COSEWIC Wildlife Species Assessments (detailed version), November 2018*

Results are grouped by taxon and then by status category. The range of occurrence in Canada (by province, territory or ocean) and history of status designation are provided for each wildlife species.

Mammals

Polar Bear ***Ursus maritimus*** **Special Concern**

Assessment Criteria not applicable

Reason for Designation
This apex predator depends on the availability of sea ice from which to hunt its preferred prey—ice-adapted seals. Reduction in the area and period of sea ice coverage due to climate warming in the Canadian Arctic, with consequent reductions in feeding opportunity, is the primary threat to the persistence of this species. However, the magnitude of the impact on population numbers is uncertain and will vary across the range. Population levels and trends are currently uncertain, as population estimates undertaken since the last COSEWIC assessment in 2008 exist for less than half the range and survey methodology has changed. This precludes the use of quantitative trend analysis for most of the Canadian population. The total population in Canada likely exceeds 10,000 mature individuals. ATK indicates stable or increasing populations in all 13 management units, while scientific knowledge suggests a decline associated with poorer body condition, decreasing productivity, and sea ice decline in three management units in the southern part of the range. The Canadian population is predicted to decline over the next three generations (35 years) due to a reduction in seasonal coverage of sea ice. This species may become Threatened in the future because the effects of sea ice loss on this species will be extensive and ongoing.

Range YT NT NU MB ON QC NL Arctic Ocean

Status History
Designated Not at Risk in April 1986. Status re-examined and designated Special Concern in April 1991. Status re-examined and confirmed in April 1999, November 2002, April 2008, and November 2018.

Reptiles

Pygmy Short-horned Lizard ***Phrynosoma douglasii*** **Extirpated**

Assessment Criteria not applicable

Reason for Designation
In Canada, this species is known only from historical records. Since the last assessment, more anecdotal observations have come to light, but there have been no confirmed records for over 50 years. The historical records are from a populated area in the Okanagan Valley, British Columbia, where new sightings would be expected if the species still existed in Canada.

Range BC

Status History
Last reported in 1957. Designated Extirpated in April 1992. Status re–examined and confirmed in May 2000, April 2007, and November 2018.

Wood Turtle ***Glyptemys insculpta*** **Threatened**

Assessment Criteria A2cd+3cd+4cd

Reason for Designation
This turtle is declining across much of its range, where it occurs in small, increasingly disjunct subpopulations, many of which are separated from each other by distances greater than the species can be expected to disperse. It has strong site fidelity, often returning to restricted nesting and overwintering areas for decades. Although it requires both aquatic and terrestrial habitats, it is more terrestrial than other freshwater turtles, making it vulnerable to road kill, land use practices, and collection for the pet trade. Its ‘slow’ life history, characterized by delayed maturation and extreme longevity, requires exceedingly high adult survival to maintain stable populations. Any chronic increase in adult or juvenile mortality, or a catastrophic adult mortality event, is destabilizing and unsustainable. Increased exposure to traffic on paved and unpaved roads, agricultural activity (particularly mowing and tilling), and expanding populations of subsidized predators, as well as

changing regimes in watersheds, have increased mortality and placed subpopulations at risk.

Range ON QC NB NS

Status History
Designated Special Concern in April 1996. Status re-examined and designated Threatened in November 2007. Status re-examined and confirmed in November 2018.

Greater Short-horned Lizard ***Phrynosoma hernandesi*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
In Canada, this species occurs in several scattered localities in grasslands of southern Alberta and Saskatchewan. New localities have been documented since the previous assessment, and the distribution of the species is no longer considered to be severely fragmented. Range-wide threats include habitat modification by invasive plants and increased vulnerability to summer droughts and freeze/thaw events associated with climate change. Approximately 70% of the population occurs in Grasslands National Park, but subpopulations outside the protected area, including all subpopulations in Alberta, are subject to additional threats including agriculture, oil and gas drilling, increased predation because of habitat modification, and other human developments. Current trends in population size and habitat quality in Alberta are unknown. The species is close to meeting criteria for Threatened because of its small range, inferred and projected reduction in habitat quality, its patchy distribution, and its specific habitat requirements.

Range AB SK

Status History
Designated Special Concern in April 1992. Status re–examined and designated Endangered in April 2007. Status re–examined and designated Special Concern in November 2018.

Fishes

Chinook Salmon ***Oncorhynchus tshawytscha*** **Endangered**
South Thompson, Stream, Summer 1.2 population
Assessment Criteria A2bcd

Reason for Designation
This summer run of chinook spawning in the South Thompson River has steeply declined in abundance to a very low level. Declines in marine and freshwater habitat quality, and harvest, are threats facing this population.

