarpaper Lichen	*Collema flaccidum*	Presence Expected		
Effervescent Tarpaper Lichen	*Collema furfuraceum*	Sensitive		
Waterside Tarpaper Lichen	*Collema glebulentum*	Undetermined		
Petalled Tarpaper	*Collema subparvum*	Undetermined		
Caesar's Tarpaper Lichen	*Enchylium bachmanianum*	Sensitive		
Lime-loving Tarpaper Lichen	*Enchylium limosum*	Undetermined		
Gilled Tarpaper Lichen	*Enchylium polycarpon*	Sensitive		
Cellulitic Tarpaper Lichen	*Lathagrium fuscovirens*	Undetermined		
Jelly Flakes Lichen	*Lathagrium undulatum*	Sensitive		
Moonlit Vinyl Lichen	*Leptogium burnetiae*	Undetermined		
Concentric Vinyl Lichen	*Leptogium pseudofurfuraceum*	Undetermined		
Midnight Vinyl Lichen	*Leptogium saturninum*	Secure		
Pincushion Tarpaper Lichen	*Rostania ceranisca*	Sensitive		
Rose-petaled Vinyl Lichen	*Scytinium gelatinosum*	Undetermined		
Forty-five Vinyl Lichen	*Scytinium intermedium*	Undetermined		
Tattered Vinyl Lichen	*Scytinium lichenoides*	Secure		
Appressed Vinyl Lichen	*Scytinium subtile*	Undetermined		
Birdnest Vinyl Lichen	*Scytinium tenuissimum*	Sensitive		
Peltigerales – Koerberiaceae				Peltigerid lichens – Brunette lichens
Peppered Brunette Lichen	*Tingiopsidium isidiatum*	May Be At Risk		
Peltigerales – Lobariaceae				Peltigerid lichens – Lungwort lichens
Gray Lungwort Lichen	*Lobaria hallii*	Presence Expected		
Kurokawae Lungwort Lichen	*Lobaria kurokawae*	Presence Expected		
Cabbage Lungwort Lichen	*Lobaria linita*	Sensitive		
Beringian Lungwort Lichen	*Lobaria pseudopulmonaria*	Undetermined		
Textured Lungwort Lichen	*Lobaria scrobiculata*	Undetermined		
Arctic Moon Lichen	*Sticta arctica*	Sensitive		
Peltigerales – Massalongiaceae				Peltigerid lichens – Liver lichens
Moss Liver Lichen	*Massalongia carnosa*	Secure		
Peltigerales – Nephromataceae				Peltigerid lichens – Kidney lichens
Arctic Greenlight Lichen	*Nephroma arcticum*	Secure		
Cat Paw Lichen	*Nephroma bellum*	Undetermined		
Purple Paw Lichen	*Nephroma expallidum*	Secure		
Fringed Kidney Lichen	*Nephroma helveticum*	Sensitive		
Peppered Kidney Lichen	*Nephroma isidiosum*	Presence Expected		

