



Meadowbank Gold Mine

Caribou Behaviour Monitoring

February 2022

Project No.: 0656774

CONTENTS

1.	INTRODUCTION	1
1.1	Objectives	1
2.	STUDY AREA.....	2
3.	STANDARD OPERATING PROCEDURES.....	3
3.1	General Field Data	3
3.2	General Equipment List	4
3.3	Field Methods	4
3.3.1	Group Selection	4
3.3.2	Selection of an Observation Site.....	5
3.3.3	Data Recording	5
3.3.4	Behaviour Classification.....	7
4.	DATA MANAGEMENT	8
5.	CLOSURE	9
6.	REFERENCES	10

APPENDIX A MEADOWBANK GOLD MINE: CARIBOU BEHAVIOUR MONITORING DATA SHEET

1. INTRODUCTION

Agnico Eagle Mines Ltd. (Agnico Eagle) would like to determine whether caribou behaviour changes in response to mine activities. The purpose of caribou behaviour surveys is to provide information to characterize the effects of the physical road and mine-related activities on caribou behaviour, including the All Weather Access Road (AWAR) and Haul Road.

The planned monitoring program is designed to collect data on caribou behaviour using standardized, scientifically-defensible methods. The data will be used to monitor Project effects.

1.1 Objectives

Following discussions with the Kivalliq Inuit Association and Government of Nunavut during the spring of 2021, the objectives of the behaviour monitoring program for caribou have been updated to the following:

- Evaluate the baseline behaviour of caribou (behaviour in the absence of disturbance);
- Evaluate the response of caribou to disturbances;
- Compare the behaviour of caribou between the following categories, if there is sufficient data:
 - 1) in large vs. small groups,
 - 2) near vs. far from the road,
 - 3) when the road is open vs. closed,
 - 4) east vs. west of the road, (upstream and downstream), and
 - 5) spring migration vs. summer and fall periods.

2. STUDY AREA

The study area for behaviour monitoring is anywhere that caribou may interact with the mine, including the All Weather Access Road (AWAR), the Meadowbank Mine site, Whale Tail site and the Haul Road connecting Meadowbank to Whale Tail.

3. STANDARD OPERATING PROCEDURES

The purpose of caribou behaviour surveys is to provide information to characterize the effects of the physical road and mine-related activities on caribou behaviour, including the All Weather Access Road (AWAR) and Haul Road. The overall method for the surveys is to identify caribou groups visible from the road, to select some groups for observation, and to record the behaviour of individuals in groups of different sizes including their behaviour without any disturbance and responses to both mine-related activities and natural factors.

Notes to guide the work include:

- Systematic surveys will be conducted along all Project roads during spring, summer and fall periods.
- The survey team will consist of a driver/observer and a second observer when available.

Surveys should be performed:

- During spring, summer and fall when caribou may be in the Project area,
- Of caribou at various distances from the road and group sizes, and
- If surveying effects of a convoy, conduct two surveys, one at least an hour before convoy deployment so that a pre-disturbance measurement can be made, and a second survey during the convoy passing by caribou.

3.1 General Field Data

For each survey day, the appropriate general field data will be recorded onto field data sheets supplied in Appendix A and B. A new data sheet will be used for each survey, including additional sheets as necessary to record all observations. General information includes:

- Survey date and start and end times.
- Field personnel (full names on the data sheet header and initials thereafter).
- Weather conditions during and prior to sampling (e.g., snow in the last 24 hours, current wind conditions).
- Site description: provide location and description (GPS coordinates, road name and distance marker).
- Photographs or video (if possible):
 - Take a photo of the caribou every time an observation is recorded so that the observations can be verified by a biologist.
 - For any photographs taken, record the picture IDs in the comments field on the field data sheet.
 - Write descriptions of any photos taken for specific reasons.
- General observations/notes of the environment/sampling procedures.
- Any deviation from the SOPs outlined below.

Note: When in doubt take pictures and make field notes explaining the situation, your response or consequent changes in methods. It is better to have more data/notes than not enough when interpreting the results later on.

3.2 General Equipment List

- A GPS unit with waypoints of road km markings.
- Field data sheets (Appendix A and B), clipboard, pencils, or iPad with data form.
- A timer capable of alarm setting for repeat time intervals (i.e., can be set to go off every three minutes, like a smart phone).
- Binoculars or spotting scope.
- Compass (or use compass function on GPS unit).
- Portable weather station (temperature and wind speed).
- Camera.
- Rangefinder.