Range BC Pacific Ocean

Status History
Designated Endangered in November 2018.

Chinook Salmon ***Oncorhynchus tshawytscha*** **Endangered**
North Thompson, Stream, Spring population
Assessment Criteria A2bcd+3c+4c

Reason for Designation
This spring run of chinook spawning in the North Thompson River has steeply declined in abundance to a low level. Declines in marine and freshwater habitat quality, and harvest, are threats facing this population. Anticipated changes in North Pacific weather systems that affect groundwater availability will impact spawning sites and overwinter survival.

Range BC Pacific Ocean

Status History
Designated Endangered in November 2018.

Chinook Salmon ***Oncorhynchus tshawytscha*** **Endangered**

North Thompson, Stream, Summer population

Assessment Criteria A2bcd

Reason for Designation
This summer run of chinook spawning in the North Thompson River has steeply declined in abundance. Declines in marine and freshwater habitat quality, and harvest, are threats facing this population.

Range BC Pacific Ocean

Status History
Designated Endangered in November 2018.

Chinook Salmon ***Oncorhynchus tshawytscha*** **Endangered**

East Vancouver Island, Stream, Spring population

Assessment Criteria D1

Reason for Designation
This spring run of chinook to the Nanaimo River has been at a very low abundance for a long time. Declines in marine and freshwater habitat quality are threats facing this population.

Range BC Pacific Ocean

Status History
Designated Endangered in November 2018.

Chinook Salmon ***Oncorhynchus tshawytscha*** **Endangered**

Middle Fraser, Stream, Spring population

Assessment Criteria D1

Reason for Designation
This population of spring run chinook spawning in the Nahatlatch and Anderson watersheds has declined to very low levels. Declines in freshwater and marine habitat quality, and harvest, are threats facing this population.

Range BC Pacific Ocean

Status History
Designated Endangered in November 2018.

Chinook Salmon ***Oncorhynchus tshawytscha*** **Endangered**

Middle Fraser, Stream, Fall population

Assessment Criteria A2bcd; C2a(i,ii); D1

Reason for Designation
This population of fall run chinook spawning in the Seton and Anderson watersheds along the middle Fraser River has declined to very low levels, and decline is anticipated to continue. Declines in freshwater and marine habitat quality, and harvest, are threats facing this population.

Range BC Pacific Ocean

Status History
Designated Endangered in November 2018.

Chinook Salmon ***Oncorhynchus tshawytscha*** **Endangered**

Lower Fraser, Stream, Summer (Upper Pitt) population

Assessment Criteria A2bcd

Reason for Designation
This summer run of chinook spawning in the Pitt River in the lower Fraser River watershed has declined, and is now at its lowest recorded abundance. Declines in freshwater and marine habitat quality, and harvest, are continuing threats to this population.

Range BC Pacific Ocean

Status History
Designated Endangered in November 2018.

Chinook Salmon ***Oncorhynchus tshawytscha*** **Endangered**

Upper Fraser, Stream, Spring population

Assessment Criteria A2bcd+3c+4c

Reason for Designation
This spring run of chinook spawning in the Salmon and Raush Rivers in the upper Fraser watershed has declined in abundance. Declines in marine and freshwater habitat quality, and harvest, are threats facing this population. Anticipated changes to North Pacific weather systems that affect ground water availability, will impact spawning sites and overwinter survival.

Range BC Pacific Ocean

Status History
Designated Endangered in November 2018.

Nooksack Dace ***Rhinichthys cataractae*** **Endangered**

Assessment Criteria B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)

Reason for Designation
This small fish is a habitat specialist dependent on stream riffles with loose, rocky substrates. In Canada, it is found in disjunct habitat patches in the Fraser River Valley Lowlands where its distribution is severely limited. It is subject to ongoing habitat loss by destruction of riffle habitat from urban, industrial, and agricultural practices. Streams where the species is found are also impacted by lack of water in late summer due to ground and surface water extraction and climate change. Sediment accumulation in riffles, caused by bank erosion resulting from gravel mining and/or runoff from urban storm drains, has led to further degradation of water quality and habitat.

Range BC

Status History
Designated Endangered in April 1996. Status re-examined and confirmed in May 2000, April 2007, and November 2018.

Rainbow Smelt ***Osmerus mordax*** **Endangered**

Lake Utopia large-bodied population

Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
This population of smelt is the larger of a divergent species-pair endemic to a lake in southwestern New Brunswick. Its persistence is dependent on the ecological conditions that gave rise to the divergence of the species-pair from a single ancestor. Changing predator and prey environment through recent and potential invasive species, and hybridization with the smaller member of this species-pair threaten the long-term viability of the species-pair.