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Powdery kidney Lichen	*Nephroma parile*	Secure		
Pimpled Kidney Lichen	*Nephroma resupinatum*	Undetermined		
Peltigerales – Pannariaceae				Peltigerid lichens – Shingle lichens
Moss Shingle Lichen	*Fuscopannaria praetermissa*	Secure		
Mealy-rimmed Shingle Lichen	*Pannaria conoplea*	Sensitive		
High Arctic Shingle Lichen	*Pannaria hookeri*	Presence Expected		
Coral Shingle Lichen	*Parmeliella corallinoides*	Undetermined		
Black-bordered Shingle Lichen	*Parmeliella triptophylla*	Undetermined		
Brown-gray Moss-shingle Lichen	*Protopannaria pezizoides*	Secure		
Moss Tarts Lichen	*Psoroma hypnorum*	Secure		
Arctic Shingle Lichen	*Santessoniella arctophila*	Presence Expected		
Peltigerales – Peltigeraceae				Peltigerid lichens – Pelt lichens
Silver-edged Freckle Pelt Lichen	*Peltigera aphthosa*	Secure		
Felt Pelt Lichen	*Peltigera canina*	Secure		
Chestnut Pelt Lichen	*Peltigera castanea*	Undetermined		
Tree Pelt Lichen	*Peltigera collina*	May Be At Risk		
Temporary Pelt Lichen	*Peltigera didactyla*	Sensitive		
Concentric Pelt Lichen	*Peltigera elisabethae*	Undetermined		
Peppered Pelt Lichen	*Peltigera evansiana*	Undetermined	ⓘ[10]	
Sheepish Pelt Lichen	*Peltigera extenuata*	Presence Expected		
Fripp's Pelt Lichen	*Peltigera frippii*	Undetermined		
Flat-fruited Pelt Lichen	*Peltigera horizontalis*	Undetermined		
Islandic Pelt Lichen	*Peltigera islandica*	Undetermined		
Large-lobed Pelt Lichen	*Peltigera latiloba*	Undetermined	#	
Mothwing Pelt Lichen	*Peltigera lepidophora*	Secure		
Ruffled Freckle Pelt Lichen	*Peltigera leucophlebia*	Secure		
Apple Pelt Lichen	*Peltigera malacea*	Secure		
Diamond Pelt Lichen	*Peltigera membranacea*	Undetermined		
Black-saddle Pelt Lichen	*Peltigera neckeri*	Sensitive		
Undulating Pelt Lichen	*Peltigera neopolydactyla*	Undetermined		
New Black-bellied Pelt Lichen	*Peltigera neorufescens*	Undetermined	#	
Pioneer Pelt Lichen	*Peltigera polydactylon*	Undetermined		
Pale-bellied Pelt Lichen	*Peltigera ponojensis*	Undetermined		
Born-again Pelt Lichen	*Peltigera praetextata*	Sensitive		
Sponge Pelt Lichen	*Peltigera retifoveata*	Sensitive		
Black-bellied Pelt Lichen	*Peltigera rufescens*	Secure		
Greater Toad Pelt Lichen	*Peltigera scabrosa*	Secure		
Fan Pelt Lichen	*Peltigera venosa*	Secure		
Wuling Pelt Lichen	*Peltigera wulingensis*	Undetermined		
Lesser Tundra Owl Lichen	*Solorina bispora*	Secure		
Orange chocolate chip Lichen	*Solorina crocea*	Secure		
Greater Tundra Owl Lichen	*Solorina octospora*	Undetermined		
Woodland Owl Lichen	*Solorina saccata*	Secure		
Blinking Owl Lichen	*Solorina spongiosa*	Sensitive		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Peltigerales – Placynthiaceae				Peltigerid lichens – Ink lichens
Lilliput Ink Lichen	*Placynthium asperellum*	Sensitive		
Common Ink Lichen	*Placynthium nigrum*	Undetermined		
Eyed Mossthorns Lichen	*Polychidium muscicola*	Sensitive		
Pertusariales – Icmadophilaceae				Pertusarid lichens – Icmadophil lichens
Fairy Puke Lichen	*Icmadophila ericetorum*	Secure		
Water Fingers	*Siphula ceratites*	Undetermined		
Tundra Whiteworm Lichen	*Thamnolia subuliformis*	Secure		
Universal Whiteworm Lichen	*Thamnolia vermicularis*	Secure		
Pertusariales – Megasporaceae				Pertusarid lichens – Megaspore lichens
Sunrise Rim Lichen	*Aspicilia alboradiata*	Undetermined		
Alien Rim Lichen	*Aspicilia aliena*	Undetermined		
Rim Lichen	*Aspicilia anseris*	Undetermined		
Aquatic Rim Lichen	*Aspicilia aquatica*	Undetermined		
Rim Lichen	*Aspicilia caesiopruinosa*	Undetermined		
Chalky Rim Lichen	*Aspicilia candida*	Undetermined		
Ash Rim Lichen	*Aspicilia cinerea*	Secure		
Rending Rim Lichen	*Aspicilia disserpens*	Undetermined		
Elevated Rim Lichen	*Aspicilia elevata*	Undetermined		
Rare Rim Lichen	*Aspicilia heteroplaca*	Undetermined		
Lesley Rim Lichen	*Aspicilia lesleyana*	Undetermined		
Field Rim Lichen	*Aspicilia narssaquensis*	Undetermined		
Nikra Rim Lichen	*Aspicilia nikrapensis*	Undetermined		
Gibbous Rim Lichen	*Aspicilia pergibbosa*	Undetermined		
Wavy Rim Lichen	*Aspicilia perradiata*	Undetermined		
Pocket Rim Lichen	*Aspicilia plicigera*	Undetermined		
Ryrkaypiy Rim Lichen	*Aspicilia ryrkaipiae*	Undetermined		
Ecru Rim Lichen	*Aspicilia sorediza*	Undetermined		
Humble Rim Lichen	*Aspicilia subplicigera*	Undetermined		
Cloudy Rim Lichen	*Aspicilia subradians*	Undetermined		
Wet Rim Lichen	*Aspicilia supertegens*	Undetermined		
Silica Vagabond Lichen	*Circinaria caesiocinerea*	Secure		
False sunken disk Lichen	*Megaspora verrucosa*	Undetermined		
Pertusariales – Ochrolechiaceae				Pertusarid lichens – Saucer lichens
Powdery Saucer Lichen	*Ochrolechia androgyna*	Secure		
Tree Saucer Lichen	*Ochrolechia arborea*	Undetermined		
Arctic Saucer Lichen	*Ochrolechia frigida*	Secure		
Grim Saucer Lichen	*Ochrolechia grimmiae*	Undetermined		
Honey Saucer Lichen	*Ochrolechia gyalectina*	Undetermined		
Crabeye Saucer Lichen	*Ochrolechia inaequatula*	Undetermined		
Tundra Saucer Lichen	*Ochrolechia upsaliensis*	Undetermined		
Red-fruited Pox Lichen	*Varicellaria rhodocarpa*	Undetermined		
Pertusariales – Pertusariaceae				Pertusarid lichens – Wart lichens
Finger Wart Lichen	*Lepra dactylina*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Ragged Wart Lichen	*Lepra ophthalmiza*	Undetermined		
Arctic Wart Lichen	*Lepra panyrga*	Undetermined		
White Pinky Wart Lichen	*Lepra subdactylina*	Undetermined		
Alpine Pore Lichen	*Pertusaria alpina*	Undetermined		
Moss Wart Lichen	*Pertusaria bryontha*	Undetermined		
Leathery Pore Lichen	*Pertusaria coriacea*	Undetermined		
Granular Wart Lichen	*Pertusaria geminipara*	Undetermined		
Ballhead Pore Lichen	*Pertusaria glomerata*	Undetermined		
Mela Wart Lichen	*Pertusaria octomela*	Undetermined		
Eyed Wart Lichen	*Pertusaria oculata*	Undetermined		
Sommerfelts Pore Lichen	*Pertusaria sommerfeltii*	Undetermined		
Knotted Wart Lichen	*Pertusaria subobducens*	Undetermined		
Troche Wart Lichen	*Pertusaria trochiscea*	Undetermined		
Rhizocarpales – Rhizocarpaceae				Rhizocarpid lichens – Map lichens
Mellow Map Lichen	*Rhizocarpon atroflavescens*	Undetermined		
Bay Map Lichen	*Rhizocarpon badioatrum*	Undetermined		
Snowy Map Lichen	*Rhizocarpon chioneum*	Undetermined		
Ashy Map Lichen	*Rhizocarpon cinereovirens*	Undetermined		
Concentric Map Lichen	*Rhizocarpon concentricum*	Undetermined		
Copeland's Map Lichen	*Rhizocarpon copelandii*	Undetermined		
Twin Map Lichen	*Rhizocarpon disporum*	Undetermined		
Gem Map Lichen	*Rhizocarpon eupetraeoides*	Undetermined		
Opal Map Lichen	*Rhizocarpon eupetraeum*	Undetermined		
Fertile Map Lichen	*Rhizocarpon ferax*	Undetermined		
Cold Map Lichen	*Rhizocarpon frigidum*	Undetermined		
United Map Lichen	*Rhizocarpon geminatum*	Undetermined		
Large Map Lichen	*Rhizocarpon grande*	Undetermined		
Smooth map Lichen	*Rhizocarpon hochstetteri*	Undetermined		
Marked Map Lichen	*Rhizocarpon inarense*	Undetermined		
Yellow Map Lichen	*Rhizocarpon lindsayanum*	Undetermined		
Lemon Map Lichen	*Rhizocarpon macrosporum*	Undetermined		
Dusky Map Lichen	*Rhizocarpon obscuratum*	Undetermined		
Oeder's Map Lichen	*Rhizocarpon oederi*	Undetermined		
Polycarpic Map Lichen	*Rhizocarpon polycarpum*	Undetermined		
Streamside Map Lichen	*Rhizocarpon riparium*	Undetermined		
Superficial Map Lichen	*Rhizocarpon superficiale*	Undetermined		
Umbilicated Map Lichen	*Rhizocarpon umbilicatum*	Undetermined		
Rhizocarpales – Sporastatiaceae				Rhizocarpid lichens – Patch lichens
Flint Patch Lichen	*Sporastatia polyspora*	Undetermined		
Copper Patch Lichen	*Sporastatia testudinea*	Undetermined		
Sarrameanales – Schaereriaceae				Sarrameanid lichens – Chart lichens
Endocyan Chart Lichen	*Schaereria endocyanea*	Undetermined		
Burnt-ash Chart Lichen	*Schaereria fuscocinerea*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Teloschistales – Teloschistaceae				Teloschistid lichens – Firedot lichens
Orange Firedot Lichen	*Athallia holocarpa*	Secure		
Cinnamon Firedot Lichen	*Blastenia ammiospila*	Undetermined		
Arctic Firedot Lichen	*Blastenia arctica*	Undetermined		
Red Firedot Lichen	*Blastenia ferruginea*	Undetermined		
Jungermann Firedot Lichen	*Bryoplaca jungermanniae*	Secure		
Yellow-spored Firedot Lichen	*Bryoplaca sinapisperma*	Secure		
Four-spored Firedot Lichen	*Bryoplaca tetraspora*	Undetermined		
Flaming Firedot Lichen	*Calogaya bryochrysion*	Undetermined		
Boreal Firedot Lichen	*Caloplaca borealis*	Undetermined		
Carrot Firedot Lichen	*Caloplaca celata*	Undetermined		
Wine Firedot Lichen	*Caloplaca exsecuta*	Undetermined		
Crimson Firedot Lichen	*Caloplaca ferrugineofusca*	Undetermined		
Amber Firedot Lichen	*Caloplaca fraudans*	Secure		
Spice Firedot Lichen	*Caloplaca grimmiae*	Undetermined		
Snow Firedot Lichen	*Caloplaca nivalis*	Undetermined		
Ashy Firedot Lichen	*Caloplaca phaeocarpella*	Undetermined		
Pine Firedot Lichen	*Caloplaca pinicola*	Undetermined		
Rock Firedot Lichen	*Caloplaca saxicola*	Undetermined		
Spitsbergen Firedot Lichen	*Caloplaca spitsbergensis*	Undetermined		
Raindrop Firedot Lichen	*Caloplaca stillicidiorum*	Undetermined		
Mealy Firedot Lichen	*Flavoplaca citrina*	Undetermined		
Tundra Sulphur Lichen	*Gyalolechia bracteata*	Undetermined		
Desert Sulphur Lichen	*Gyalolechia fulgens*	Undetermined		
Castle Pelted Lichen	*Pachypeltis castellana*	Undetermined		
Invading Pelted Lichen	*Pachypeltis invadens*	Undetermined		
Tirol Orange Lichen	*Parvoplaca tiroliensis*	Undetermined		
Shrubby Sunburst Lichen	*Polycauliona candelaria*	Secure		
Pin-cushion Sunburst Lichen	*Polycauliona polycarpa*	Sensitive		
Elegant Sunburst Lichen	*Rusavskia elegans*	Secure		
Sugared Sunburst Lichen	*Rusavskia sorediata*	Secure		
Arctic Orangebush Lichen	*Seirophora aurantiaca*	May Be At Risk		
Crannied Orangebush Lichen	*Seirophora contortuplicata*	Undetermined		
Tolmin's Orange Lichen	*Xanthocarpia tominii*	Undetermined		
Arctic Sunburst Lichen	*Xanthomendoza borealis*	Undetermined		
Hooded Sunburst Lichen	*Xanthomendoza fallax*	Undetermined		
Bare-bottomed Sunburst Lichen	*Xanthomendoza fulva*	Undetermined		
Powdery Sunburst Lichen	*Xanthomendoza ulophyllodes*	Undetermined		
Trapeliales – Trapeliaceae				Trapeliid lichens – Pebble lichens
Bulls-eye Lichen	*Placopsis gelida*	Undetermined		
Oligotrophic Tar-spot Lichen	*Placynthiella oligotropha*	Undetermined		
Pear Tar-spot Lichen	*Placynthiella uliginosa*	Undetermined		
Compressed Pebble Lichen	*Trapelia coarctata*	Undetermined		
Flexuous Board Lichen	*Trapeliopsis flexuosa*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Granular Mottled-disk Lichen	*Trapeliopsis granulosa*	Undetermined		
Greening Mottled-disk Lichen	*Trapeliopsis viridescens*	Undetermined		
Black Woodscript	*Xylographa parallela*	Undetermined		
Northern Woodscript Lichen	*Xylographa septentrionalis*	Undetermined		
Marked Woodscript Lichen	*Xylographa stenospora*	Undetermined		
White-spotted Woodscript Lichen	*Xylographa vitiligo*	Undetermined		
Umbilicariales – Fuscideaceae				Umbilicariid lichens – Fuscid lichens
Black-on-black Crust Lichen	*Orphniospora moriopsis*	Undetermined		
Umbilicariales – Ophioparmaceae				Umbilicariid lichens – Bloodspot lichens
Lapland Bloodspot Lichen	*Ophioparma lapponica*	Undetermined		
Alpine Bloodspot Lichen	*Ophioparma ventosa*	Undetermined		
Umbilicariales – Ropalosporaceae				Umbilicariid lichens – Comet-spored lichens
Dark Comet-spored Lichen	*Ropalospora lugubris*	Undetermined		
Umbilicariales – Umbilicariaceae				Umbilicariid lichens – Rocktripe lichens
Origami Rocktripe Lichen	*Lasallia caroliniana*	May Be At Risk		
Brown-bellied Toadskin Lichen	*Lasallia papulosa*	Sensitive		
Black-bellied Toadskin Lichen	*Lasallia pensylvanica*	Secure		
Frosted Rocktripe Lichen	*Umbilicaria americana*	Undetermined		
Starred Rocktripe Lichen	*Umbilicaria angulata*	Sensitive		
Arctic Rocktripe Lichen	*Umbilicaria arctica*	Sensitive		
Questionable Rocktripe Lichen	*Umbilicaria cinereorufescens*	Undetermined		
Fringed Rocktripe Lichen	*Umbilicaria cylindrica*	Secure		
Netted Rocktripe Lichen	*Umbilicaria decussata*	Sensitive		
Peppered Rocktripe Lichen	*Umbilicaria deusta*	Secure		
Havaas's rock tripe	*Umbilicaria havaasii*	Sensitive		
Granulating Rocktripe Lichen	*Umbilicaria hirsuta*	May Be At Risk		
Blistered Rocktripe Lichen	*Umbilicaria hyperborea*	Secure		
Textured Rocktripe Lichen	*Umbilicaria leiocarpa*	Presence Expected		
Puckered Rocktripe Lichen	*Umbilicaria lyngei*	Undetermined		
Monumental Rocktripe Lichen	*Umbilicaria mammulata*	Undetermined		
Plated Rock Tripe	*Umbilicaria muhlenbergii*	Secure		
Emery Rocktripe Lichen	*Umbilicaria phaea*	Sensitive		
Polar Rocktripe Lichen	*Umbilicaria polaris*	Undetermined		
Petaled Rocktripe Lichen	*Umbilicaria polyphylla*	Sensitive		
Ballpoint Rocktripe Lichen	*Umbilicaria polyrhiza*	Undetermined		
Greater Salted Rocktripe Lichen	*Umbilicaria proboscidea*	Secure		
Sandpaper Rocktripe Lichen	*Umbilicaria rigida*	Secure		
Perforated Rocktripe Lichen	*Umbilicaria torrefacta*	Secure		
Grizzled Rocktripe Lichen	*Umbilicaria vellea*	Secure		
Blushing Rocktripe Lichen	*Umbilicaria virginis*	Sensitive		
Old-growth Clam Lichen	*Xylopsora friesii*	Undetermined		
Vezdaeales – Vezdaeaceae				Vezdaeid lichens – Blob lichens
Summer Blob Lichen	*Vezdaea aestivalis*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Ascomycota – Lichinomycetes				Ascomycete sac fungi – Lichinomycete fungi
Lichinales – Lichinaceae				Lichinid lichens – Rockshag lichens
Gritty Trickle Lichen	*Cryptothele granuliforme*	Undetermined		
Dryside Rockshag Lichen	*Ephebe hispidula*	Undetermined		
Waterside Rockshag Lichen	*Ephebe lanata*	Undetermined		
Mourning Phlegm Lichen	*Lempholemma polyanthes*	Undetermined		
Frosted Rockserpent Lichen	*Zahlbrucknerella calcarea*	Sensitive		

[a] Describes reasons for a change in status rank between 2016 and 2021. ↗: Increasing Risk, ↘: Decreasing Risk, ∃: Error correction, #: Species new to the NWT, T: Taxonomic change, ⓘ: Information added, A: Changed due to detailed assessment by COSEWIC since 2016. See Data Sources and Methods for more details.