3.3 Field Methods

3.3.1 Group Selection

The survey day will begin with a reconnaissance survey to determine how many caribou groups are present near the road, how large they are, and where they are. This will be accomplished by driving from the mine site along the road and noting relevant information about the groups and their sizes along the way (using the standard, tablet-based road survey form). Observers will preferentially choose groups to survey to across group sizes and distances from the road. Ideally, caribou would be sampled in an even distribution across these variables and along the AWAR and Haul Road. However, the nature of caribou and field sampling mean that observers may need to survey what caribou are available, rather than what is “ideal”.

Allow approximately one hour to survey each group. If the length of the survey day permits all groups to be surveyed then they should all be surveyed. If there are more groups to survey than the time in the day, then do the following:

1. Look at how many of each group size (bullet list below) have been surveyed to date. If one of them is under-represented and there is a group of that size on the road, then go survey that group. If there is more than one group of that size, choose it randomly using the procedure in step 4.
 - 1 or 2 caribou
 - 3 to 25 caribou
 - 26 to 50 caribou
 - >50 caribou
2. During 2020, few groups of caribou within 300 m of the road were observed or sampled. Preferentially choose groups of caribou within 300 m of the road, with a soft target of approximately 1/3 of samples in this area.
3. If any Project-tolerant caribou are observed (e.g., caribou observed near the road or mine site for more than 72 hours in summer and 48 hours in other seasons; TEMP 2020), then select these animals for sampling. In Appendix A data sheet, record that the group is Project tolerant in the notes field.
4. If there are multiple groups available, choose groups to fill in an even distribution of group sizes and distances from roads.

Record all caribou groups observed during the reconnaissance survey in the standard, tablet-based survey form and submit that data along with the results of behaviour monitoring.

3.3.2 Selection of an Observation Site

Find a safe parking location and follow site safety protocols. The observation location may be the vehicle itself or a safe location off the road. If observers exit the vehicle, the observation location should be chosen where observer activity is not likely to influence caribou behaviour and where the observer can remain comfortable for a period of approximately 45 minutes without needing to move. Ideally, the vehicle should be stopped a minimum of ~250-300 m from the caribou – adapt this distance as needed. If the animals are staring at the truck or moving away, then the truck is too close.

3.3.3 Data Recording

Allow 15 minutes between arrival and the time at which behavioural observations begin. This is to allow animals to return to behaviour that may have been interrupted by the arrival of observers. In the time before recording behaviour, fill in the top portion of the form with location, weather, and group size information.

After 15 minutes, begin recording data in the form in Appendix A. The start time to record is the time that observations begin.

3.3.3.1 Location

Location: Collect a waypoint of the location from which the observations will be made. Note the waypoint number and the UTM coordinates on the data sheet.

Road Status: If observing caribou on a road, record whether the AWAR or Haul Road are open or closed.

Distance from observer to caribou: Estimate the distance to the group using a laser rangefinder and, using a compass or the GPS unit compass feature, record the bearing (0° to 360°) to the group being observed. If the group of caribou is large and spread over a considerable distance from the road, estimate the distance to nearby caribou and the caribou furthest away that will be sampled. If some caribou in the group are too far away to sample, then do not include them in the distance estimate.

Distance from road to caribou: If caribou are closer to the road than to the observer, as is the case when the observer vehicle is stopped at a distance, visually estimate the distance from the road to the group.

East vs. West: Note if the group is on the east or west side of the road. At the end of the 30 minute observation period return to the top of the form and record (Y or N) if the group crossed the road during the survey period. If monitoring at the mine site or Whale Tail, leave this section blank.

Direction of Travel: Note if caribou are moving parallel to the road, perpendicular to the road, or are stationary.

3.3.3.2 Weather Conditions

Use the portable weather station to record:

- Air temperature;
- Wind speed;
- Wind direction;
- Precipitation; and
- Humidity (if the weather station has this function).

3.3.3.3 Road Structure

At the location of the caribou group, record the road characteristics:

- Height of the road above the tundra (m);
- Slope of the road side (with of the slope in m);
- Approximate height of snow bank (m); and
- Any structures, such as bridges, present.

3.3.3.4 Caribou Behaviour

Individuals in the group being observed will be categorized when the survey starts and at three minute intervals. Standardized behaviour categories will be used (Section 3.3.4). The standardization of behaviour is necessary for clarity and data analysis. If the observed behaviour does not fit within any of the categories then observers have the option of noting other behaviour in the comments field. However, this should be used only rarely as most behaviour should fit in the primary categories listed below. If noting a new/different behaviour, please take a photo or video of the caribou.

