

**2024-2025**

# Update on the demography of the George and Leaf River migratory caribou herds

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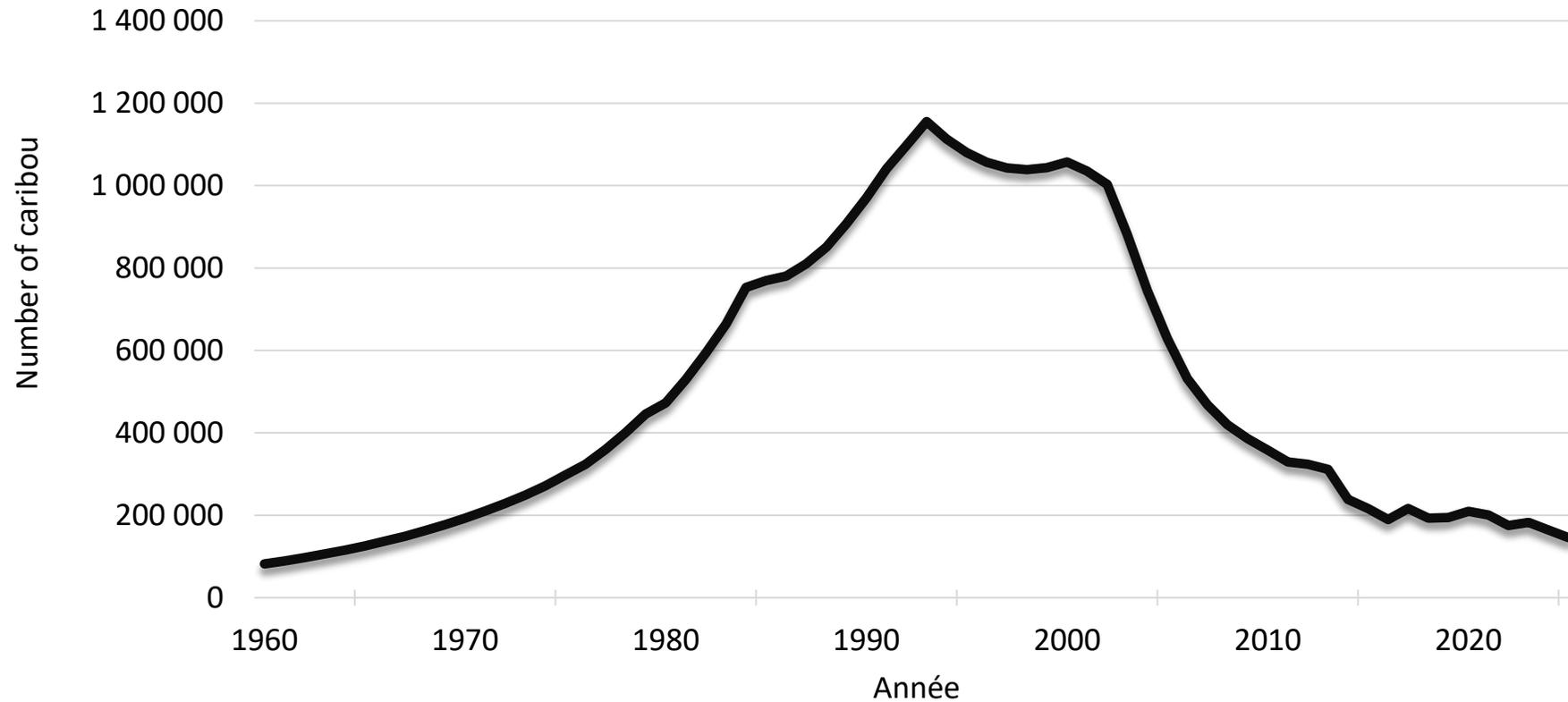
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**Presented remotely to the Naskapi Nation of Kawawachikamach Band Council**

**2025/12/08**

# MIGRATORY CARIBOU

## ESTIMATED ABUNDANCE IN THE UNGAVA



General understanding of the combined population estimates of the Leaf and George River herds since the beginning of modern monitoring in the Ungava

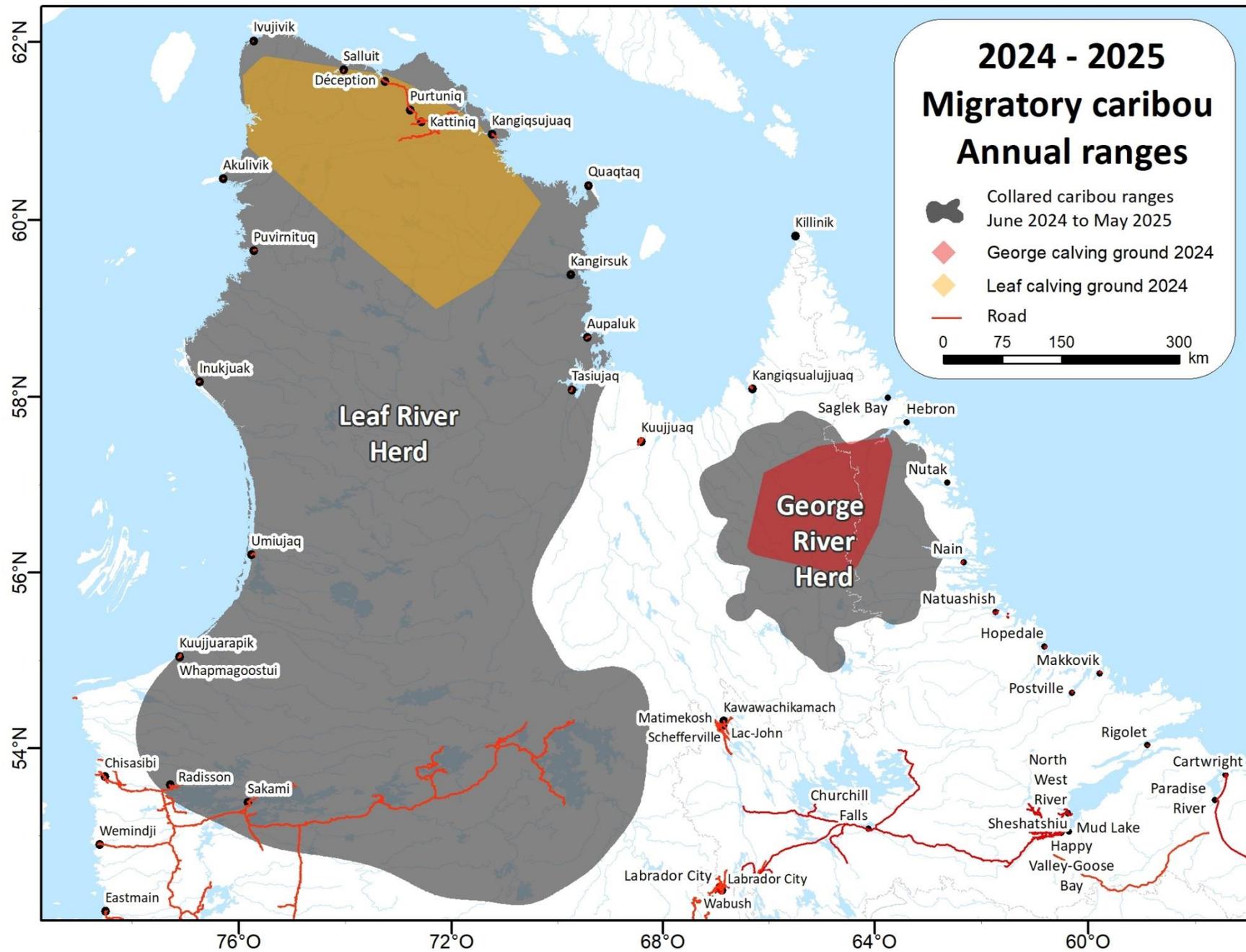
# MIGRATORY CARIBOU 2024-2025 RANGES

George River and Leaf River caribou are distinct populations

Management of the harvest and conservation measures are specific to the population ranges

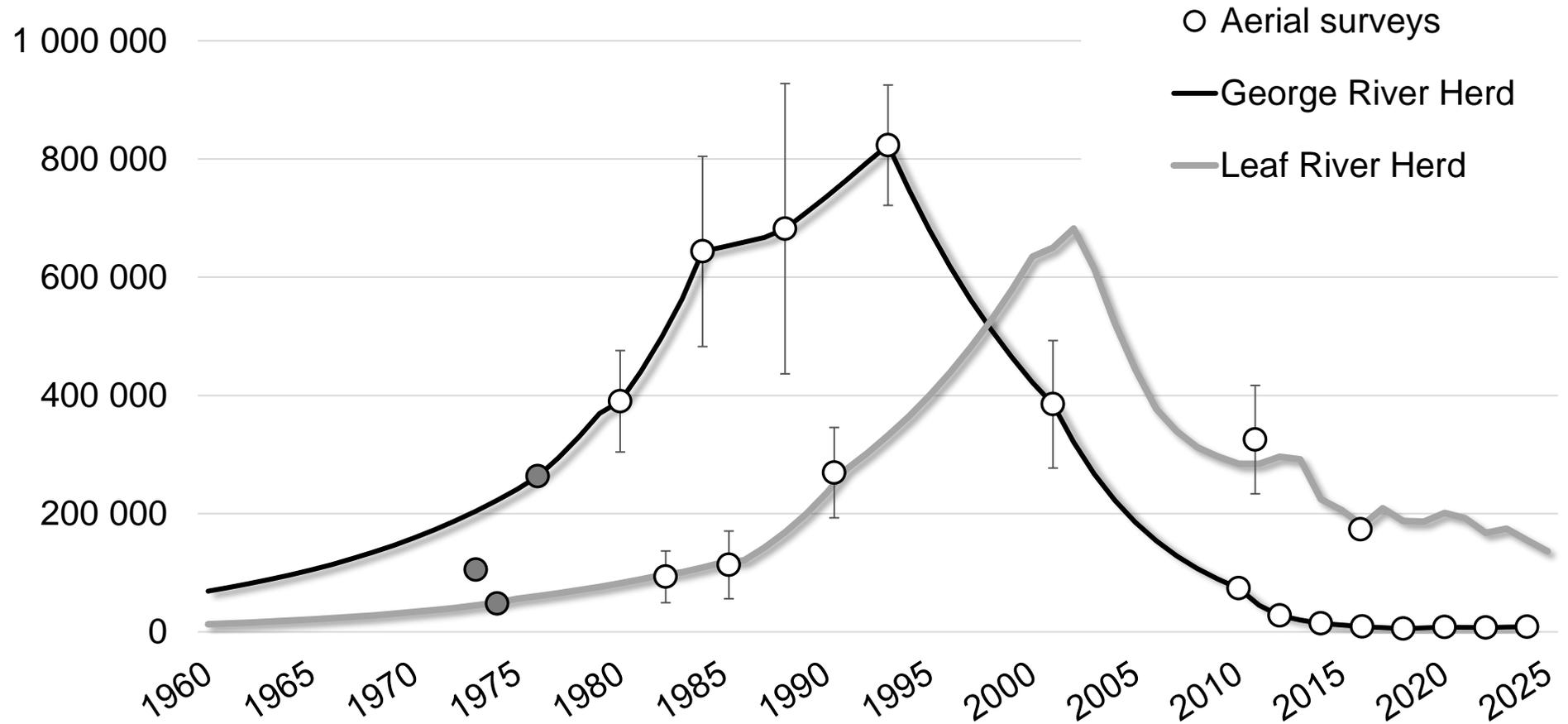
Annual range mapped by a density analyses (kernel 99%) of male and female caribou locations between June 1<sup>st</sup> 2024 to May 31<sup>st</sup> 2025.

Calving area mapped by the minimum convex polygon (MCP 99%) of the locations between May 15 and July 15, 2024 of females presumed to have had a calf.