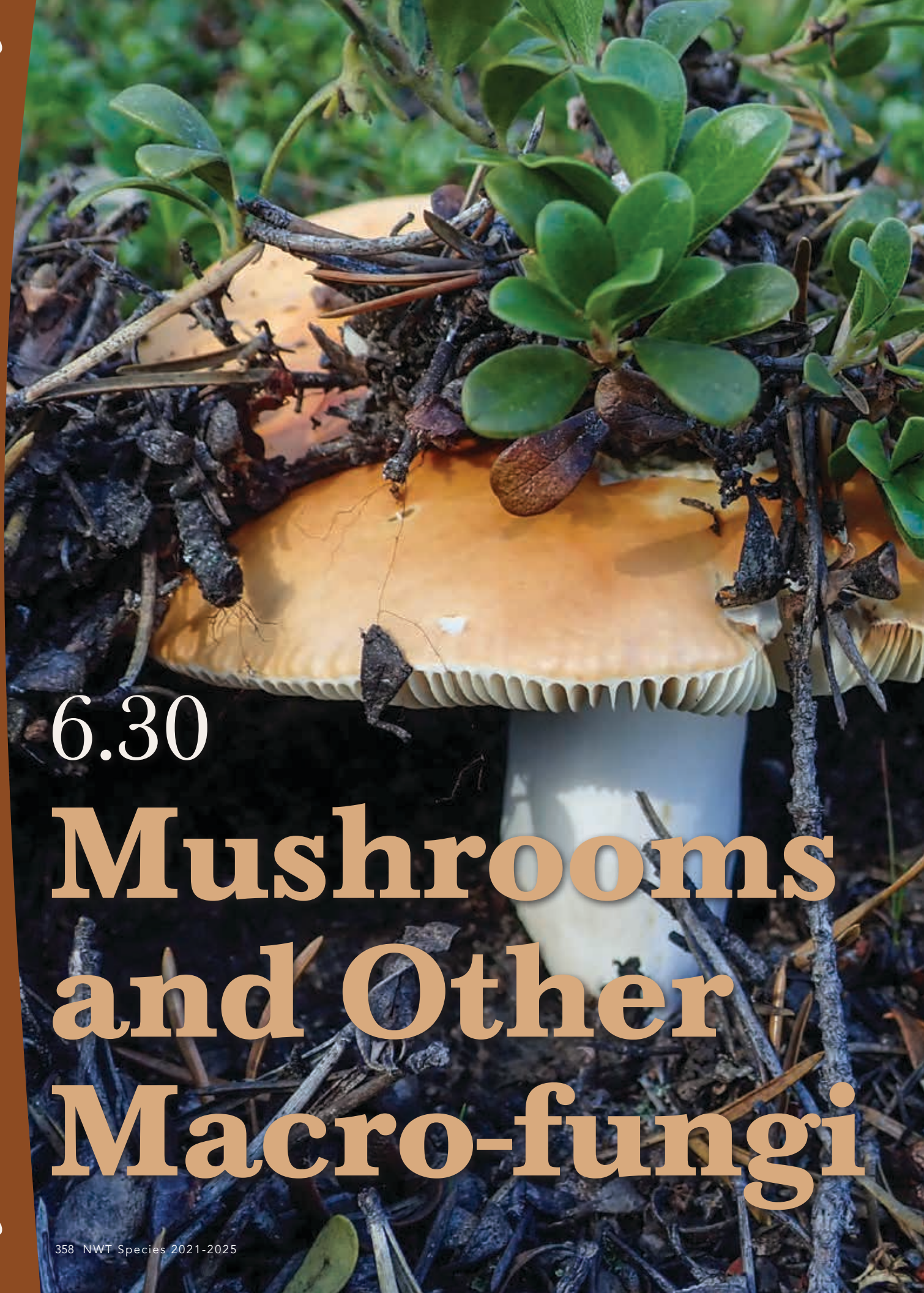
[b] COSEWIC Status: Status for a species in Canada if it has already been assessed in a detailed manner by COSEWIC as of December 2021. The year of each assessment is given with each status. After 2021, please consult current and additional status assessments using references given at the end of this report. Rank of a species in the world as designated by NatureServe. GH: Possibly Extinct, G1: Critically Imperilled, G2: Imperilled, G3: Vulnerable. Definitions and more information can be found at www.natureserve.org.

[1] Changed from At Risk
[2] Changed from May Be at Risk
[3] Changed from Sensitive
[4] Changed from Secure
[5] Changed from Undetermined
[6] Changed from Not Ranked
[7] Changed from Alien
[8] Changed from Extirpated
[9] Changed from Vagrant
[10] Changed from Presence Expected



Sunburst Lichen

Photo Credit: J. Hollett



6.30 Mushrooms and Other Macro-fungi



Brittlegill
Photo Credit: S. Gamiet

Macro-fungi are extremely important both ecologically and economically in the NWT. Being neither plant nor animal, fungi have developed innovative ways of obtaining their nutrients and spreading their spores. They excrete enzymes into their environment, degrade complex organic matter into simple sugars and other nutrients, and with water, are absorbed through their cell walls.

When a fungus can be seen with a naked eye, it is called a macro-fungus. Mushrooms are macro-fungi. To better appreciate the role of macro-fungi, in our ecosystems, it helps to understand the different ways fungi obtain their nutrients. They can live off an organism to the detriment of their host, they decompose dead organisms, or they can form a mutually beneficial relationship with their host. One type of mutually beneficial relationship is a mycorrhizal association, where a fungus colonizes the roots of live plants, then explores the soil and transport nutrients and water back to the root. At the root tip, nutrients are exchanged for sugars that the plant had produced through photosynthesis. Mycorrhizal fungi form underground webs colonizing multiple hosts moving nutrients among the different hosts.

Macro-fungi included in the list below belonging to two groups – phylum Ascomycetes and phylum Basidiomycetes. Ascomycetes are commonly referred to as the cup fungi because they produce spores in sacs or asci (singular ascus), whereas Basidiomycetes are commonly referred to as the club fungi because their spores are produced on club shaped basidia (singular basidium). Both asci and basidia are produced in the fertile region or hymenium in the fruiting body. Spores in fungi are like seeds in plants, in that they are one way of reproduction allowing the species to continue.

The life cycle of a macrofungus begins when a spore lands on suitable substrate and with appropriate moisture and temperatures it germinates forming a filament called a hyphum (plural hyphae). The hyphae continue to multiply and branch, forming a mass called mycelia (singular mycelium) existing in this vegetative state. Fungi spend a large portion of their life cycle as mycelia and only when temperatures and moisture are appropriate will the fungus be triggered to form a reproductive fruiting body. Fruiting bodies can be colourful or drab, large or small, ephemeral or persistent, slimy or dry, velvety or smooth, aromatic or not and are found in diverse habitats. They come in a variety of shapes and forms – mushrooms, conks, morels, corals, truffles, cup fungi, puffballs, stinkhorns, earthstars are examples of fruiting bodies. All of these characteristics are important in the identification of the macrofungi.

As the fruiting body matures the fertile region forms with their corresponding asci or basidia and their developing spores. Mature spores are released and disseminated through some very innovative mechanisms. An example of unusual spore dispersal is the method used by the underground Ascomyceteous mycorrhizal mushrooms – truffles. Truffles in the Basidiomyceteous group are called false-truffles. Truffles form aromatic compounds that become more intense as they age attracting and enticing small mammals and other animals that are meandering in the forest to dig for whatever could be producing these alluring odours. The animal dig in pursuit of these irresistible odours, then either eats or tosses away the dug-up truffle. The spores of the eaten truffles pass through the animal's gut, and as the animal defecates throughout the ecosystem, its feces spread the spores. As the spore laden feces and the discarded truffle decompose, the spores are now able to germinate and form new relationships with new host. There are possibly some true truffle in the NWT. *We have collected many false truffles that looked quite different from each other but a later molecular analysis has shown the NWT specimens were in fact all of one species.*



Fly Amanita Photo Credit: D. Bilinski

The list below is the result of combining information from collections deposited in various herbaria and from publication lists. These are the results from studies predominantly from forest pathologists who collected wood pathogens in the 1930s to the 1960's. The majority of the species are parchment and shelf fungi.

Mushrooms in the NWT are some of the least sampled species of macrofungi in North America. Most North American mushroom field guides, mycological research publications and monographs focus on species west or east of the Rocky Mountains or the Cordilleran region. Many of the characteristics of the specimens collected in the NWT do not align with these references because our species are representative of all western, eastern, southern and northern parts of North America. It remains difficult to assign a species name to many NWT mushrooms because the specimen may be either a new species or a variant of a species from another region. In some cases, genetic analyses will solve the puzzle.

During the past five years, many mushroom enthusiasts, including ourselves, have collected mushrooms in the NWT and are processing our specimens to confirm identification, including some genetic studies, then depositing in various herbaria. We expect our collections will more than double the number of macrofungi species confirmed in the NWT! The updated list will be available in future reports.

All can help by continually and systematically sample our rich ecosystems, and help us all better understand the mycological world of the NWT.

Sharmin Gamiet
Mycology Resources
Abbotsford, BC

Velma Sterenberg
Yellowknife, NT

List 30.
Mushrooms and Other Macro-fungi

There are 301 species of macro-fungi recorded as present in the NWT, but more are expected. Species are listed alphabetically according to the scientific Phylum, Class and Order they belong to, then by Family, then by scientific species name. Taxonomy follows Index Fungorum Partnership. (2021). Common names are preliminary and produces for this report from various sources.