The data to record at each three-minute interval are the numbers of individuals in the group exhibiting each behaviour at that time. Do not attempt to characterize the behaviour that occurred during the interval. If the group is too large to be counted in each interval, choose an identifiable subset of the group, count the individuals exhibiting each behaviour at each time interval, and add a comment that a subset of the group was sampled. For clarity, observers should record zero values for behaviours not observed.

Indicate the total group size at the top of the data form, not the size of the subset whose behaviour was recorded. Count the number of caribou up to 100 animals, and then record group size in categories above 100; 100-200 animals, etc. (see Appendix A).

Practically, the easiest way to do this is to have the observer scan across the group of caribou from Left to Right, calling out the behaviour of each animal, while the recorder adds tick marks to the data sheet. When complete, count up the tick marks.

Sex: Note the sex of the group. This can be difficult in large groups, so record in the following categories: mostly males, mostly females, mostly females with calves, juveniles, or mixed group.

3.3.3.5 Disturbance Events

Caribou behaviour is expected to vary in response to some disturbance events. The bottom of the data form should be used to record any potential disturbance events evident to the observer regardless of whether caribou respond to them. The main categories of events are included in the data sheet:

- Light truck;
- Haul truck;
- Road maintenance vehicle (e.g., grader);
- ATV or skidoo;
- Aircraft; and
- Predator (note species).

Record the number and approximate speed of the vehicle (regular driving speed, or moving slowly, ~10 km/h, past caribou).

Record the time of the disturbance event (0:00 to 30:00 of the survey), indicate which type of disturbance was observed in the appropriate column. Record any additional comments and records of photographs taken in the final column.

Record whether the vehicle stopped when approaching caribou or continued to drive slowly. If possible, coordinate with passing vehicles on the road to have some vehicles stop for 10 minutes, and others drive by slowly.

3.3.4 Behaviour Classification

With the exception of Alert behaviour, the primary behaviour categories and their definitions follow classifications from the Government of Northwest Territories (GNWT 2017). The categories appear as columns on the data form, with descriptions on the form. The behaviour categories are:

- **Feeding** – standing or walking posture, with the muzzle touching or nearly touching the ground; can be ingesting food or not; head down or moving from side to side.
- **Lying down** – bedded on the ground, either upright or lying on its side, in a resting or ruminating position.
- **Standing** – stationary in an upright, standing posture with head elevated above the ground, and usually above the knees; if cow is nursing, if possible record the time spend nursing.
- **Alert** – head up scanning horizon or focused on a source of disturbance (e.g., vehicle, predator, human).
- **Walking** – similar to standing posture but moving at a slow gait (<5 km/h).
- **Trotting/running** – similar to standing posture but moving rapidly in symmetrical or asymmetrical gait.

Other behaviours that may be observed (record in comments field on form) are:

- **Nursing** – calf is suckling cow.
- **Sparring** – two males in contact.
- **Insect response behavior** – twitching, stamping, tossing head.

In the comments, record if any animals are moving towards the road, parallel or away from the road.

4. DATA MANAGEMENT

Please scan all data sheets at the end of the day. Data from behaviour surveys should be entered into Excel. Data from group selection surveys (standard tablet data form) and behaviour surveys should be delivered at the end of each month to ERM for QA/QC.

5. CLOSURE

This SOP has been produced for Agnico Eagle Meadowbank Division by ERM Canada. Please contact the authors with any questions.

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6. REFERENCES

GNWT-ENR. 2017. *Caribou behaviour monitoring field protocols*. Government of the Northwest Territories Environment and Natural Resources, 10 page unpublished document. Yellowknife, NT.

TEMP. 2020. Meadowbank Division. Terrestrial Ecosystem Management Plan. Version 8, April 2020