# MIGRATORY CARIBOU

## HISTORICAL TREND



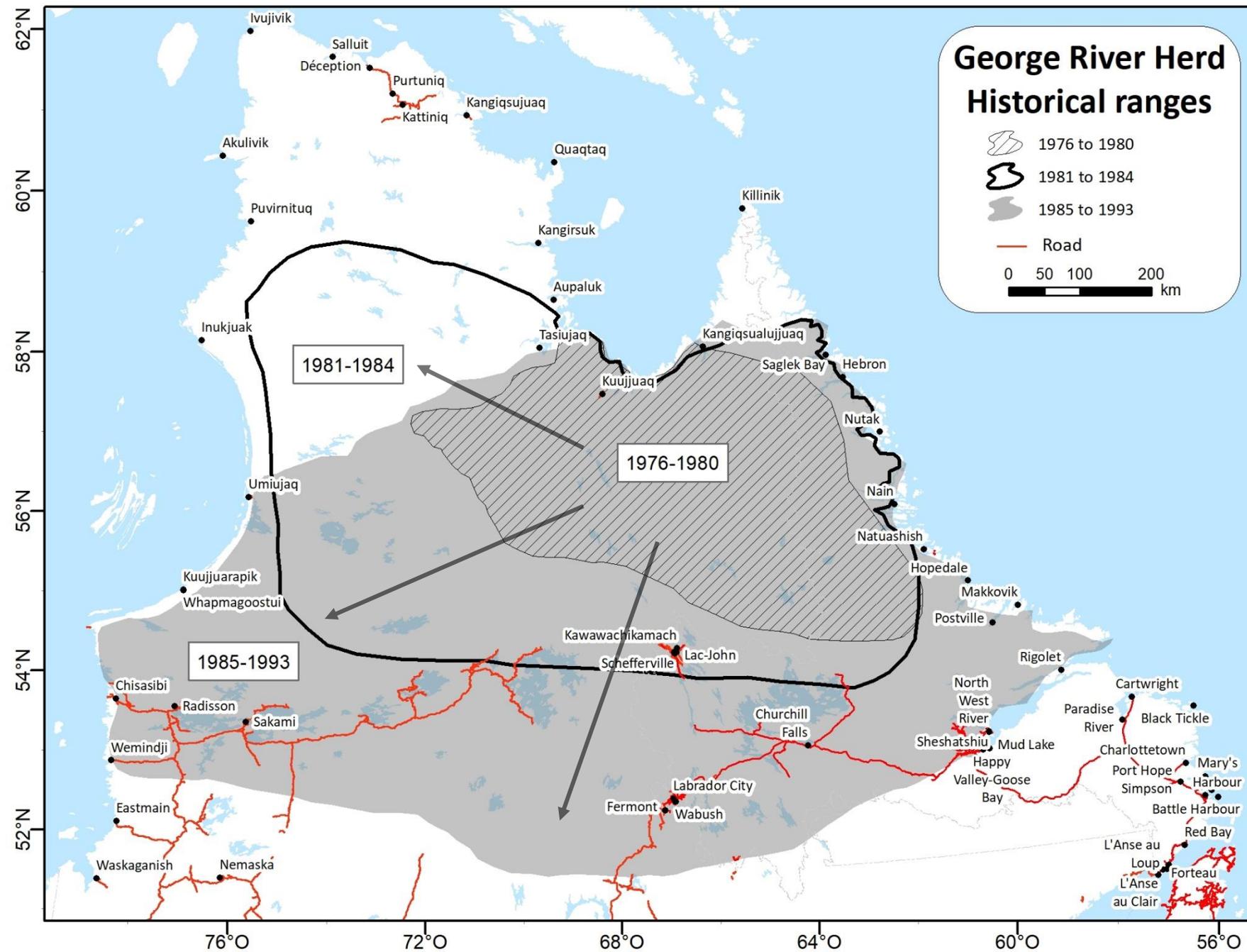
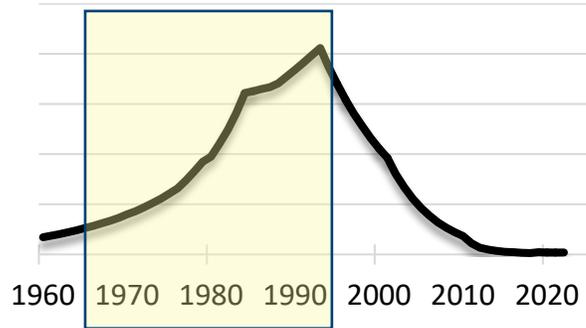
Estimated trend (solid line) from demographic indicators and aerial surveys with 90% C.I. of the Leaf and George River herds since the beginning of modern monitoring

# GEORGE RIVER HERD

## HISTORICAL DISTRIBUTION

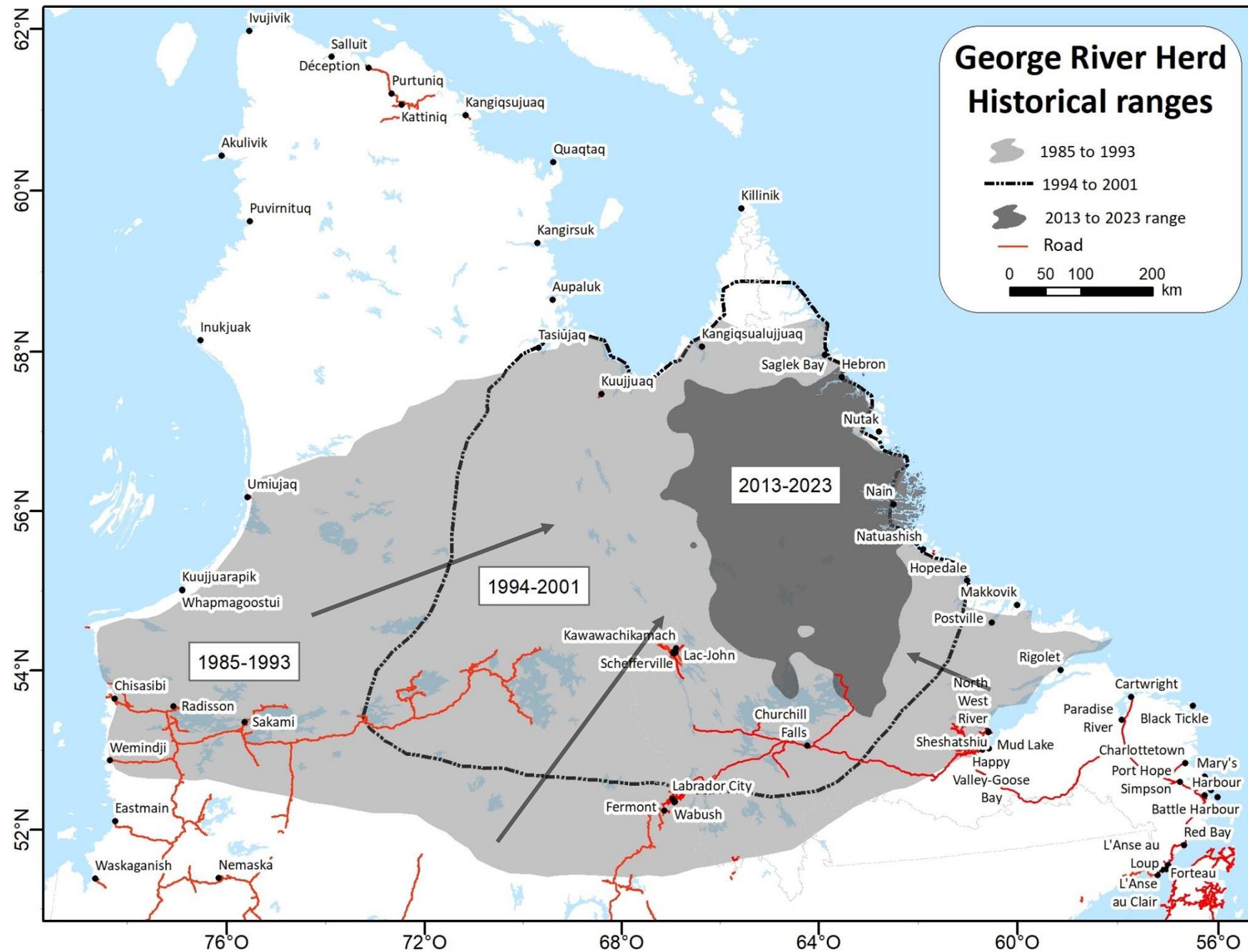
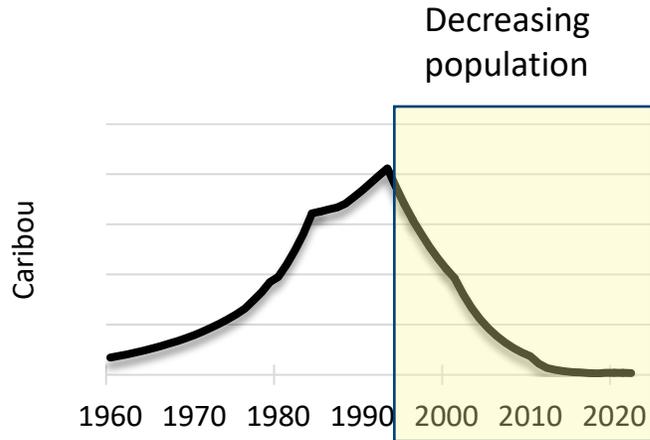
Range increased and decreased with population variations

Increasing population



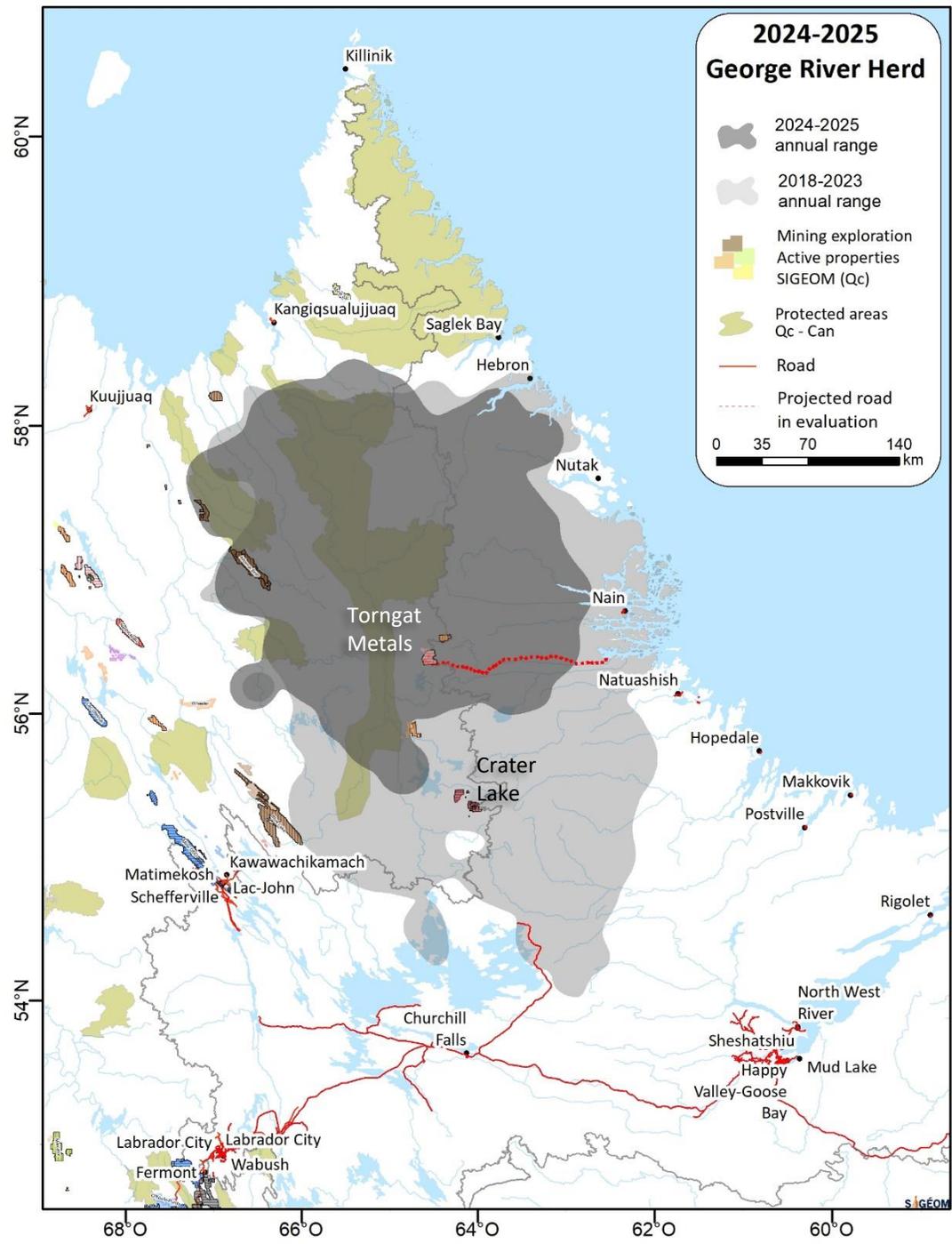
# GEORGE RIVER HERD HISTORICAL DISTRIBUTION

Range increased and decreased with population variations



# GEORGE RIVER CARIBOU HERD 2024-2025 RANGE

- Monitoring and biological assessment of the herd conducted in collaboration with organisations in Newfoundland and Labrador
- Fall migration shortened by more than 100 km in the past decade
- Winter range remains accessible to Inuit, Naskapi and Innu communities



# GEORGE RIVER HERD

## 2024 SURVEY METHOD

The number of collars is maintained to represent the behavior of males and females, and the population's distribution.