An Earthstar (Order Geastrales) Photo Credit: J. Hollett

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Ascomycota – Leotiomycetes				Ascomycete sac fungi – Leotiomycetes fungi
Helotiales – Bryoglossaceae				Helotiales cup fungi – Moss fungi
Gracile Mossglass	*Bryoglossum gracile*	Undetermined		
Helotiales – Cenangiaceae				Helotiales cup fungi – Frilled woodcrepes
Scurfy Woodcrepe	*Encoelia furfuracea*	Undetermined		
Helotiales – Drepanopezizaceae				Helotiales cup fungi – Leaf blights
Verrucose Leaf Blight	*Leptotrochila verrucosa*	Undetermined		
Helotiales – Hamatocanthoscyphaceae				Helotiales cup fungi – Small woodeyes
Cheerful Ciliolarine	*Ciliolarina laetifica*	Undetermined		
Petite Ciliolarine	*Ciliolarina neglecta*	Undetermined		
Helotiales – Hyaloscyphaceae				Helotiales cup fungi – Woodeyes
Fingered Woodeye	*Hyalopeziza digitipila*	Undetermined		
Carpine Woodeye	*Hyaloscypha carpinacea*	Undetermined		
Pale Woodeye	*Psilocistella obsoleta*	Undetermined		
Helotiales – Lachnaceae				Helotiales cup fungi – Lashed woodeyes
Western Orange Woodeye	*Lachnellula occidentalis*	Undetermined		
Helotiales – Rutstroemiaceae				Helotiales cup fungi – Woodbuttons
Blue Woodbutton	*Rutstroemia bulgarioides*	Undetermined		
Helotiales – Sclerotiniaceae				Helotiales cup fungi – Calices
Bog Calyx	*Myriosclerotinia caricis-ampullaceae*	Undetermined		
Vahlian Calyx	*Myriosclerotinia vahliana*	Undetermined		
Striped Woodcalyx	*Sclerencoelia fascicularis*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Ascomycota – Pezizomycetes				Ascomycete sac fungi – Lidded cup fungi
Pezizales – Discinaceae				Pezizales cup fungi – False morels
Large False Morrel	*Gyromitra gigas*	Undetermined		
Pezizales – Helvellaceae				Pezizales cup fungi – Saddles
Solitary Elfin Saddle	*Helvella solitaria*	Undetermined		
Pezizales – Morchellaceae				Pezizales cup fungi – Morrels
Strait Black Morel	*Morchella angusticeps*	Undetermined		
Black Morel	*Morchella elata*	Undetermined		
Yellow Morel	*Morchella esculenta*	Undetermined		
Pezizales – Pezizaceae				Pezizales cup fungi – Cups
Field Cup	*Peziza arvernensis*	Undetermined		
Domicile Cup	*Peziza domiciliana*	Undetermined		
Pig-ear Cup	*Peziza phyllogena*	Undetermined		
Pezizales – Pyronemataceae				Pezizales cup fungi – Pyronema fungi
Orange-peel Fungus	*Aleuria aurantia*	Undetermined		
Granulated Dung-candy	*Cheilymenia granulata*	Undetermined		
Stalked Bonfire Cup	*Geopyxis carbonaria*	Undetermined		
Sand Candy Fungus	*Melastiza chateri*	Undetermined		
Shadowed Eyed-cup	*Scutellinia umbrorum*	Undetermined		
Pezizales – Sarcoscyphaceae				Pezizales cup fungi – Elf cups
Crimsom Twig Cup	*Microstoma protractum*	Undetermined		
Ebony Cup	*Pseudoplectania nigrella*	Undetermined		
Pezizales – Tuberacea				Pezizales cup fungi – Truffles
Ruddy Truffle	*Tuber rufum*	Undetermined		
Rhytismatales – Rhytismataceae				Spot fungi – Tar spots
Alpine Needlecast	*Lophodermium alpinum*	Undetermined		
Grass Needlecast	*Lophodermium arundinaceum*	Undetermined		
Pine Needlecast	*Lophodermium pinastri*	Undetermined		
Ascomycota – Sordariomycetes				Ascomycete sac fungi – Sordid fungi
Xylariales – Hypoxylaceae				Xylarial fungi – Hypoxylaric fungi
Hazel Woodwart	*Hypoxylon fuscum*	Undetermined		
Rusty Woodwart	*Hypoxylon rubiginosum*	Undetermined		
Xylariales – Xylariaceae				Xylaria-like fungi – Xylaric fungi
Hardwood Xylon Canker Fungus	*Entoleuca mammata*	Undetermined		
Basidiomycota – Agaricomycetes				Basidiomycete fungi – Mushrooms
Agaricales – Agaricaceae				Gilled mushrooms – Agarics
Flat-bulb Mushroom	*Agaricus abruptibulbus*	Undetermined		
Aristocrate Mushroom	*Agaricus aristocratus*	Undetermined		
Horse Mushroom	*Agaricus arvensis*	Undetermined		
Cloak Mushroom	*Agaricus chlamydopus*	Undetermined		
Salt Field Mushroom	*Agaricus halophilus*	Undetermined		
Yellow Stainer	*Agaricus xanthodermus*	Undetermined		
Stump Puffball	*Apioperdon pyriforme*	Undetermined		
Summer Puffball	*Bovista aestivalis*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Arctic Sculpted Puffball	*Calvatia arctica*	Undetermined		
Pyramid Puffball	*Calvatia cretacea*	Undetermined		
Purple-spored Puffball	*Calvatia cyathiformis*	Undetermined		
Wolf Puffball	*Calvatia turneri*	Undetermined		
Saffron Powder-cap	*Cystoderma amianthinum*	Undetermined		
Tall Powder-cap	*Cystoderma fallax*	Undetermined		
Granulated Powder-cap	*Cystodermella granulosa*	Undetermined		
Smoth Puffball	*Lycoperdon molle*	Undetermined		
Gem-studded Puffball	*Lycoperdon perlatum*	Secure		



Red-banded Polypore

Photo Credit: S. Gamiet

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Giant Pasture Puffball	*Mycenastrum corium*	Undetermined		
Agaricales – Amanitaceae				Gilled mushrooms – Amanitas
Orange-brown Ringless Amanita	*Amanita fulva*	Undetermined		
Greenland Ringless Amanita	*Amanita groenlandica*	Undetermined		
Fly Amanita	*Amanita muscaria*	Secure	ⓘ[5]	
Snow Ringless Amanita	*Amanita nivalis*	Undetermined		
Panther Amanita	*Amanita pantherina*	Undetermined		
Grey Amanita	*Amanita spreta*	Undetermined		
Agaricales – Clavariacea				Gilled mushrooms – Coral fungi
Golden Spindles	*Clavulinopsis fusiformis*	Undetermined		
Agaricales – Cortinariaceae				Gilled mushrooms – Cortinars
Braendle's Cortinar	*Cortinarius braendlei*	Undetermined		
Tawny Cortinar	*Cortinarius brunneofulvus*	Undetermined		
Whitening Cortinar	*Cortinarius canescens*	Undetermined		