Meadowbank Gold Mine: Caribou Behaviour Monitoring Data Sheet

Date:		Time (24 hr [00:00 to 24:00])		Start:		End:	
Observers:							
Location Waypoint number:		UTM Easting:		UTM Northing:		Road name and distance marker:	
Distance from caribou to observer location (use rangefinder):				Bearing:		Distance from caribou to road (if different):	
Is group location East or West of the Road at start of survey? Circle one: E W				Did the group cross the road during the survey? Circle one: Y N			
Caribou group size: Exact count (up to 100): _____ Estimated size for larger groups. Circle one: 101-200 201-500 501-1000 >1000							
Record sex of group (mostly males, females, females with calves, mostly juveniles, or mixed group):							
Record direction of travel as parallel, perpendicular, or stationary relative to road:							
Temperature: ____°C Wind speed: _____ km/h Wind direction: _____° Humidity: _____% Days since last snow or wind event: _____							
Weather observations:							
Road: Open?		Closed?		Road Height:		Road Side Width:	
						Structures/snowbank Present:	
Observation time from start of survey	Number of animals exhibiting each behaviour type						Comments and photo numbers (Note if any caribou crossed road or travelled along road)
	Feeding	Lying Down	Standing	Walking	Alert	Trotting or running	
0 minutes							
3 minutes							
6 minutes							
9 minutes							
12 minutes							
15 minutes							
18 minutes							
21 minutes							
24 minutes							
27 minutes							
30 minutes							
Observed disturbance events							
(record time from start of survey and check type of disturbance. Record whether vehicle stopped (s) or drove slowly (d) past caribou)							
Time from start of survey	Light truck	Haul Truck	Road maintenance vehicle (e.g., grader)	ATV	Aircraft	Predator (note species)	Comments and photo numbers. Note other disturbances here

Categories and Definitions of Behaviour¹:

- **Feeding** – standing or walking posture, with the muzzle touching or nearly touching the ground; can be ingesting food or not; head down or moving from side to side.
- **Lying down** – bedded on the ground, either upright or lying on its side, in a resting or ruminating position.
- **Standing** – stationary in an upright, standing posture with head elevated above the ground, and usually above the knees; if cow is nursing, if possible record the time spend nursing.
- **Alert** – head up scanning horizon or focused on a source of disturbance (e.g., vehicle, predator, human).
- **Walking** – similar to standing posture but moving at a slow gait (<5 km/h).
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Other behaviours that may be observed (record in comments field on form) are:

- **Nursing** – calf is suckling cow.
- **Sparring** – two males in contact.
- **Insect response behavior** – twitching, stamping, tossing head.

¹ Primary source: GNWT-ENR 2017 caribou behaviour monitoring field protocols, courtesy of GNWT Yellowknife, NT.