Range NB

Status History
Designated Threatened in November 2008. Status re-examined and designated Endangered in November 2018.

Rainbow Smelt ***Osmerus mordax*** **Endangered**

Lake Utopia small-bodied population

Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
This population of smelt is the smaller of a divergent species-pair endemic to a lake in southwestern New Brunswick. Its persistence is dependent on the ecological conditions that gave rise to the divergence of the species-pair from a single ancestor. Changing predator and prey environment through recent and potential invasive species, and hybridization with the larger member of this species-pair threaten the long-term viability of the species-pair.

Range NB

Status History
Designated Threatened in April 1998. Status re-examined and confirmed in May 2000 and November 2008. Status re-examined and designated Endangered in November 2018.

Chinook Salmon ***Oncorhynchus tshawytscha*** **Threatened**

Lower Fraser, Ocean, Fall population

Assessment Criteria Meets Endangered, A2acd, but designated Threatened, A2acd, because the longer time series shows lesser decline.

Reason for Designation
While the calculation of decline rates is complicated by hatchery releases from 1981 to 2004, this fall run of chinook spawning in the lower Fraser River has steadily declined in abundance. The abundance data over all available years was thought to best represent natural spawner abundance. Declines in marine and freshwater habitat quality, harvest and ecosystem modification in the lower Fraser estuary, are threats facing this population.

Range BC Pacific Ocean

Status History
Designated Threatened in November 2018.

Chinook Salmon ***Oncorhynchus tshawytscha*** **Threatened**

Lower Fraser, Stream, Summer population

Assessment Criteria A2bcd

Reason for Designation
This summer run of chinook spawning in the Lillooet and Harrison Rivers in the Lower Fraser watershed has declined to low levels. Declines in freshwater and marine habitat quality, and harvest, are threats facing this population.

Range BC Pacific Ocean

Status History
Designated Threatened in November 2018.

Chinook Salmon ***Oncorhynchus tshawytscha*** **Threatened**

Middle Fraser, Stream, Spring (MFR+GStr) population

Assessment Criteria A2bcde

Reason for Designation
This spring run of chinook spawning in multiple middle Fraser River tributaries has declined in abundance. Declines in marine and freshwater habitat quality, and harvest, and pollution from mining activities are threats to this population.

Range BC Pacific Ocean

Status History
Designated Threatened in November 2018.

Chinook Salmon ***Oncorhynchus tshawytscha*** **Threatened**

Middle Fraser, Stream, Summer population

Assessment Criteria A2bc

Reason for Designation
This summer run of chinook spawning in multiple middle Fraser River tributaries has declined in abundance. Declines in marine and freshwater habitat quality are threats facing this population.

Range BC Pacific Ocean

Status History
Designated Threatened in November 2018.

Lake Chub ***Couesius plumbeus*** **Threatened**

Liard Hot Springs populations

Assessment Criteria D2

Reason for Designation
This population of small fish occupies unique thermal spring environments in British Columbia. It has evolved several unique physiological and life history traits that permit persistence in these extreme environments. The small area of habitat in this hot spring complex and risks posed by human activities, including the introduction of exotic species, could result in extinction in a short period of time.

Range BC

Status History
The species was considered a single population unit (Northern British Columbia Hotsprings populations) in November 2004 and placed in the Data Deficient category. When the species was split into separate units in November 2018, the "Liard Hot Springs populations" unit was designated Threatened.

Lake Chub ***Couesius plumbeus*** **Threatened**

Atlin Warm Springs populations

Assessment Criteria D2

Reason for Designation
This population of small fish occupies unique thermal spring environments in British Columbia. It has evolved several unique physiological and life history traits that enable it to persist in these extreme environments. The small area of habitat in this warm spring complex, and risks posed by human activities and the introduction of invasive species, could result in extinction in a short period of time.

Range BC

Status History
The species was considered a single population unit (Northern British Columbia Hotsprings populations) in November 2004 and placed in the Data Deficient category. When the species was split into separate units in November 2018, the "Atlin Warm Springs populations" unit was designated Threatened.

Chinook Salmon ***Oncorhynchus tshawytscha*** **Special Concern**

Lower Fraser, Stream, Spring population

Assessment Criteria not applicable

Reason for Designation
This spring run of chinook, which spawns in the lower Fraser River watershed, has declined over the last 3 generations. Declines in marine and freshwater habitat quality, and harvest, are continuing threats. Should the present low number of mature individuals decline further, this population may become Threatened.