Red Bog Bolete

Photo Credit: S. Gamiet

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Smeared Cortinar	*Cortinarius delibutus*	Undetermined		
Elegant Cortinar	*Cortinarius elegantior*	Undetermined		
Trivial Cortinar	*Cortinarius trivialis*	Undetermined		
Agaricales – Crepidotaceae				Gilled mushrooms – Fans
Tawny Fan	*Crepidotus fulvotomentosus*	Undetermined		
Clinging Fan	*Crepidotus haerens*	Undetermined		
Soft Fan	*Crepidotus mollis*	Undetermined		
Versatile Fan	*Crepidotus versutus*	Undetermined		
Agaricales – Cyphellaceae				Gilled mushrooms – Leaf fungi
Silver Leaf Fungus	*Chondrostereum purpureum*	Secure		
Agaricales – Hydnangiaceae				Gilled mushrooms – Living tree fungi
Pine Deceiver	*Laccaria proxima*	Undetermined		
Agaricales – Hygrophoraceae				Gilled mushrooms – Waxycaps and relatives
Golden-crown Oysterling	*Arrhenia auriscalpium*	Undetermined		
Wood Oysterling	*Arrhenia epichysium*	Undetermined		
Lobed Oysterling	*Arrhenia lobata*	Undetermined		
Orange Waxcap	*Hygrocybe cantharellus*	Undetermined		
Conical Waxcap	*Hygrocybe conica*	Undetermined		
Specious Woodwax	*Hygrophorus speciosus*	Undetermined		
Alpine Lichenomphale	*Lichenomphalia alpina*	Undetermined		
Hudson Mushroom Lichen	*Lichenomphalia hudsoniana*	Sensitive		
Yellowing Lichenomphale	*Lichenomphalia luteovitellina*	Undetermined		
Greenpea Mushroom Lichen	*Lichenomphalia umbellifera*	Secure		
Agaricales – Hymenogastraceae				Gilled mushrooms – Hebelomas and relatives
Dung-loving Psilocybe	*Deconica coprophila*	Undetermined		
Alpine Hebeloma	*Hebeloma alpinum*	Undetermined		
Poison Pie Hebeloma	*Hebeloma crustuliniforme*	Undetermined		
Nerve Hebeloma	*Hebeloma neurophyllum*	Undetermined		
Petite Hebeloma	*Hebeloma pusillum*	Undetermined		
Agaricales – Inocybaceae				Gilled mushrooms – Firecaps
Glued Fibercap	*Inocybe agglutinata*	Undetermined		
Bittersweet Fibercap	*Inocybe dulcamara*	Undetermined		
White Fibercap	*Inocybe geophylla*	Undetermined		
Downy Fibercap	*Inocybe lanuginosa*	Undetermined		
Melting Fibercap	*Inocybe subdecurrens*	Undetermined		
Cracked Fibercap	*Pseudosperma rimosum*	Undetermined		
Agaricales – Lyophyllaceae				Gilled mushrooms – Domecaps
Marble Mushroom	*Hypsizygus marmoreus*	Undetermined		
Fried Chichken Domecap	*Lyophyllum decastes*	Secure		
Armour Domecap	*Lyophyllum loricatum*	Undetermined		
Agaricales – Mycenaceae				Gilled mushrooms – Mycena mushrooms
Pinewood Gingertail	*Xeromphalina campanella*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Agaricales – Niaceae				Gilled mushrooms – Crowded minicups
Wood Merismode	*Merismodes anomala*	Undetermined		
Bundled Merismode	*Merismodes fasciculata*	Undetermined		
Agaricales – Nidulariaceae				Gilled mushrooms – Bird's nest mushrooms
White-egg Bird's Nest	*Crucibulum laeve*	Undetermined		
Dung-loving Bird's Nest	*Cyathus stercoreus*	Presence Expected	#	
Ribbed Splash Cup	*Cyathus striatus*	Undetermined		
Agaricales – Omphalotaceae				Gilled mushrooms – Tough stipe mushrooms
Borrowing Long-stipe Mushroom	*Gymnopus aquosus*	Undetermined		
Merging Stipe Mushroom	*Gymnopus confluens*	Undetermined		
Oak Stipe Mushroom	*Gymnopus dryophilus*	Undetermined		
Spotted Collybia	*Rhodocollybia maculata*	Undetermined		
Agaricales – Physalacriaceae				Gilled mushrooms – Physalacrias and relatives
Honey Mushroom	*Armillaria mellea*	Undetermined		
Sedge Parachute	*Gloiocephala caricis*	Undetermined		
Dryas Mushroom	*Rhizomarasmius epidryas*	Undetermined		
Agaricales – Pleurotaceae				Gilled mushrooms – Oyster mushrooms
Quaking Oyster Mushroom	*Hohenbuehelia tremula*	Undetermined		
Brancing Oyster Mushroom	*Pleurotus cornucopiae*	Undetermined		
Great Oyster Mushroom	*Pleurotus ostreatus*	Undetermined		
Agaricales – Pluteaceae				Gilled mushrooms – Deer mushrooms
Admirable Deer Mushroom	*Pluteus admirabilis*	Undetermined		
Common Deer Mushroom	*Pluteus cervinus*	Undetermined		
Agaricales – Psathyrellaceae				Gilled mushrooms – Ink mushrooms
Common Ink Cap	*Coprinopsis atramentaria*	Undetermined		
Cinnamon Weeping-widow	*Lacrymaria subcinnamomea*	Undetermined		
Tepe Psathyrella	*Psathyrella tepeitensis*	Undetermined		
Agaricales – Schizophyllaceae				Gilled mushrooms – Schizophyl mushrooms
Splitgill Mushroom	*Schizophyllum commune*	Undetermined		
Agaricales – Strophariaceae				Gilled mushrooms – Fieldcaps
Rough Fieldcap	*Agrocybe dura*	Undetermined		
Spring Fieldcap	*Agrocybe praecox*	Undetermined		
Mouse's-ear Hypholoma	*Hypholoma myosotis*	Undetermined		
Agaricales – Tricholomataceae				Gilled mushrooms – Knights and relatives
Discoloured Funnel	*Clitocybe dicolor*	Undetermined		
Variable Clitocybe	*Clitocybe metachroa*	Undetermined		
Folded Clitocybe	*Clitocybe multiceps*	Undetermined		
Aniseed Funnelcap	*Clitocybe odora*	Undetermined		
Forest Leucopax	*Leucopaxillus laterarius*	Undetermined		
Obscure Knight	*Tricholoma caligatum*	Undetermined		
Mounted Knight	*Tricholoma equestre*	Undetermined		
American Matsutake	*Tricholoma magnivelare*	Undetermined		
Red-brown Trich	*Tricholoma pessundatum*	Undetermined		
Poplar Knight	*Tricholoma populinum*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Soapy Cavalier	*Tricholoma saponaceum*	Undetermined		
Fuzztop	*Tricholoma vaccinum*	Undetermined		
Silver Streaks	*Tricholoma virgatum*	Undetermined		
Zeller's Bracelet	*Tricholoma zelleri*	Undetermined		
Amylocorticiales – Amylocorticiaceae				Amylocortic fungi – Wood laces
White Spit Mushroom	*Anomoloma myceliosum*	Undetermined		
Boreal Crust	*Ceraceomyces borealis*	Undetermined		
Snake Crust	*Ceraceomyces serpens*	Undetermined		
Snow Bustle	*Plicatura nivea*	Undetermined		
Crimped Gill	*Plicaturopsis crispa*	Secure		
Atheliales – Atheliaceae				Crust fungi – Atheliac crusts
Galzin's Crust	*Leptosporomyces galzinii*	Undetermined		
Pine Piloderm	*Piloderma bicolor*	Undetermined		
Atheliales – Tylosporaceae				Crust fungi – Tylspore crusts
Fibrous Amphinema	*Amphinema byssoides*	Secure		
Auriculariales – Auriculariaceae				Jelly fungi – Jelly fungi
Black Witches' Butter	*Exidia glandulosa*	Undetermined		
Stocking Ice Fungus	*Exidiopsis calcea*	Undetermined		
Spine Fungus	*Heteroradulum spinulosum*	Undetermined		
Boletales – Boletaceae				Bolete-type mushrooms – Boteles
Red-capped Scaber Stalk	*Leccinum aurantiacum*	Undetermined		
Aspen Bolete	*Leccinum insigne*	Undetermined		
Birch Bolete	*Leccinum scabrum*	Secure		
Cinnamon Bolete	*Leccinum subtestaceum*	Undetermined		
Boletales – Coniophoraceae				Bolete-type mushrooms – Spread boteles
Dry Rot Fungus	*Coniophora arida*	Undetermined		
Boletales – Gomphidiaceae				Bolete-type mushrooms – Gomphid mushrooms
Glutinous Spike-cap	*Gomphidius glutinosus*	Undetermined		
Boletales – Hygrophoropsidaceae				Bolete-type mushrooms – Funnels
Golden Funnel	*Hygrophoropsis aurantiaca*	Undetermined		
Boletales – Hygrophoropsidaceae				Bolete-type mushrooms – Dark earth-balls
Alder False-truffle	*Alpova diplophloeus*	Undetermined		
Boletales – Paxillaceae				Bolete-type mushrooms – Pax mushrooms
Poison Pax	*Paxillus involutus*	Undetermined		
Boletales – Suillaceae				Bolete-type mushrooms – Suillus mushrooms
Boreal Redbolete	*Boletinus glandulosus*	Undetermined		
Mealy Boletine	*Boletinus sinuspaulianus*	Undetermined		
Bog Redbolete	*Boletinus spectabilis*	Undetermined		
Hollow Suillus	*Suillus cavipes*	Undetermined		
Dotted Suillus	*Suillus granulatus*	Undetermined		
Red Bog Bolete	*Suillus paluster*	Undetermined		
Blue-staining Slippery Jack	*Suillus tomentosus*	Undetermined		
Cantharellales – Clavariadelphaceae				Chanterelle mushrooms – Club coral mushrooms
Truncated Club Coral Mushroom	*Clavariadelphus truncatus*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Cantharellales – Hydnaceae				Chanterelle mushrooms – Toothed mushrooms
Hard Hedgehog	*Hydnum indurescens*	Undetermined		
Brinkmann's Sistotrema	*Sistotrema brinkmannii*	Undetermined		
Scraped Sistotrema	*Sistotrema raduloides*	Undetermined		
Cantharellales – Tulasnellaceae				Chanterelle mushrooms – Patch fungi
Violet Patch-fungus	*Tulasnella violea*	Undetermined		
Corticiales – Corticiaceae				Corticioid fungi – Skin fungi
Northern Pink Skin-fungus	*Corticium boreoroseum*	Undetermined		
Bordering Skin-fungus	*Corticium confine*	Undetermined		
Corticiales – Vuilleminiaceae				Corticioid fungi – Old skin fungi
Scarlet Splash	*Cytidia salicina*	Undetermined		
Gloeophyllales – Gloeophyllaceae				Rot fungi – Woodrot fungi
Moon Fuzzy-skin	*Chaetodermella luna*	Secure		
Anise Mazegill	*Gloeophyllum odoratum*	Undetermined		
Conifer Mazegill	*Gloeophyllum sepiarium*	Secure		
Trainwrecker	*Neolentinus lepideus*	Undetermined		
Fir Velvet	*Veluticeps abietina*	Secure		
Hymenochaetales – Hymenochaetaceae				Hymenochaetoid fungi – Hymenochaetal fungi
Laminated Root Rot Fungus	*Coniferiporia weirii*	Undetermined		
White Rut Fungus	*Cyanotrama rimosa*	Undetermined		
Elbowpatch Crust	*Fomitiporia punctata*	Undetermined		
Cinnamon Porecrust	*Fuscoporia ferrea*	Undetermined		
Red-marked Porecrust	*Fuscoporia ferruginosa*	Undetermined		
Rheades Bracket	*Inocutis rheades*	Undetermined		
Chaga Mushroom	*Inonotus obliquus*	Secure		
Triqueter Bracket	*Inonotus triqueter*	Undetermined		
Fox Bracket	*Inonotus vulpinus*	Undetermined		
Rust Pelt-fungus	*Phellinidium ferrugineofuscum*	Secure		
Red-ring Rot Bracket	*Phellinus chrysoloma*	Undetermined		
Willow Bracket	*Phellinus igniarius*	Secure		
Vine Bracket	*Phellinus viticola*	Secure		
Red Ring Bracket	*Porodaedalea pini*	Secure		
Purplepore Conifer Bracket	*Trichaptum abietinum*	Secure		
Violet-toothed Hardwood Bracket	*Trichaptum biforme*	Secure		
Rusty-toothed Bracket	*Trichaptum fuscoviolaceum*	Undetermined		
Brown Larch Bracket	*Trichaptum laricinum*	Undetermined		
Paper Bracket	*Trichaptum subchartaceum*	Undetermined		
Calothrix Tubular Paper-fungus	*Tubulicrinis calothrix*	Undetermined		
Globulous Tubular Paper-fungus	*Tubulicrinis glebulosus*	Undetermined		
Pale Tubular Paper-fungus	*Tubulicrinis subulatus*	Undetermined		
Hymenochaetales – Rickenellaceae				Hymenochaetoid fungi – Rickenel fungi
Downy Parchment Fungus	*Peniophorella pubera*	Undetermined		
Chiricahua Resin-fungus	*Resinicium chiricahuaense*	Undetermined		
Smooth Sidera	*Sidera lenis*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Hymenochaetales – Schizoporaceae				Hymenochaetoid fungi – Schizopores
Leathery Tooth Carpet	*Alutaceodontia alutacea*	Undetermined		
Oak Tooth-fungus	*Hyphodontia quercina*	Undetermined		
Leather Tooth-fungus	*Hyphodontia subalutacea*	Undetermined		
Short Tooth Carpet	*Xylodon brevisetus*	Undetermined		
Polyporales – Adustoporiaceae				Polypores – Grim polypores
Yellow Antrodia	*Daedalea xantha*	Undetermined		
Polyporales – Cerrenaceae				Polypores – Maze polypores
Mossy Maze Polypore	*Cerrena unicolor*	Secure		
American Spine-polypore	*Radulodon americanus*	Undetermined		
Weeping Spine-polypore	*Radulodon aneirinus*	Undetermined		
Ceasar Spine-polypore	*Radulodon casearius*	Undetermined		
Polyporales – Dacryobolaceae				Polypores – Dracyobole polypores
Blue-Cheese Polypore	*Postia caesia*	Undetermined		
Rough Polypore	*Postia immitis*	Undetermined		
Delicate Polypore	*Postia sericeomollis*	Undetermined		
Polyporales – Fomitopsidaceae				Polypores – Fomes
Pale-brown Antrodia	*Anthoporia albobrunnea*	Undetermined		
Morphing Antrodia	*Antrodia heteromorpha*	Undetermined		
Chipping Antrodia	*Antrodia ramentacea*	Undetermined		
Birch Polypore	*Fomitopsis betulina*	Undetermined		
Red-banded Polypore	*Fomitopsis pinicola*	Secure		
Serialized Antrodia	*Neoantrodia serialis*	Secure		
Variable Antrodia	*Neoantrodia variiformis*	Undetermined		
Cajander's Rosy Conk	*Rhodofomes cajanderi*	Secure		
Dark Rosy Conk	*Rhodofomes roseus*	Undetermined		