APPENDIX B DATA FROM CARIBOU BEHAVIOUR SURVEYS

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Observers	Waypoint	Road name and distance marker	Distance from caribou to observer location binned	Bearing to caribou group	Is group East or West of survey	Did the group cross the road during the survey
355	3/30/2023	Felix Quessy Savard	NA	AWAR KM 87	100-300	270	West	No
356	3/31/2023	Kendra MacMillan	NA	AWAR KM 57	>1000	150	West	No
357	4/1/2023	Felix Quessy	NA	Haul Road KM 121	300-1000	270	West	No
358	4/1/2023	Felix Quessy	NA	Haul Road KM 129	>1000	270	West	No
359	4/1/2023	Felix Quessy	NA	Haul Road KM 137	>1000	180	West	Yes
360	4/3/2023	Derek Nateela	NA	Haul Road KM 112	300-1000	20	West	No
361	4/4/2023	FQS DN	NA	AWAR KM 92	100-300	215	West	Yes
362	4/5/2023	Derek	NA	AWAR KM 87	100-300	305	West	No
363	3/30/2023	Guillaume Baril & Rowan Woodall	NA	Haul Road KM 169	300-1000	330	East	Yes
364	4/8/2023	Sylvain Singaqti	NA	AWAR KM 95.5	300-1000	90	West	NA
365	4/7/2023	Eric Thomson	NA	AWAR KM 93	300-1000	340	West	No
366	4/14/2023	Louis Dubois	NA	AWAR KM 93	300-1000	0	West	No
367	4/12/2023	Louis Dubois	NA	Haul Road KM 130	300-1000	300	East	No
368	4/10/2023	Eric Thomson	NA	Haul Road KM 111	100-300	300	West	No
369	4/15/2023	Thomas Dahl	NA	Haul Road KM 174	>1000	360	West	No
370	4/15/2023	Thomas Dahl	NA	Haul Road KM 174	>1000	360	West	No
371	4/14/2023	Eric Thomson	NA	Haul Road KM 118	300-1000	300	West	No
372	4/14/2023	Eric Thomson	NA	Haul Road KM 112	300-1000	300	East	No
373	4/14/2023	Eric Thomson	NA	Haul Road KM 112	>1000	360	West	No
374	4/15/2023	Eric Thomson	NA	AWAR KM 101	300-1000	300	West	No
375	4/12/2023	Sylvain Singaqti	NA	AWAR KM 51	50-100	0	West	No
376	4/9/2023	Eric Thomson	NA	Haul Road KM 122	>1000	330	West	No
377	4/10/2023	Guillaume Baril, Kathleen Newberry	NA	Haul Road KM 178	100-300	252	East	Yes
378	4/10/2023	Guillaume Baril, Kathleen Newberry	NA	Haul Road KM 175	>1000	110	West	No
379	4/11/2023	Guillaume Baril, Kathleen Newberry	NA	Haul Road KM 176	100-300	55	West	No
380	4/11/2023	Guillaume Baril, Kathleen Newberry	NA	Haul Road KM 178	300-1000	120	West	No
381	4/14/2023	Kathleen Newberry	NA	Haul Road KM 176	300-1000	150	West	No
382	4/14/2023	Laurence Archambault & Kathleen Newberry	NA	Haul Road KM 174	300-1000	270	West	No
383	4/14/2023	Laurence Archambault & Kathleen Newberry	NA	Haul Road KM 165	>1000	180	West	No
384	4/15/2023	Thomas Dahm	NA	Haul Road KM 171	>1000	360	West	No
385	4/16/2023	Eric Thomson	NA	AWAR KM 96	100-300	360	West	No
386	4/16/2023	Eric Thomson	NA	AWAR KM 81	>1000	360	West	No
387	4/18/2023	Thomas Dahm Kendra Macmillan Leonard sweeting	NA	Haul Road KM 177	300-1000	360	West	No
388	4/17/2023	Kendra MacMillan Sylvain Singaqti	NA	Haul Road KM 154	300-1000	45	West	NA
389	4/19/2023	Kendra MacMillan Sylvain Singaqti	NA	AWAR KM 95	100-300	45	West	No
390	4/19/2023	Kendra MacMillan Sylvain Singaqti	NA	AWAR KM 93	>1000	30	West	No
391	4/30/2023	Derek Nateela	NA	AWAR KM 68	>1000	245	West	No
392	5/23/2023	Thomas Dahm	NA	AWAR KM 83	>1000	270	West	No
393	6/21/2023	Felix Quessy	NA	Meadowbank KM NA	50-100	0	East	No
394	10/24/2023	Eric Leonard	NA	Haul Road KM 172	100-300	90	East	No
395	10/22/2023	GUI Baril Eric Leonard	NA	Haul Road KM 116	100-300	10	East	No
396	10/24/2023	Eric Leonard Guillaume Baril	NA	Haul Road KM 133	100-300	0	East	No
397	10/27/2023	Laurence Archambault	NA	Haul Road KM 173	100-300	90	East	No

