Interim State of the Environment Report 2025

A report on environmental indicators

Yukon

Acknowledgements

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On the cover: Kluane River (Lhù'ààn Tága). Government of Yukon / Andrew Strain.

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Introduction

Photo: Tom Jutzler

The State of the Environment Report is an annual overview of the status of the Yukon's environment as required by the *Environment Act*. It is a collection of information on climate change, air, water, land, fish and wildlife from scientific experts, partners and different levels of government.

The 2025 Interim Report is intended to be read in conjunction with the 2024 Interim State of the Environment report and the 2023 State of the Environment Report for a comprehensive understanding of the indicators and their significance. The indicators presented in this report are based upon data available at the conclusion of 2024. Indicators are used to evaluate and demonstrate which environmental conditions are improving, remaining stable or declining.

The next full report will be published in 2026 based upon environmental data available at the conclusion of 2025.

Highlights

Climate change

The extent and volume of sea ice in the Arctic have continued their long-term trend of decline, highlighting the continuing impacts of rising global temperatures and climate change on the North and the people who live here. Average temperature and precipitation in the Yukon have increased in the past several decades and are projected to continue increasing.

Water

There is a general increase in the volume of snowpack across the territory. The ice breakup on the Yukon River near Dawson City occurred in late April 2024. This remains early compared to the historical record.

Land

The population of the Yukon grew by 2.6 per cent in 2024, primarily in the Whitehorse area. This rate of growth is consistent with previous years. In 2024, waste diverted from the Whitehorse Waste Management Facility decreased. Approximately 21.1 per cent of the territory has been declared as protected under the Canadian Protected and Conserved Areas Database. Territorial campgrounds continue to see an increase in visitors, with a total of 90,047 visitors for 61,097 campsite nights in frontcountry campgrounds during the 2024 camping season..

Fish and wildlife

The Yukon continues to have one of the lowest percentages of introduced species. The number of Chinook salmon that returned to the spawning grounds in the upper Yukon River was lower than the escapement goal, however it was within the 2024 preseason outlook range. In 2024, there were 75 samples collected from avian and mammal specimens to test for avian influenza, with zero samples returning positive results for the virus.

Climate change

1. Arctic sea ice extent and volume

The year 2024 saw comparable sea ice extent, but lower volume than the previous year. The continued declining trends show the impacts of climate change in the Arctic Ocean and Northern seas and highlights the widespread effects of climate change on the environment.

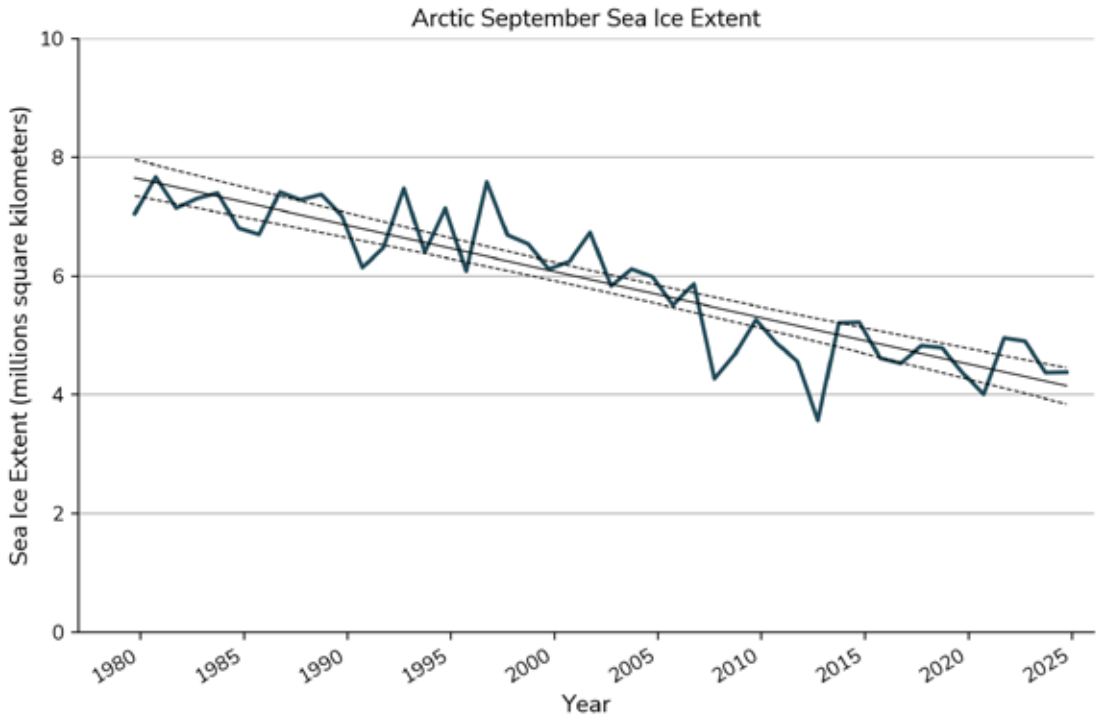

Figure 1.1: September sea ice area (million km2). The solid black line represents the trend, and the dashed lines indicate the confidence interval of the trend line.

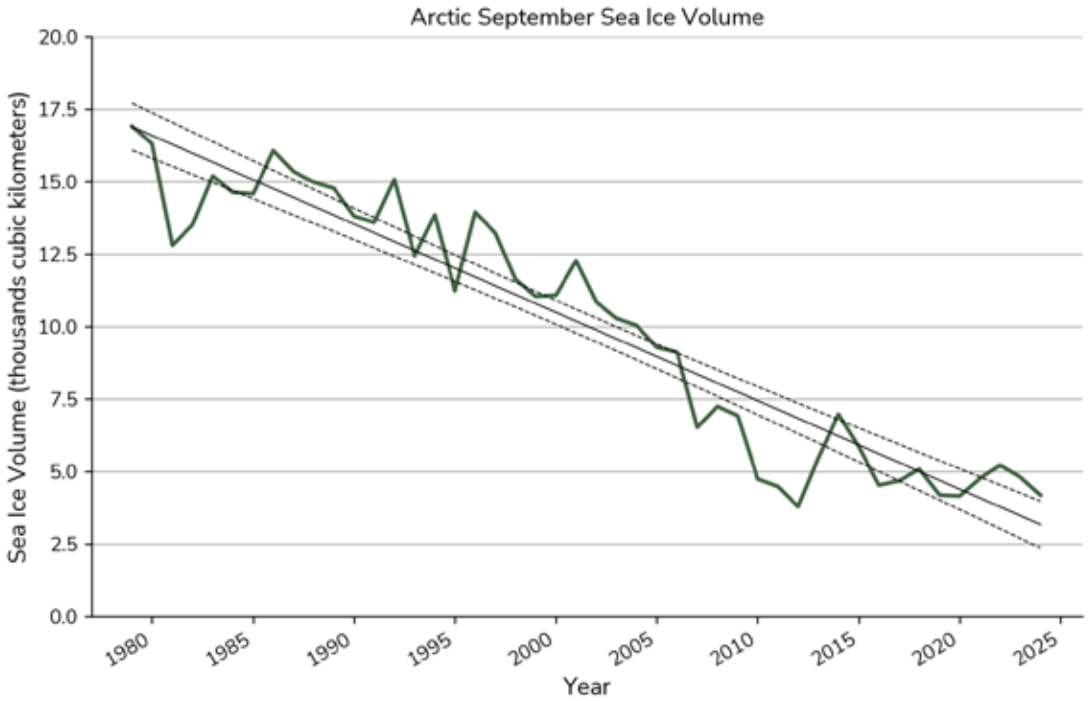

Figure 1.2: September sea ice volume (thousand km3). The solid black line represents the trend and the dashed lines indicate the confidence interval of the trend line.

References:

Fetterer, F., K. Knowles, W.N. Meier, M. Savoie, and A.K. Windnagel. 2017, updated daily. Sea Ice Index, Version 3. Boulder, Colorado USA. Ice Extent. NSIDC: National Snow and Ice Data Center. Available from: **https://nsidc.org/data/g02135/versions/3**.

Polar Science Center. 2021. PIOMAS Ice Volume Data, 1979-present. University of Washington. Available from: **https://psc.apl.uw.edu/research/projects/arctic-sea-ice-volume-anomaly/**.

2. Long term precipitation and temperature variation

The Government of Yukon is collaborating with Environment and Climate Change Canada to enhance temperature and precipitation indicators for the North by improving historical data quality and monitoring efforts, and developing guidance to ensure scientists may use these indicators with confidence.

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In 2024, the Government of Yukon continued work to reduce greenhouse gas emissions and adapting to climate change through the 2020 Our Clean Future climate action plan.

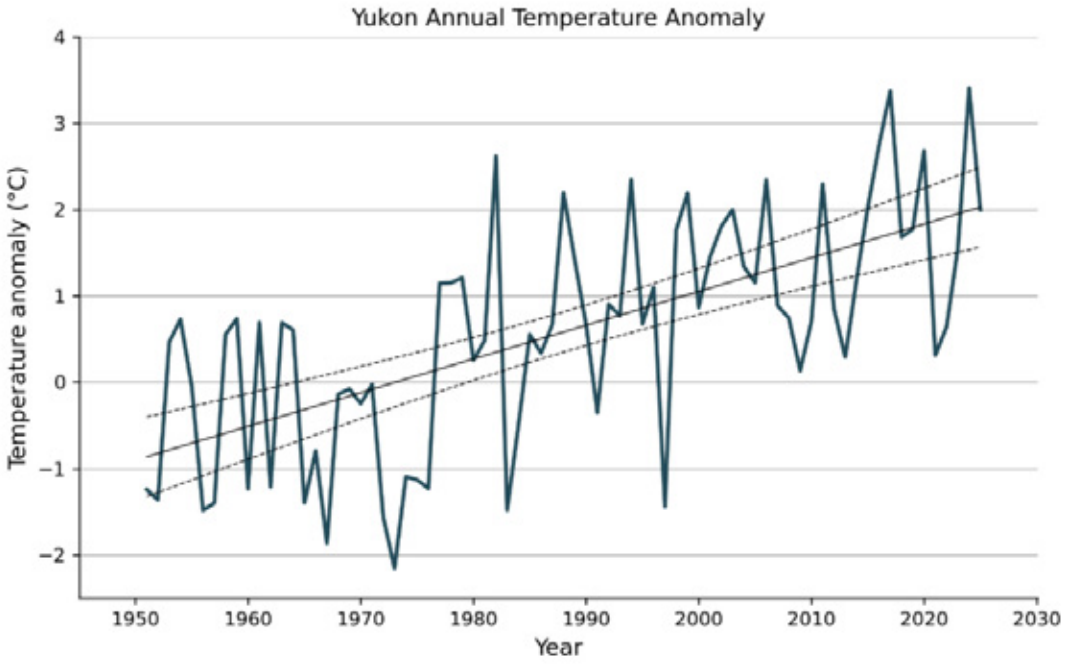


Figure 1.3: Yukon annual temperature anomaly, 1948 to present, compared to a 30-year climate baseline (1961 to 1990).

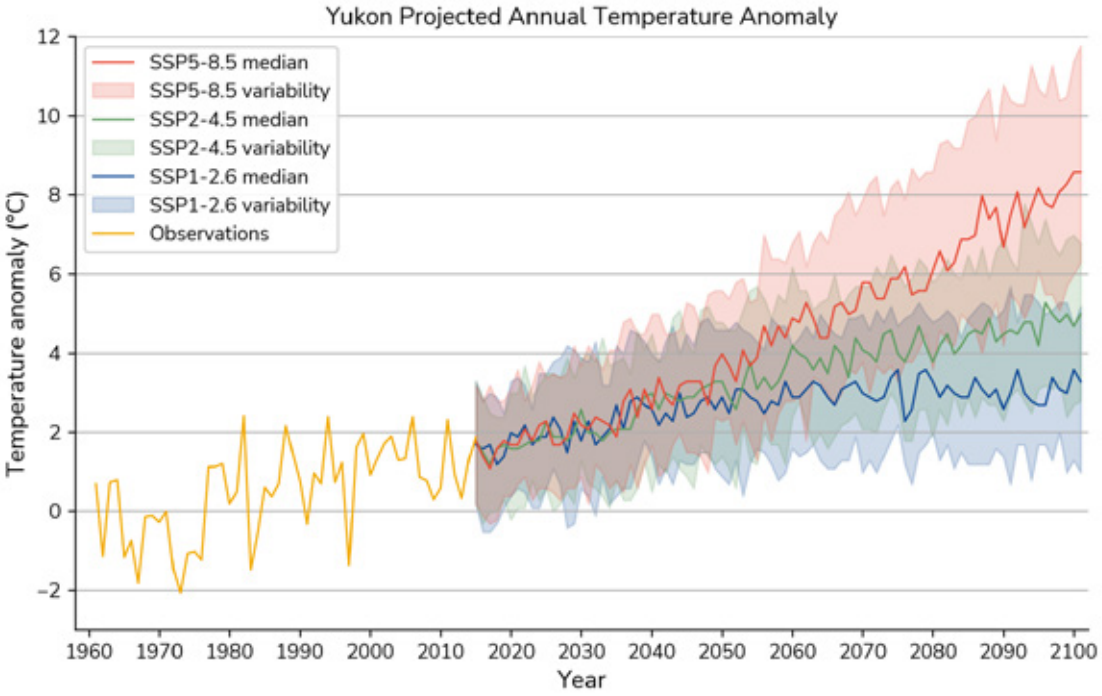


Figure 1.4: Yukon projected annual temperature anomaly, with three future scenarios. Projections of Temperature and Precipitation models are calculated based on a set of scenarios representing potential future conditions called Shared Socio-economic Pathways (SSPs). Each SSP is based on levels of projected global CO2 emissions – either best-case reductions (SSP 1-2.6), medium reductions (SSP 2-4.5) or a significant increase in CO2 (SSP 4-8.5).