Population estimate from the Petersen calculation is based on the principle of Capture – Mark– Recapture:

**Winter captures – GPS Collars – Summer survey photos**

Premises of the Petersen calculation:

1. Marked (collared) animals are randomly distributed and are representative of the population.
2. Marked animals have an equal probability of being detected.
3. Groups of significant size are minimally represented by one marked animal.



# GEORGE RIVER HERD

## 2024 SURVEY CONDITIONS

Calculation premises were respected:

### 1. Random and representative sample

Caribou were collared over several years across the range in Québec and in Labrador.

### 2. Equal detection probability

All collars transmit 2 GPS locations/day and an ID specific VHF radio signal.

### 3. Large groups well represented by collars

All groups over 1,000 had more than 8 collared caribou



# GEORGE RIVER HERD

## 2024 SURVEY CONDITIONS

### Sampling conditions were adequate:

- Excellent aggregation conditions
- Regular update of collared caribou locations
- Good VHF telemetry conditions
- Well positioned and sufficient fuel caches



**GROUP 3 = 1,890 caribou**  
**1,317 adults**  
**573 calves**  
**12 collared females**



# GEORGE RIVER HERD

## 2024 SURVEY CONDITIONS

The photos allow a precise count of adults (red dots) and calves (blue dots), and thus a measure of the recruitment a few weeks after calving.



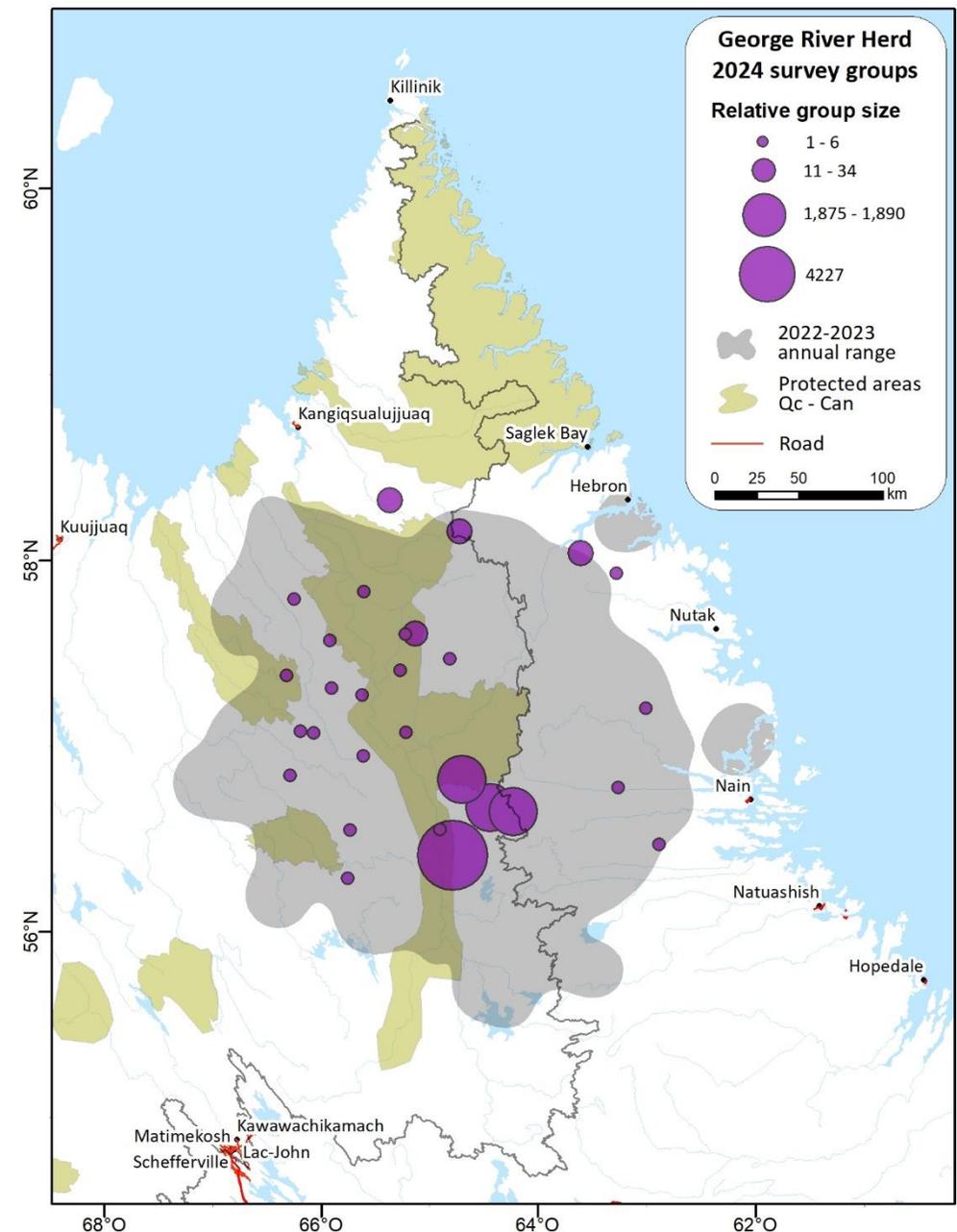
# GEORGE RIVER HERD

## 2024 SURVEY RESULTS

- Overflights were conducted on 4 consecutive days between July 8 and 11.
- The population size estimate is based on 29 groups totaling 8,200 caribou counted on photo.
- 62 of the 65 active collars were sampled.
- 44 of the 45 collared females were sampled (98% of females) in 18 groups.
- 13 of the 15 collared males were sampled (87% of males), 9 of which were alone, 2 with a few others, and 2 in the large groups mostly composed of females and calves.

Location of the sampled survey groups shown with relative size

Larger groups were composed mostly of females and calves



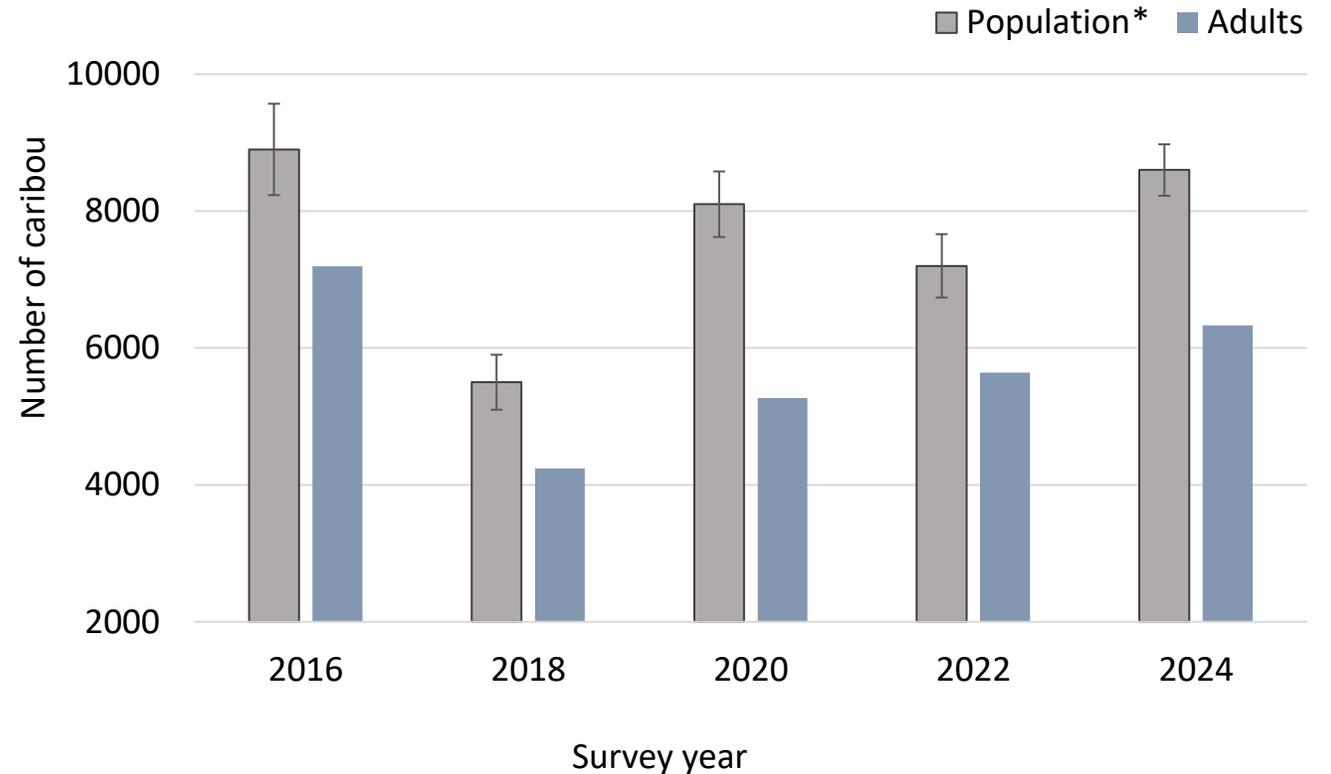
# GEORGE RIVER HERD

## TREND AND SURVEY RESULTS

**George river herd estimated at 8,600 caribou in 2024 (4%; 90% C.I.)**

- Population growth of 19% since the previous 2022 survey
- Growth of 12% in the adult segment since 2022
- Average annual trend of +7% in the adult segment between 2018 and 2024 (6 years)

Population estimates (C.I. 90%) and number of adults (> 1 year) in the George River caribou herd

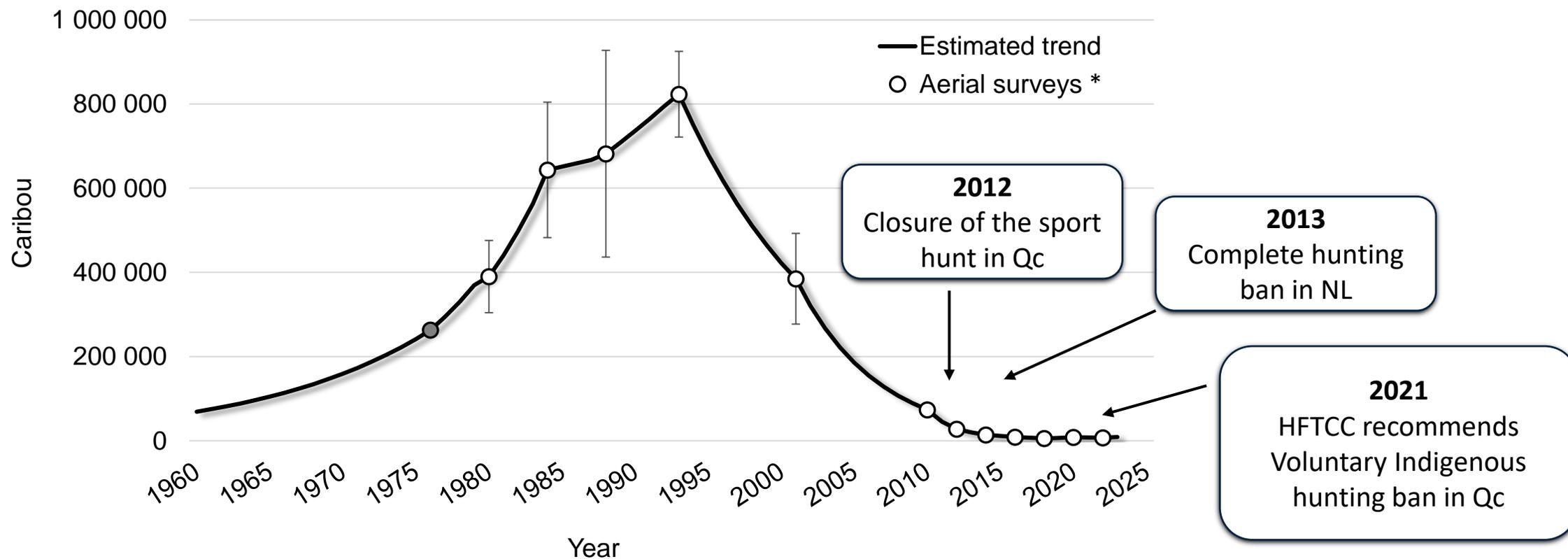


\* 90% confidence interval.