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Caribou group size	Temperature	Wind speed km h	Wind direction	Humidity	Days since last snow or wind event	Weather observations	Road Height cm	Road side width cm	Structures present	Feeding 0	Laying 0
355	3/30/2023	100	-27	20	E	0	1	Precipitation: 0 Sunny	100	1000	No	5	0
356	3/31/2023	56	-17	30	NE	0	3	Precipitation: 0	100	500	NA	0	56
357	4/1/2023	30	-21	10	NE	0	1	Precipitation: 0 Sunny	0	900	No	10	0
358	4/1/2023	10	-21	10	E	0	1	Precipitation: 0 Sunny	200	700	No	0	0
359	4/1/2023	NA	-19	10	E	0	1	Precipitation: 0 Sunny	100	900	No	0	48
360	4/3/2023	390	-16	20	NW	50	2	Precipitation: Sunny Clear	100	1500	No	20	10
361	4/4/2023	40	-25	10	NW	0	1	Precipitation: 0 Sunny	0	1000	No	5	0
362	4/5/2023	56	-16	10	N	20	1	Precipitation: Nada Cloudy	200	1200	Nada	0	0
363	3/30/2023	2	-22	20	NW	45	1	Precipitation: None	100	500	NA	0	0
364	4/8/2023	50	-7	30	SW	0	0	Precipitation: Blowing snow Blowing snow	0	1600	No	46	4
365	4/7/2023	NA	-18	10	SW	0	0	Precipitation: 0 Sunny	500	600	0	0	0
366	4/14/2023	93	-21	5	NW	80	9	Precipitation: 0 Sunny	0	1200	Flags	0	0
367	4/12/2023	34	-20	5	W	80	7	Precipitation: 0 Sunny	0	1800	Flags	0	0
368	4/10/2023	NA	-11	20	N	0	0	Precipitation: 0 Cloudy	0	1000	0	1	0
369	4/15/2023	18	-17	15	N	0	0	Precipitation: 0 Sunny	300	300	0	0	0
370	4/15/2023	18	-17	15	N	0	0	Precipitation: 0 Sunny	300	300	0	0	0
371	4/14/2023	47	-16	10	N	0	0	Precipitation: 0 Sunny	1000	800	0	0	0
372	4/14/2023	47	-14	10	N	0	0	Precipitation: 0 0	1000	800	Vault	0	0
373	4/14/2023	247	-14	10	N	0	0	Precipitation: 0 Sunny	1500	1200	Vault	3	7
374	4/15/2023	4	-13	10	N	0	0	Precipitation: 0 Sunny	100	600	0	4	0
375	4/12/2023	433	-13	9	NE	0	4	Precipitation: 0 Sunny	0	1500	0	7	73
376	4/9/2023	NA	-7	10	NW	0	0	Precipitation: 0 Cloudy	3000	800	0	0	0
377	4/10/2023	3	-8	20	N	77	0	Precipitation: 0	100	900	Tower light, flags	3	0
378	4/10/2023	55	-9	20	N	77	0	Precipitation: 0	100	800	None	55	0
379	4/11/2023	47	-7	11	NW	70	0	Precipitation: None	100	900	None	44	0
380	4/11/2023	48	-13	13	NW	68	1	Precipitation: None	100	900	NA	0	3
381	4/14/2023	16	-20	20	N	67	0	Precipitation: 0	100	900	None	10	0
382	4/14/2023	16	-17	18	NW	71	0	Precipitation: 0 Sunny	0	2000	None	16	0
383	4/14/2023	NA	-11	18	NW	71	0	Precipitation: 0 Sunny	0	2500	None	3	0
384	4/15/2023	8	-14	15	S	0	0	Precipitation: 0 Sunny and clear	2000	1000	0	0	0
385	4/16/2023	2	-7	5	W	0	0	Precipitation: 0 Cloudy	0	800	0	2	0
386	4/16/2023	1	-12	12	S	0	0	Precipitation: 0 Cloudy	0	800	0	0	0
387	4/18/2023	102	-12	9	SE	0	0	Precipitation: 0 Sun with cloud	500	1500	0	88	0
388	4/17/2023	31	-8	15	SE	89	8	Precipitation: 0 Cloudy	0	0	0	0	0
389	4/19/2023	7	-18	30	NW	20	9	Precipitation: Light snow Snowing	400	400	NA	0	0
390	4/19/2023	3	-18	30	NW	30	9	Precipitation: Light snow Light snow	400	400	NA	0	1
391	4/30/2023	2	-14	5	S	50	1	Precipitation: Foggy Cloudy	100	1200	Ridge, ccan	0	0
392	5/23/2023	2	-8	40	NW	0	0	Precipitation: 0 Cold , windy , some light snow that didn't stay on ground	200	1000	0	0	0
393	6/21/2023	4	15	10	E	0	3	Precipitation: 0 Sunny	100	800	No	0	4
394	10/24/2023	11	-5	5	E	98	0	Precipitation: Snowing Light snow	200	1000	None	10	0
395	10/22/2023	8	-5	50	W	90	0	Precipitation: 0 Windy, blowing snow , visibility	300	1000	Road	0	0
396	10/24/2023	2	-5	25	E	98	0	Precipitation: None Sun/cloud	200	1000	None	2	0
397	10/27/2023	87	-12	12	NW	93	0	Precipitation: None Sun and cloud	0	2000	None	24	0