Range BC Pacific Ocean

Status History
Designated Special Concern in November 2018.

Chinook Salmon ***Oncorhynchus tshawytscha*** **Not at Risk**

South Thompson, Ocean, Summer population

Assessment Criteria not applicable

Reason for Designation
This summer run of chinook to the South Thompson River has been steadily increasing in abundance, and the most recent population index is the second highest on record.

Range BC Pacific Ocean

Status History
Designated Not at Risk in November 2018.

Roughhead Grenadier ***Macrourus berglax*** **Not at Risk**

Assessment Criteria not applicable

Reason for Designation
Millions of individuals of this deepwater fish species occur inside and outside Canadian waters. The primary threat to this species is bycatch in the Greenland Halibut fishery, which is under-reported and varies with fishing effort. However, these concerns have been reduced because a management plan exists for the Greenland Halibut fishery, most bycatch occurs outside the core range, the population index in the core area has increased since 1995, and reported bycatch has declined steadily since 2003. Thus, the threat from bycatch is unlikely to cause declines, as Canadian and international management is focused at recovery of Greenland Halibut.

Range NU NB NS NL Arctic Ocean Atlantic Ocean

Status History
Designated Special Concern in April 2007. Status re-examined and designated Not at Risk in November 2018.

Chinook Salmon ***Oncorhynchus tshawytscha*** **Data Deficient**

Southern Mainland, Ocean, Summer population

Assessment Criteria not applicable

Reason for Designation
This summer run of chinook to spawn in the remote glacial Homathko River watershed in the southern mainland has not been surveyed sufficiently to assess its population status.

Range BC Pacific Ocean

Status History
Species considered in November 2018 and placed in the Data Deficient category.

Chinook Salmon ***Oncorhynchus tshawytscha*** **Data Deficient**

Southern Mainland, Stream, Summer population

Assessment Criteria not applicable

Reason for Designation
This summer run of chinook to spawn in the remote glacial Klinaklini River watershed in the southern mainland of British Columbia has not been recently surveyed to assess its population status.

Range BC Pacific Ocean

Status History
Species considered in November 2018 and placed in the Data Deficient category.

Arthropods

Rapids Clubtail ***Phanogomphus quadricolor*** **Endangered**

Assessment Criteria B2ab(iii)

Reason for Designation
This dragonfly has a fragmented distribution with a very small area of occupancy. Considerable search effort indicates that it is restricted to small portions of five rivers in southern Ontario. It is believed to be extirpated from one other river. Habitat decline due to a variety of factors remains a serious threat to remaining subpopulations.

Range ON

Status History
Designated Endangered in April 2008. Status re–examined and confirmed in November 2018.

American Bumble Bee ***Bombus pensylvanicus*** **Special Concern**

Assessment Criteria not applicable

Reason for Designation
This insect occurs throughout much of North America, and Ontario and Québec represent the northern edge of its

distribution. The species experienced significant declines prior to 1980, and overall trends suggest it is still becoming rarer, though it persists within a portion of its historical range in Canada. Causes for declines remain unclear, but pesticide use, habitat conversion, and pathogen spillover from managed colonies are probably contributing factors. Limiting factors such as increasing parasite loads and low genetic diversity negatively influence the persistence of this wildlife species.

Range ON QC

Status History
Designated Special Concern in November 2018.

Pale Yellow Dune Moth ***Copablepharon grandis*** **Special Concern**

Assessment Criteria not applicable

Reason for Designation
This moth is known from 13 subpopulations restricted to widely-separated active sand hills and dunes on the prairies of Alberta, Saskatchewan, and Manitoba. Natural disturbance processes once maintained these open habitats for the moth. However, wildfire suppression and extirpation of Plains Bison, combined with climate warming, has led to increased vegetation succession. A population decline is inferred at known sites based on vegetation succession that would result in loss of open, active sand hill and dune habitats. Low detectability and some unchecked habitat leave the possibility of a handful of additional subpopulations.

Range AB SK MB

Status History
Designated Special Concern in November 2007. Status re–examined and confirmed in November 2018.

Pygmy Snaketail ***Ophiogomphus howei*** **Special Concern**

Assessment Criteria not applicable

Reason for Designation
One of Canada's smallest dragonflies, this globally-rare species is a habitat specialist, restricted to a few rivers in New Brunswick and a single river in northwestern Ontario. While the overall level of threats is currently low, potential dam construction threatens at least one site across the range, and invasive aquatic species may impact this dragonfly during its larval stage.