# GEORGE RIVER HERD

## TREND AND SURVEYS

Since 2010, management decisions by the governments of Quebec and Newfoundland and Labrador have relied heavily on the results of aerial surveys conducted every two years.

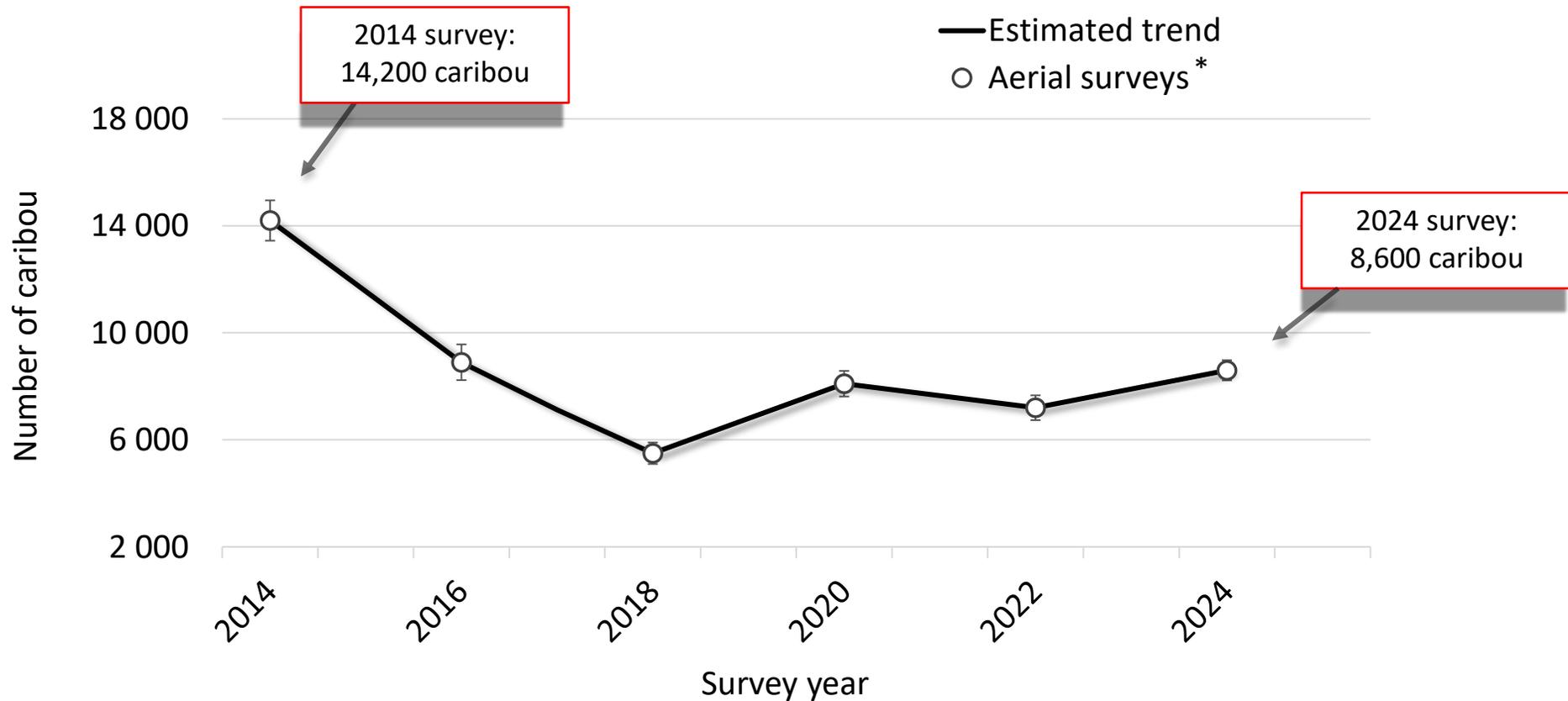


\* 90% confidence interval not showing at this scale after 2001.

# GEORGE RIVER HERD

## RECENT TREND AND SURVEYS

- The general trend over the past decade is a 40% decline of the population.
- The herd remains at a precarious state due to an extremely low number of caribou.
- A survey is planned for July 2026 pending budgetary approval

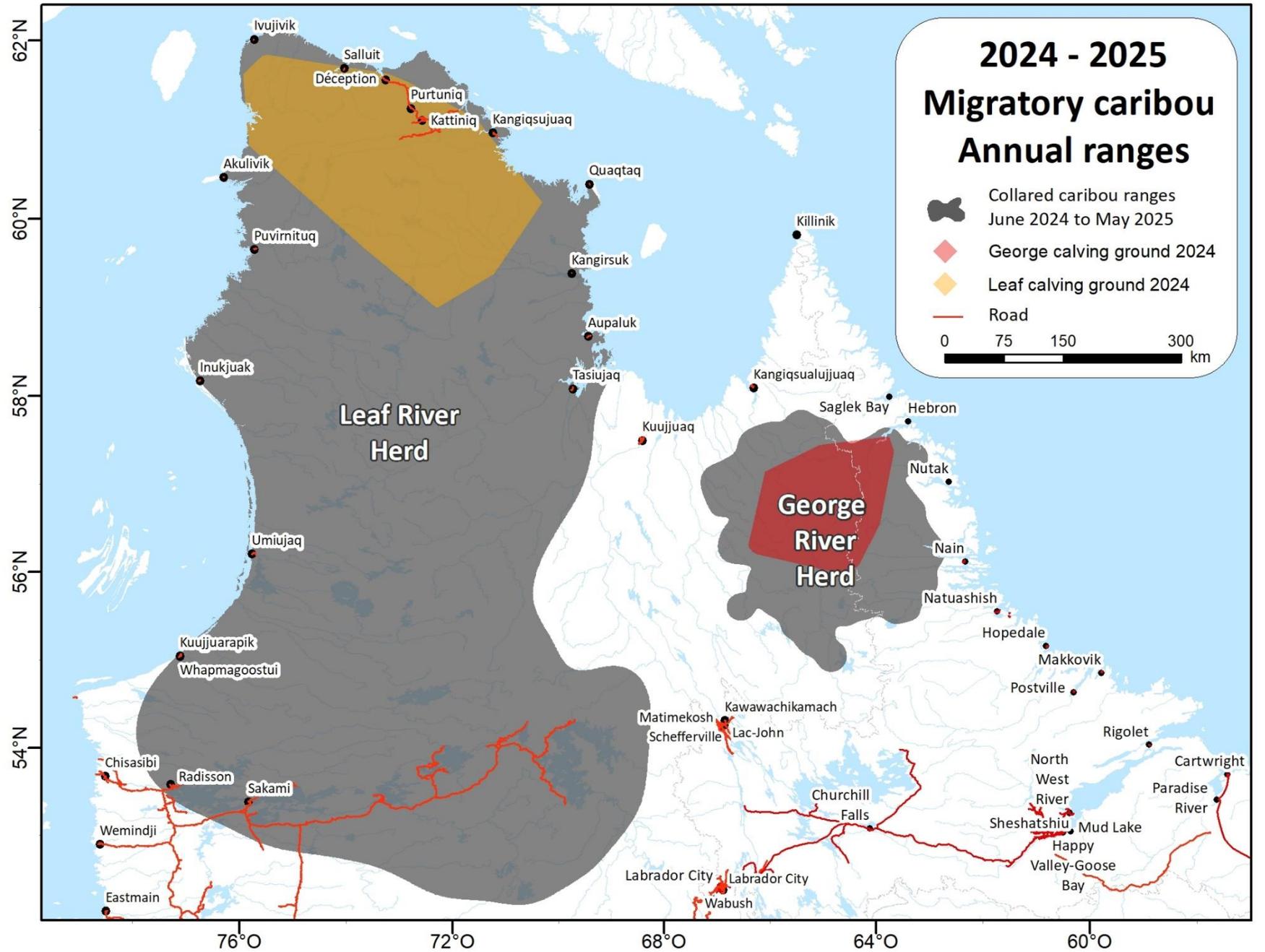


# GEORGE RIVER CARIBOU HERD MANAGEMENT AND CONSERVATION

- Despite the improvement in demographic parameters, resolution 19-20:21 recommending, among other things, a cessation of harvesting on the GRCH by Quebec natives remains relevant to promote the recovery of the herd.
- Hunting the GRCH currently remains illegal in Newfoundland and Labrador and has been since 2013.
- Governments remain vigilant in maintaining the quality of habitat in the current range and with a view to population recovery:
  - protection of the calving ground;
  - maintain the functionality of current and historical migration routes;
  - limit or mitigate the disturbance of caribou in their range.
- Resolution 22-23:12 recommended communicating conservation issues and demographic data to increase stakeholder mobilization.
- Next survey planned for summer 2026 pending budget approval from both governments.

