NORTHWEST TERRITORIES
SPECIES AT RISK COMMITTEE

DETAILED INSTRUCTIONS FOR PREPARATION OF A SARC STATUS REPORT:

INDIGENOUS AND COMMUNITY KNOWLEDGE COMPONENT

NWT Species at Risk Committee
June 2024

SPECIES AT RISK COMMITTEE
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NORTHWEST TERRITORIES
SPECIES AT RISK COMMITTEE

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Preface

These instructions were developed by SARC for use in the NWT. They have been formatted to ensure reasonable consistency with the Detailed Instructions for Preparation of a SARC Status Report: Scientific Knowledge Component.

SARC has an interest in, and mandate to, base its assessments on Indigenous, community, and scientific knowledge. These instructions are linked to SARC's Objective Biological Criteria for Assessing Species – Indigenous and Community Knowledge.

Please note that the term 'Indigenous and community knowledge' differs slightly from the term 'traditional and community knowledge', which is used in the *Species at Risk (NWT) Act*. In line with shifts in organizational terminology, SARC agrees that the term 'traditional' should be replaced with 'Indigenous'. The term 'traditional' is felt to limit the reader to interpretations of these knowledges as historical only. The term 'Indigenous' allows the reader to understand more clearly that these knowledges are relevant in the present tense as well, as they adapt and evolve over time. This is not intended to change the meaning of the term in the legislation, but simply to reflect evolving standards for language.

These instructions adopt a 'biocultural' approach in accordance with, or following examples within these sources:

- Article 8(j) of the Convention on Biological Diversity.
- Bridgewater, P. and I.A. Rotherham. 2018. A critical perspective on the concept of biocultural diversity and its emerging role in nature and heritage conservation. People and Nature 2019(1): 291-304.
- Schuster, R., R.R. Germain, J.R. Bennett, N.J. Reo, and P. Arcese. 2019. Vertebrate biodiversity on indigenous-managed lands in Australia, Brazil, and Canada equals that in protected areas. Environmental Science and Policy 101: 1-6.

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DETAILED INSTRUCTIONS FOR PREPARATION OF A SARC STATUS REPORT: INDIGENOUS AND COMMUNITY KNOWLEDGE COMPONENT

This document is intended for preparers of species status report components for the NWT Species at Risk Committee (SARC). It should be used together with SARC's *General Guidelines for Species Status Reports*, a separate document that gives other important guidance on the preparation, review, and use of status reports.

Each status report is prepared in two parts: an 'Indigenous and Community Knowledge Component' and a 'Scientific Knowledge Component.' This document gives detailed instructions for preparing the Indigenous and Community Knowledge (ICK) Component. A complete status report typically includes both components presented together, unless SARC determines that there is not enough information available to complete one component.

Approach to Assessments using Indigenous and Community Knowledge

These instructions adopt a 'biocultural' approach in accordance with Canada's commitment under Article 8(j)[1] of the Convention on Biological Diversity (1993), which recognizes the role of Indigenous knowledges and ways of life in the conservation of biodiversity and reflects the role of Indigenous land management in conserving biodiversity. The focus of a species status report is on the full range of knowledge about ecological and biocultural changes affecting a species. The ICK component also encompasses Indigenous relationships with wildlife, knowledges, and related practices.

[1] Article 8(j) of the Convention on Biological Diversity reads: "Subject to national legislation, respect, preserve, and maintain knowledge, innovations, and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations, and practices, and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations, and practices.

The status of these relationships, knowledges and practices is considered an integral part of species status.

Information provided in the status report should describe observations of change to range (e.g., habitat quality/quantity, movement), abundance, and exposure to threats by knowledge holders. 'Measurement' of change in this context considers direct observation of species/habitat by knowledge holders, as well as proxies of parameters. For example, proxies for abundance in ICK may include accessibility or harvest success. Scaling of threat categories (e.g., Endangered versus Threatened) reflects level of concern among knowledge holders. See Figure 1.

Ecosystems work best and are more resilient to change when their biodiversity is intact. Every extinction takes away from the earth's biodiversity and undermines the stability of the systems we rely on. Each species has a role to play, no matter how small it is.

In assessing the availability of ICK, it is important to remember that knowledge holders implicitly understand that everything is connected. For various reasons, however, this may not be explicitly described in the sources available for a status report.

SARC recognizes that only a small portion of the ICK that exists has been transcribed, and transcriptions of ICK that are available are often removed from the cultural, spiritual, linguistic, and ecological context in which they were intended to be heard. Likewise, knowledge holders often avoid speaking negatively about species, or may only speak about a particular species when they see a problem occurring or are no longer able to observe it. These factors may limit the completeness and accuracy of information presented in a status report. Similarly, the often-local nature of ICK may affect the presentation of information in the report. Preparers have the discretion to present information in whatever manner is most appropriate to the knowledge being presented (e.g., regionally, locally).