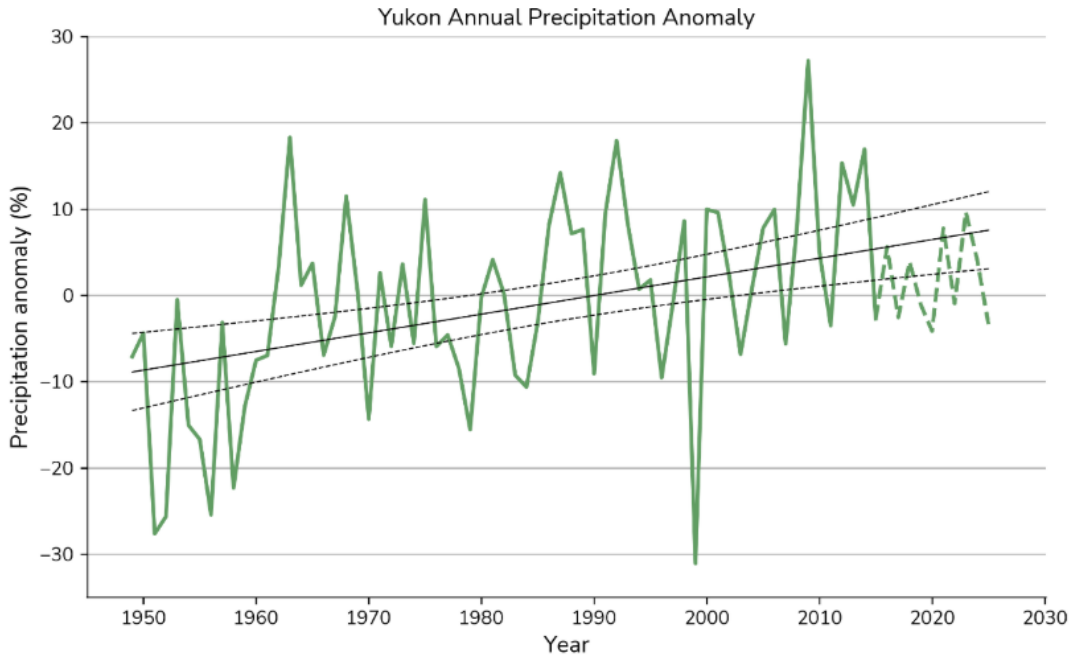


Figure 1.5: Yukon annual precipitation anomaly, 1948 to present, compared to a 30-year climate baseline (1961 to 1990). There is a gap in official data from 2015 to 2024, represented by the dashed line, so other datasets were analyzed to approximate the precipitation variation.

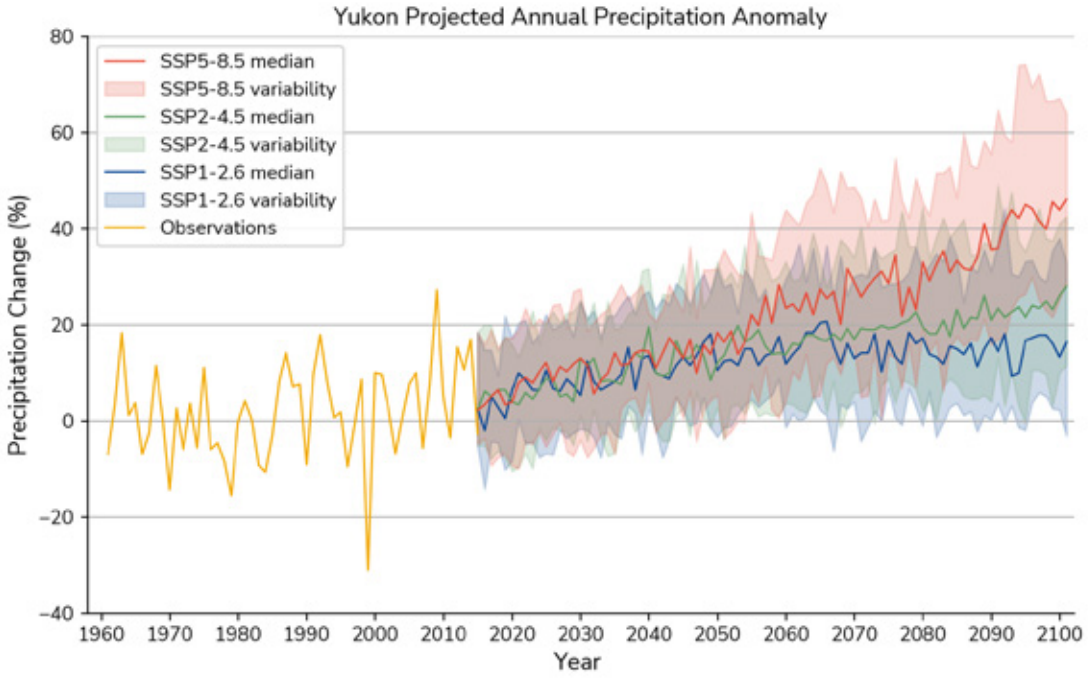


Figure 1.6: Yukon projected annual precipitation anomaly, with three future scenarios. Projections of Temperature and Precipitation models are calculated based on a set of scenarios representing potential future conditions called Shared Socio-economic Pathways (SSPs). Each SSP is based on levels of projected global CO2 emissions – either best-case reductions (SSP 1-2.6), medium reductions (SSP 2-4.5) or a significant increase in CO2 (SSP 4-8.5).

References:

Schneider, Udo; Becker, Andreas; Finger, Peter; Meyer-Christoffer, Anja; Rudolf, Bruno; Ziese, Markus (2011): GPCC Full Data Reanalysis Version 6.0 at 0.5°: Monthly Land-Surface Precipitation from Rain-Gauges built on GTS-based and Historic Data. DOI: 10.5676/DWD_GPCC/FD_M_V7_050. Available from: **https://opendata.dwd.de/climate_environment/GPCC/html/fulldata_v7_doi_download.html**

Accessed on July 23, 2025

Understand how SSPs differ from RCP scenarios and learn about key considerations when using SSPs in climate risk assessments. Available from: **https://climatedata.ca/resource/understanding-shared-socio-economic-pathways-ssps/**.

Accessed on May 26, 2025.

3. Levels of particulate matter

No new data was available. Refer to the **2023 Yukon State of the Environment Report** for the latest reporting information on this indicator.

4. Organic pollutants

No new data was available. Refer to the **2023 Yukon State of the Environment Report** for the latest reporting information on this indicator.

5. Snow accumulation

Manual snow surveys are carried out at 52 locations in the Yukon, two in British Columbia and three in Alaska. Most locations have been sampled since 1980 with some reaching as far back as 1958. The manually collected data is augmented by seven strategically located snow pillow stations that collect real-time snow depth and snow water equivalent (SWE) data.

Fifteen locations scattered throughout the Yukon reported a statistically significant increase in peak SWE (Figure 3.1). Of the sites showing statistically significant change, the greatest absolute increase in peak SWE was observed at Log Cabin (B.C.) in the headwaters of the Southern Lakes at a rate of 22 mm (7.2 per cent) per decade, or 144 mm since the start of the record in 1958. The greatest relative increase was observed at Williams Creek, near Fort Selkirk in Central Yukon, at 20 per cent per decade, with records beginning in 1995. There are no locations reporting statistically significant decreases in peak SWE. All snow survey data is available at **https://open.yukon.ca/data/datasets/yukon-snow-survey-network.**

Emilie Stewart-Jones conducting a snow measurement at Mount McIntyre Whitehorse (Alexandre Mischler, 2023).

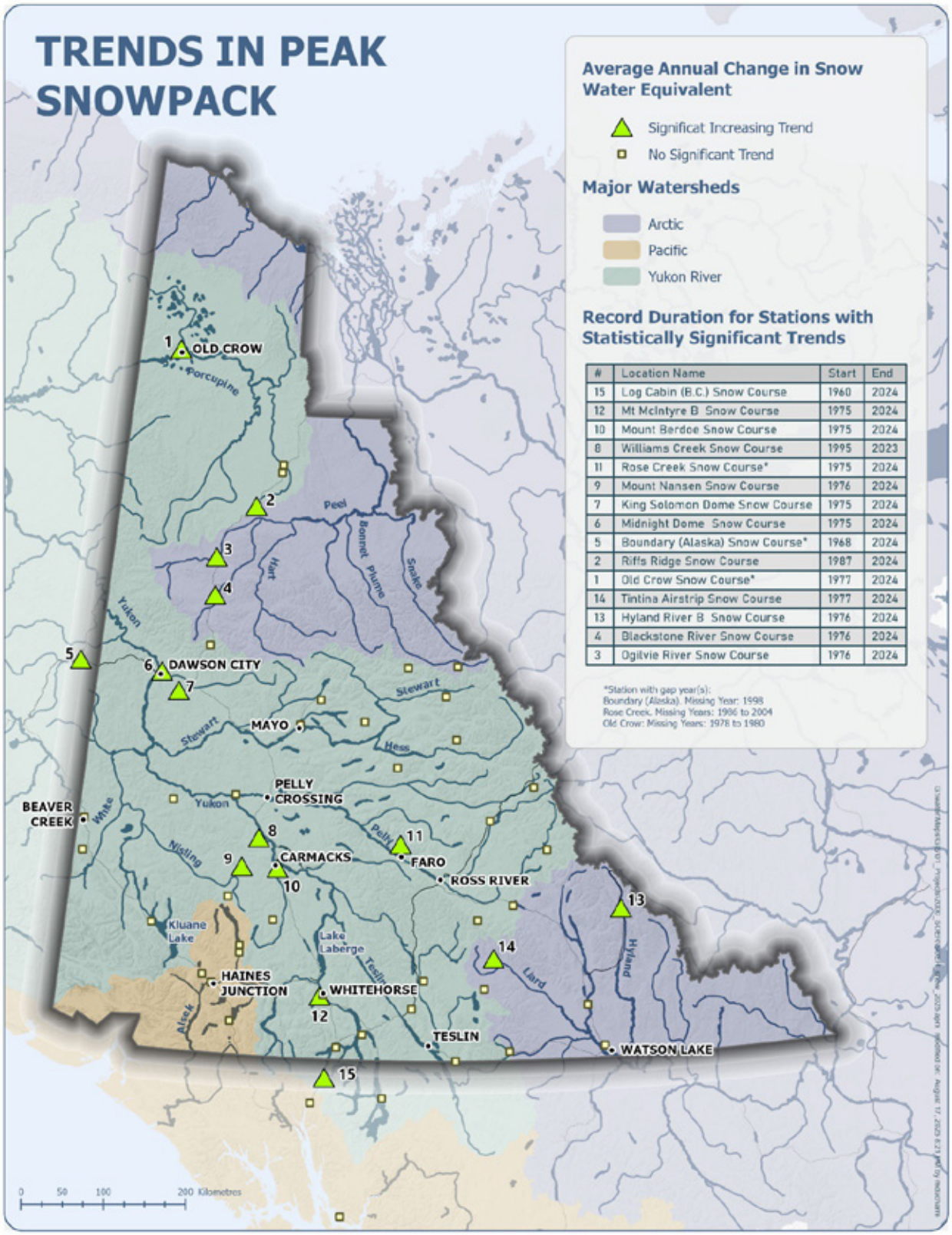


Figure 3.1: Trends in peak snowpack.

Hydrologists Emilie-Jeanne Bercier and Anthony Bier with Environment and Climate Change Canada meteorologist Baljit Sekon conducting a snow survey on March 31, 2023, near Ice Lake in Whitehorse (Alexandre Mischler, 2023).

References:

Snow Bulletins and Water Supply Forecasts - Yukon Territory. Available from: **https://yukon.ca/en/snow-surveys-and-water-supply-forecasts**

Snow Conditions and Water Supply Bulletin - Province of British Columbia. Available from: **https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/drought-flooding-dikes-dams/river-forecast-centre/snow-survey-water-supply-bulletin**

Snow Bulletins and Water Supply Forecast - State of Alaska. Available from: **https://www.nrcs.usda.gov/alaska/snow-survey**

6. Extreme high and low water in lakes and rivers

Water level gauges and their associated discharge measurements are monitored at 75 locations by Environment and Climate Change Canada through the Canada-Yukon Agreement for Hydrometric Monitoring. There are also 15 additional Government of Yukon stations being monitored. Monitoring is critical to understanding flood risk and how it changes over time.

River flows

Locations across the Yukon where river flows are monitored were analyzed to determine the presence of trends in winter minimum and summer maximum flows. Trend analysis was limited to active locations with 10 or more years of recent data and without hydroelectric generation influence.

54 locations were analyzed for minimum flow trends and 65 for maximum flow trends. Most of these locations are monitoring hydrological conditions on large rivers (rivers that have drainage areas greater than 1,000 km2) in the following basins:

- Yukon River (Tàgé Cho / Tágà Shäw) basin
- Alsek River (Ałsêxh*) basin
- Liard River (Nêt'ił Tué'*) basin
- Peel River (Teetł'it Gwinjik) basin
- Porcupine River (Ch'ōdèn̄jik) basin

Minimum flows showed statistically significant increases at 43 locations over their respective periods of record which ranged from 11 to 72 years, while the other 11 locations showed no statistically significant change (Figure 3.2). This paints a clear picture of increasing winter base flows across the territory.