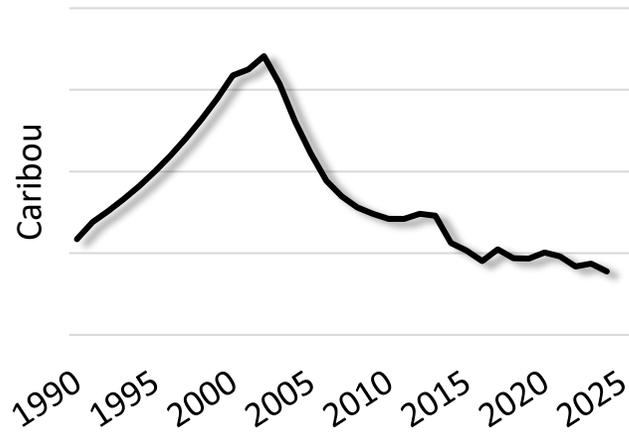
# MIGRATORY CARIBOU

## 2024-2025 RANGES



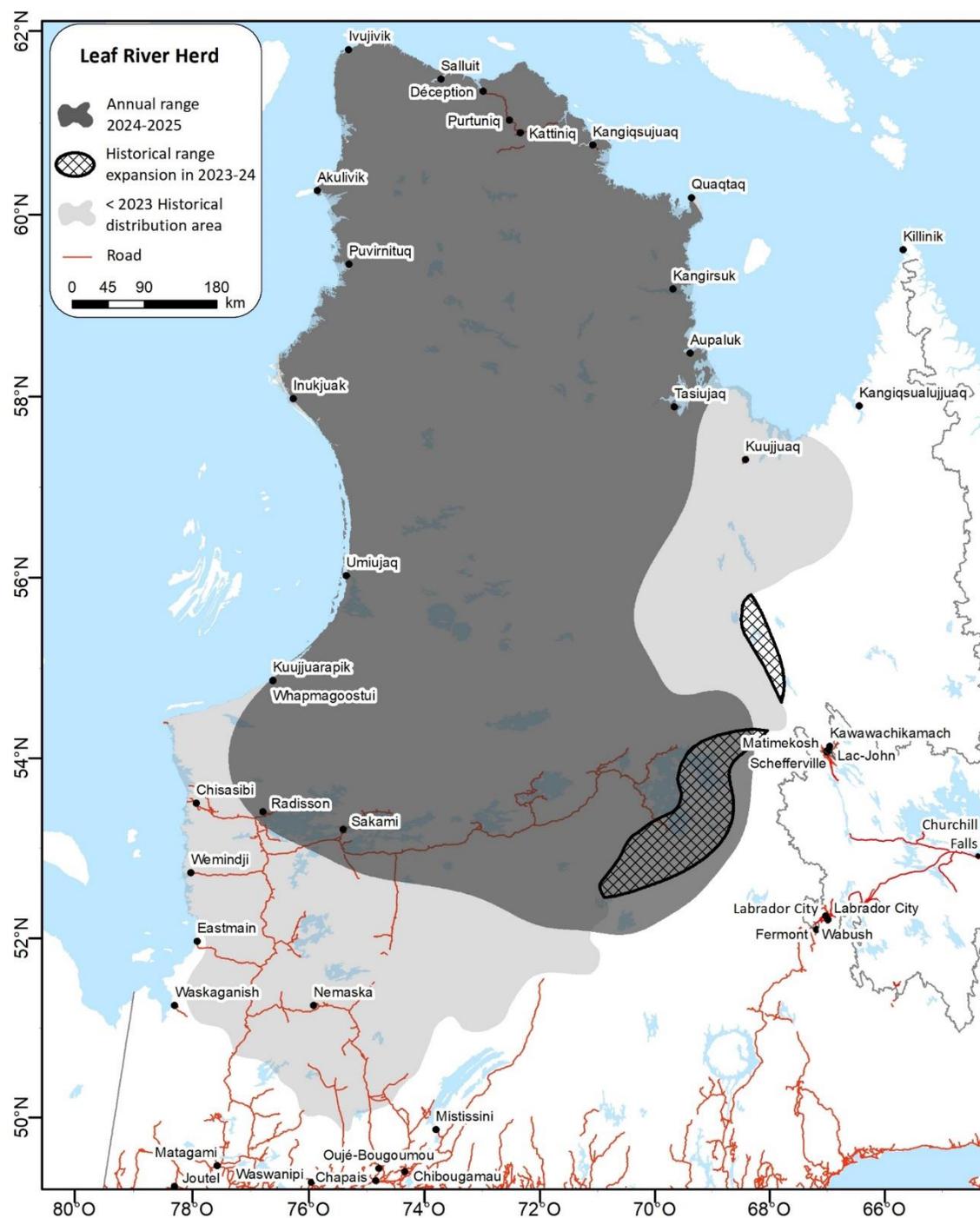
# LEAF RIVER CARIBOU HERD CHANGING RANGES

The range reduces in size with the decline of the population



Migrations extended 350 km further south 20 years ago

Caribou migrations vary annually and do not always show a predictable pattern



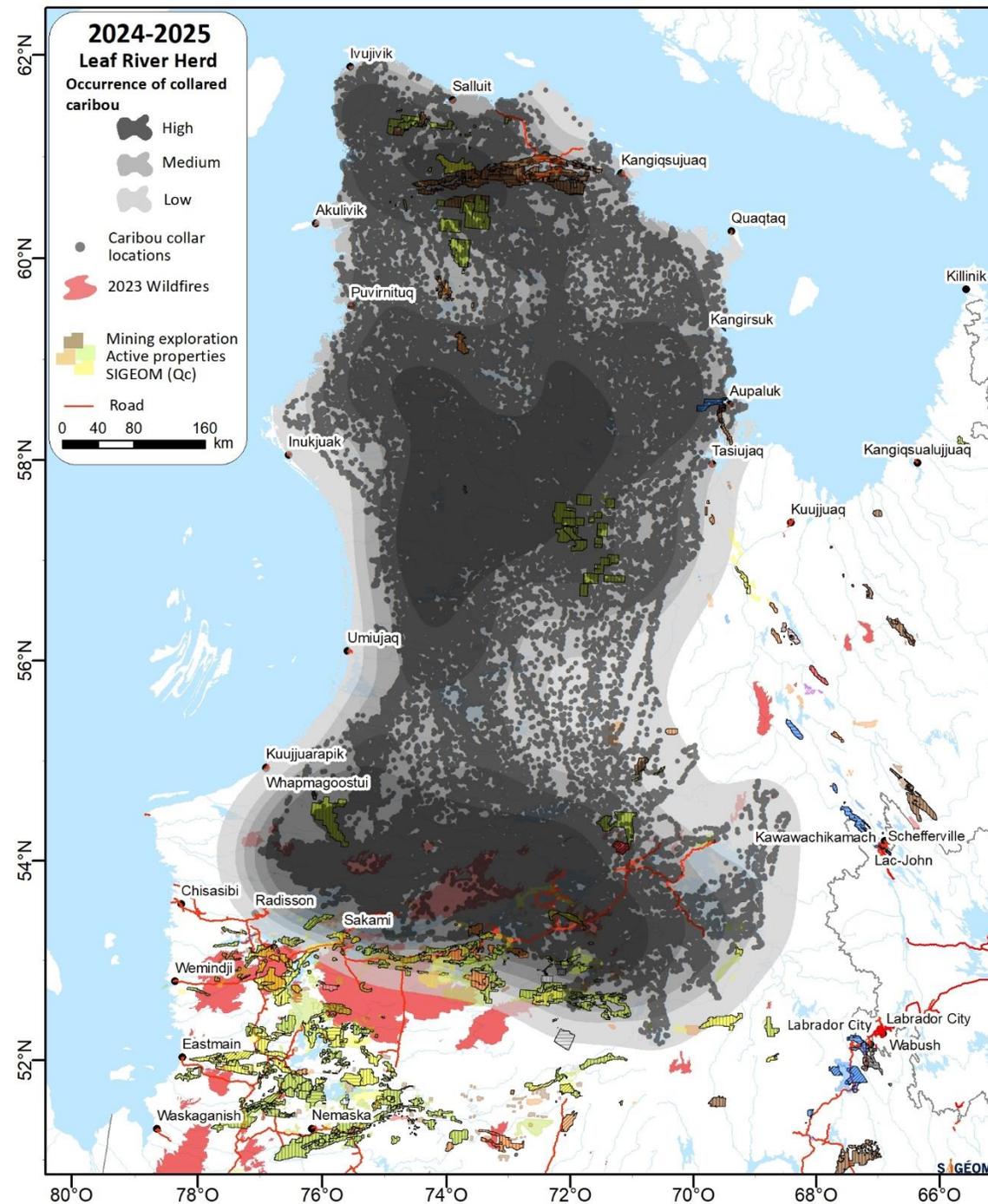
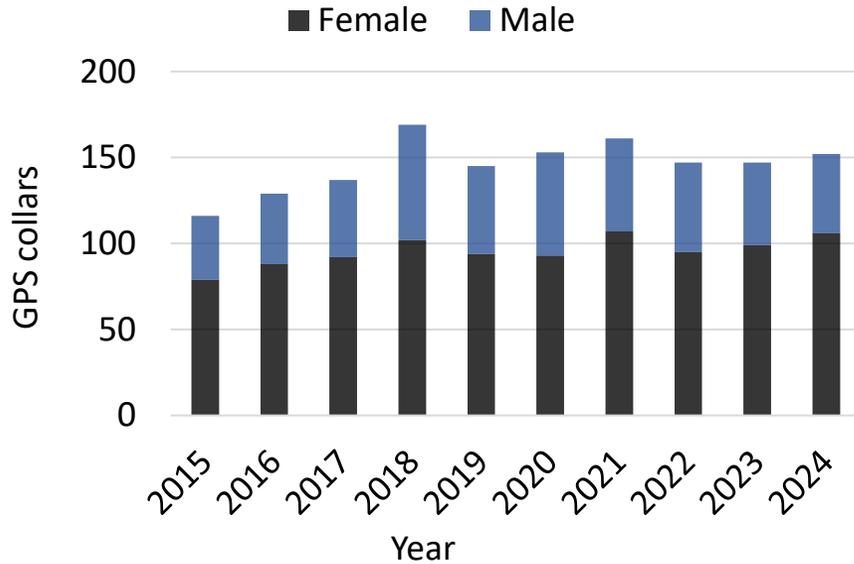
The fall migrations have been most variable and have expanded the winter ranges east and southeast for the past two years

# LEAF RIVER CARIBOU HERD

## SAMPLE OF COLLARED CARIBOU

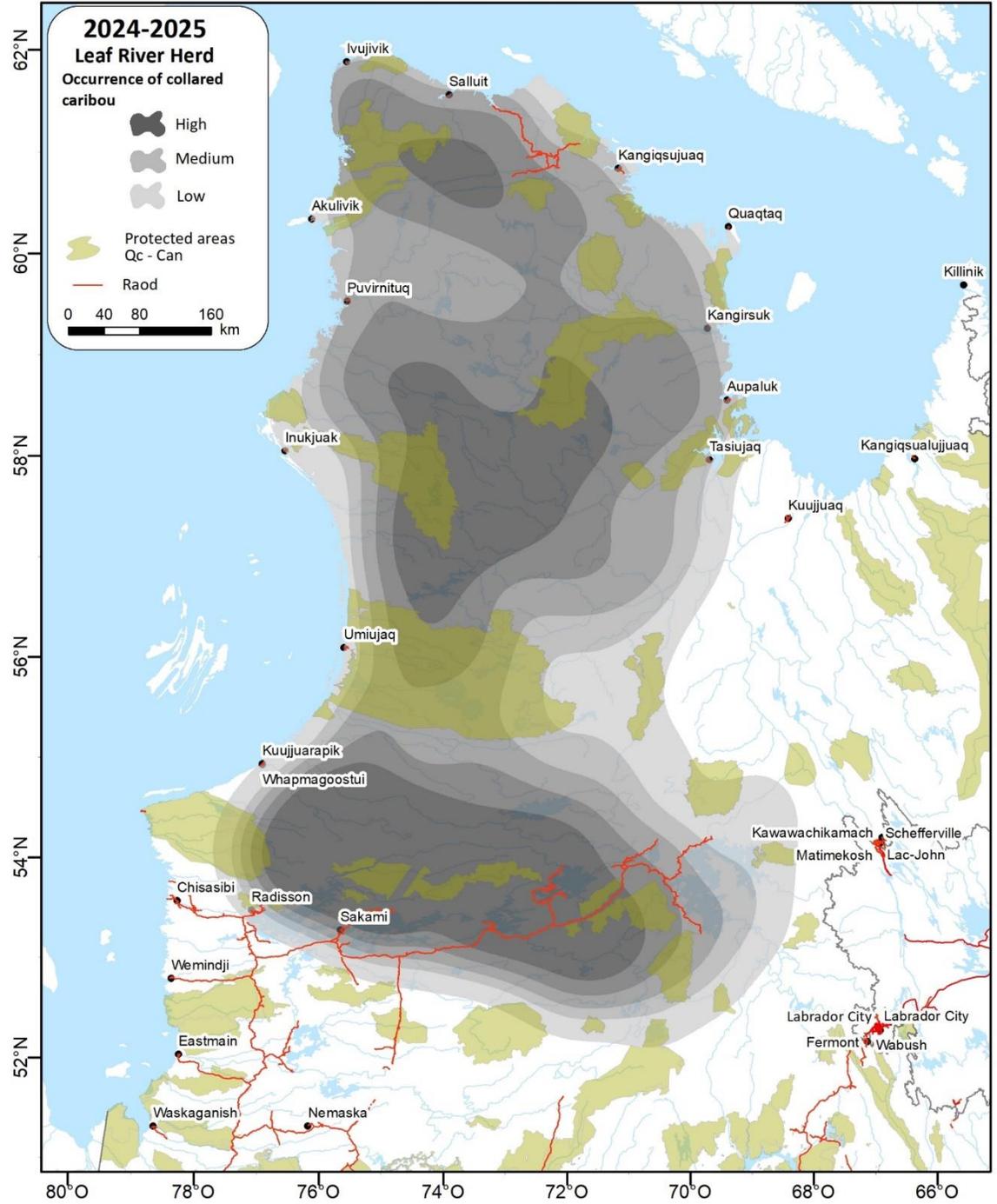
Annual and seasonal ranges, and migration routes are monitored by approximately 150 collared caribou