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Standing 0	Walking 0	Alert 0	Trotting 0	Feeding 3	Laying 3	Standing 3	Walking 3	Alert 3	Trotting 3	Feeding 6	Laying 6	Standing 6	Walking 6	Alert 6	Trotting 6	Feeding 9	Laying 9
355	3/30/2023	0	5	0	0	0	0	0	0	10	0	3	0	0	3	0	0	0	0
356	3/31/2023	0	0	0	0	0	64	0	2	0	0	0	54	0	2	0	0	0	56
357	4/1/2023	5	15	0	0	10	0	5	15	0	0	21	0	0	9	0	0	12	0
358	4/1/2023	0	10	0	0	0	0	0	10	0	0	0	7	3	0	0	0	5	0
359	4/1/2023	2	0	0	0	0	46	2	2	0	0	0	50	0	0	0	0	0	45
360	4/3/2023	0	0	0	0	5	10	5	10	0	0	0	20	10	0	0	0	0	0
361	4/4/2023	0	35	0	0	8	0	0	32	0	0	0	0	0	33	7	0	6	0
362	4/5/2023	0	56	0	0	0	0	1	49	3	3	25	0	16	15	0	0	35	0
363	3/30/2023	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
364	4/8/2023	0	0	0	0	38	12	0	0	0	0	30	10	10	0	0	0	0	10
365	4/7/2023	0	30	0	0	0	0	0	30	0	0	0	0	1	25	3	1	0	0
366	4/14/2023	0	93	0	0	0	0	0	93	0	0	0	0	0	93	0	0	0	0
367	4/12/2023	0	34	0	0	0	0	0	34	0	0	0	0	0	34	0	0	0	0
368	4/10/2023	4	0	0	0	5	0	0	0	0	0	5	0	0	0	0	0	5	0
369	4/15/2023	0	18	0	0	0	0	0	18	0	0	0	0	0	18	0	0	0	0
370	4/15/2023	0	18	0	0	0	0	0	18	0	0	0	0	0	18	0	0	0	0
371	4/14/2023	0	47	0	0	0	0	0	47	0	0	0	0	0	47	0	0	0	0
372	4/14/2023	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	2	0
373	4/14/2023	0	0	0	0	1	7	2	0	0	0	4	6	0	0	0	0	4	6
374	4/15/2023	0	0	0	0	2	0	2	0	0	0	3	0	0	1	0	0	4	0
375	4/12/2023	0	0	0	0	5	75	0	0	0	0	5	75	0	0	0	0	4	76
376	4/9/2023	5	5	0	0	0	0	2	8	0	0	0	0	0	10	0	0	0	0
377	4/10/2023	0	0	0	0	3	0	0	0	0	0	3	0	0	0	0	0	3	0
378	4/10/2023	0	0	0	0	44	0	0	11	0	0	38	0	0	14	0	0	41	0
379	4/11/2023	0	3	0	0	46	0	0	1	0	0	46	1	0	1	0	0	38	2
380	4/11/2023	45	0	0	0	0	13	29	6	0	0	0	44	4	0	0	0	0	48
381	4/14/2023	4	2	0	0	7	0	0	5	0	0	4	0	0	6	2	0	0	0
382	4/14/2023	0	0	0	0	14	0	2	0	0	0	14	0	0	0	0	0	13	0
383	4/14/2023	0	0	0	0	1	0	0	0	2	0	2	0	0	0	1	0	3	0
384	4/15/2023	0	8	0	0	0	0	0	18	0	0	0	0	0	8	0	0	0	0
385	4/16/2023	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	1	0
386	4/16/2023	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0
387	4/18/2023	0	18	0	0	88	0	0	18	0	0	94	0	0	8	0	0	92	0
388	4/17/2023	0	31	0	0	29	0	0	0	2	0	0	0	0	0	31	0	0	0
389	4/19/2023	0	2	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0
390	4/19/2023	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1
391	4/30/2023	2	0	2	0	0	0	0	2	2	0	0	0	2	0	0	0	0	0
392	5/23/2023	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
393	6/21/2023	0	0	0	0	0	4	0	0	0	0	0	4	0	0	0	0	0	2
394	10/24/2023	0	0	1	0	10	0	0	1	0	0	11	0	0	0	0	0	11	0
395	10/22/2023	8	0	0	0	0	0	7	1	0	0	0	0	0	8	0	0	0	0
396	10/24/2023	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0
397	10/27/2023	1	1	0	0	18	0	0	8	0	0	25	0	0	0	0	0	13	0