Maximum flows have increased at the Alsek River above Bates River within the Alsek River drainage, linked with the Kaskawulsh glacier meltwater diversion to the Alsek basin in 2016 (described further below). The White River at the Alaska Highway, Firth River Near the Mouth and Ross River at Ross River showed decreases in maximum flows (Figure 3.3).

Teetł'it Gwinjik, the Gwitch'in name for the Peel River translate into: Teetl'it - headwaters region; Gwinjik - along the course of river, while Ch'ōdèn̄jik (Porcupine River) translates into "porcupine quills river".

Ałsêxh is the Tlingit name for the Alsek and may mean "place where people rest". Nêt'ił Tué' is Kaska and means "Hanging Down River".

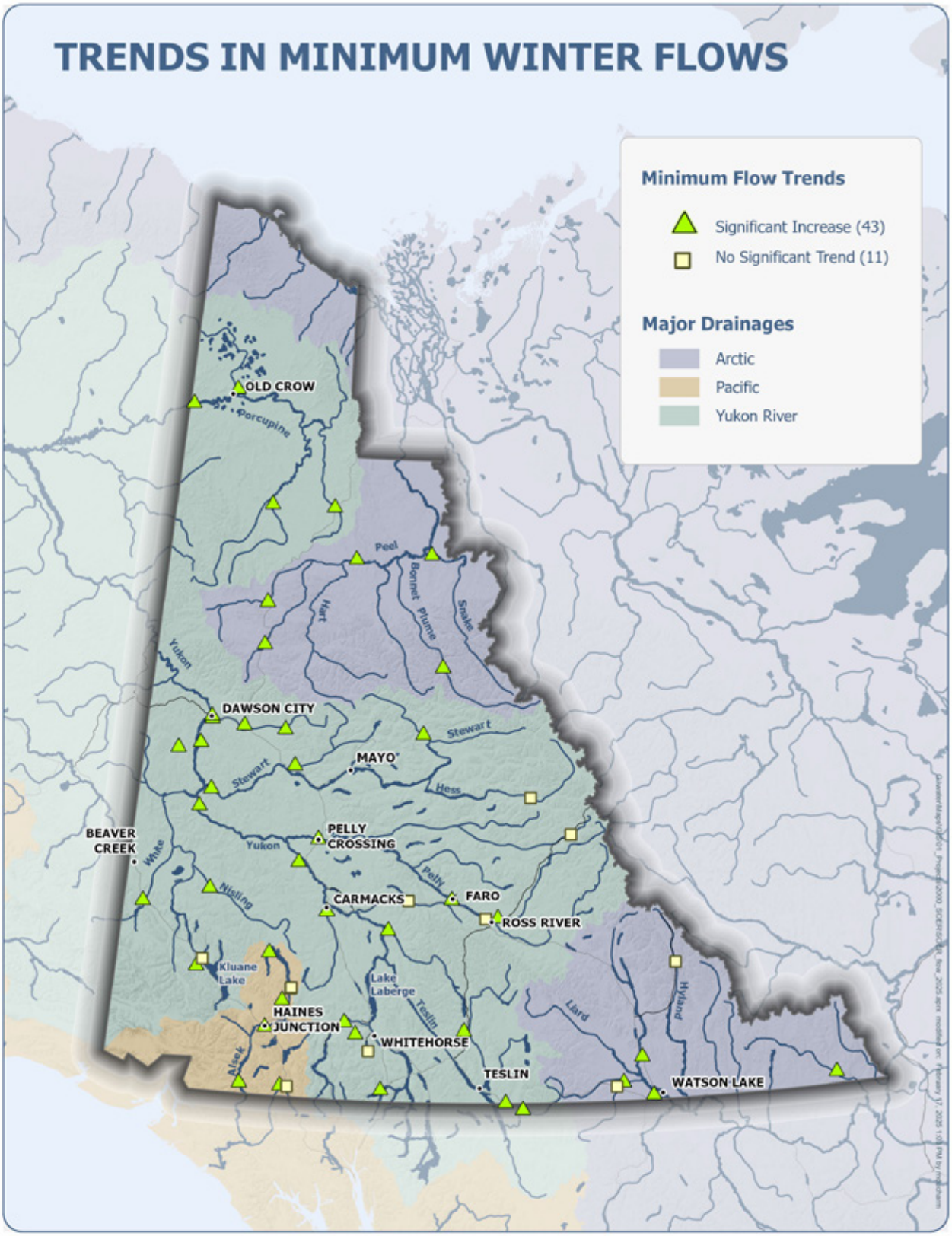


Figure 3.2: Trends in minimum winter flows with a statistically significant change. Note that there are two areas with no significant trend north of Haines Junction, which tightly overlap on the map.

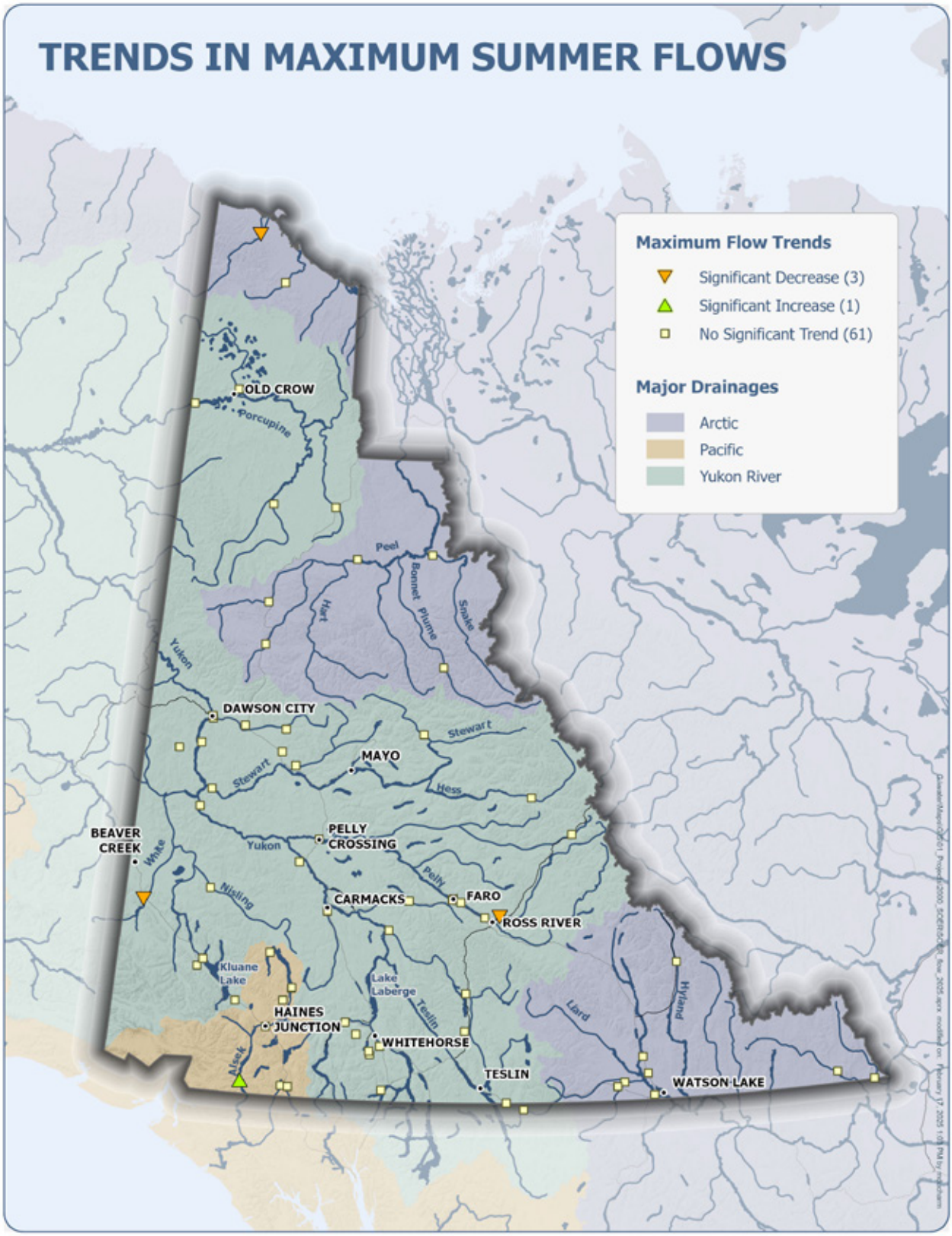


Figure 3.3: Trends in maximum summer flows with a statistically significant change.

Lake levels

Minimum and maximum water levels were analyzed for five lakes:

- Atlin Lake (Â Tłèn*) (B.C.)
- Bennett Lake (Mén Chó */ Ch'akúx Anax Đul.adi Yé*)
- Kluane Lake (Łù'àn Mān)
- Sekulmun Lake (Tthechàl Mān)
- Teslin Lake (Deisleen Áayi*)

Bennett Lake and Kluane Lake (Łù'àn Man) show declines in winter minimum levels, while Sekulmum Lake (Tthechàl Mān) and Teslin Lake (Deisleen Áayi) show minimum levels have slightly increased. Note that lakes influenced by hydroelectric generation are excluded from consideration.

A change in summer maximum water levels is only evident on Kluane Lake (Łù'àn Mān), with a decrease directly linked to the diversion of meltwaters from the Kaskawulsh glacier to the Alsek River drainage in 2016 owing to glacial retreat (Shugar et al. 2017). This event dramatically reduced flow into the Slims River (Ä'äy Chù), which was once the largest single contributor of flows into Kluane Lake. A recent study suggests that water levels will remain low in Kluane Lake (Łù'àn Mān) and Kluane River from now on (Loukili and Pomeroy 2018).

References:

Loukili, Y. and J.W. Pomeroy, 2018. The Changing Hydrology of Lhù'ààn Mān- Kluane Lake - under Past and Future Climates and Glacial Retreat. Centre for Hydrology Report No. 15. Prepared for Government of Yukon, Yukon Community Services, Infrastructure Branch, Whitehorse, Yukon, Canada.

Shugar, D., Clague, J., Best, J. et al., 2017. River piracy and drainage basin reorganization led by climate-driven glacier retreat. Nature Geosci 10, 370–375. **https://doi.org/10.1038/ngeo2932**

Yukon Geographical Names Program. 2022. Gazetteer of Yukon. **https://yukon.ca/sites/yukon.ca/files/tc/tc-gazetteer-of-yukon.pdf**

Tthechàl Mān means "stone scraper lake" in Southern Tutchone, while Łù'àn Mān means "big whitefish lake". A'ąy Chù' means "it stands [alone by itself]" Mén Chó means "big lake", and Ch'akúx Anax Đul.adi Yé means "place for packing skin boats over".

7. Yukon River ice breakup at Dawson City

Ice breakup on the Yukon River (Chu Kon' Dëk in the Hän language) by Dawson City now occurs almost eight days earlier on average, according to data collection beginning in 1896 (Figure 3.4). Breakup events in late April have increased in frequency, with nine such events occurring since 1989, compared to only two breakup events happening in April between 1896 and 1988.

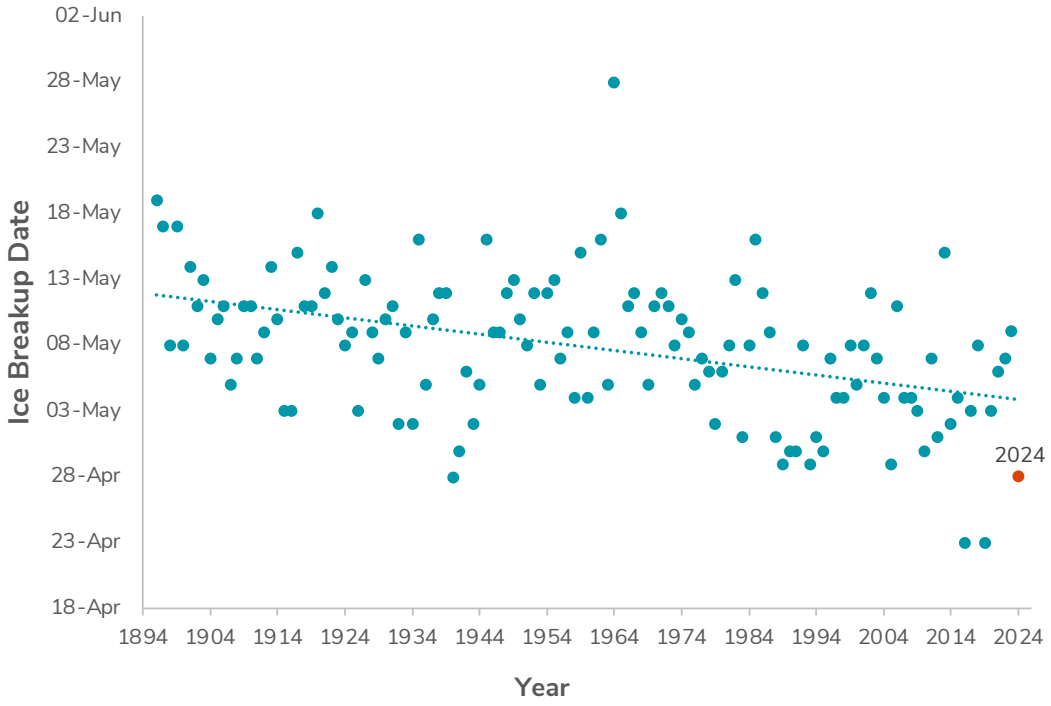


Figure 3.4: Yukon River at Dawson City ice breakup date by year, 1896 to 2024.