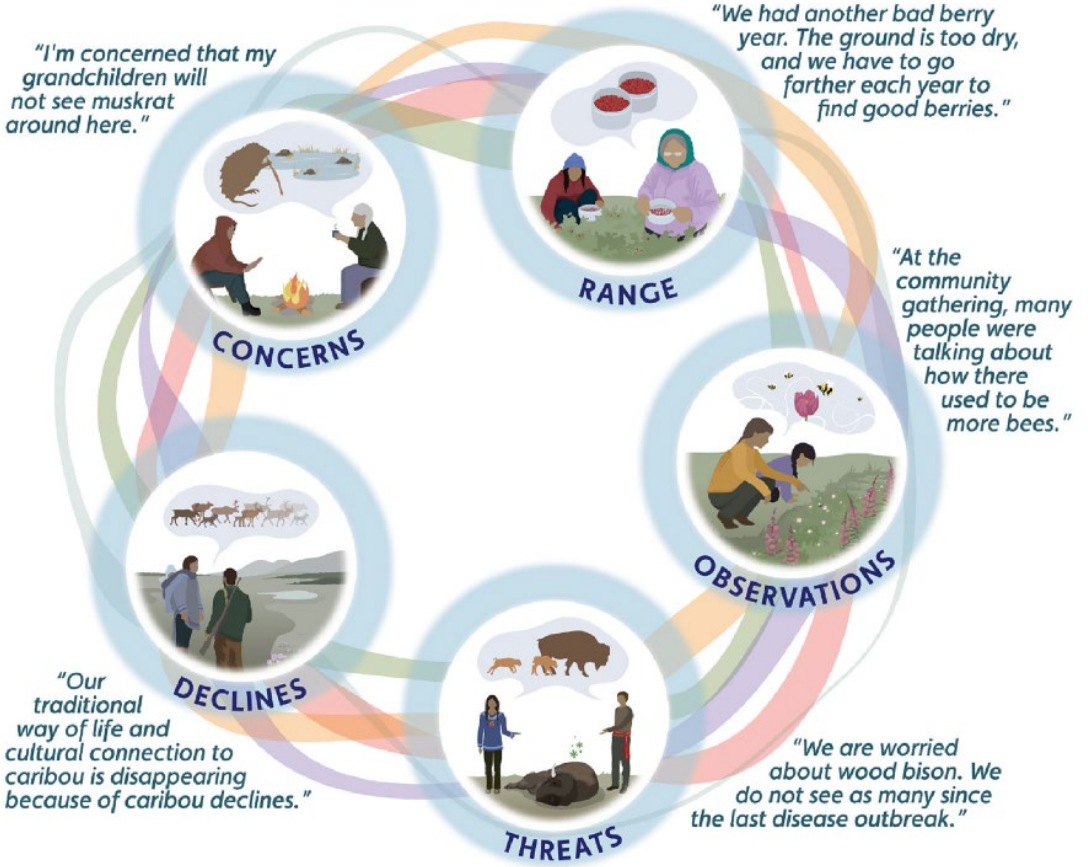

Figure 1. Dene, Métis, and Inuit (i.e., Indigenous) interpretation of the Indigenous knowledge criteria used in species status assessments in the Northwest Territories, Canada. The examples and quotations presented are intended for illustrative purposes only. They do not represent the words of any actual person.

"Traditional knowledge takes a holistic view. The first principle is that we are all connected so there cannot be one winner and some losers. We all win or we all lose."[2]

[2] Ontario Nature, Plenty Canada, and the Indigenous Environment Studies and Sciences Program at Trent University. 2017. Indigenous Perspectives on Conservation Offsetting: Five Case Studies from Ontario, Canada. Available at: https://ontarionature.org/wp-content/uploads/2017/11/Indigenous20Perspectives20on20Conservation20Offsetting20final_796kb.pdf

Protocols

Preparers should refer to the GNWT's *Summary of Best Practices for Applying Traditional Knowledge*[3] for general guidance in assessing Indigenous knowledge materials and applying them in status reports. In certain regions and communities of the NWT, specific protocols and policies on Indigenous knowledge apply. The Secretariat will direct the preparer to these protocols/policies. Where such guidance is not established, the preparer will be asked to follow the *Application of Indigenous & Local Knowledge (ILK) in IUCN Red List Assessments: White paper*.[4] It is the responsibility of the preparer and SARC (during draft reviews) to ensure that the appropriate protocols/policies are followed as closely as possible.

Preparers should draw on their expertise to interpret Indigenous knowledge in relation to status assessment requirements. Knowledge that is given significance within source materials but whose meaning may not be apparent can be included with a caveat. Specific questions are provided to help the preparer understand the kind of information that is required by SARC to assess the species. They are not intended as interview questions. The preparer has the discretion to draw on their expertise to determine the relevant available knowledge for inclusion in the report.

Some ICK, such as sacred teachings, may be considered confidential and/or sensitive. Where knowledge holders, or the preparer(s) *in consultation with SARC*, have indicated that information should not be made public, it is considered 'sensitive information.' Sensitive information should not appear in the main body of the report. It must be placed in an Appendix. It should not be explicitly referenced in the status report. However, it should be generally referenced so a reader of the report can understand its implications for status determination.

[3] Government of the Northwest Territories. 2010. Summary of Best Practices for Applying Traditional Knowledge in Government of the Northwest Territories Programming and Services. Available at: www.gov.nt.ca/sites/ecc/files/reports/tk_best_practices_summary.pdf
[4] www.iucnredlist.org/resources/ilk

Required Content of Status Reports

These instructions describe the types of information to be provided, and questions to be answered, under each heading, to the extent possible. Inclusion of all the headings and subheadings is required (unless otherwise noted). This will ensure coverage of the crucial topics relevant to decision-making by SARC. If information for some sections is deficient or missing, this should be indicated under the appropriate heading. It is important to identify gaps in knowledge and uncertainty associated with the information and conclusions. New subheadings may be added as necessary, depending on the species. Within a section, the ordering of subheadings is flexible and can be changed.

The required headings and subheadings for the Indigenous and Community Knowledge Component are provided in the *SARC General Guidelines for Species Status Reports*.