2024-2025 range based on 78,000 caribou GPS locations



# LEAF RIVER CARIBOU HERD PROTECTED AREAS

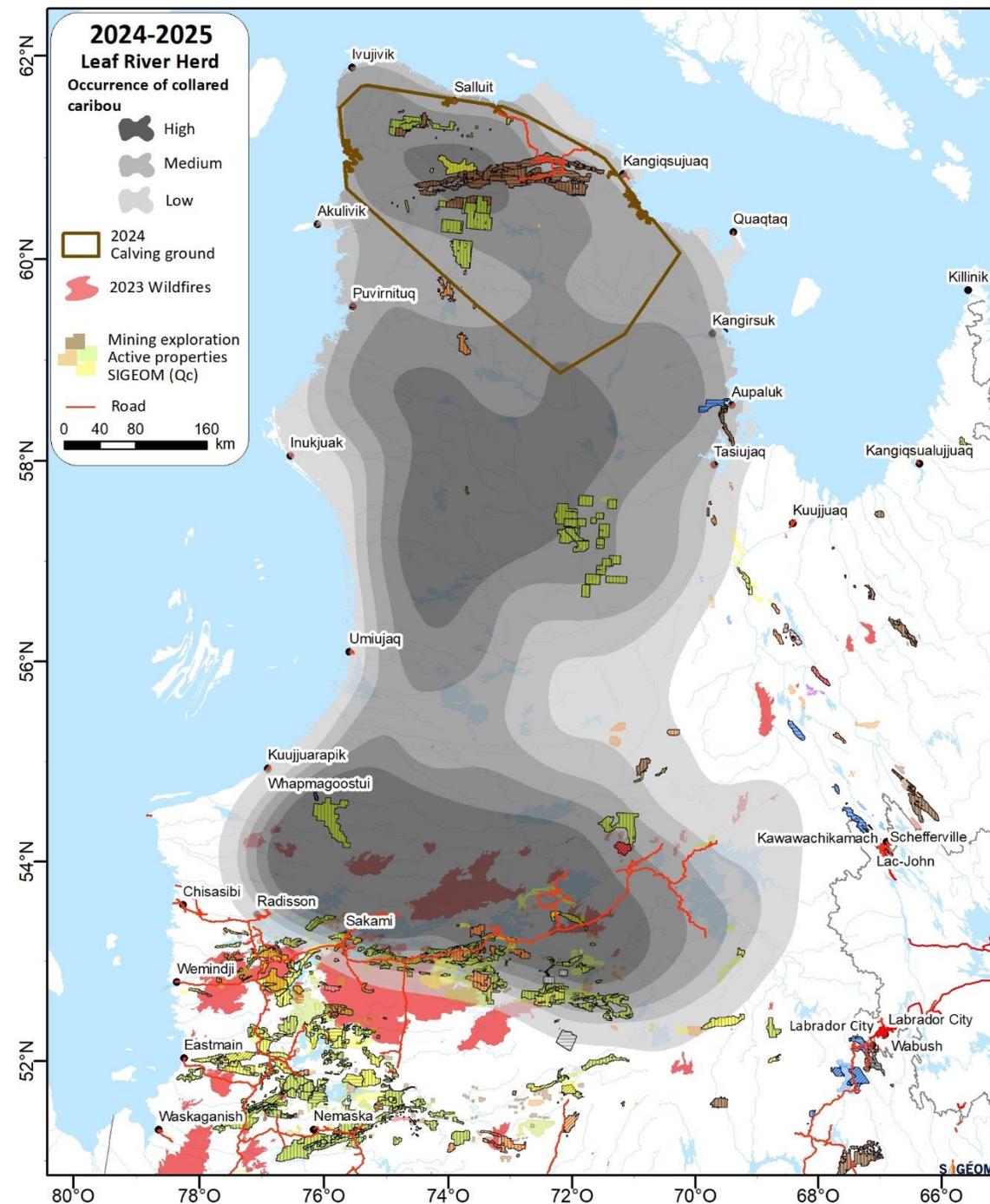
Protected areas are established throughout the range of the Leaf River herd in areas of various intensity of use



# LEAF RIVER CARIBOU HERD HABITAT DISTURBANCE

Mining exploration has been at a high level in the Labrador and Ungava through in recent years.

In Eeyou Istchee Baie-James large 2023 wildfires affected potential winter range as well as extensive mining activity along the Trans-Taïga road.



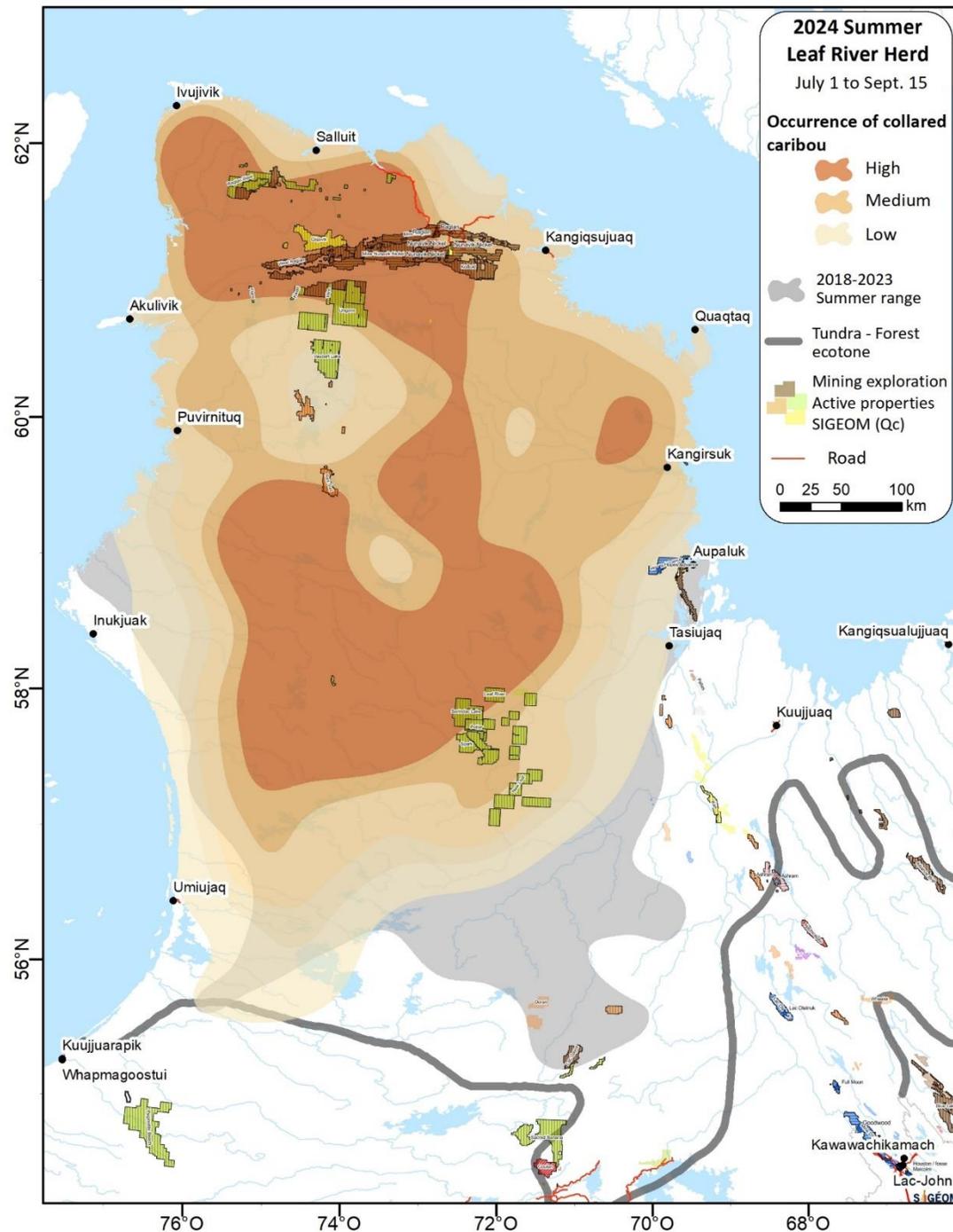
# LEAF RIVER CARIBOU HERD

## 2024 SUMMER RANGE

The quality of summer habitat has a major influence on the physical condition, productivity and survival of caribou.

Although the population has declined, the extent and location of the summer range are comparable to the early 2000s, when caribou were overabundant.

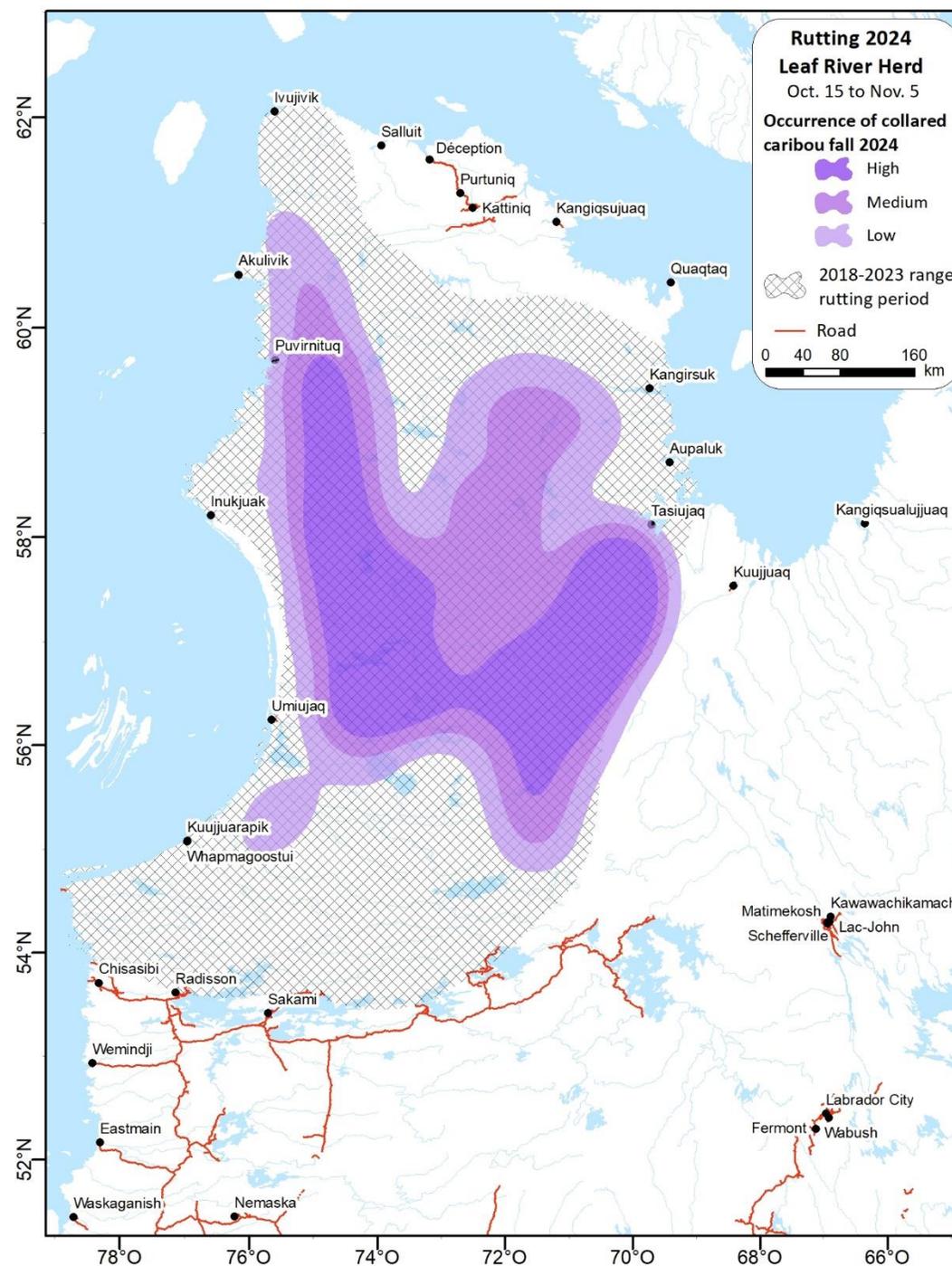
A survey attempt was unsuccessful in the summer of 2024. The survey team was based out of the Delta mining camp (Nunavik Nickel) to validate that the distribution of caribou on the summer range was vast and that aggregations were rare.