River ice processes are evolving with climate change, affecting both the timing and intensity of breakup and the severity of ice jams. To support community flood preparedness, the Government of Yukon uses a network of monitoring stations and models to forecast the timing and potential severity of breakup on the Yukon River by Dawson City.

The Government of Yukon also uses river ice classification of satellite imagery to better understand ice cover changes before and during breakup. Efforts have been made to increase the monitoring network's resiliency by adding remote satellite-connected cameras monitoring conditions both upstream and downstream of Dawson City.

Klondike River Breakup at the confluence with the Yukon River (Emilie-Jeanne Bercier, April 27, 2024).

Local breakup underway in Dawson City (Holly Goulding, April 30, 2024).

References:

Dawson City Yukon River ice pool. Available from: **https://dawsoncity.ca/yukon-river-ice-pool/**

IODE Dawson Chapter. Dawson City River ice breakup. Available from: **https://www.iodedawson.com/**

8. Water quality

Water Resources branch staff and partners collect water quality samples from 15 rivers across the territory. Partners include members of the Tr'ondëk Hwëch'in First Nation, Daylu Dena Council/Dena Kayeh Institute, Vuntut Gwitchin Government, the First Nation of Na-cho Nyäk Dun, Environment and Climate Change Canada and Parks Canada. Data from these samples are available on a federal portal, which can be found by selecting the online data tab at: **http://aquatic.pyr.ec.gc.ca/webdataonlinenational/en/**.

Environment and Climate Change Canada calculates the Water Quality Index (WQI) for a representative subset of monitoring locations (seven out of 15 in the Yukon). This contributes to the Canadian Environmental Sustainability Indicators, which report on water quality trends across Canada.

Based on data from the 2021–2023 period, the water quality index scores for all seven Yukon rivers with WQI calculated remained stable compared to previous years, except for the Klondike River (Tr'ondëk in the Hän language). The Klondike River's score declined further into the "marginal" category for the second consecutive year, possibly due to increased selenium concentrations observed in late winter (Feb-Apr), an occurrence not previously recorded. This may be influenced by changing winter conditions, altered freeze-thaw cycles or shifts in groundwater contributions, which could be mobilizing selenium from upstream sources (Table 3.1).

Excellent (95-100)	Aquatic life is not threatened or impaired. Measurements never or very rarely exceed water quality guidelines.
Good (80-94)	Aquatic life is protected with only a minor degree of threat or impairment. Measurements rarely exceed water quality guidelines and, usually, by a narrow margin.
Fair (65-79)	Aquatic life is protected, but at times may be threatened or impaired. Measurements often exceed water quality guidelines and, possibly, by a wide margin.
Marginal (45-64)	Aquatic life frequently may be threatened or impaired. Measurements often exceed water quality guidelines by a considerable margin.
Poor (0-44)	Aquatic life is threatened, impaired or even lost. Measurements usually exceed water quality guidelines by a considerable margin.

	Klondike River upstream of Bonanza Creek	Liard River at Upper Crossing	South McQuesten River downstream of Flat Creek	Yukon River upstream of Takhini River	Ogilvie River above Engineer Creek	Alsek River above Bates River in Kluane National Park	Porcupine River above Old Crow River
2005-07	66.8	87.2	64.4	100	N/A	N/A	N/A
2006-08	66.4	93.6	64.3	100	N/A	N/A	N/A
2007-09	67.4	93.6	64	100	N/A	N/A	N/A
2008-10	74.2	87.2	70	93.6	N/A	N/A	N/A
2009-11	74.2	85.5	69.5	93.6	N/A	N/A	N/A
2010-12	74.2	80.6	70.1	93.6	N/A	N/A	N/A
2011-13	74	80.6	70.4	93.6	N/A	N/A	N/A
2012-14	73.8	N/A	70.6	93.6	N/A	N/A	N/A
2013-15	73.7	80.6	70	93.6	N/A	N/A	N/A
2014-16	73.7	80.6	63.8	100	N/A	N/A	N/A
2015-17	86.6	80.5	63.7	100	N/A	N/A	N/A
2016-18	80.1	80.6	63.5	93.6	N/A	N/A	N/A
2017-19	80.4	80.6	64.1	93.6	72.9	87.3	70.4
2018-19	80.2	80.6	64.1	93.6	73.2	87.6	70.3
2019 & 21	80.1	74.1	70.8	100	73.5	93.4	70.3
2021-22	60.6	72.9	82.2	87.1	67.2	87.7	75.7
2021-23	53.4	73.2	82.1	87.1	67.8	88	76.1

Table 3.1: Environment and Climate Change Canada Water Quality Index scores for Yukon monitoring stations calculated as three-year averages. Note that insufficient data was collected in 2020 due to the pandemic.

References:

Government of Canada. "Freshwater quality monitoring: online data" <**http://aquatic.pyr.ec.gc.ca/webdataonlinenational/en/** > Accessed February 10, 2025.

Environment and Climate Change Canada. "Canadian Environmental Sustainability Indicators: Water Indicators" <good >. Accessed February 10, 2025.

9. Groundwater levels in the Yukon Observation Well Network

The Yukon Observation Well Network (YOWN) is a groundwater monitoring program operated by the Government of Yukon and is used to monitor groundwater levels and groundwater quality across the territory.

Seven monitoring wells were added to YOWN in 2024. Six of these were commissioned by the Water Resources branch; a seventh was an existing monitoring well that was adopted into the network. The six newly drilled wells were installed in the Whitehorse Copper Belt area with the goal of better understanding and protecting groundwater that is vital to the City of Whitehorse as a part of an interdisciplinary project involving several Canadian universities and various levels of government.

In 2024, peak annual groundwater levels decreased in most wells (Figure 3.5), as did minimum annual groundwater levels (Figure 3.6). This is in contrast with previous years; from 2019 to 2022, annual groundwater levels generally increased in most wells.

42 of 87 active wells in the YOWN currently have sufficient data quantity and quality for comparison of historic maximum and minimum levels with those observed in 2024. Of these wells, 14 per cent had a higher maximum groundwater level in 2024 than in their historical record, and 16 per cent had a lower minimum groundwater level in 2024 than any other point in their historical record (Figure 3.7 and 3.8). Many of these wells that showed a historical maximum groundwater level have relatively short (i.e. less than four years) periods of records, which hinders analysis.

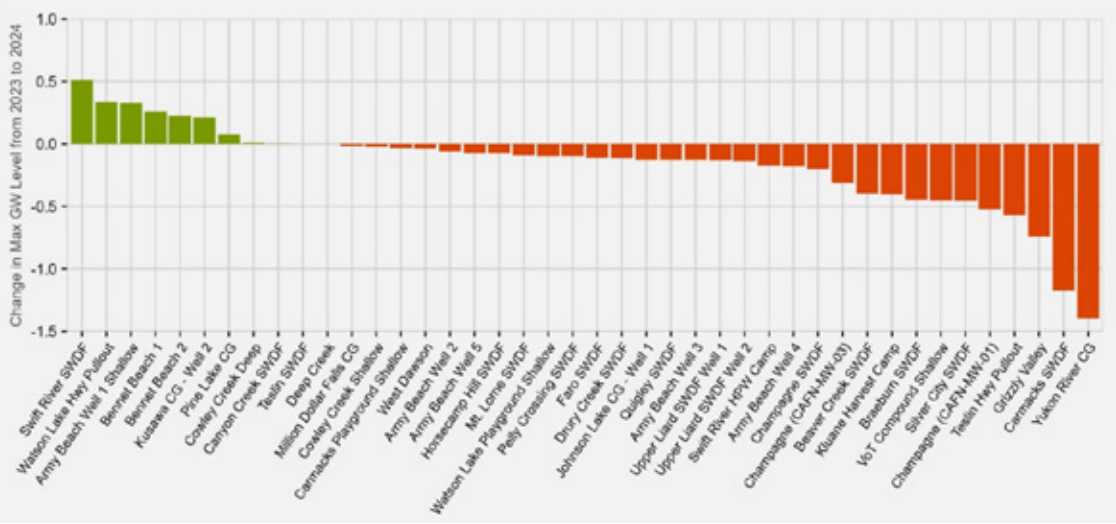


Figure 3.5: Change in maximum groundwater levels from 2023 to 2024.

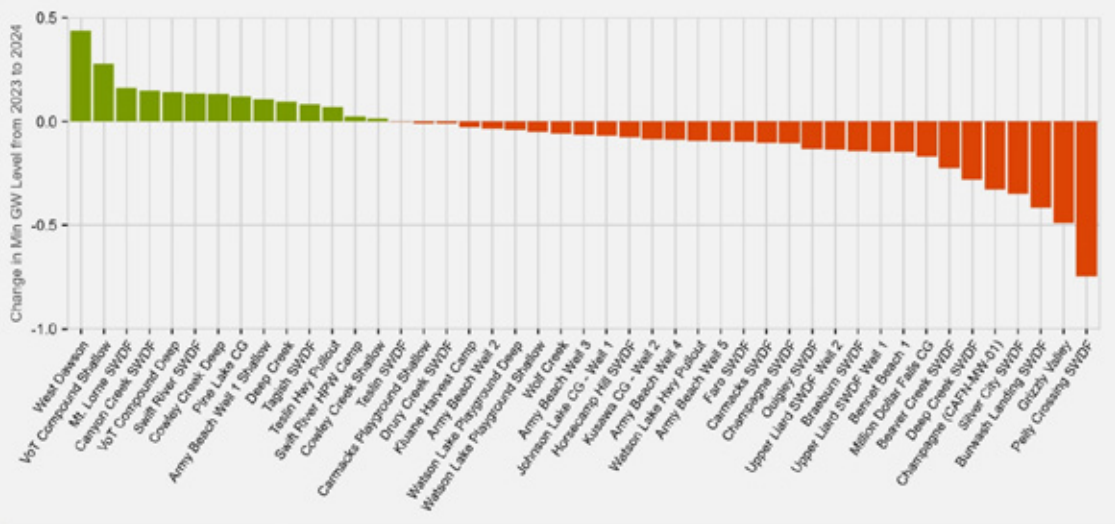


Figure 3.6: Change in minimum groundwater levels from 2023 to 2024.

The Assessing Groundwater in the Greater Whitehorse Area (AGWA) project team, at the location of one of the installed wells in the Whitehorse Copper Belt.

YOWN technologist Cole Fischer setting up survey instrumentation near the Whitehorse Copper Belt wells.

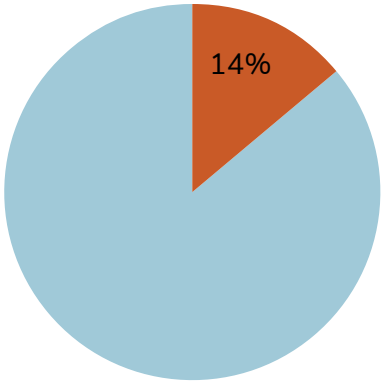


Figure 3.7: Percentage of wells that reached a historical maximum in 2024.

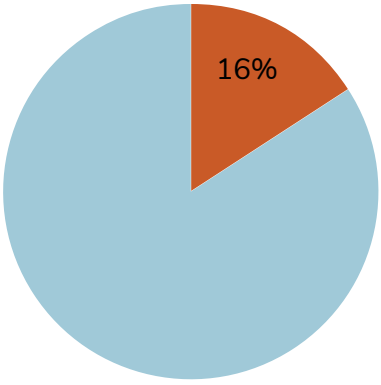


Figure 3.8: Percentage of wells that reached a historical minimum in 2024.

10. Population of the Yukon

The estimated population of the Yukon increased by 2.6 per cent in 2024; from 45,728 on September 30, 2023, to 46,934 on September 30, 2024. The distribution of the population remains uneven across the territory, with the majority of both the population and growth occurring in the Whitehorse area (Figure 4.1).

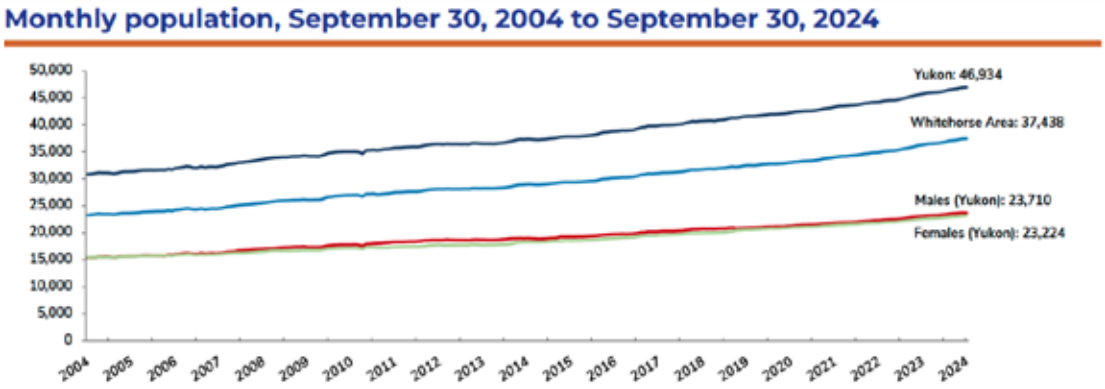


Figure 4.1: Yukon total and Whitehorse area annual population from 2004 to 2024.