In some cases, information is relevant under more than one heading. In these cases, it should be fully described and referenced only once, where most appropriate, but can be briefly referred to elsewhere where relevant. The ICK Component of status reports draws upon a wide body of materials from diverse peoples, cultures, and landscapes. This knowledge is embodied in stories and narratives that combine understandings of current conditions along with knowledge passed down through many generations, often known as 'baseline.' Openness to stories about a species is important to enhance understanding of the species. Stories can provide context to the change that's happening. It's hard to say directly how some of the stories will be important to assessment, but they're very important to the biocultural dimension. A story provides a means of holding data, providing meaning, and showing relationships among different players/components of the story. Stories are told based on knowledge holders' understandings of the question at hand, and it can take a long time to understand the purpose of the story being told.

This knowledge is complex and loses meaning when taken out of context. For this reason, while preparers are given general guidance on topics to be addressed, they are also asked to take a 'grounded theory' approach to synthesizing knowledge within

these topics, identifying key themes from available materials. Where appropriate, Indigenous language concepts, quotations, and narratives should be included to provide context and enhance cross-cultural understanding.

Status report components may vary in length depending on the amount of available information. The preparer is responsible for synthesizing the best available knowledge into a clear and concise summary of the most relevant information. Bullets and lists should be avoided; in all cases, references must be cited.

The report should provide enough detail and contextual information to assess the biological status of the species. Details beyond this scope are not necessary. For example, information on reproductive success informs a species well-being, however details on mating rituals do not.

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Title Page

Each report should begin with a title page, as follows:

DRAFT

SPECIES STATUS REPORT

(Indigenous and Community Knowledge Component)

for

[Common Names list in as many languages as are applicable]

in the Northwest Territories

prepared for

Northwest Territories Species at Risk Committee

by

[Preparer name]

[Preparer address]

Submitted: [Date]

Production Note

This page provides SARC with the opportunity to describe the internal review process used to produce the species status report (e.g., sections adopted from other reports) and ensure the accuracy and completeness of the species status report.

If this report is for something other than a full species (i.e., subspecies or distinct population), briefly provide the rationale using the *Assessment Process and Objective Biological Criteria*.

Executive Summary

The executive summary for the Indigenous and Community Knowledge Component is presented alongside the executive summary for the Scientific Knowledge Component. Summarize in simple terms the relevant material contained each component of the report. Include the main headings used in writing the report. Under each heading, give a brief summary of the key information and conclusions for that topic. Do not include information that is not presented in the body of the report. Do not make reference to figures in the report, and do not include citations.

Use plain language. The executive summary is intended for the average NWT resident who does not have specialized knowledge of the species.

About the Species
xxx
Place
xxx
Population
xxx

Threats and Limiting Factors
xxx
Positive Influences
xxx

Technical Summary

The technical summary provides an overview of information that must be considered in assessing the status of a species, with a focus on known changes. Bullet form is acceptable in the technical summary.

Indigenous and Community Knowledge	
Population	
How often is the species observed compared to the past (less, more, same)? Include an estimate of how much of the species range these observations represent (percentage).	
Have there been changes observed in the sizes of groups?	
If the species is observed less frequently, what is the level of concern (high, moderate, low)?	
If concerns being expressed about the future of the species, are these concerns expressed in the short-, medium-, or long-term? (e.g. disappearance or decline	

within their grandchildren's lifetimes)	
Distribution	
Is the species still observed in all the places it was in the past? Or is the species now unavailable, or less available, in areas where it was historically abundant?	
Have declines or changes to movements of the species been observed? If so, are these changes to movements or distribution considered normal or unusual for the species?	
How often do people talk about the disappearance of the species from its historic range? What is the level of concern (high, moderate, low)?	
Is there any indication the species has moved elsewhere?	
What is the amount and quality of habitat available to the species? How does this compare to the past?	
Does the species have specific habitat requirements? (e.g. salt licks, ice patches, sea ice, karst, hot spring or specific food requirements)	
Biocultural linkages	
Have declines resulted in significant adverse impacts to Indigenous cultures and traditional ways of life tied to the species or its habitat?	

Are continued cultural connections and practices related to the species now impossible or extremely impaired?	
Are people affected across the species range or only certain parts of the range?	
Threats and limiting factors	
Is the species being adversely impacted by one or more natural or human-caused threats?	
What level of concern is expressed about threats impacting the species (high, moderate, low)? How often are these concerns expressed?	
How sensitive is this species to natural or human-caused threats?	
To what extent are these threats being managed?	
Does the species have characteristics that are likely to negatively affect their response to declines? (e.g. reproduces late in life, has few offspring, unable to go elsewhere if habitat becomes unsuitable)	
Positive influences	
Briefly summarize positive influences and indicate the magnitude and imminence for each.	

Glossary

Include a glossary of important terms used in the report, including Indigenous language terms.

Acronyms

Include a table of acronyms used in the report.

Table of Contents

Include a table of contents that can be automatically updated.

List of Tables

Include a list of tables that can be automatically updated.

List of Figures

Include a list of figures that can be automatically updated.

Place Names Map

Include a map showing place names used in the report to facilitate interpretation by a reader who may not be familiar with the region. The Secretariat can assist with the preparation of such a map if needed.