# LEAF RIVER CARIBOU HERD RUTTING PERIOD

In the fall of 2024, caribou spread in a vast portion of the rutting range used between 2018 and 2023.

All collared caribou migrated in south of the rutting range in November and had reached the winter range by early December



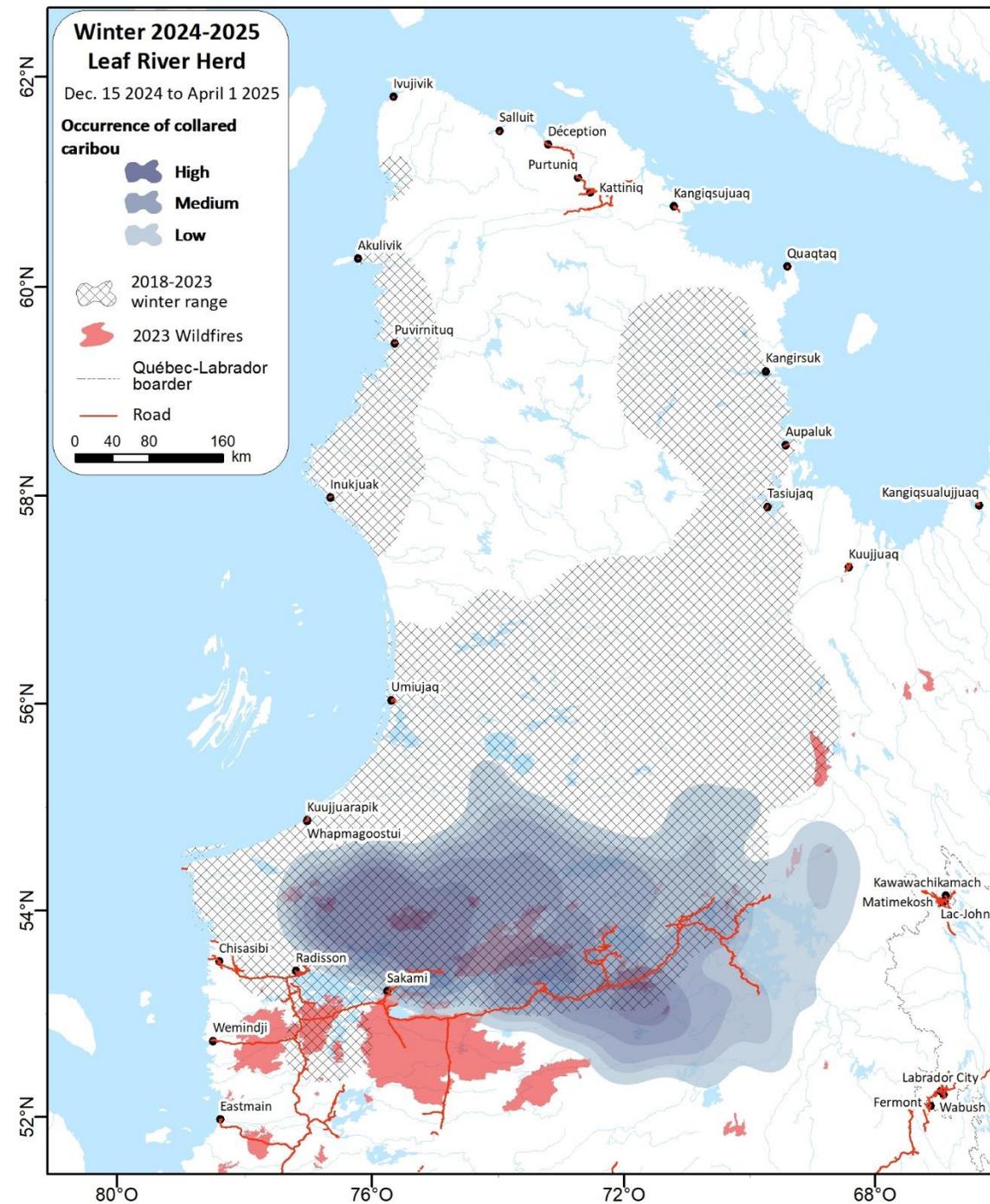
# LEAF RIVER CARIBOU HERD WINTER RANGE

Since 2018, caribou have wintered over a vast area that stretches far north.

They have recently gathered mostly in the south of the range.

The 2023-2024 winter range extended further southeast than usual.

The winter 2024-2025 range extended even further southeast, more than ever before and within less than 100 km of the Québec–Labrador boarder.

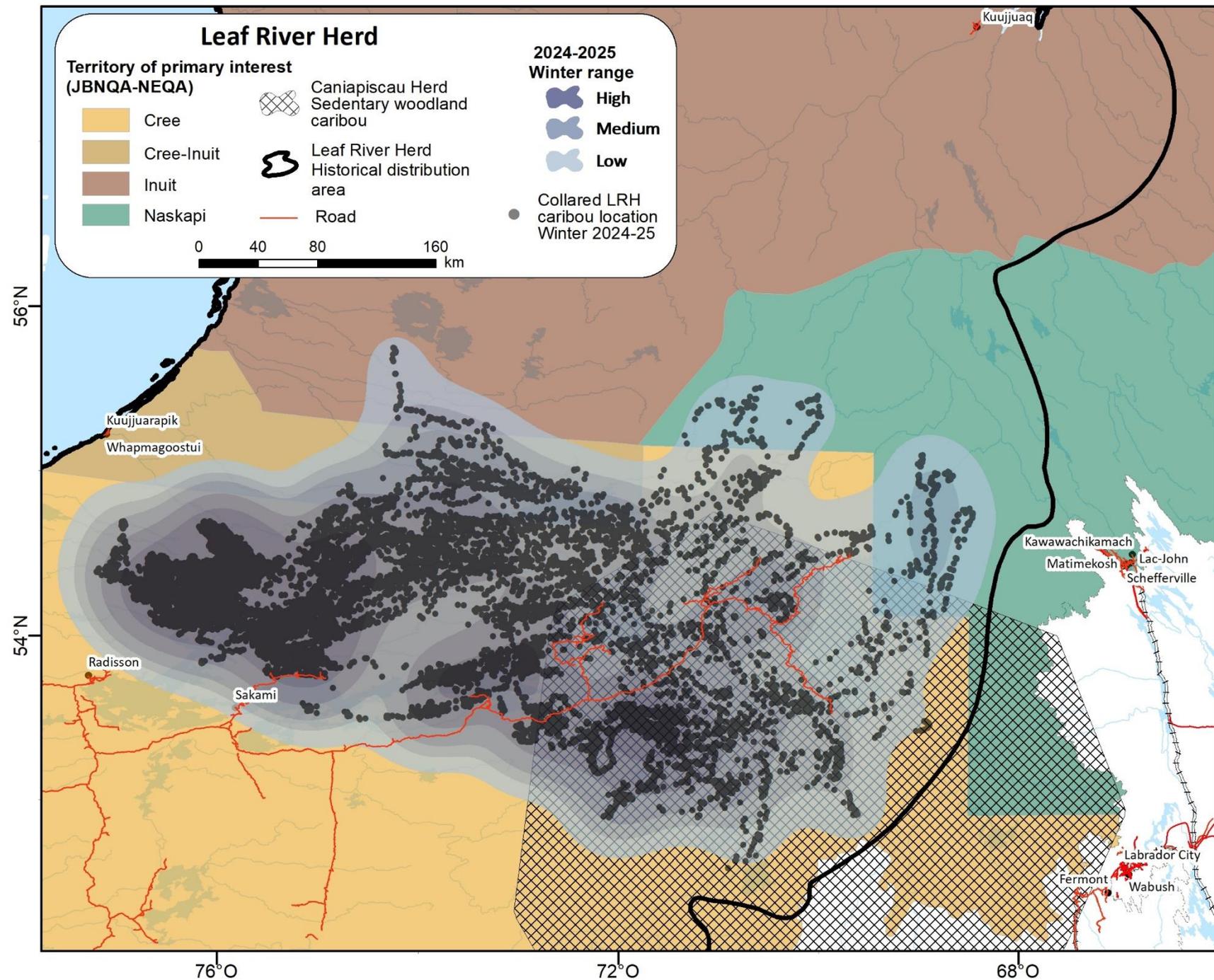


# LEAF RIVER CARIBOU HERD

## WINTER RANGE AND TERRITORIES OF PRIMARY INTEREST

The winter 2024-2025 range overlaps with to various extent with Territories of primary interest of Inuit, Cree-Inuit, Cree and Naskapi

The winter range also overlapped with the Sedentary woodland caribou range from December to March



# LEAF RIVER CARIBOU HERD

## ANNUAL FALL CLASSIFICATION

- Field observations to monitor the composition of the herd's demography
- Provides measurements of sex ratio and recruitment of calves