References:

Population Report Third Quarter, 2024. Yukon Bureau of Statistics. Available from**:** **https://yukon.ca/en/population-report-q3-2024**

11. Regional land use planning

In 2024, the Parties to the Peel Watershed Regional Land Use Plan (TH, NND, VGFN, GTC and YG) continued to work together to implement the plan.

Additionally feedback was provided by both the Tr'ondëk Hwëch'in Government and the Government of Yukon on the Dawson Regional Land Use Plan.

12. Community and local area planning

No new data was available. Refer to the **2023 Yukon State of the Environment Report** for the latest reporting information on this indicator.

13. Status of parks and protected areas

The Yukon's total protected area is 21.1 per cent as of 2024, the highest percentage of any province or territory in Canada.

In April 2024, the Government of Yukon, the City of Whitehorse, the Kwanlin Dün First Nation, the Ta'an Kwäch'än Council and the Government of Canada signed a Memorandum of Understanding to recommend an instrument of protection, a governance model, and a protected area boundary for the Chasàn Chuà/McIntyre Creek area.

The Government of Yukon, Gwich'in Tribal Council, First Nation of Na-Cho Nyäk Dun and Parks Canada signed a collaboration accord in April 2024, committing to explore the feasibility of establishing a new national park in the Peel Watershed.

In June 2024, the Government of Yukon, the Government of Canada and Inuvialuit Parties signed the Aullaviat/Anguniarvik Traditional Conservation Area Agreement to ensure the protection and conservation of the Eastern North Slope of the Yukon in the Inuvialuit Settlement Region.

References:

Canada – Yukon Nature Agreement (December 14, 2022). Available from: **https://www.canada.ca/en/environment-climate-change/services/integrated-nature-initiatives/nature-agreements/canada-yukon-nature-agreement.html**

Memorandum of Understanding Respecting the Initial Planning for the Protection of Chasàn Chuà/McIntyre Creek Area (April 23, 2024). Available from: **https://yukon.ca/en/mcintyre-creek-protected-area-memorandum-understanding**

14. Number, type and location of environmental and socio-economic assessments

In 2024, 209 project proposals were submitted to the Yukon Environmental and Socio-economic Assessment Board (YESAB) for assessment across multiple sectors and areas of the territory (Figure 4.2). The number of submissions in the placer mining sector saw an increase of 17 per cent in 2024. From 2019 to 2024 the most common recommendation (73 per cent) has been that projects proceed with terms and conditions under section 56(1)(b) of the *Yukon Environmental Assessment* Act.

No proposals were submitted for pre-submission engagement at the executive committee screening level in 2024, and three remained in progress from previous years. Information regarding individual projects can be found on the YESAB online Registry (**yesabregistry.ca/**).

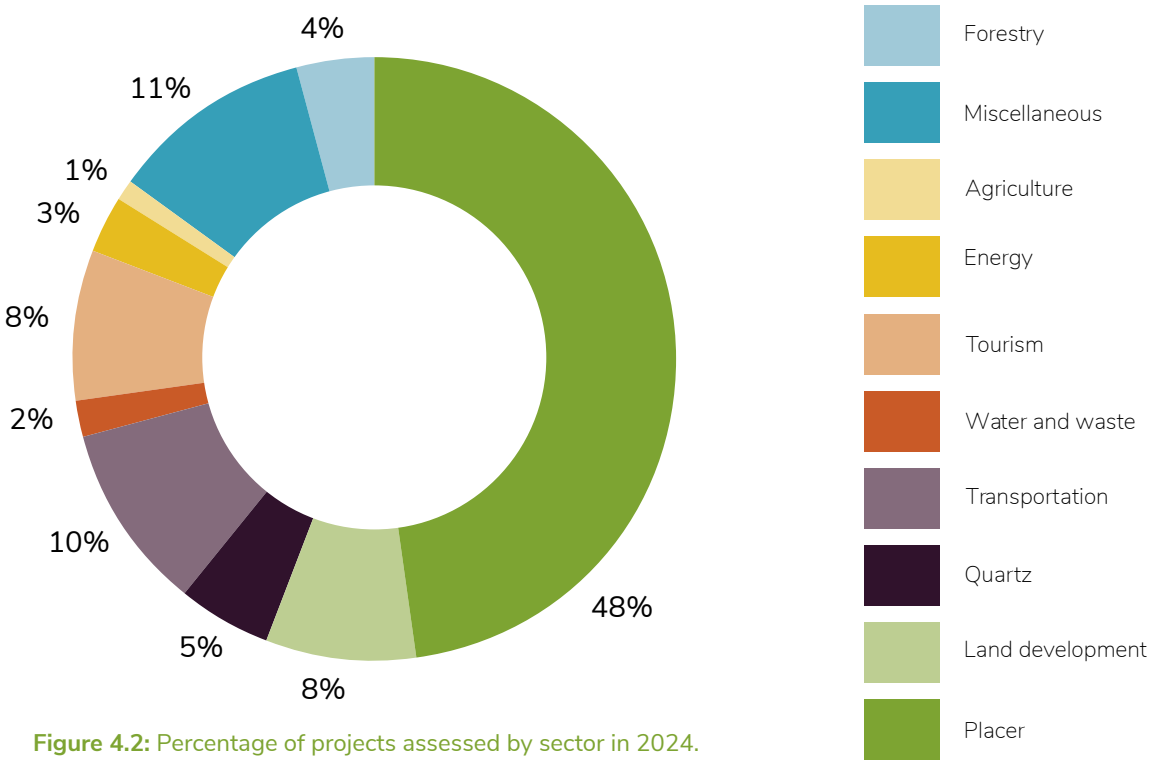


Figure 4.2: Percentage of projects assessed by sector in 2024.

15. Recreational land use and parks

The overnight visitation at territorial campgrounds is tracked annually through campground registrations. The total number of occupants or registered visitors includes the total number of people that were camping during the year, including repeat occupants or visitors. In 2024 Yukon Parks' frontcountry campgrounds hosted 90,047 visitors for 61,097 campsite nights.

Yukon Parks completed the first year of a two-year reservation pilot program at four campgrounds: Marsh Lake, Wolf Creek, Pine Lake and Tombstone Mountain. The program generated 5,819 reservations, accounting for 13 per cent of all Yukon campground registrations in 2024.

In 2024, some existing campgrounds were expanded, and maintenance and infrastructure upgrades occurred in many others including:

- Three new campsites were added to Grizzly Lake Campground in Tombstone Territorial Park, alongside upgrades to cook shelters, bear-proof food storage, outhouses and grey-water barrels.
- Ten sites were established on a new loop at Snafu Campground.
- Four new sites were built at Ethel Lake, along with general upgrades and site reconfigurations.
- New boat launches were installed at Nunatuk, Frances Lake, Little Salmon Lake and Simpson Lake.
- New docks were installed at Watson Lake, Simpson Lake, Nunatuk, Frenchman Lake and Tatchun Lake.
- Trails were upgraded and improved at Lapie Canyon and Conrad Campground.

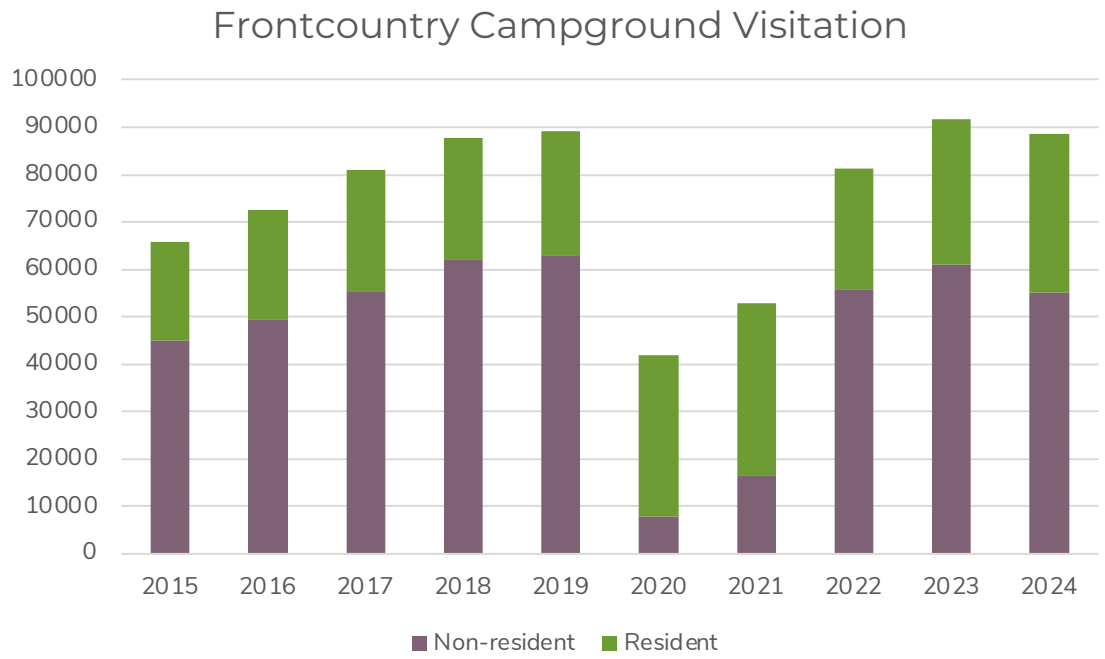


Figure 4.3: Number of occupants of territorial campgrounds.

An accessible site at Yukon River Campground.

Aerial view of Conrad Campground.

Group camping shelter at Tombstone Mountain Campground.

References:

Yukon Parks Strategy 2020–30 (September 23, 2020). Available from: **https://yukon.ca/en/yukon-parks-strategy**

16: Whitehorse Waste Management Facility

The waste diversion rate at the Whitehorse Waste Management Facility decreased in 2024, with a small decrease in organics diversion and a larger decrease in recycling diversion (Figure 4.4).

In April 2024, the non-profit organization Raven ReCentre announced that it would no longer accept paper, plastic packaging, cardboard or tin at its Whitehorse depot starting September of 2024. The City of Whitehorse opened a new temporary recycling depot at the Waste Management Facility in September and began a curbside recycling collection program in December.

The City of Whitehorse completed a two-season waste audit, investigating the composition of solid waste in the city across different summer and winter seasons. The completion of the waste audit provides insight into waste disposal across various sectors to identify further areas for improvement. Additionally, the transfer station upgrades at the Whitehorse Waste Management Facility were completed, ensuring that the facility remains equipped to handle the evolving needs of the community.

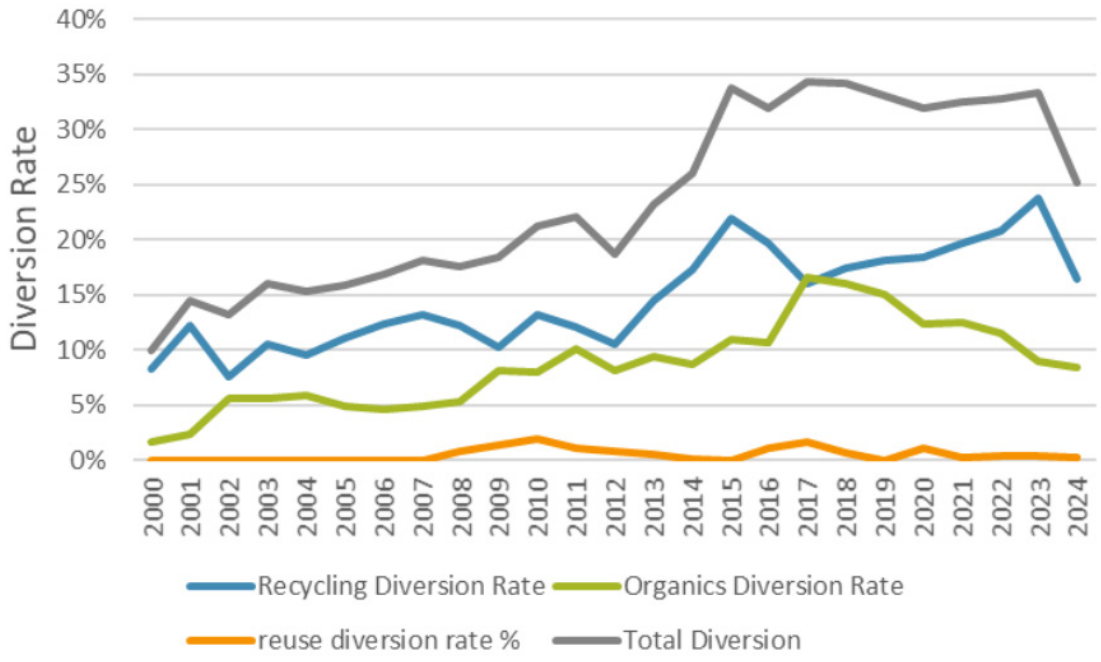


Figure 4.4: Diversion rate of recycling and organics materials from the City of Whitehorse Waste Management Facility.

17. Forest health

No new data was available. Refer to the **Yukon State of the Environment Interim Report 2024** for the latest reporting information on this indicator.

18. Wetlands

No new data was available in 2024. Refer to the **Yukon State of the Environment Interim Report 2024** for the latest reporting information on this indicator.

Fish and wildlife

19. Presence of alien and introduced species

The presence of introduced species in the Yukon is low, particularly compared to the rest of Canada. The Yukon has 152 introduced species, representing less than 2 per cent of the 8,510 species confidently known to occur in the territory. This number represents a decrease from the 154 introduced species reported in 2023, as new evidence indicated some species thought to be introduced were likely native or did not have self-sustaining populations in the Yukon.