Preface

This is a standard statement from SARC about the role of the ICK Component in the status assessment process. Standard text to be included in a status report's preface is as follows (italicized, and including the below quote):

"Our history is written on the land, in the placenames and stories, in the language. …And unless you speak the language, you will not fully understand the stories. I'm always searching for stories. That's

where our knowledge comes from. That's how knowledge in my area is passed on." (Walter Bayha [Tulít'a] in Bayha 2012[5]: 26)

or

"You can't really teach someone on a piece of paper, like theoretical. For that, you have to be more practical; you have to go out there and show them. They have to physically see what you are talking about, compared to reading it from a piece of paper. That's the teaching that I do. I bring them out there. I let them feel the ice. They can see the… different ice colours. Which is safe, which is good to go on, which is not safe, [where] it could be unstable. So, there are all these things about the ice. And you've got the currents, you've got the moon, you've got the wind direction. You can't teach a person in one week about all these changes that are happening, that you're aware of, that you could see, you could hear and feel. But giving that knowledge takes time; say, two, three years just to absorb this information and keep seeing." (PIN 158 [Paulatuk]* in *Joint Secretariat 2015)

The consideration of Indigenous peoples' cultural histories, identities, languages, social organizations, and interactions with their environment is of vital importance for the accurate assessment of species status. While all reasonably available Indigenous and community knowledge was solicited for inclusion in this status report, limitations are acknowledged. First, in the completion of these reports, the Species at Risk Committee (SARC) is not able to conduct any primary research or information gathering activities (e.g., interviews). The transcription and verification of Indigenous and community knowledge is often complex and resource-intensive, not to mention sometimes controversial (Bayha 2012[8]). It is often the case that only a small portion of the Indigenous and community knowledge that exists has actually been transcribed. This limits the completeness, and perhaps also the accuracy, of a status report. Second, it is important to recognize that the Indigenous knowledge transcribed and available for inclusion in this status report has been, in many respects, removed from the cultural, spiritual, linguistic,

[5] Bayha, W. 2012. Using indigenous stories in caribou co-management. Rangifer, Special Issue No. 20: 25-29.

and ecological context in which it was intended to be heard (Berkes et al. *2000[6]; Thorpe 2004[7]; SENES Consultants Ltd. 2010[8]; Tłı̨chǫ Research and Training Institute [TRTI] 2016[9]). Translation, in particular, can result in generalizations and the loss of sometimes subtle descriptions of inter- and intra-specific variation, interactions, and patterns (TRTI 2016[12]; Polfus* et al. *2017[10]). As noted by Polfus et al. (2017[13]: 17), "words are used in context and convey different meaning depending on who is speaking, what dialect is being used, what questions are being addressed, where on the land the speaker is located, and the dialect or background of the audience." Although Indigenous knowledge and its transmission is ultimately grounded in practice, language is integral to its interpretation (Bayha 2012[8]; Polfus* et al. *2016[11]). Ultimately, understanding the environment (animals, plants, land, water, air, etc.)—that is, practicing one's culture—is essential to understanding the stories and legends.*

In cases where only a Scientific Knowledge Component is being prepared, the following statement should be used in lieu of the above information.

In the preparation of this report, an reasonable efforts were made to find sources of Indigenous knowledge, community knowledge, and scientific knowledge. Unfortunately,

[6] Berkes, F., J. Colding, and C. Folke. 2000. Rediscovery of traditional ecological knowledge as adaptive management. Ecological Applications 10(5): 1251-1262.
[7] Thorpe, N. 2004. Codifying knowledge about caribou: the history of Inuit Qaujimajatuqangit in the Kitikmeot region of Nunavut, Canada. Pg. 57-78 In D.G. Anderson and M. Nuttall (eds.). Cultivating Arctic Landscapes: Knowing and Managing Animals in the Circumpolar North. Berghahn Books, New York and Oxford.
[8] SENES Consultants Ltd. 2010. ʔekwę Hé Naıdé: Living with Caribou. Traditional Knowledge Program 2005-2009: Preliminary review of management and policy implications. Sahtú Renewable Resources Board, Tulít'a, NT.
[9] Tłı̨chǫ Research and Training Institute [TRTI]. 2016. Ekwǫ̀ zǫ̀ gha dzô nats'êdè 'We Live Here for Caribou': Cumulative impacts study on the Bathurst Caribou. Tłı̨chǫ Traditional Knowledge and Land Use Study. Tłı̨chǫ Government, Behchokǫ̀, NT. 56 pp.
[10] Polfus, J.L., D. Simmons, M. Neyelle, W. Bayha, F. Andrew, L. Andrew, B.G. Markle, K. Rice, and M. Manseau. 2017. Creative convergence: exploring biocultural diversity through art. Ecology and Society 22(2): 4.
[11] Polfus, J.L., M. Manseau, D. Simmons, M. Neyelle, W. Bayha, F. Andrew, L. Andrew, C.F.C. Klütsch, K. Rice, and P. Wilson. 2016. Łeghágots'enetę (learning together): the importance of indigenous perspectives in the identification of biological variation. Ecology and Society 21(2): 18.

there is little available documented Indigenous or community knowledge for [species]. Therefore, this report is based almost exclusively on scientific knowledge.

Preamble

Briefly describe the nature and scope of available ICK for the species.

Identify and describe the major ICK sources used, including the following types of information about each source to assist the reader to interpret the information provided: level of peer review with knowledge holders, adherence to social science standards and/or rigorous Indigenous knowledge methodology in gathering the information, whether information gathering was purposeful or incidental, whether the information would be considered current or not, etc.

Describe gaps in ICK sources, including gaps in space and time (e.g., if there's a lot of old information about a species, but little current information). In particular, describe regional differences in gaps that relate to a lack of recorded ICK rather than a lack of knowledge about, or presence of, the species. Include notes about how this may impact the accuracy and completeness of the status report.

Describe areas of overlap between Indigenous knowledge, community knowledge, and scientific knowledge in sources used, and clarify whether or not overlap information was included in the report. Overlap information may include, for example, observations where it is unclear if the source was ICK or possibly a narrative observation from a scientist.