Fly Amanita Photo Credit: G. Hachey



Fried Chicken Domecap Photo Credit: S. Gamiet

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Polyporales – Gelatoporiaceae				Polypores – Gelatine polypores
Two-coloured Gelatine-Bracket	*Gelatoporia dichroa*	Secure		
Polyporales – Hyphodermataceae				Polypores – Crusty-skinned polypores
Bristled Skin-popypore	*Hyphoderma setigerum*	Undetermined		
Flat Interlace Fungus	*Intextomyces contiguus*	Undetermined		
Snowy Mural-polypore	*Metulodontia nivea*	Undetermined		
Polyporales – Irpicaceae				Polypores – Irpic polypores
Rusty Ceripore	*Ceriporia rhodella*	Undetermined		
Yew Spread-polypore	*Gloeoporus taxicola*	Undetermined		
Milk-white Toothed Polypore	*Irpex lacteus*	Undetermined		
Belle Mural-polypore	*Meruliopsis bella*	Undetermined		
Polyporales – Laetiporaceae				Polypores – Soft polypores
Schweinitz's Velvet-top Polypore	*Phaeolus schweinitzii*	Undetermined		
Polyporales – Meruliaceae				Polypores – Merulic polypores
Silken Peel-polypore	*Hypochnicium bombycinum*	Undetermined		
Earth Peel-polypore	*Hypochnicium geogenium*	Undetermined		
Wrinkled Crust	*Phlebia radiata*	Undetermined		
Jelly Crust	*Phlebia tremellosa*	Undetermined		
Polyporales – Panaceae				Polypores – Pan polypores
Purpling Panus	*Panus neostrigosus*	Undetermined		
Polyporales – Phanerochaetaceae				Polypores – Crest polypores
Smoky Popypore	*Bjerkandera adusta*	Undetermined		
Tender Cap	*Hapalopilus rutilans*	Undetermined		
Sordid Crest-polypore	*Phanerochaete sordida*	Undetermined		
Velvety Crest-polypore	*Phanerochaete velutina*	Undetermined		
Polyporales – Polyporaceae				Polypores – Bracket polypores
Blackfoot Polypore	*Cerioporus leptocephalus*	Undetermined		
Stereo Polypore	*Cerioporus stereoides*	Undetermined		
Variable Popypore	*Cerioporus varius*	Undetermined		
Brownflesh Bracket	*Coriolopsis gallica*	Undetermined		
Pine Cryptopore	*Cryptoporus volvatus*	Undetermined		
Thin-walled Maze Popypore	*Daedaleopsis confragosa*	Secure		
Cimenting Dichomite Polypore	*Dichomitus squalens*	Undetermined		
Crusting Dichomite Polypore	*Diplomitoporus crustulinus*	Secure		
Salmon Erastia	*Erastia salmonicolor*	Undetermined		
Hoof Fungus	*Fomes fomentarius*	Secure		
Artist's Bracket	*Ganoderma applanatum*	Secure		
Spring Polypore	*Lentinus arcularius*	Undetermined		
Gilled Polypore	*Lenzites betulinus*	Undetermined		
Pancake Crust	*Perenniporia medulla-panis*	Undetermined		
Delicate Perennipore	*Perenniporia tenuis*	Undetermined		
Tacamahac Poria	*Poria tacamahacae*	Undetermined		
Pine Bracket	*Porodaedalea pini*	Secure		
Hairy Bracket	*Trametes hirsuta*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Furry Bracket	*Trametes pubescens*	Undetermined		
Trog's Bracket	*Trametes trogii*	Undetermined		
Turkey-tail Bracket	*Trametes versicolor*	Undetermined		
Polyporales – Steccherinaceae				Polypores – Toothed crust polypores
White-rimmed Saffron Crust	*Butyrea luteoalba*	Undetermined		
Peeling Junghuhnia	*Junghuhnia collabens*	Undetermined		
Small-fiber Spreading Tooth	*Steccherinum fimbriatellum*	Undetermined		
Fiber Spreading Tooth	*Steccherinum fimbriatum*	Undetermined		
Polyporales – Xenasmataceae				Polypores – Mat polypores
Running Mat-polypore	*Xenasmatella vaga*	Undetermined		
Russulales – Albatrellaceae				Russula-like mushrroms – Albatrelles
Heaping Albatrelle	*Albatrellus confluens*	Undetermined		
Reddening Albatrelle	*Albatrellus subrubescens*	Undetermined		
Russulales – Amylostereaceae				Russula-like mushrroms – White parchment fungi
Chaillet's Loiterer	*Amylostereum chailletii*	Undetermined		
Russulales – Auriscalpiaceae				Russula-like mushrroms – Ear-pick fungi
Earlobe Lentinelle	*Lentinellus cochleatus*	Undetermined		
Russulales – Hericiaceae				Russula-like mushrroms – Manes
Collared Lion's-mane	*Hericium coralloides*	Undetermined		
Russulales – Peniophoraceae				Russula-like mushrroms – Peniophores
Eriksson's Peniophore	*Peniophora erikssonii*	Undetermined		
Grey Peniophore	*Peniophora pithya*	Undetermined		
Conifer Peniophore	*Peniophora pseudopini*	Undetermined		
Northern Peniophore	*Peniophora septentrionalis*	Secure		
Red Peniophore	*Sterellum rufum*	Undetermined		
Russulales – Russulaceae				Russula-like mushrroms – Russulac mushrooms
Saffron Milkcap	*Lactarius deliciosus*	Undetermined		
Downy Mikcap	*Lactarius pubescens*	Undetermined		
Wooly Milkcap	*Lactarius torminosus*	Undetermined		
Slimy Lead Milkcap	*Lactarius trivialis*	Undetermined		
Sepia Brittlegill	*Russula sororia*	Undetermined		
Russulales – Stereaceae				Russula-like mushrroms – Parchments
Blue Wood-clay	*Acanthophysellum lividocoeruleum*	Secure		
Ochre Cracker Fungus	*Conferticium ochraceum*	Secure		
Nannfeldt's Tileskin	*Scytinostromella nannfeldtii*	Undetermined		
Hairy Curtain Crust	*Stereum hirsutum*	Undetermined		
Bleeding Curtain Crust	*Stereum sanguinolentum*	Secure		
Sebacinales – Sebacinales				Sebacine fungi – Sebacine fungi
Encrusting Coral-fungus	*Sebacina incrustans*	Undetermined		
Thelephorales – Bankeraceae				Earthfans – Toothed earthfans
Grey Boletopsis	*Boletopsis grisea*	Undetermined		
Blue Tooth	*Hydnellum caeruleum*	Undetermined		
Bleeding Tooth	*Hydnellum peckii*	Undetermined		
Shingled Hedgehog Mushroom	*Sarcodon imbricatus*	Undetermined		

Common Name	Scientific Species Name	Rank	Reason for Change[a]	Global Conservation Concern[b]
Thelephorales – Thelephoraceae				Earthfans – Earthfans
Lime Crust	*Odontia calcicola*	Undetermined		
White-rimmed Tooth	*Phellodon fuligineoalbus*	Undetermined		
Clove Earth-fan	*Thelephora caryophyllea*	Undetermined		
Common Fiber-vase	*Thelephora terrestris*	Undetermined		
Azure Tomentelle	*Tomentella coerulea*	Undetermined		
Grey-Lilac Tomentelle	*Tomentella lilacinogrisea*	Undetermined		
Trechisporales – Hydnodontaceae				Trechispore fungi – Hydnodonte fungi
Spreading Wood-dust	*Subulicystidium longisporum*	Undetermined		
Floury Trechispora	*Trechispora farinacea*	Undetermined		
Basidiomycota – Dacrymycetes				Basidiomycete fungi – Forked jelly fungi
Dacrymycetales – Dacrymycetaceae				Forked jelly fungi – Forked jelly fungi
Yellow Hat Jelly	*Dacrymyces capitatus*	Undetermined		
Orange Jelly Spot	*Dacrymyces chrysospermus*	Undetermined		
Basidiomycota – Exobasidiomycetes				Basidiomycete fungi – Exobasidium fungi
Exobasidiales – Exobasidiaceae				Exobasidium fungi – Exobasidium fungi
Dwarfling Redleaf Fungus	*Exobasidium juelianum*	Undetermined		
Karsten's Redleaf Fungus	*Exobasidium karstenii*	Undetermined		

[a] Describes reasons for a change in status rank between 2016 and 2021. ↗: Increasing Risk, ↘: Decreasing Risk, ∃: Error correction, #: Species new to the NWT, T: Taxonomic change, ⓘ: Information added, A: Changed due to detailed assessment by COSEWIC since 2016. See Data Sources and Methods for more details.

[b] Rank of a species in the world as designated by NatureServe. GH: Possibly Extinct, G1: Critically Imperilled, G2: Imperilled, G3: Vulnerable. Definitions and more information can be found at www.natureserve.org.

[1] Changed from At Risk
[2] Changed from May Be at Risk
[3] Changed from Sensitive
[4] Changed from Secure
[5] Changed from Undetermined
[6] Changed from Not Ranked
[7] Changed from Alien
[8] Changed from Extirpated
[9] Changed from Vagrant
[10] Changed from Presence Expected