The majority of introduced species in the Yukon are plants or invertebrates (Figure 5.1), with only a handful of species from other groups. Two new species thought to be introduced to the territory were confirmed present in 2024.

Following methodology developed by NatureServe, the Yukon Conservation Data Centre (YCDC) calculates an invasiveness rank for most introduced plant species and some invertebrates known to occur in the Yukon. Species assessed are given a rank from Insignificant to High, that serves as a rough description of the threat they could pose to native ecosystems and species, social values or the economy. In 2024, there were 17 non-native species assessed as having a high invasiveness rating.

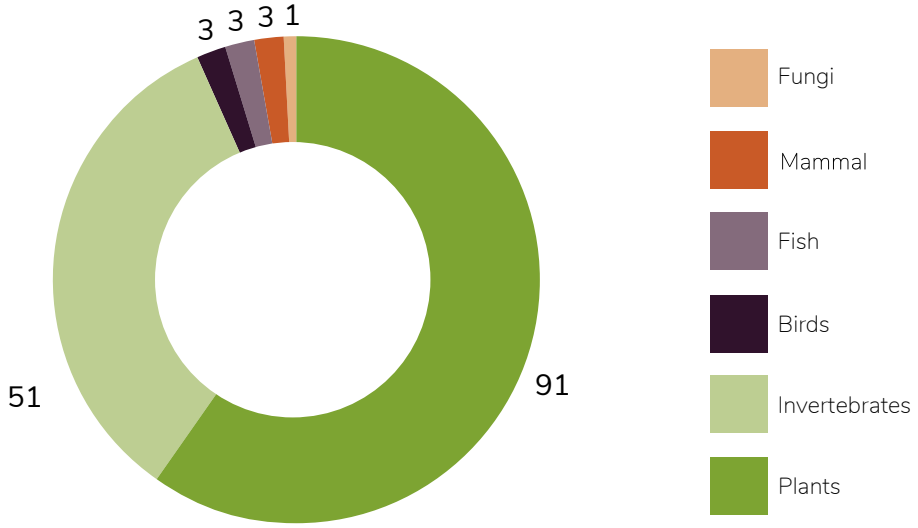


Figure 5.1: Breakdown of introduced species in the Yukon by broad taxonomic group.

The seven-spotted lady beetle (Coccinella septempunctata) is an introduced species in North America that is known from a number of sites in the Yukon, with evidence it is spreading into remote wilderness areas. Competition with this introduced species is identified as one of the main threats facing the native transverse lady beetle (Coccinella transversoguttata). Photo credit Denny Bohmer (YG)

References:

Canadian Endangered Species Conservation Council. 2022. Wild Species 2020: The General Status of Species in Canada. National General Status Working Group: 172 pp.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC). 2016. COSEWIC assessment and status report on the Transverse Lady Beetle *Coccinella transversoguttata* in Canada. COSEWIC, Ottawa, Ontario, Canada. Available from: **http://www.registrelep-sararegistry.gc.ca/default.asp?lang=en&n=24F7211B-1**

Morse L.E., J.M. Randall, N. Benton, R. Hiebert, and S. Lu. 2004. An Invasive Species Assessment Protocol: Evaluating Non-Native Plants for Their Impact on Biodiversity. Version 1. NatureServe, Arlington, Virginia.

Species conservation and biodiversity research, Yukon Conservation Data Centre. Government of Yukon. 2023. General species data and contact information: **https://yukon.ca/en/biodiversity**

20. Species management plans

Management plan for the Chisana caribou herd

The management plan for the Chisana caribou herd was renewed in November 2024, following extensive public engagement by the Government of Yukon and co-management partners. The revised plan provides a common goal, objectives, and strategies to guide Chisana caribou herd management and conservation in Alaska and the Yukon.

Conservation and action plan for the Aishihik bison population

The updated conservation and action plan for the Aishihik bison population was published on October 21, 2024. This update to the plan was the result of years of public opinion surveys, a 2022 population survey and consultations with Champagne and Aishihik First Nations, Kluane First Nation, Little Salmon/Carmacks First Nation and White River First Nation. Additional support for the updated plan came from the Yukon Fish and Wildlife Management Board.

References:

Chisana Caribou Herd Working Group. 2024. Management plan for the Chisana caribou herd. Available from **https://yukon.ca/en/renewed-management-plan-chisana-caribou-herd**

Government of Yukon. 2024. A conservation and action plan for the Aishihik bison (Bison bison) population. Government of Yukon, Whitehorse, Yukon, Canada. Available from **https://yukon.ca/en/conservation-and-action-plan-aishihik-bison-bison-bison-population**

21. Caribou population and distribution

Woodland caribou (one Boreal herd, 26 Northern Mountain herds)

The Department of Environment conducted various Northern Mountain caribou surveys in 2024, including:

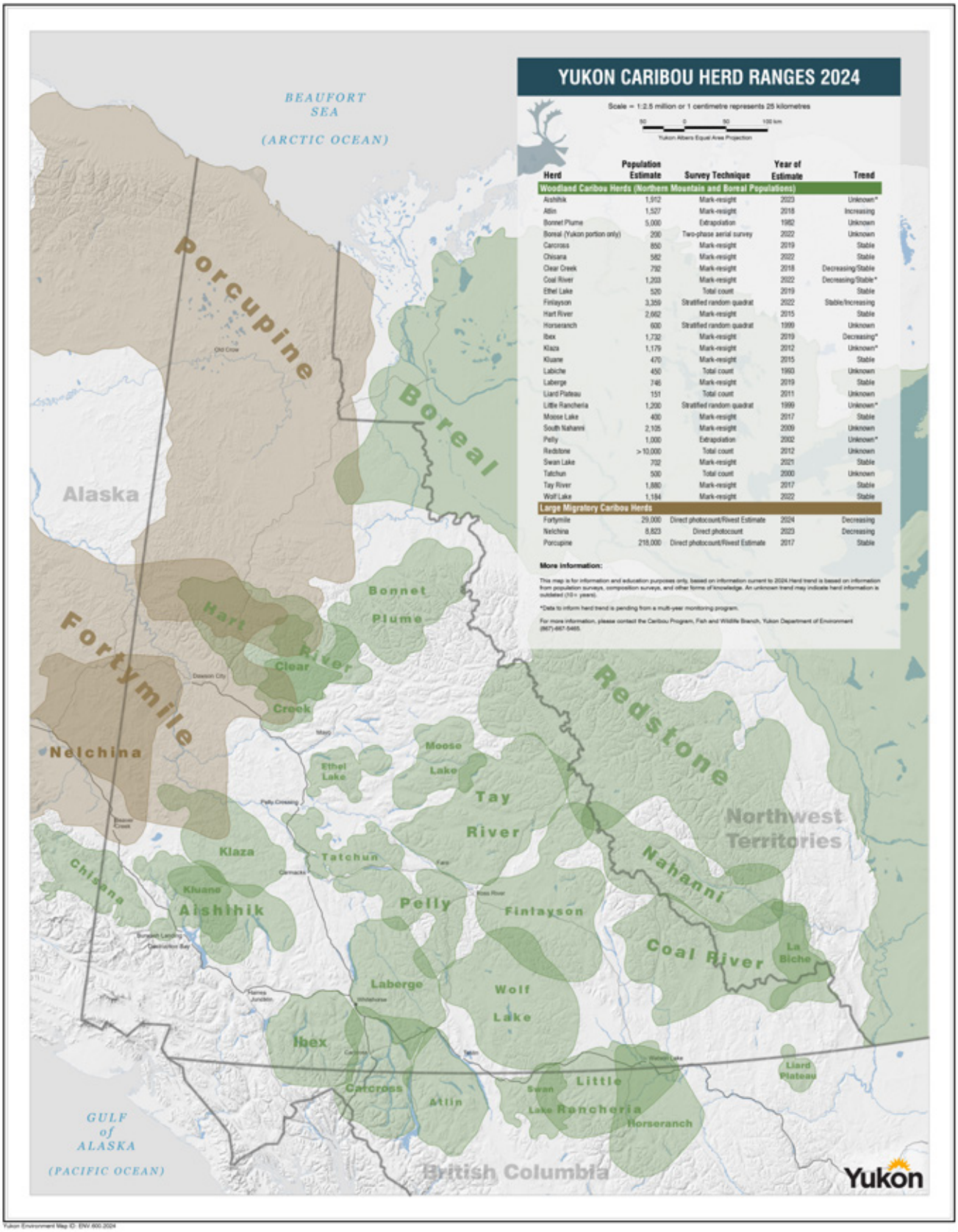
- GPS-collar deployments in the Pelly, Bonnet Plume, Hart River, Carcross and Clear Creek herds;
- A population and composition survey of the Klaza herd;
- A calving survey of the Hart River herd; and
- Fall composition surveys of the Aishihik, Chisana (with Alaska), Ibex, Carcross, Laberge, Atlin (with British Columbia), Wolf Lake, Coal River, Finlayson, Tatchun, Ethel Lake, Clear Creek and Hart River herds.

Migratory caribou (Porcupine, Fortymile and Nelchina herds)

Monitoring and research of these large migratory herds happens in collaboration with several agencies and Indigenous governments, groups and co-management bodies in Canada and Alaska. In 2024, the Department of Environment completed analysis of data collected from specialized camera collars placed on Porcupine caribou from 2018-2023, completed sampling and analysis of important forage species and completed an analysis of the changing dynamics of insect harassment on the herd.

Ongoing monitoring of the Porcupine caribou herd indicates it is stable or slightly declining and likely below the 2017 count of 218,000 caribou. Counts in summer 2023 identified less than 9,000 caribou in the Nelchina herd, which is a precipitous decline from its peak of over 50,000 in 2019. Updated estimates are not available for 2024. Although almost all monitoring of the herd occurs in Alaska, the Government of Yukon continues to contribute to herd monitoring and management when possible and necessary.

The Fortymile herd has declined from a high of 84,000 in 2017 to its current population size of 29,000 caribou. Evidence from ongoing research has identified habitat limitations as a key aspect of the decline, in addition to several severe winters. The Government of Yukon will continue work to better understand the impact of other key environmental factors.



Herd	Population Estimate	Survey Technique	Year of Estimate	Trend
Woodland Caribou Herds (Northern Mountain and Boreal Populations)				
Aishihik	1,912	Mark-resight	2023	Unknown*
Atlin	1,527	Mark-resight	2018	Increasing
Bonnet Plume	5,000	Extrapolation	1982	Unknown
Boreal (Yukon portion only)	200	Two-phase aerial survey	2022	Unknown
Carcross	850	Mark-resight	2019	Stable
Chisana	582	Mark-resight	2022	Stable
Clear Creek	792	Mark-resight	2018	Decreasing/Stable
Coal River	1,203	Mark-resight	2022	Decreasing/Stable*
Ethel Lake	520	Total count	2019	Stable
Finlayson	3,359	Stratified random quadrat	2022	Stable/Increasing
Hart River	2,662	Mark-resight	2015	Stable
Horseranch	600	Stratified random quadrat	1999	Unknown
Ibex	1,732	Mark-resight	2019	Decreasing*
Klaza	1,179	Mark-resight	2012	Unknown*
Kluane	470	Mark-resight	2015	Stable
Labiche	450	Total count	1993	Unknown
Laberge	746	Mark-resight	2019	Stable
Liard Plateau	151	Total count	2011	Unknown
Little Rancheria	1,200	Stratified random quadrat	1999	Unknown*
Moose Lake	400	Mark-resight	2017	Stable
South Nahanni	2,105	Mark-resight	2009	Unknown
Pelly	1,000	Extrapolation	2002	Unknown*
Redstone	>10,000	Total count	2012	Unknown
Swan Lake	702	Mark-resight	2021	Stable
Tatchun	530	Total count	2000	Unknown
Tay River	1,880	Mark-resight	2017	Stable
Wolf Lake	1,184	Mark-resight	2022	Stable
Large Migratory Caribou Herds				
Fortymile	29,000	Direct photocount/Rivest Estimate	2024	Decreasing
Nelchina	8,823	Direct photocount	2023	Decreasing
Porcupine	218,000	Direct photocount/Rivest Estimate	2017	Stable

This map is for information and education purposes only, based on information current to 2024.Herd trend is based on information from population surveys, composition surveys, and other forms of knowledge. An unknown trend may indicate herd information is outdated (10+ years).

*Data to inform herd trend is pending from a multi-year monitoring program.

For more information, please contact the Caribou Program, Fish and Wildlife Branch, Yukon Department of Environment (867) 667-5465.

Yukon Environment Map ID: ENV 600 2024

Figure 5.2: Yukon caribou herd ranges map 2024 .

22. Mercury in Porcupine caribou

Woodland caribou (one Boreal herd, 26 Northern Mountain herds)

Mercury levels have been measured in Porcupine caribou since 1990 under the Northern Contaminant Program's Contaminants in Arctic Caribou Project. In 2024, samples were collected from 27 animals and tested for mercury contamination.

Mercury concentrations in the liver are generally lower than in the kidneys, averaging 0.37 [1]µg /g dry weight in the liver as compared with 1.61 µg/g dry weight in the kidneys in fall-collected caribou. Mercury does not tend to accumulate in muscle tissue (the average is 0.04 µg/g dry weight in muscle tissue). Mercury levels fluctuate over time in caribou organs, and in kidneys, over the long term, show a slight increase in concentrations (Figure 5.3). However, this increase is very small and is likely part of the naturally occurring cycle of mercury in caribou.