Describe jurisdictional extent of information used in the report. Although assessments are focused on the species within the NWT, use of information from other jurisdictions is acceptable and encouraged when that information is likely also relevant to the species within the NWT.

ABOUT THE SPECIES

Names and Classification

List the common and local names for this species. Refine according to the level of distinct population used, if required. Also, if necessary, describe local names and concepts of populations, subpopulations, or distinct groups (i.e., describe any relevant local taxonomic classifications for the species).

Names and spellings of species in Indigenous languages, as well as standards for English and French names, can be found in SARC's *Guidelines on Taxonomy and Species Names.*[12] SARC will work with the preparer to clarify any of these terms if needed. Other important terms used to distinguish life cycle stages, behaviour, or appearance (e.g., older bulls, juveniles, scouts/leaders, different colours, behaviour variants, etc.) can be placed in the most appropriate subsection at the discretion of the preparer.

Relationships with People

Discuss the relationships the species has with people (e.g., spiritual/cultural importance, regional/historical context, etc., as is most appropriate to the species). For example:

- Spiritual/cultural importance and sacred teachings and knowledge.
- Is it harvested? To what degree?
- Is the species' distribution well-known?
- At what frequency is the range visited by knowledge holders?
- What communities have knowledge of this species?
- Where and when do people tend to encounter the species (e.g., close to communities or only a long distance away)? Has that changed over time?
- How do they encounter the species (e.g., is the species a target of specific hunting/fishing/gathering trips to certain locations? Is it only encountered opportunistically? Is it baited or otherwise attracted to specific locations?)?
- Which areas of the species range do people use the most, and know the most about? Which areas are not so well known?

[12] https://www.nwtspeciesatrisk.ca/sites/enr-species-at-risk/files/official_taxonomic_references_combined_final_december_2016.docx.pdf.

- Have declines resulted in significant adverse impacts to Indigenous cultures and traditional ways of life tied to the species or its habitat?
- Are continued cultural connections and practices related to the species now impossible or extremely impaired?
- Are people affected across the species range or only certain parts of the range?
- When was the last time the species was seen in a particular area (the presence or absence of a species from a region strongly influences human relationships with that species)?

Description

Describe the species, in a way that presents a good understanding of the species from the perspective of the knowledge holders. This may include, for example, what they look like, how males and females and age classes differ, subpopulation differences within a population (e.g., known areas with different-looking individuals), distinctive movements, adaptations, intelligence, sounds, behavioural characteristics, which indicators are used to describe if an animal is healthy or not, and other interesting facts, as appropriate.

A photographic or artistic representation may be included here. The Secretariat can help with obtaining photographs. A more detailed description, including photographs, may also be included in *Biology and Behaviour* or placed in Appendix A.

Biology and Behaviour

Briefly outline aspects of the biology of this species in the NWT that could help the reader to assess the level of risk (e.g., age groups/roles, roles of males and females, lifespan, areas where females tend to give birth, species' needs at different life stages, etc.). If appropriate, more detailed information may be placed in Appendix A.

Discuss the species' life cycle, focusing on, for instance, rate of reproduction rather than mating rituals, unless that information is useful for interpretation.

Diet and Feeding Behaviour

Discuss the diet and feeding behaviour of the species, using the following questions as a guide:

- What does the species eat?
- Does it require a specific food? If yes, does it require this specific food at any particular time in its lifecycle? Does this change at different life cycle stages? How is this food important to growth and reproduction?
- What influences its ability to find food or the availability of food?
- Does feeding change by season? What can make it differ from year to year?

Adaptations to Environment

For example:

- Does the species have any traits or behaviours that help it adapt to changes and/or unfavourable/extreme conditions (e.g., hibernation, forming spores, regulating body temperature, etc.)?
- Are there conditions or events that the species cannot tolerate (e.g., weather-related unusual events like heat, cold, flooding, freezing rain, etc.)?
- Is the species particularly vulnerable to changes in its environment/habitat or to disturbance from human activities (e.g., noise, roads, etc.)?

Relationships Within and Among Species

For example:

- Describe how the species relies on other species.
- Describe how the species interacts with other species that may affect its survival or reproductive success (e.g., a predator that eats it, a disease that shortens its lifespan, etc.)?
- What are the main predators?
- Does the species compete with others for resources (e.g., food, space, shelter, mates, etc.)?
- Are negative interactions with other species (e.g., predation, disease, competition, etc.) natural or unnatural (normal or not normal)?

- Does the species live in colonies or groups? If so, how is the group important to survival and/or reproduction?
- How do these interactions influence survival?

PLACE

Distribution

Describe the distribution of the species in the NWT. If the species' range has been mapped using ICK, include the map(s), if possible. Refer only to the species, subspecies, or distinct population being reported upon, unless there is a specific reason for doing otherwise.

For example:

- Where is the species found in the NWT?
- What is its usual range in the NWT?
- Are there places in the NWT where the species is occasionally found but not usually found?
- Are there distinct groups? If so, how many?
- Is the species found in a continuous distribution or are populations isolated from one another? Are any populations particularly isolated from the others?
- Does the species show differences in seasonal distribution/availability?
- Is the species migratory? What seasonal ranges does the species use during its migrations?
- If the species' distribution has changed, what are the current and historical ranges?

Movement and Dispersal

For example:

- How does the species disperse from one place to another (e.g., water currents, carried by birds, walking, intentionally moved by humans, etc.)?
- How far does the species disperse?
- Are there certain stages of the life cycle that disperse?