Hollow Suillus Photo Credit: S. Gamiet

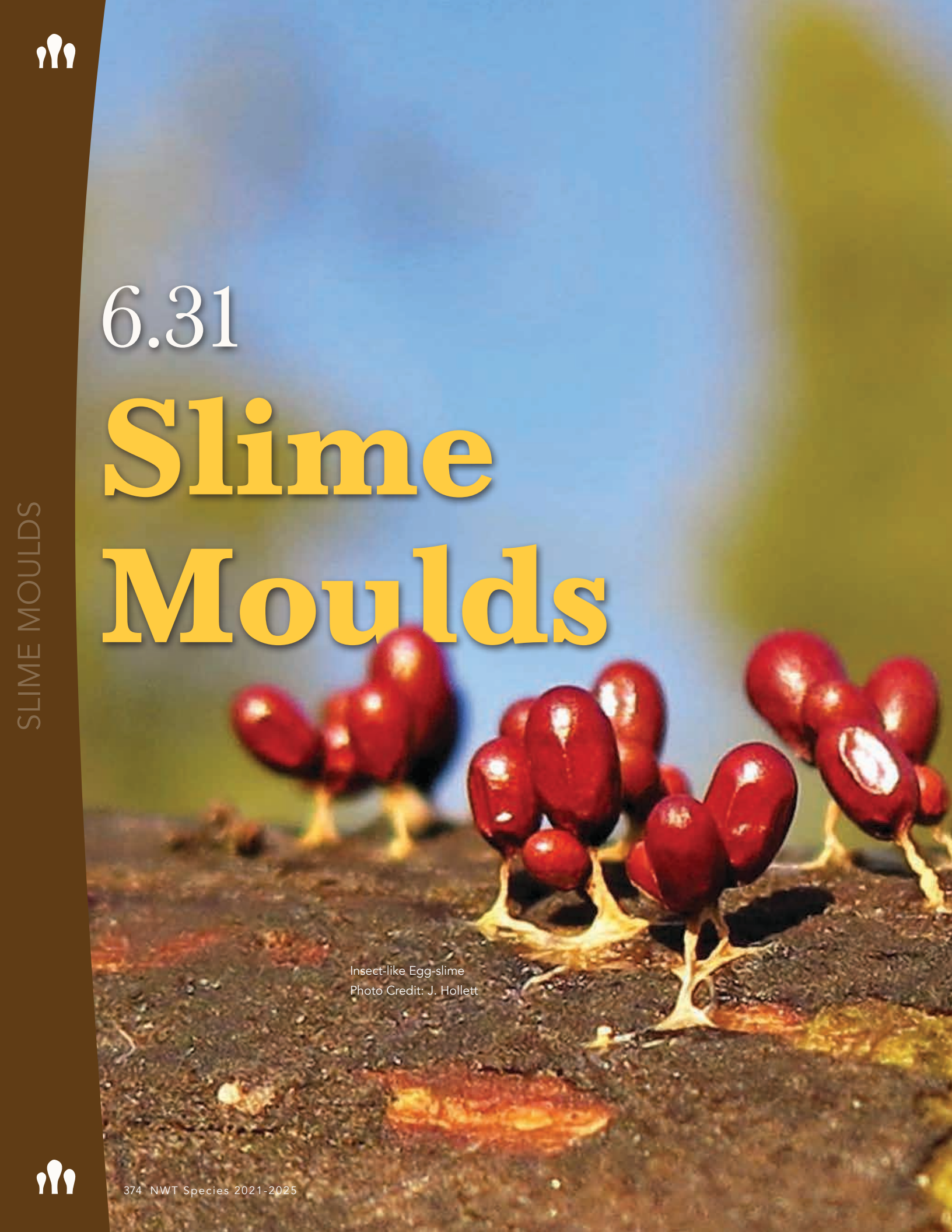


Bird's Nest Mushroom Photo Credit: K. Walpole



Club Coral Mushroom
Photo Credit: S. Gamiet

6.31 Slime Moulds



Insect-like Egg-slime
Photo Credit: J. Hollett

Protozoans

Protozoans (Kingdom Protozoa) are a complex "catch-all" group of eukaryotes (their cells have a nucleus surrounded by a membrane) that are not animals, plants, nor fungi. Protozoans are single-celled, living free, or living as a parasite on other organisms or as a part of a symbiotic relationship. They thrive in moist environments.

Slime Moulds

Slime moulds (Kingdom Protozoa, Phylum Mycetozoa) are fascinating organisms. All have unicellular forms, but some slime mould's basic structures also include multiple or "social" cell structures (dictyostelid), some include plasmodial or acellular blobs (myxogastrid), and some form amoeboid pen-like structures (protostelid slime moulds). The latter two classes include acellular phases, but all slime moulds can make fruiting bodies using eukaryotic cellular structures.

Their origins are controversial. Most view mycetozoans as archaic organisms, existing even before bacteria and as evolving many times among the multicellular eukaryotes. The group is placed more closely to animals and fungi than to plants. For example, during the feeding stage of their life cycle they can move to find food, and ingest food by phagocytosis.

Slime moulds occur globally in moist habitats. All species recorded in the NWT are Myxogastrids. Spores are extremely small, can travel around the globe, and can remain dormant for several years. Some species can reproduce asexually. Germination requires moisture and warmth, where some types of bud emerge from the spore. In dry conditions, these buds can crawl – like amoebae – or in wet conditions, can swim – like flagellates. If conditions change they can switch forms. At this stage, the mould is in its first feeding mode. It is this stage that gives the group its name: the Myxogastria will consume fungus spores, bacteria, and any edible substances. They grow by simple cell division. If conditions get really harsh, they will get into a survival mode and transform into a long-lived round microcyst. It has been demonstrated that a microcyst can remain in its dormant stage for over 10 years.

Cross-fertilisation can occur if two slime moulds of the same species meet. The second feeding mode can now start with a transformation into a plasmodium. A plasmodium looks like a gelatinous mass adopting the shape of a fan that can move on or in many substrates, looking for food. This mass consists of a large cell containing thousands of nuclei. The plasmodium feeds mostly on bacteria, also on fungal spores, yeast, other slime moulds (cannibalism) and other micro-organisms. It will search for food inside a rotten log for example. They can infiltrate small interstices of the wood as small as the size of their nuclei. Most are hidden and never seen; some big plasmodia visible to the naked eye belong to the Physarales and the Trichiales species. The sclerote, from an undeveloped plasmodium when growth was interrupted due to poor conditions, can survive about six months.

When the plasmodium has accumulated sufficient nutritive reserves, it will divide into fruiting bodies. These structures produce and carry the spores to be released later in nature, as the fungi do. These fructifications provide food for insects and other animals. These structures can be spectacular and coloured from brown to bright pink, orange or yellow. This phase is what humans like to photograph most!

Suzanne Béland
Montréal, QC

Dr. Suzanne Carrière
Yellowknife, NT

The list below is a first attempt to inventory slime moulds in the NWT. No slime mould specimens from the NWT were previously known to have been deposited in a museum; we did not previously have a list. All the species included in the next pages were the result of many wonderful hours experimenting with macro-photography and collecting specimens near Yellowknife. The Yellowknife area appears to be incredibly rich in terms of slime mould density and diversity. Imagine what other species exist in our vast NWT! The species list below most probably represents only a very small portion of our rich mycetozan biodiversity.

Jeff Hollett
St-John's, NL
Formally from Yellowknife, NT

List 31. **Slime Moulds**

There are 34 species of slime moulds recorded in the NWT, but at least 10 more species are expected to be present. Species are listed alphabetically according to the scientific Phylum, Class and Order they belong to, then by Family, then by scientific species name. Taxonomy follows Lado (2021). Common names are preliminary and were produced for this report.



A slime mould plasmodium Photo Credit: Sypster, iNaturalist.ca

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Mycetozoa – Myxomycetes			Slime moulds – Myxogastrid slime moulds
Ceratiomyxales – Ceratiomyxaceae			Ceratiomyxale slime moulds – Coral-slimes
Honeycomb Coral-slime	*Ceratiomyxa fruticulosa*	Undetermined	
Liceales – Cribrariaceae			Liceale slime moulds – Sieves
Clay Slimy Sieve	*Cribraria argillacea*	Presence Expected	
Liceales – Liceales			Liceale slime moulds – Lice-moulds
Variable Lice-mould	*Licea variabilis*	Presence Expected	
Liceales – Tubiferaceae			Liceale slime moulds – Puffball slimes
Wolf's Milk	*Lycogala epidendrum*	Undetermined	
False Puffball	*Reticularia lycoperdon*	Undetermined	
Physarales – Didymiaceae			Physarale slime moulds – Bubble skins
Round Bubble Skin	*Diderma radiatum*	Undetermined	
Snake Bubble Skin	*Didymium serpula*	Undetermined	
Scaly Bubble Skin	*Didymium squamulosum*	Undetermined	
Trevelyan's Bubble Skin	*Lepidoderma trevelyanii*	Undetermined	
Dog-sick Slime Mould	*Mucilago crustacea*	Undetermined	
Physarales – Physaraceae			Physarale slime moulds – Egg-slimes
Neighbour Badham Ornament	*Badhamia affinis*	Undetermined	
Dubious Badham Ornament	*Badhamia dubia*	Presence Expected	
Leaf Badham Ornament	*Badhamia foliicola*	Undetermined	
Little Grape Badham Ornament	*Badhamia utricularis*	Undetermined	
White Stalked Mixing-bowl	*Craterium leucocephalum*	Undetermined	
Minute Stalked Mixing-bowl	*Craterium minutum*	Undetermined	
Scrambled Egg-slime	*Fuligo septica*	Undetermined	
Insect-like Egg-slime	*Leocarpus fragilis*	Undetermined	
Mouse-teeth Slime Mould	*Physarum bivalve*	Undetermined	
Packed Egg-slime	*Physarum contextum*	Undetermined	
Honey Stalked Egg-slime	*Physarum melleum*	Presence Expected	
Orange Egg-slime	*Physarum rubiginosum*	Presence Expected	
Verdant Stalked Egg-slime	*Physarum viride*	Undetermined	
Reticulated Walking Slime	*Willkommlangea reticulata*	Undetermined	

Common Name	Scientific Species Name	Rank	Global Conservation Concern[a]
Stemonitales – Stemonitidaceae			Stemonitale slime moulds – Lollipop-slimes
Dusted Lollipop-slime	*Collaria arcyrionema*	Undetermined	
Black Lollipop-slime	*Comatricha nigra*	Undetermined	
Chocolate-tube Slime Mould	*Stemonitopsis typhina*	Undetermined	
Trichiales – Arcyriaceae			Trichiale slime moulds – Tassels
Grey Tassel	*Arcyria cinerea*	Undetermined	
Salmon Tassel	*Arcyria denudata*	Undetermined	
Red Tassel	*Arcyria ferruginea*	Presence Expected	
Ochre Tassel	*Arcyria obvelata*	Undetermined	
Oersted's Tassel	*Arcyria oerstedii*	Undetermined	
Pompomed Tassel	*Arcyria pomiformis*	Presence Expected	
Riviera Tassel	*Arcyria riparia*	Presence Expected	
Melted Chocolate Tassel	*Arcyria stipata*	Undetermined	
Speckled Dough-slime	*Perichaena chrysosperma*	Undetermined	
Drying Dough-slime	*Perichaena depressa*	Undetermined	
Trichiales – Trichiaceae			Trichiale slime moulds – Eye-slimes
Yellow Calyx Slime Mould	*Hemitrichia calyculata*	Undetermined	
Pale Calyx Slime Mould	*Hemitrichia clavata*	Undetermined	
Flower Hippie-slime	*Metatrichia floriformis*	Undetermined	
Honeycomb Hippie-slime	*Metatrichia vesparium*	Undetermined	
Twisted Sausage	*Trichia contorta*	Presence Expected	
Salmon Eye-slime	*Trichia decipiens*	Undetermined	
Rough Eye-slime	*Trichia scabra*	Presence Expected	

[a] For your convenience, the status derived from other processes than the one presented in this report is described in these columns. Rank of a species in the world as designated by NatureServe. **GH**: Possibly Extinct, **G1**: Critically Imperilled, **G2**: Imperilled, **G3**: Vulnerable. Definitions and more information can be found at www.natureserve.org.



Oersted's Tassel Photo Credit: J. Hollett



Salmon Eye-slime Photo Credit: J. Hollett

7 Challenges and Opportunities – What are the next steps?

As of 2021, the general status of about 27% of all species expected to be present in the NWT have been ranked. With this report, we continue to rank the general status of more groups of marine species and more insects.