Annual changes in mercury levels in Porcupine caribou likely reflect differences in atmospheric mercury levels, as well as changes in the environment (e.g., temperature, precipitation and wind) that affect how mercury moves from the air to caribou.

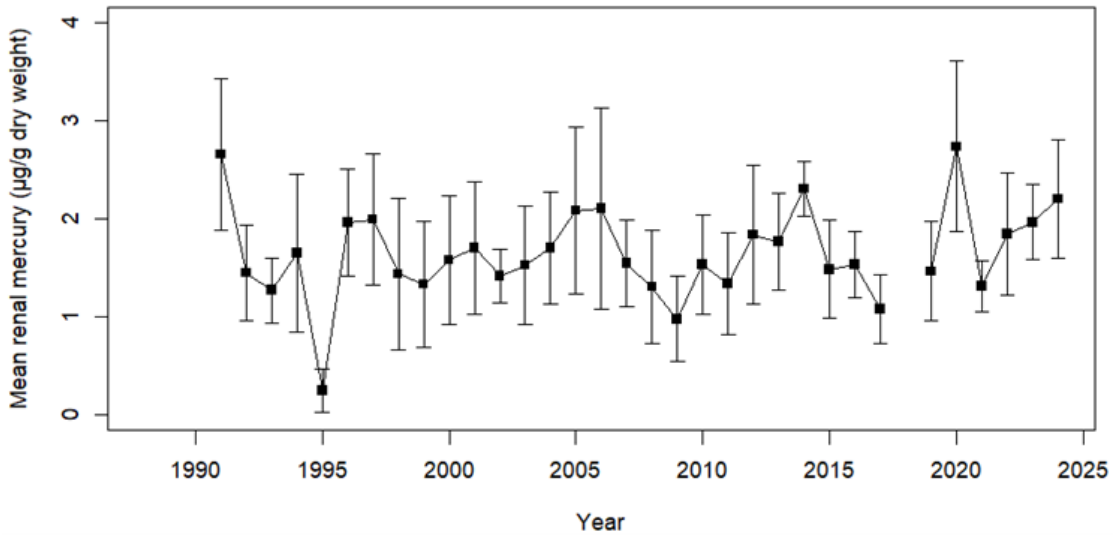


Figure 5.3: Mercury concentrations in fall-collected Porcupine caribou over time.

23. Density of snowshoe hares

No new data was available in 2024. Refer to the **2023 Yukon State of Environment Report** for the latest reporting information on this indicator.

24. Winter tick surveillance

No new data was available in 2024. Refer to the **2023 Yukon State of Environment Report** for the latest reporting information on this indicator.

1 *A microgram is one millionth (1×10−6) of a gram*

25. Sustainability of lake trout fisheries

In 2024, the Department of Environment worked with the Kwanlin Dün First Nation, the Ta'an Kwäch'än Council and the Carcross/Tagish First Nation to assess the lake trout populations on Lake Laberge and Marsh Lake. These assessments will provide essential information to evaluate the impacts of harvest pressure and the Whitehorse Generating Station on lake trout populations.

The Department of Environment also assessed the recovering lake trout population on Pine Lake, which had declined in the early 2000's, leading to a complete restriction on lake trout harvest. The Pine Lake assessment aims to gather critical information on the population's recovery to support discussions about its future management.

In collaboration with the Yukon Fish and Wildlife Management Board, the Department of Environment conducted public engagement on proposed fishing regulations to support the long-term sustainability of the lake trout population in Little Atlin Lake for future generations. The proposed changes include the use of single-pointed barbless hooks, a seasonal timing window and a new harvest slot.

Department of Environment staff conduct a lake trout assessment on Lake Laberge in 2024.

References:

Lake Trout Monitoring Program: **Learn about the Lake Trout and Lake Whitefish Monitoring Program | Yukon.ca**

Sinclair, C.L., and P. Savage. 2023. Lake Trout and Lake Whitefish Monitoring Program: 10-year adaptive monitoring strategy (2023-2032), (SR-23-14). Government of Yukon, Whitehorse, Yukon, Canada. Available from: **Lake Trout and Lake Whitefish Monitoring Program 10-year Adaptive Monitoring Strategy - Full report.pdf**

Savage, P.-L. et al. 2023. Fisheries Status Report: Little Atlin Lake. Yukon Fish and Wildlife Branch Report SR-23-11 Whitehorse, Yukon, Canada. Available from: **https://yukon.ca/en/fisheries-status-report-little-atlin-lake-summary**

26. Number of spawning Chinook salmon

The estimate of the 2024 Canadian-origin Chinook salmon run in the mainstem Yukon River was 25,390 fish. This was within the 2024 preseason outlook range of 19,000–28,000 fish.

In 2024, the Department of Fisheries and Oceans (DFO) maintained the long-term closure of the Yukon River Chinook salmon commercial fishery. Yukon First Nations fisheries followed conservative management plans, with many requesting no harvesting of Chinook salmon, or closing the fishery entirely.

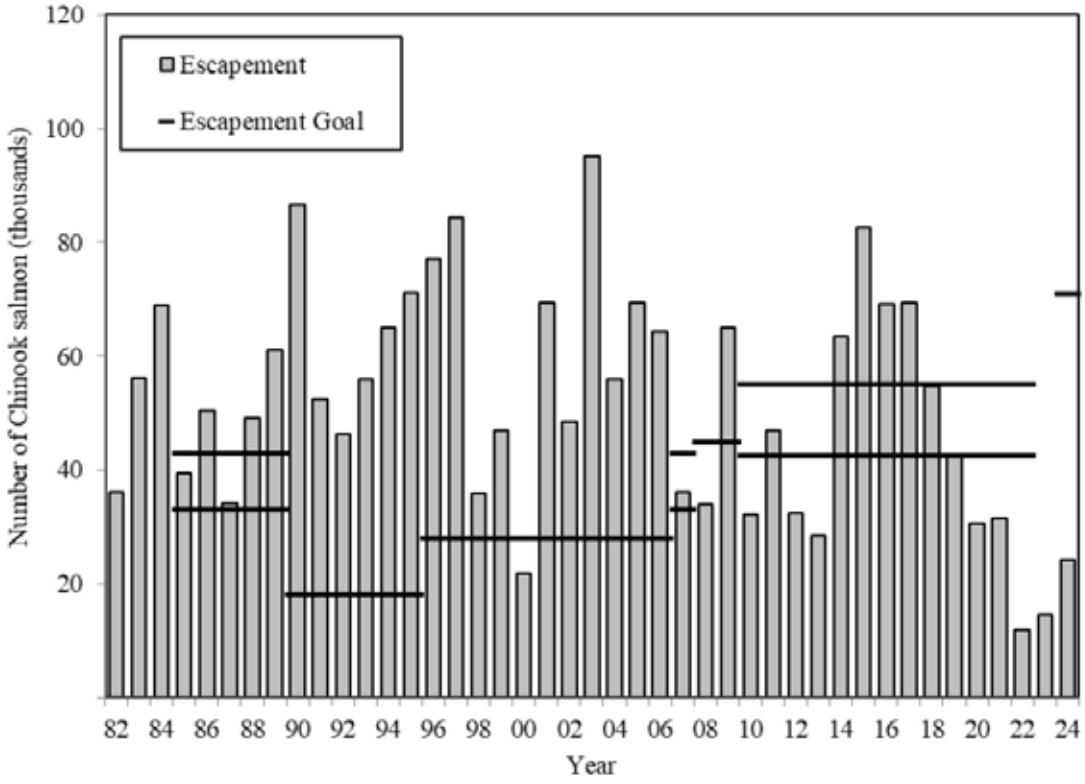


Figure 5.4: Estimated spawning escapement estimates and escapement goals (minimum or range) for Canadian-origin Yukon River mainstem Chinook salmon, 1982–2024.

References:

Yukon River Salmon 2024 Season Summary and 2025 Season Outlook. Prepared by The United States and Canada Yukon River Joint Technical Committee March 2025 Yukon JTC (25)-01. Available from: **https://www.yukonriverpanel.com/publications/yukon-river-joint-technical-committee-reports/**

27. Trumpeter swan population monitoring

In 2024, the peak swan count at the Swan Haven Interpretive Centre on M'Clintock Bay was approximately 1,600 birds. The peak numbers of swans came in two waves across three days each. One wave came shortly before the peak of the average trend, and the wave with peak numbers came shortly after (Figure 5.5). The single day count on April 30, 2024, was lower than the average and lower than the count from the previous year (Figure 5.6).

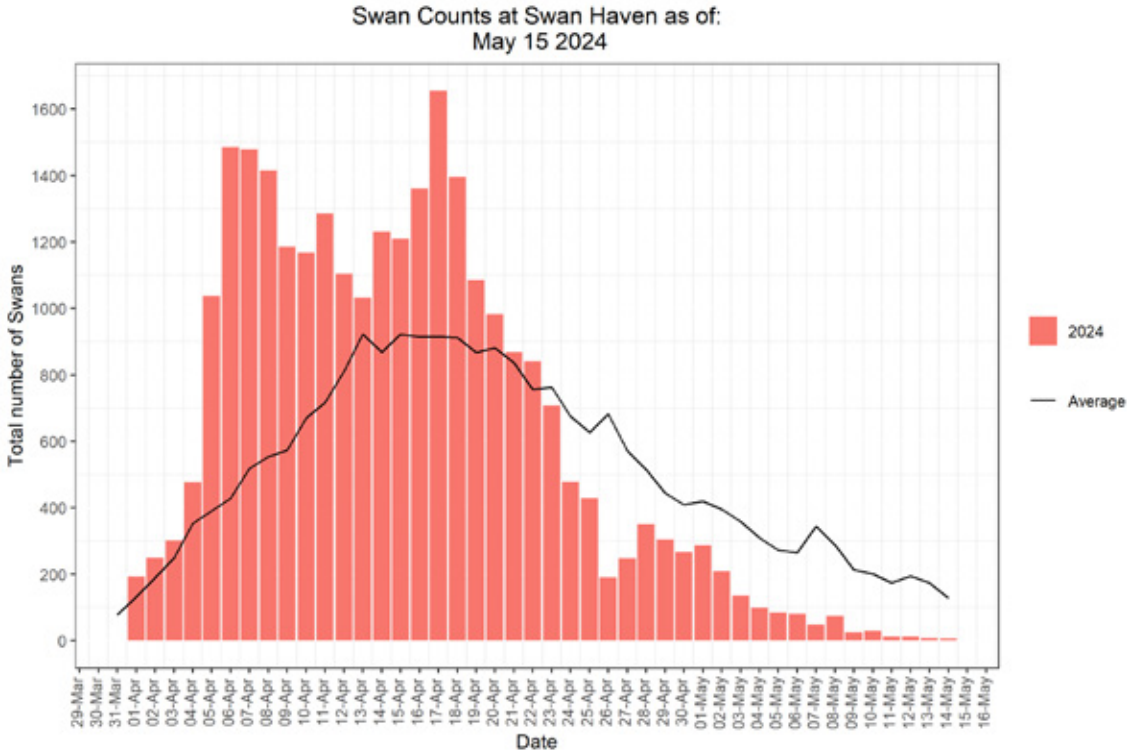


Figure 5.5: Daily swan count at Swan Haven, M'Clintock Bay, Yukon in spring 2024. Bars show daily counts; the black line is the average daily count for all years (2000 – 2024). Created by Margaret Campbell – Canadian Wildlife Services-Environment and Climate Change Canada.

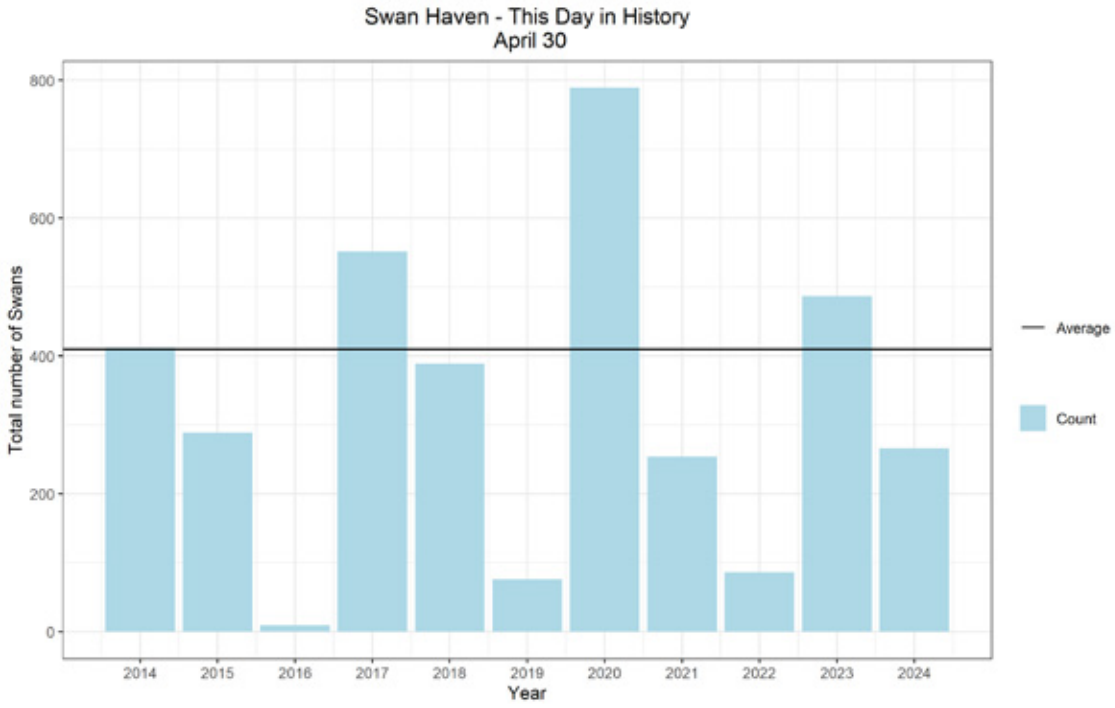


Figure 5.6: A comparison of the daily swan count on April 30 for the past 10 years. Created by Margaret Campbell – Canadian Wildlife Services-Environment and Climate Change Canada.