- Are there any barriers to dispersal or in the migration routes?
- Does the species make annual or seasonal movements?
- Is the species faithful to a certain area over a long period of time?
- Does the species concentrate in certain areas (e.g., rutting areas, molting areas)?
- Are there daily movement patterns (e.g., roosting, bedding, or sleeping areas)?
- Is the species capable of moving over long distances?
- Have movement or dispersal patterns changed over time? If so, do knowledge holders know what factors are contributing to these changes?

Changes in Distribution

For example:

- Has the species' distribution in the NWT changed? If so, how?
- Is the species now unavailable, or less available, in areas where it was historically abundant?
- Does the distribution change from year to year? Does it change in multi-year cycles?
- How big are the changes?
- What are the causes of the changes?
- When did the changes happen? Are they happening now?
- Are the changes considered normal or are they unusual for the species?
- Are concerns being expressed about the changes? What is the level of concern?
- Have any populations disappeared?
- Have any new populations appeared?
- What factors could influence changes in the distribution?

Search Effort and Harvest Patterns

Search effort is a way of describing how well people know where the animals are. How search effort is determined varies. With Indigenous and community knowledge, search effort has a longer timeframe (many generations) and smaller spatial coverage (local, seasonal hunting areas) compared to aerial surveys used by biologists (COSEWIC 2018).

Search effort may be approximated by hunters' efforts to locate a species, either through visits to harvesting/gathering areas, locations relative to camps or other landmarks, and how frequently the species are seen. For example:

- If harvest is tied to a species' behaviour (e.g., migration, staging, reproductive event, etc.), have there been changes to the location or timing of this behaviour?
- Have there been changes in access to the species for harvest?
- Have there been changes to harvest success because of changes in the number of individuals?
- Has the area that harvesters search for this species changed over time?
- Has the amount of time spent searching for this species changed over time?

Population Dynamics

For example:

- Does the species have more than one young at a time?
- How many young survive the first year?
- Roughly how many deaths occur each year (e.g., just a few, lots, etc.)? Is it the same every year? Is it mostly young, adults, the old and weak, or a combination? Are there certain times of the year when deaths occur?
- Do you see animals move into or out of the area from other areas (immigration, emigration)? What is the magnitude and/or proportion of these movements? Which individuals does this tend to be (e.g., young males)?
- Have there been changes or trends in age or life stages (e.g., fewer calves compared to the past, or animals not living as long as they used to)?
- What is the ratio of males to females? What are the ratios of different age groups in the population?
- Do any of these stages have a particular role in the population (e.g., large bulls or old cows leading herds/groups)?
- What factors can influence reproduction (e.g., availability of food, presence of disturbances, levels of body fat, etc.)?

- What factors influence survival of young in particular? What factors affect survival of other life stages?

Key Habitats

May be further categorized into seasonal habitat requirements, if applicable. For example:

- Are there key habitat areas in the NWT that are known to be important for the survival of the species? If so, briefly describe these and include a map if possible.
- Consider Indigenous or community place names as a way of identifying key habitats. These could be historical or current.

Habitat Trends

For example:

- Has the amount of suitable habitat changed? Is there more, less, or is it about the same?
- Has the quality of suitable habitat changed? Is it better, worse, or about the same?
- What are the causes of these changes?
- How big/important are the changes?
- Is there no remaining habitat for the species anywhere in the NWT or the world?
- When did the changes happen? Are they happening now?
- Does the habitat change from year to year? Does it change in multi-year cycles?
- Did the species decline or disappear from the NWT because conditions were not favourable?
- Consider both short-term and long-term changes.

Habitat Fragmentation[13]

For example:

[13] Please note that Habitat Trends and Habitat Fragmentation are often combined, given the degree of overlap possible in these topics.

- Is the habitat or range of the species fragmented?
- Is the fragmentation natural, or is it caused by people?
- How does fragmentation affect the species? Do individuals tend to leave once an area is fragmented? Do they ever move back? Do other species move into the area? Do other species that move into the area prevent the species from coming back?
- How well can this species move from one good habitat patch to another, if the habitat in between is not good?

POPULATION

Abundance

Abundance of the species in the NWT can be spoken about using terminology consistent with how knowledge holders characterize abundance. If people tend to speak about abundance of the species in qualitative terms (e.g., accessibility, observability, group sizes, harvest success), please use those terms in the text (i.e., it doesn't need to be numbers). Be specific about the time periods observed and recorded and avoid using temporal terminology with limitations (i.e., terms like 'current' or 'recent' are relative).

For example:

- What is the abundance of the species in the NWT (e.g., measured by knowledge holders using numbers, accessibility, observability, group sizes, harvest success, etc.)? Abundance can be presented regionally or locally if this is more appropriate to the species.
- If the species is divided into different populations in the NWT, what is the relative abundance of these populations?
- How often is the species observed compared to the past (less, more, same)? If possible, include the degree of change in observed abundance, habitat quality/quantity, movements, and/or range use. What is the level of concern related to abundance?

- How often do people talk about the disappearance of the species from its historic range? What is the level of concern? Are these concerns expressed in the short-, medium-, or long-term? (e.g. disappearance or decline within their grandchildren's lifetimes)

Changes in Population Size

Discuss changes in the population size of the species and/or trends observed over time. If the species population size is known to cycle, discuss what knowledge holders have observed about changes to the length or duration of these cycles.