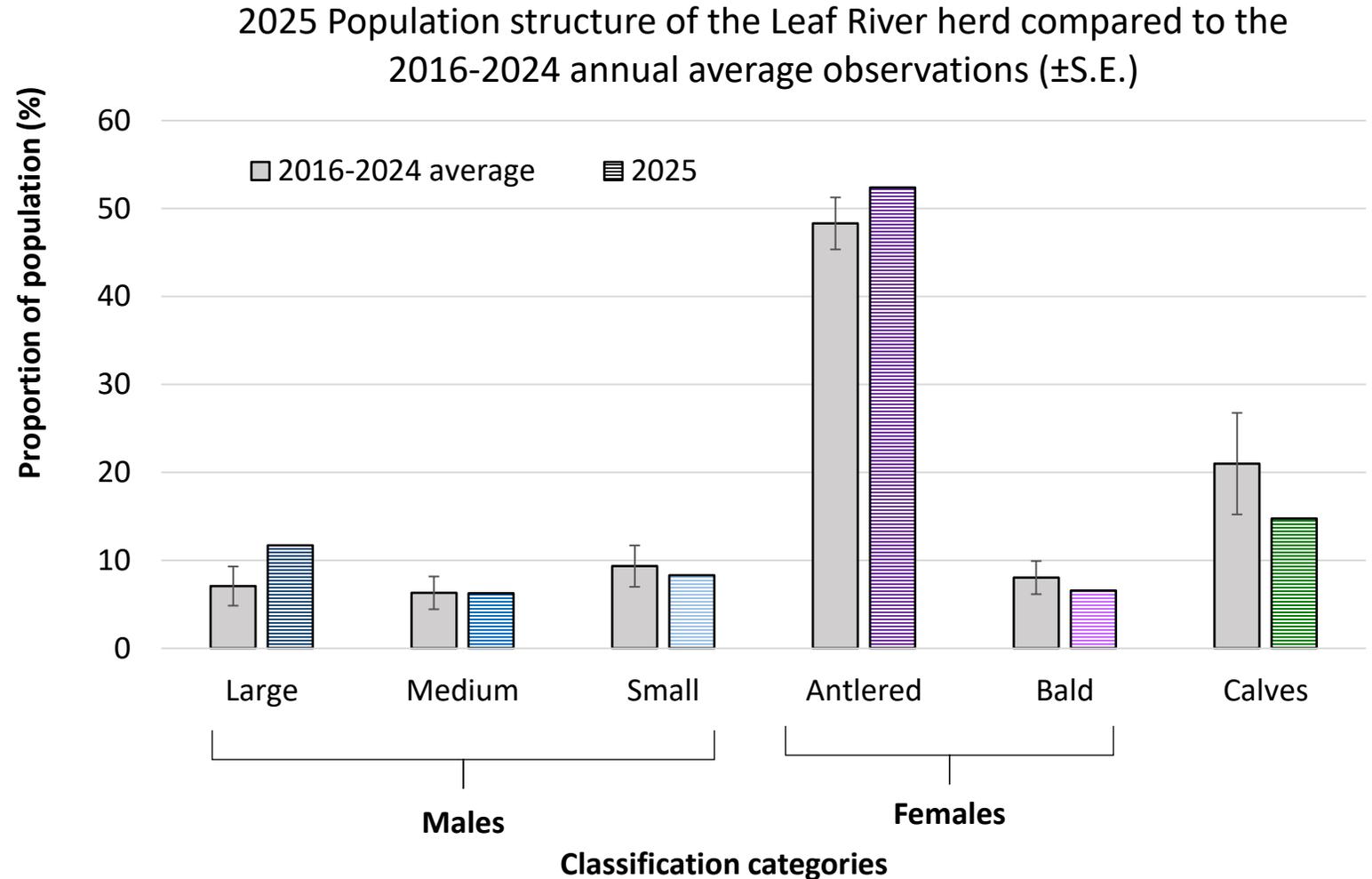


# LEAF RIVER CARIBOU HERD

## 2025 FALL CLASSIFICATION

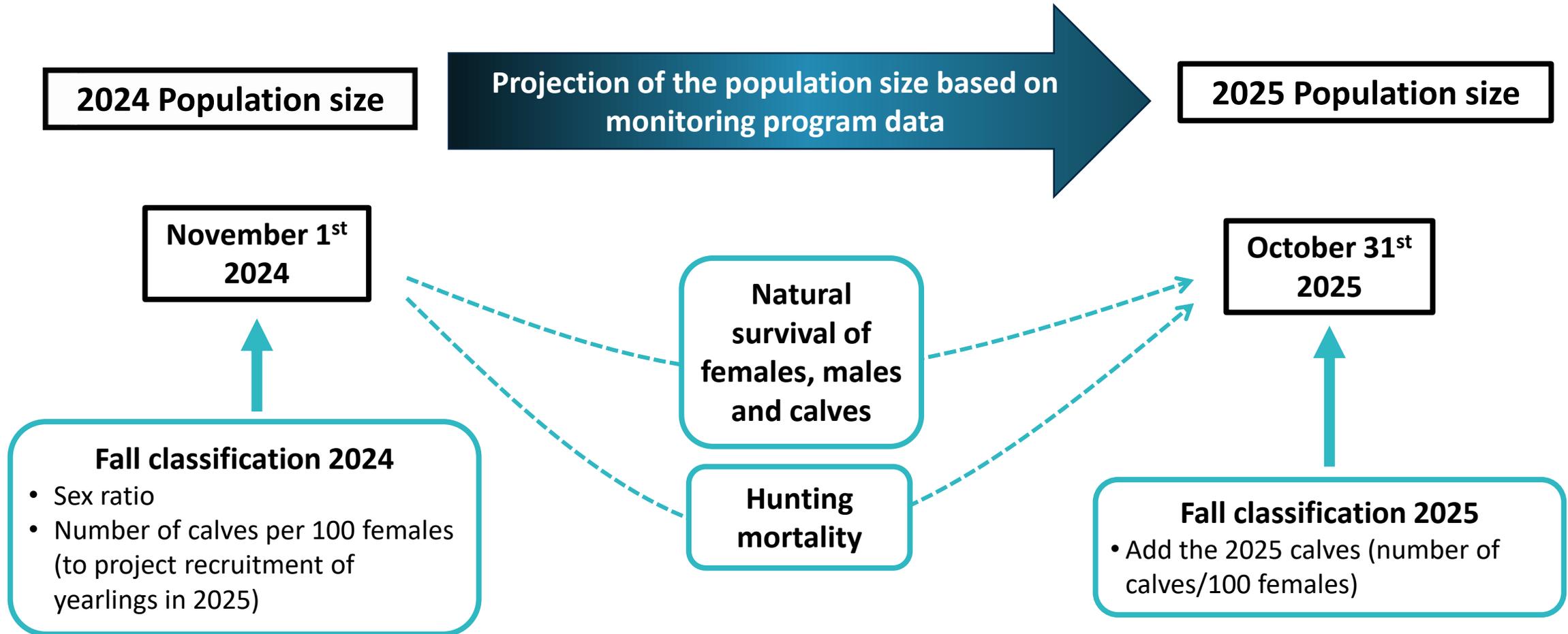
### 2025 Population structure highlights:

- **Low proportion of calves in 2025** adds to the high variability observed since 2016



# LEAF RIVER HERD

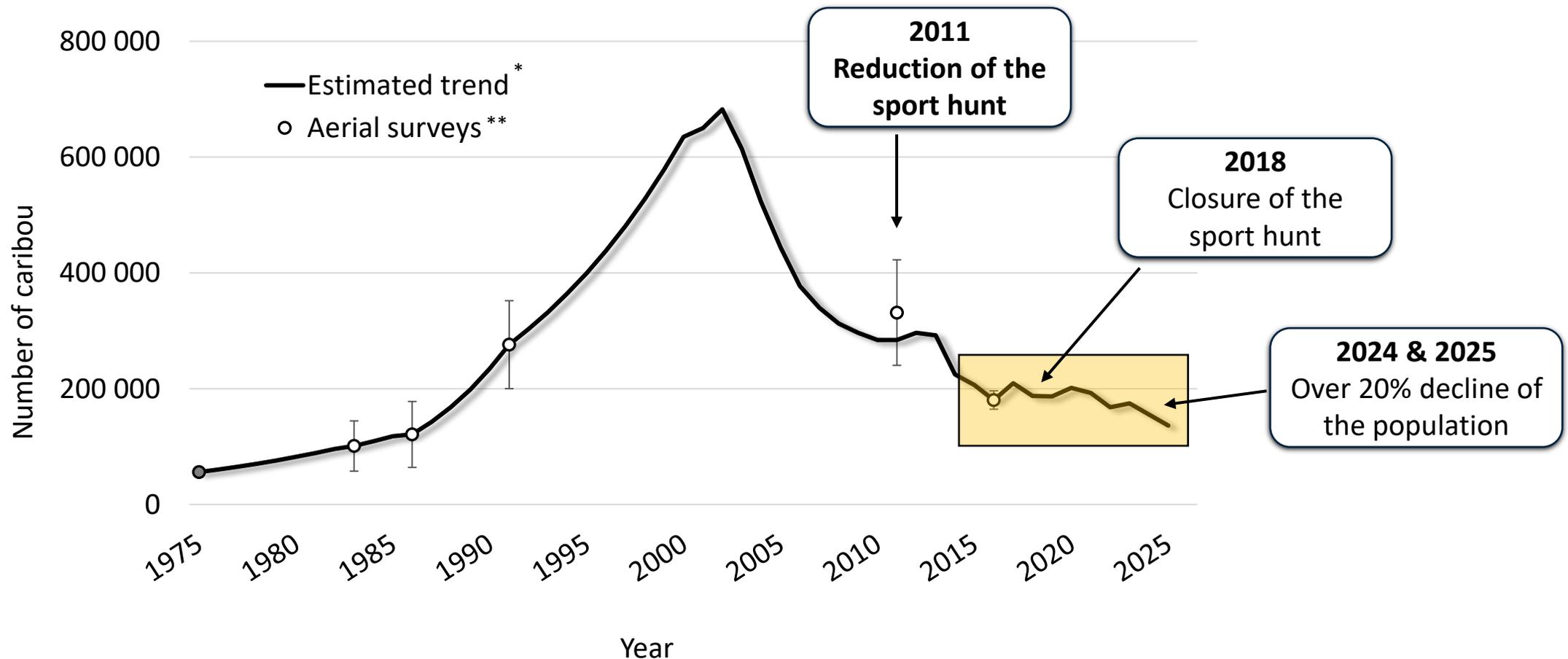
## PROJECTION OF THE POPULATION TREND



# LEAF RIVER CARIBOU HERD

## TREND AND SURVEYS

- The 2025 projection of the estimated population trend suggests that the Leaf River herd shifted from a stable to a declining trend since the 2016 survey



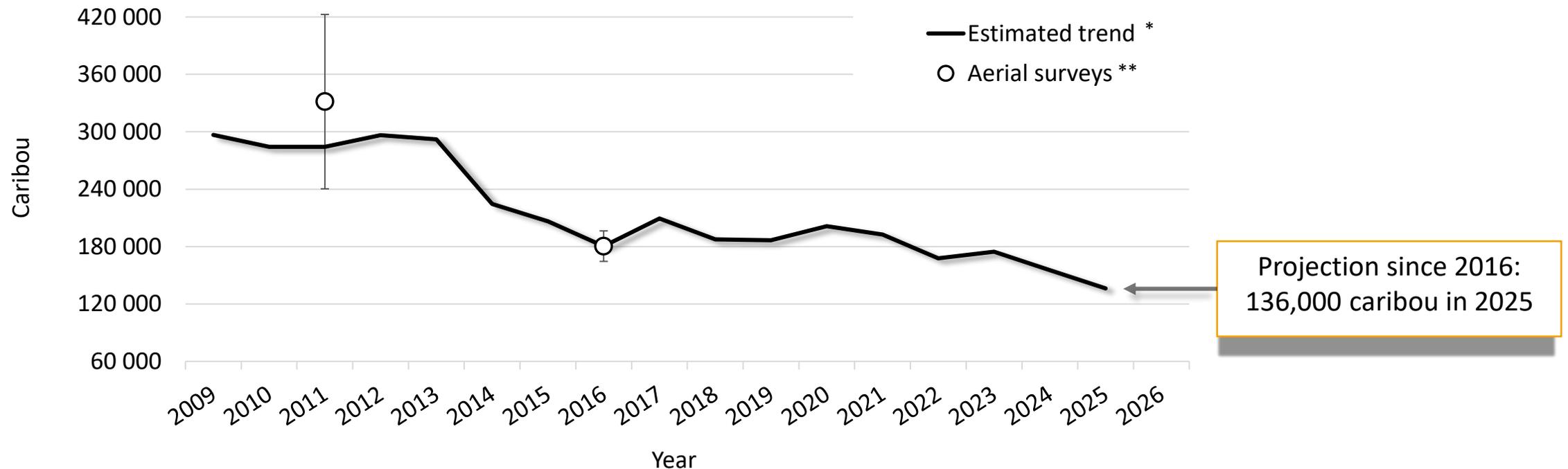
\*Arbitrary harvest by natives of 7,500 caribou added to natural mortality to estimate recent TRAF trend

\*\* Survey results presented with their 90% confidence interval

# LEAF RIVER CARIBOU HERD

## 2024-2025 ANNUAL TREND

- Population **decline of 12%** in 2024-2025 estimated according to annual parameters:
  - Low recruitment of 25 calves/100 females;
  - Moderate survival of females (84%) and moderate to low survival of males (78%);
  - Natural vital rates account for 8% of the 2024-2025 decline;
  - Indigenous harvest mortality arbitrarily estimated at 7,500 caribou and accounts for 4% of the 2024-2025 decline.



\*Arbitrary harvest mortality by Natives hunters of 7,500 caribou added to natural mortality to estimate recent TRAF trend

\*\* Survey results presented with their 90% confidence interval

The Hunting, Fishing and Trapping Coordinating Committee (HFTCC) will be hosting a workshop for concerned wildlife management organisations and Indigenous communities that have relied on migratory caribou for their subsistence

## **Ungava Migratory Caribou Workshop**

March 24-25-26, Montréal