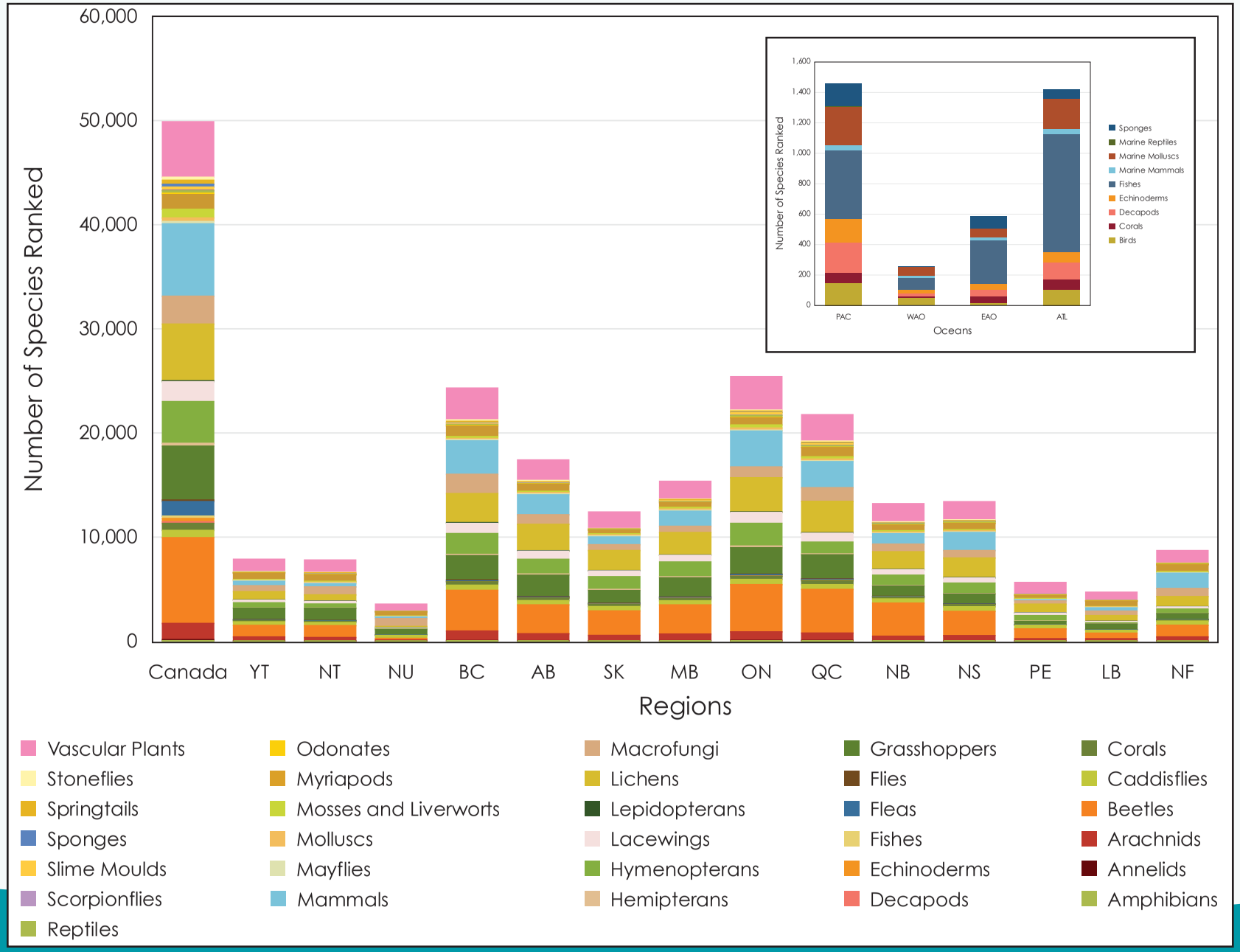
The *General Status Ranking* program works in cooperation with all other jurisdictions in Canada. Each NWT rank developed for 2021, along with the ranks from other provinces and territories were assembled to draft Canada-wide ranks. To find more information, ranks for other jurisdictions and Canada-wide ranks link to www.wildspecies.ca.



Caribou
Photo Credit: A. Hill

The number of species ranked in Canada for the Wild Species 2020 report.

CA, Canada; YT, Yukon; NT: Northwest Territories; NU: Nunavut; BC, British Columbia, AB, Alberta, SK, Saskatchewan, MB, Manitoba; ON, Ontario; QC, Québec; NB, New Brunswick, NS, Nova Scotia; PE, Prince Edwards Island; LB: Labrador; NF: Newfoundland; PAC, Pacific Ocean, WAO, Western Arctic Ocean; EAO, Eastern Arctic Ocean; ATL, Atlantic. (CESCC 2021).



7 Challenges and Opportunities – What are the next steps?

The National General Status Working Group, of which the NWT is a member, coordinates the work following a schedule of priorities for ranking that is based on the availability of information and expertise across Canada and around the world. We are already collecting more data on species and will be working to rank more insect species and more marine species in the next report.

Most species ranked in the present report will be reviewed and their rank may be modified for the *NWT Species 2026-2030* report.

We will continue to enhance our efforts to facilitate the input and sharing of traditional and local knowledge of the NWT species, while respecting the need to preserve that knowledge for future generations.

Future opportunities for both visiting experts and northerners exist; both can learn by working together and by sharing experiences on the land to gain insights on all NWT species.

The evaluation system described in this report must remain consistent between years, but improvements should be possible. In 2011, we adopted a more robust protocol to rank species thanks to the help of all staff at NatureServe Canada and other Conservation Data Centres across Canada and the United States.

All residents play a role in for conserving and preserving all NWT species for future generations. The NWT is rich in biodiversity. Large numbers of species thrive here, and northerners have a great depth of knowledge of the land and enthusiasm for all species. Your opinion on the ranks published in these pages will be greatly appreciated. We invite you to share your observations and your knowledge by participating in any of the monitoring programs available to NWT residents.



Canada Jay
Photo Credit: A. Hill

8 Further Your Knowledge – How to learn more?

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8 Further Your Knowledge – How to learn more?

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Willow and Rock Ptarmigan
Photo Credit: A. Hill

8 Further Your Knowledge – How to learn more?

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Snowshoe Hare Photo Credit: A. Hill

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Gray Wolf
Photo Credit: S. Fochuk

9 Acknowledgments – Who participated in this program?

The NWT Species 2021-2025 report is the result of the cooperative effort of many agencies, groups, species experts, and knowledgeable persons. The Department of Environment and Natural Resources (ENR), as lead agency, would like to acknowledge the efforts of all for the successful completion of this edition of the General Status of Wild Species in the Northwest Territories, and for their continuing contribution and dedication to species monitoring in the NWT.

Participating Agencies

All species ranks were reviewed by the Working Group on General Status of NWT Species composed of all agencies with wildlife management responsibilities in the NWT:

Coordination:
Department of Environment and Natural Resources, Government of the Northwest Territories

In Cooperation with:

- Environment Canada and Climate Change, Government of Canada
- Fisheries and Oceans Canada, Government of Canada
- Fisheries Joint Management Committee
- Gwich'in Renewable Resources Board
- Sahtú Renewable Resources Board
- Wek'èezhìı Renewable Resources Board
- Wildlife Management Advisory Council (NWT)

Participating Individuals

The Working Group would like to particularly acknowledge the help of the National coordinator for the General Status of Species in Canada program, Rémi Hébert who, through his patience and dedication, made this project possible, organized funding, and coordinated the assessment of all Canada-wide ranks for all species groups included in this report.

We would like to acknowledge the help of all contributors to e-bird and iNaturalist and of experts, knowledgeable persons, species enthusiasts, and photographers who greatly assisted in ranking the general status of species in the NWT between 2017 and 2021. Many of these contributors also participated in final reviews. Data and information on NWT Species Infobase were updated in 2017-2021 by S. Carrière, NT CDC (NatureServe Canada), ENR, GNWT. Data and information on NT Biotics5 for 2017-2021 were updated by M. Anions, S. Carrière, and B. Elkin.



Raven
Photo Credit: R. Kennedy

Monitoring Information – How to get involved?

Contact your wildlife management board

Wildlife Management Advisory Council (NWT)

- jointsecretariat.ca/co-management-system/wildlife-management-advisory-council-northwest-territories

Gwich'in Renewable Resources Board

- www.grrb.ca
- ʔehdzo Got'ı̨nę Gots'ę́ Nákedı

Sahtú Renewable Resources Board

- www.srrb.nt.ca

Wek'èezhìı Renewable Resources Board

- www.wrrb.ca

Fisheries Joint Management Committee

- www.fjmc.ca

Participate in a monitoring program

To record locations and details on any species

- iNaturalist.ca
- wildlifeobs@gov.nt.ca

To contact and join us on Facebook

- NWT SPECIES Group

To report a spill of oil, chemicals or other hazardous materials

- NWT 24hour Spill Report Line
- (867) 920-8130 (Collect calls accepted)

To report a poacher

- (866) POA CHER

To record your bird observations

- ebird.org

To report a banded bird

- BBO_CWS@ec.gc.ca

To report a fishing violation

- (800) 222 TIPS (8477)

To report a forest fire

- (877) NWT FIRE



Monitoring Information – How to get involved?

Any vertebrates

- Wildlifeobs@gov.nt.ca

Any invertebrates

Send pictures, information or specimens in alcohol to ENR. Contact NWTbugs@gov.nt.ca for more tips and a mailing address.

NWT species keys available for some insects and spiders.

To help with the identification of insects and spiders using good quality photographs:

- https://www.enr.gov.nt.ca/en/services/insects-and-spiders
- bugguide.net

Collecting and preserving insect guides:

- http://www.cassavabiz.org/production/proddocs/INSE-SCR.PDF
- http://esc-sec.ca/aafcmonographs/insects_and_arachnids_part_1_eng.pdf http://www.ars.usda.gov/SP2UserFiles/ad_hoc/12754100CollectingandPreservingInsectsandMites/collpres.pdf
- http://www.uaf.edu/files/ces/publications-db/catalog/anr/PMC-10075.pdf

Vascular Plants

To identify vascular plants in the NWT, consult Porsild and Cody. 1980.

- www.biodiversitylibrary.org/item/139562#page/9/mode/1up

Consult Aiken et al. 2011 Flora of the Canadian Arctic Archipelago Online

- nature.ca/aaflora/data/aaintro/caaintr2.htm

Mosses, liverworts, lichens, mushrooms

Western Canada Bryophyte and lichen Interest Group

- www.wcblig.com/herbaria.html

Lichens of western North America

- www.waysofenlichenment.net/

Follow us on FaceBook **NWT Species Group**

To obtain a copy of the **NWT Species Infobase** or to obtain more information about the General Status Ranking Program

Visit us:
https://www.enr.gov.nt.ca/en/services/biodiversity/nwt-species-general-status-ranking

Contact us:
wildlifeobs@gov.nt.ca

To obtain NatureServe s-ranks for the NWT:
explorer.natureserve.org/



Great Grey Owl
Photo Credit: R. Kennedy

Prepared by the Working Group on General Status of NWT Species.