For example:

- Have the numbers of this species gone up, gone down, or stayed the same? As noted previously, population trends can be presented at a scale suitable to the species (e.g., regionally, locally).
- Do the numbers change in multi-year cycles? Are the changes part of a natural cycle? What is the approximate timespan of natural cycles?
- Are there 'extreme' fluctuations (ups and downs that are frequent, rapid, and usually more than tenfold)? How big are the changes?
- What are the causes of the changes? When did the changes happen? Are they happening now? Are they expected to happen in the future?
- Is the trend likely to continue if nothing is done?
- What factors could influence changes in the numbers and/or density?
- Have there been observations and/or concerns from knowledge holders about changes to the population size of the species?
- Have knowledge holders expressed concern that the species may be gone from the NWT in the near-term future such that their grandchildren may not be able to observe them?
- Have there been changes or declines to the species or its habitat to the extent that maintaining cultural practices (e.g., harvesting/sharing) related to the species have been made difficult or not possible?

- Have any populations disappeared? Have any new populations appeared or been discovered?
- Are there changes in numbers and/or density within a certain population?
- Is the species rare? If so, has it always been this way? Why?
- Consider both short-term and long-term changes.

Health (and Disease)

For example:

- What indicators are used to describe if the species is healthy or not?
- Have there been changes in the health of the species (e.g., body size, antler size, body condition, disease, ages, etc.)?
- Has the appearance or behaviour of the species changed, and if so, how?

Rescue Effects

Discuss the process by which a species may move through its range in a way that would mitigate an NWT extirpation or population decline. For species whose range is shared with another jurisdiction, discuss the likelihood that movement from the outside population will repopulate the NWT population should the latter disappear or experience a decline. Use the following questions as a guide:

- Have any populations of this species previously disappeared from the NWT? If so, were they re-established by other individuals moving in?
- Are there any barriers that prevent movement to and from these other populations?
- Is the species capable of moving over long distances?
- Is the species known to move over long distances?
- Does the NWT population have any special adaptations that are different from populations elsewhere?
- Did the species decline or disappear from the NWT because conditions were not favourable?

THREATS AND LIMITING FACTORS

Identify the threats and limiting factors, and explain what impact they are likely to have. Some information on threats will have already been addressed in previous sections of the report (e.g., Relationships Within and Among Species, Habitat Trends). The earlier sections can provide the background needed to understand how the threat works and how it affects the species. Then in the Threats and Limiting Factors section, focus on how important the threat is, the current state of affairs (e.g., how many predators are there), and how the situation may be changing (e.g., proposed industrial development projects).

A threats assessment based on the content in this section, along with the Threats and Limiting Factors section of the Scientific Knowledge Component will be completed collaboratively by SARC, following submission of a final draft of the status report by the preparer. Threats will be assessed in terms of their relevance to the status of the species in the NWT over approximately the next 10 years. It is important that the preparer lay out and discuss threats in a manner that will be useable by SARC during this assessment. This includes ranking threats by importance, and, insofar as is possible, addressing the following parameters for each threat:

Table 1. Parameters used in threats assessment.

Parameter	Description	Categories
LIKELIHOOD		
Timing (i.e., immediacy)	Indicates if the threat is presently happening, expected in the short term (<10 years), expected in the long term (>10 years), or not expected to happen.	Happening now Short-term future Long-term future Not expected
Probability of event within 10 years	Indicates the likelihood of the threat to occur over the	High Medium

	next 10 years.	Low
CAUSAL CERTAINTY		
Certainty	Indicates the confidence in that the threat will have an impact on the population.	High Medium Low
MAGNITUDE		
Extent (i.e., scope)	Indicates the spatial extent of the threat (based on the percentage of population or area affected).	Widespread (>50%) Localized (<50%)
Severity of population-level effect	Indicates how severe the impact of the threat would be at a population level if it occurred.	High Medium Low Unknown
Temporality	Indicates the frequency with which the threat occurs.	Seasonal Continuous
Overall level of concern	**Indicates the overall threat to the population (considering the above).**	**High** **Medium** **Low**

Use the following questions to guide development of this section:

- What are the threats and/or limiting factors to the species/habitat in the NWT? Are these threats past or current?
- What are the potential future threats and/or limiting factors to the species/habitat in the NWT? How sensitive is this species to natural or human-caused threats?
- Are there different threats and/or limiting factors in different parts of the species' range and/or life cycle? If the species is migratory, try to distinguish between factors in different seasonal ranges.

- Are any of these threats cumulative (i.e., do they act together to result in more pronounced effects than expected)?
- How sensitive is the species to natural or human-caused threats?
- Does the species have characteristics that are likely to negatively affect their response to declines?
- What is the level of concern expressed by knowledge holders about threats impacting the species and how often are these concerns expressed (high, moderate, low)? How often are these concerns expressed?

What should be included:

- Be as specific as possible about each of the factors. For example, if mining is important, list the potential mine, location, and its possible impacts. This will facilitate completion of the threats assessment by SARC (see above).
- Where there is uncertainty or disagreement, present the uncertainty and discuss it.
- Focus on actual or imminent factors that can result in harm.
- If the threat is imminent but the potential harm is unclear, discuss it but explain the uncertainties.
- Photos demonstrating the impact of threats can be useful, if available.
- Other threats can be considered under a section called potential threats, for example:
    - If the threat is not likely to occur in the next 10 years (not imminent) but would likely cause harm if it occurred.
    - If the threat is not imminent, and there is uncertainty as to whether or not it would cause harm if it occurred.
    - Competition, predation, disease, and natural mortality may be included if circumstances have caused a recent change.