Range ON NB

Status History
Designated Special Concern in November 2008. Status re-examined and confirmed in November 2018.

Yellow Scarab Hunter Wasp ***Dielis pilipes*** **Special Concern**

Assessment Criteria not applicable

Reason for Designation
This large distinctive wasp is restricted to the low-elevation Antelope-brush and sagebrush ecological communities of the south Okanagan and Similkameen valleys of British Columbia. The larvae feed on the underground grubs of Ten-lined June Beetle that occur in sandy soils west of the Rocky Mountains. The loss, degradation, and fragmentation of open, sandy habitats, and pesticide application on adjacent agricultural lands during the adult flight period are the primary threats to the species. Further threats include increasing numbers of non-native plants into the open sand habitats, which limit detectability of host beetle larvae by adult female wasps. The species may become Threatened if factors suspected of negatively influencing the persistence of the species are not managed.

Range BC

Status History
Designated Special Concern in November 2018.

Vascular Plants

Brook Spike-primrose ***Epilobium torreyi*** **Endangered**
Assessment Criteria D1

Reason for Designation
This annual herb has not been seen since 1993. One of the sites where it was last found was in a regional park. It is possible that viable seeds are dormant there and may germinate given the right conditions.

Range BC

Status History
Designated Endangered in April 2006. Status re-examined and confirmed in November 2018.

Hairy Valerian ***Valeriana edulis* ssp. *ciliata*** **Endangered**
Assessment Criteria B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)

Reason for Designation
This long-lived perennial plant is found in wet prairies and fens in southwestern Ontario, which are very rare habitats. Declines have been observed in its distribution, number of locations, and quality of habitat, and declines are inferred in the number of mature individuals. The three remaining locations have few mature individuals, and are threatened by commercial development, invasive species, and natural succession.

Range ON

Status History
Designated Endangered in November 2018.

Ute Ladies'–tresses ***Spiranthes diluvialis*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii); C2a(i,ii); D1

Reason for Designation
This short, globally rare orchid occurs in Canada at only two locations, one of which contains a single individual in British Columbia. Its habitat is seasonally moist, slightly to moderately saline lakeshores that are free from overly tall/competitive species. It is primarily threatened by invasive species.

Range BC

Status History
Designated Endangered in November 2018.

Black Ash ***Fraxinus nigra*** **Threatened**
Assessment Criteria Meets criteria for Endangered, A3ce+4ce, based on predicted areas of susceptibility, but designated Threatened, A3ce+4ce, due to factors including effectiveness of Emerald Ash Borer (EAB) bio-controls and EAB winter survivability, that may reduce mortality over the projected period.

Reason for Designation
Approximately 51% of the global range of this tree is found in Canada. Subpopulations in the central part of the distribution have been devastated by Emerald Ash Borer, an invasive beetle. This invasive species was first detected in Canada (Windsor, Ontario) in 2002 and has since expanded its range as far west as Winnipeg, Manitoba, and east to Bedford, Nova Scotia. Although, it has caused a modest overall decline in known numbers of ash in New Brunswick, Quebec, Ontario, and Manitoba to date, projections indicate that mortality rates will be greater than 90%, and ~73% of the Canadian population is likely to be affected within one generation (60 years) under current climate conditions. Emerald Ash Borer bio-controls have been initiated in parts of southern Ontario and Quebec, but their effectiveness is uncertain. Consequently, Emerald Ash Borer is expected to expand farther into this species' habitat with climate change.

Range MB ON QC NB PE NS NL

Status History
Designated Threatened in November 2018.

Yukon Draba ***Draba yukonensis*** **Special Concern**

Assessment Criteria not applicable

Reason for Designation

This small, short-lived perennial mustard species is endemic to the southern Yukon. It has a very restricted distribution limited to well-drained meadows and south-facing slopes. Surveys undertaken since 2011 increased the area of distribution and number of known sites from 3 to 19, and indicate that the population may not undergo extreme fluctuations as previously thought. Present threats include forest encroachment, wildfire, road development, invasive species, and trampling by humans and bison. These threats have the potential to reduce the area of suitable habitat and numbers of potentially unviable subpopulations enough to qualify the species for Threatened status.

Range YT

Status History

Designated Endangered in November 2011. Status re-examined and designated Special Concern in November 2018.

*The assessments of Cryptic Paw Lichen (*Nephroma occultum*), White–rimmed Shingle Lichen (*Fuscopannaria leucosticta*), and Cobblestone Tiger Beetle (*Cicindela marginipennis*) were deferred. These wildlife species will be re-considered by COSEWIC at a later meeting.

30/11/2018