28. Monitoring breeding waterfowl

No new data was available in 2024. Refer to the **Yukon State of the Environment Interim Report 2024** for the latest reporting information on this indicator.

29. Avian influenza surveillance

In spring 2022, a collaborative monitoring program was initiated to test wild birds in the Yukon for avian influenza virus. The Animal Health Unit collects oral and cloacal swab samples from sick or dead wild birds and submits them for testing for the virus. Most samples were collected from the Whitehorse region, but a few samples were collected near other communities (Figure 5.7).

In 2024, there were 75 samples collected from avian and mammal specimens, with zero samples returning positive results for the virus.

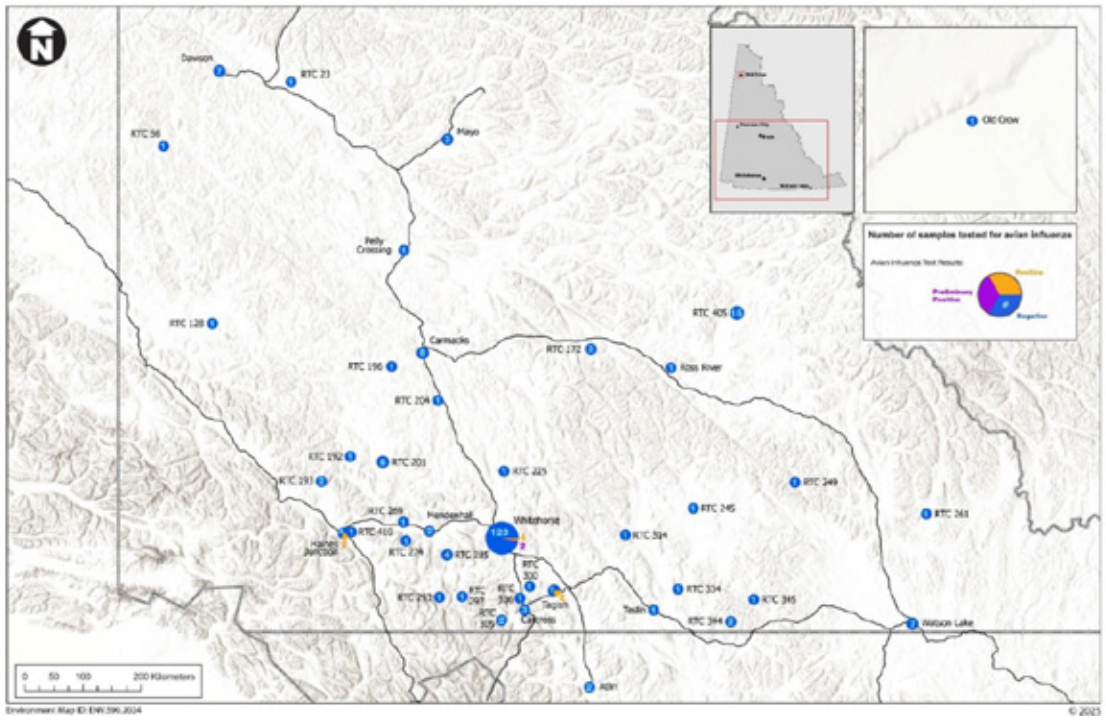


Figure 5.7: Map showing the number and distribution of samples collected for avian influenza virus testing in the Yukon from 2022 to 2024. The discs represent approximate locations. Preliminary positive samples are samples that have not yet received confirmation as the H5N1 strain.

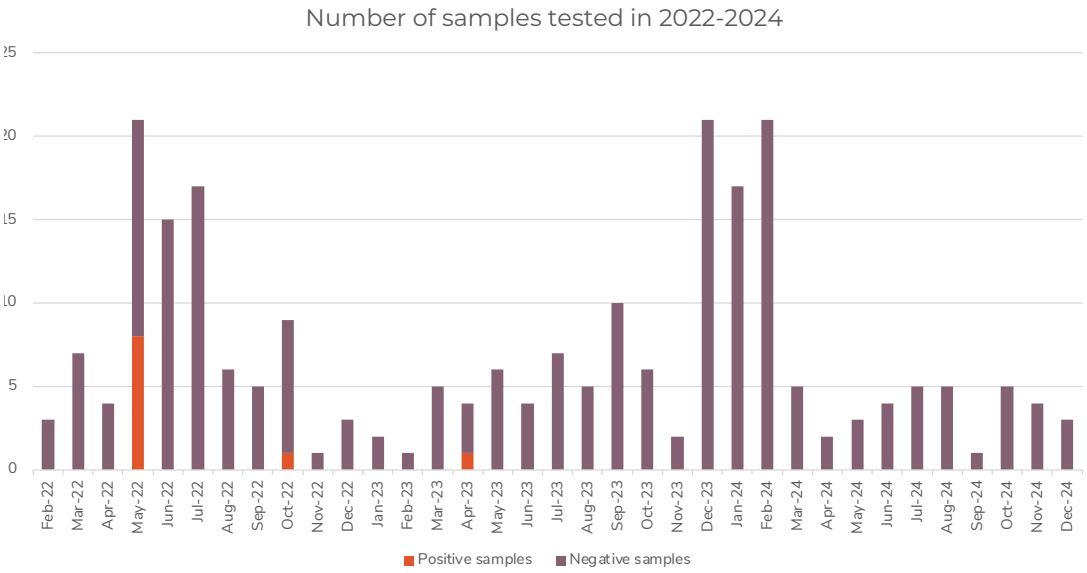


Figure 5.8: The number of samples tested per month for presence of avian influenza virus from Yukon wild birds and wildlife in 2022, 2023 and 2024.

References:

Government of Canada [Internet] Canada.ca [modified 2024-10-09; cited 2025-01-15] Available from: **https://www.canada.ca/en/environment-climate-change/services/migratory-game-bird-hunting/avian-influenza-wild-birds.html**

Inspection Service [Internet] USDA.gov [cited 2025-01-15] Available from: **https://www.aphis.usda.gov/h5n1-hpai#detections-hpai**

30. Monitoring respiratory pathogens in Yukon wildlife

Surveillance of the bacteria Mycoplasma ovipneumoniae (M. ovi) in Yukon wildlife is ongoing. In 2024, there were 254 individual animals tested, the majority being thinhorn sheep (117) and caribou (77). All samples were negative for Mycoplasma spp. except for one female caribou from the Porcupine herd captured in March 2024. The individual appeared healthy during capture.

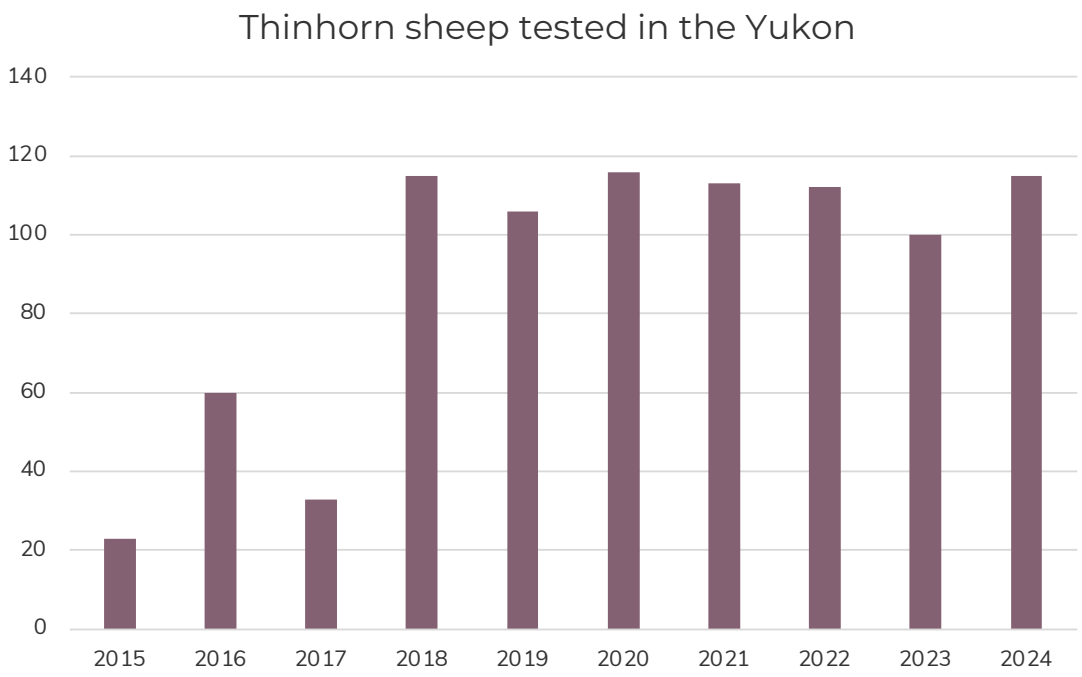


Figure 5.9: The number of individual thinhorn sheep tested in the Yukon per year since 2015.

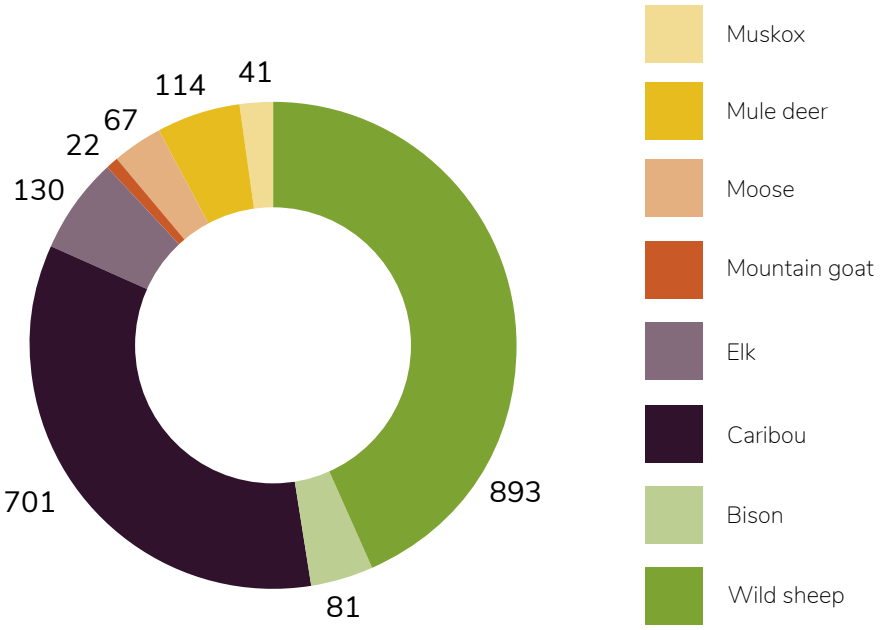


Figure 5.10: The number of individual free-ranging animals tested by the Animal Health Unit for *Mycoplasma ovipneumoniae* between 2015 and 2024. Note: Thinhorn sheep and mountain goat testing began in 2015. Testing of other species began in 2018.

31. Biodiversity

There are currently 8,510 species confidently known to be present in the Yukon. In 2024, there were 168 new species confirmed to be present in the territory. This was verified through a combination of field surveys, datamining and identification of previously collected specimens. Of these 168 species, only two were thought to be exotic (non-native).

Of the species known to occur in the Yukon, 4,360 (51 per cent) are ranked as "data deficient", meaning there is a lack of sufficient information on their distribution or abundance in the territory to assign a more informative conservation ranking. Of these data deficient species, 3,361 (77 per cent) are invertebrates that are difficult to identify or that have not received extensive survey effort. Only 90 species (2 per cent) ranked as data deficient come from "well known" taxonomic groups (mammals, birds, amphibians and vascular plants).

205 species known to occur in the Yukon are considered "historic", meaning that they have not been detected for a period of at least 40 years since the last confident record. In 2024, there were seven species previously thought to be historic in the Yukon that were re-added to the list of species confidently thought to be present.

The Committee on the Status of Endangered Species in Canada (COSEWIC) has assessed the national status of 75 species and 14 distinct populations of species known to be present in the Yukon. Of these, 34 were deemed Not at Risk, 31 are Special Concern, 14 are Threatened, and six are Endangered, with four determined to be Data Deficient.

Two additional species known to be present in the Yukon were assessed by COSEWIC in 2024.

Netted lung lichen (*Lobaria anomala*) was newly reported from Yukon in 2024, from rich spruce forests along the Klukshu River. This species typically grows in wet, coastal regions and is expected to be rare in Yukon.

References:

Committee on the Status of Endangered Wildlife in Canada (COSEWIC). 2024. Assessment results and news briefings available from: **https://cosewic.ca/index.php/en/**

NatureServe Conservation Status Categories. NatureServe. Arlington, VA. Accessed January 20, 2025. Available online at: **https://www.natureserve.org/nsexplorer/about-the-data/statuses/conservation-status-categories**

Species conservation and biodiversity research, Yukon Conservation Data Centre. Government of Yukon. 2023. General species data and contact information: **https://yukon.ca/en/biodiversity**


Yukon