Limiting factors should include traits that make the species particularly sensitive to disturbance. This means that a species, for instance, reproduces slowly (e.g., is several years old before it starts reproducing, has few or very few offspring (for animals), only

sets a small number of seeds (for plants), etc.), moves very slowly or not very widely (e.g., will have a hard time moving somewhere else if its habitat becomes unsuitable), and/or has very specific, critical habitat components, especially if those habitat components are rare or impacted by disturbance (e.g., salt licks, ice patch habitat, karst habitat, hot spring habitats, very specific food requirements, etc.).

POSITIVE INFLUENCES

Outline existing and potential positive influences on the species and its habitat in the NWT and explain what impact they are likely to have. Address positive influences in a logical order (e.g., from most important in the NWT to least important in the NWT). Positive influences will be considered by SARC during the assessment of threats (i.e., how a threat is being addressed could modify a threats score) and during the overall assessment of the status of the species.

Some information on positive influences will have already been addressed in previous sections of the report (e.g., Relationships Within and Among Species, Habitat Trends). The earlier sections can provide the background needed to understand how the positive influence works and how it affects the species. Then in the *Positive Influences* section, focus on how important the positive influence is (magnitude, immediacy), what the current state of affairs is (e.g., how much habitat is protected now), and how it may be changing (e.g., proposed new habitat protection).

For example:

- What are the current/potential positive influences on the species/habitat in the NWT?
- Are there different positive influences in different parts of the species' range and life cycle? If the species is migratory, try to distinguish between factors in different seasonal ranges.

What should be included:

- Positive influences that are actual (already happening) or imminent (will happen soon) and that can result in clear benefits.
- Where there is uncertainty or disagreement, present the uncertainty (e.g., as to what the potential benefit will be) and discuss it.
- If the factor is not imminent, but would likely have a benefit if it occurred, do not include it as a primary positive influence.
- If the factor is not imminent, and may or may not result in benefits if it occurred, it should not be included.
- If the positive influence is not clearly related to the species or its habitat, it should not be included.
- If management recommendations/suggestions are not likely to be implemented, they should not be included.
- Consider traits that make the species recover quickly (e.g., early reproduction age, many offspring, good dispersal capacity, wide range of food preferences, etc.).

Examples of positive influences to consider:

- Increase in food
- Creation of habitat
- Increase in quality of habitat
- Protection of habitat
- Removal of a disease or parasite
- Reduced competition
- Community conservation planning/actions

ACKNOWLEDGEMENTS

Acknowledge individuals, authorities, and agencies that provided assistance and/or funding, or otherwise contributed to the report. If the preparer deems that individuals that provided personal communications should be acknowledged, do so here. However, their name(s) should also appear under Cited Sources.

If this is an updated status report, acknowledge all report writers involved in the preparation of the original status report and any previous updated reports.

AUTHORITIES CITED

Under a separate subheading, provide a list of knowledge holders who were cited in the body of the status report, together with the reference from which they were drawn and the individual's home community.

Example format:

From Legat *et al*. 2008:

- A. Wedawin [Behchokǫ̀]
- C. Beaulieu [Behchokǫ̀]
- M. Martin [Behchokǫ̀]

AUTHORITIES CONTACTED

Under a separate subheading, provide a list of authorities contacted together with title, affiliation, city, province/territory/state, and country if outside Canada. The list should include all the minimally required contacts provided at the beginning of the project. However, if none of the attempts to contact were successful, the contact should not be included.

Example format:

Territorial government representatives:

Joanna Wilson, Wildlife Biologist (Species at Risk), Environment and Climate Change, Government of the Northwest Territories, Yellowknife, NT, Canada

Federal government representatives:

Isabelle Duclos, Biologist, Species at Risk, Environment and Climate Change Canada, Yellowknife, NT.

Indigenous organizations and wildlife management boards:

Steven Baryluk, Joint Secretariat, Inuvialuit Game Council – Inuvialuit Hunters and Trappers Committees, Inuvik, NT.

Bruce Hanbidge, Resource Biologist, Wildlife Management Advisory Council (NWT), Inuvik, NT.

Other species experts:

Andrea Hanke, Ph. D. candidate, Department of Ecosystem and Public Health, Faculty of Veterinary Medicine, University of Calgary, Calgary, Alberta.

Debbie Jenkins, Qikiqtani Regional Biologist, Wildlife Research Section, Department of Environment, Pond Inlet, NU.

CITED SOURCES

List all literature and personal communications cited in the text, figures, tables, and appendices. Use the formatting and style described in the *SARC General Guidelines for Species Status Reports*.

BIOGRAPHY OF PREPARER(S)

Briefly outline your background, using the third person (e.g., use 'he is' instead of 'I am'). Stress the qualifications that make you a suitable writer for this report.

APPENDIX A. ADDITIONAL DETAILS

This appendix contains additional background support for the main report. Information should be organized under the same headings as the main report. The main report should contain ONLY information that is needed for doing the assessment. The main report should reference any entries included in Appendix A.

APPENDIX B. SENSITIVE INFORMATION

This appendix contains information that is necessary for assigning species status but that should not be released to the public. Information should be organized under the same headings as the main report.

Preparers should ensure that any detailed information that might put a species in danger (such as the precise locality of populations or their habitat) or that is considered confidential (such as specific details relating to Indigenous knowledge, where the knowledge holders have indicated that the details are confidential) does not appear in the main body of the report. Sensitive information should be placed in Appendix B. It should not be explicitly referenced in the body of the report; however, it should be generally referenced so that a reader of the report can understand its implications for status determination.

Appendix B will be provided to SARC so that a fully informed assessment can be done. It will not be made public and will not be distributed beyond SARC.

Appendix B should be prepared and submitted **as a separate document** to help maintain confidentiality.