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Standing 9	Walking 9	Alert 9	Trotting 9	Feeding 12	Laying 12	Standing 12	Walking 12	Alert 12	Trotting 12	Feeding 15	Laying 15	Standing 15	Walking 15	Alert 15	Trotting 15
355	3/30/2023	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
356	3/31/2023	0	0	0	0	0	56	0	0	0	0	0	56	0	0	0	0
357	4/1/2023	0	18	0	0	8	0	0	28	0	0	10	0	0	26	0	0
358	4/1/2023	0	2	0	0	3	0	0	3	0	0	0	0	0	6	0	0
359	4/1/2023	0	5	0	0	0	40	2	8	0	0	0	48	0	2	0	0
360	4/3/2023	0	30	30	0	0	0	0	30	30	0	0	0	0	30	30	0
361	4/4/2023	0	33	1	0	2	0	0	28	0	0	0	0	0	30	0	0
362	4/5/2023	5	16	0	0	50	0	0	4	2	0	50	3	2	1	0	0
363	3/30/2023	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0
364	4/8/2023	0	10	30	0	0	0	0	0	0	50	0	0	0	0	0	50
365	4/7/2023	0	30	0	0	0	0	0	28	2	0	0	0	0	30	0	0
366	4/14/2023	0	93	0	0	0	0	0	93	0	0	0	0	0	93	0	0
367	4/12/2023	0	34	0	0	0	0	0	34	0	0	0	0	0	0	0	34
368	4/10/2023	0	0	0	0	5	0	0	0	0	0	4	0	1	0	0	0
369	4/15/2023	0	18	0	0	0	0	0	18	0	0	0	0	0	18	0	0
370	4/15/2023	0	18	0	0	0	0	0	18	0	0	0	0	0	18	0	0
371	4/14/2023	0	47	0	0	0	0	0	47	0	0	0	0	0	47	0	0
372	4/14/2023	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0
373	4/14/2023	0	0	0	0	0	4	6	0	0	0	1	2	5	2	0	0
374	4/15/2023	0	0	0	0	1	0	3	0	0	0	0	0	3	1	0	0
375	4/12/2023	0	0	0	0	0	79	1	0	0	0	1	79	0	0	0	0
376	4/9/2023	0	10	0	0	0	0	0	10	0	0	0	0	0	10	0	0
377	4/10/2023	0	0	0	0	3	0	0	0	0	0	2	0	0	1	0	0
378	4/10/2023	0	11	0	0	37	0	0	12	0	0	42	0	0	3	0	0
379	4/11/2023	0	8	0	0	34	2	11	1	0	0	24	13	8	3	0	0
380	4/11/2023	0	0	0	0	0	48	0	0	0	0	0	20	0	0	28	0
381	4/14/2023	1	19	0	0	10	0	4	5	0	0	4	0	1	4	0	0
382	4/14/2023	0	0	1	0	13	1	0	0	0	0	13	1	0	0	0	0
383	4/14/2023	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
384	4/15/2023	0	8	0	0	0	0	0	8	0	0	0	0	0	18	0	0
385	4/16/2023	1	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0
386	4/16/2023	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
387	4/18/2023	0	10	0	0	90	0	0	12	0	0	89	0	0	13	0	0
388	4/17/2023	0	30	1	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA
389	4/19/2023	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0
390	4/19/2023	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
391	4/30/2023	2	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0
392	5/23/2023	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0
393	6/21/2023	2	0	0	0	0	3	1	0	0	0	0	3	1	0	0	0
394	10/24/2023	0	0	0	0	9	0	2	0	0	0	10	0	1	0	0	0
395	10/22/2023	7	0	0	0	0	0	5	2	0	0	6	0	0	0	0	0
396	10/24/2023	0	2	0	0	2	0	0	0	0	0	2	0	0	0	0	0
397	10/27/2023	0	0	0	0	12	0	0	0	0	0	3	0	0	3	0	0

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Feeding 18	Laying 18	Standing 18	Walking 18	Alert 18	Trotting 18	Feeding 21	Laying 21	Standing 21	Walking 21	Alert 21	Trotting 21	Feeding 24	Laying 24	Standing 24	Walking 24
355	3/30/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
356	3/31/2023	0	55	1	0	0	0	0	56	0	0	0	0	0	56	0	0
357	4/1/2023	15	0	0	21	0	0	18	0	0	32	0	0	24	0	0	26
358	4/1/2023	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
359	4/1/2023	0	46	4	0	0	0	0	30	10	10	0	0	0	40	10	0
360	4/3/2023	30	0	30	0	0	0	0	0	0	30	0	0	NA	NA	NA	NA
361	4/4/2023	0	0	0	0	0	30	0	0	0	0	0	0	NA	NA	NA	NA
362	4/5/2023	53	3	0	0	0	0	31	0	5	20	0	0	45	0	4	7
363	3/30/2023	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0
364	4/8/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
365	4/7/2023	0	0	0	30	0	0	0	0	3	27	0	0	0	0	1	29
366	4/14/2023	0	0	0	76	0	0	0	0	0	38	0	0	0	0	0	21
367	4/12/2023	0	0	0	34	0	0	0	0	0	34	0	0	0	0	0	34
368	4/10/2023	2	0	0	3	0	0	3	0	0	2	0	0	5	0	0	0
369	4/15/2023	0	0	0	18	0	0	0	0	0	18	0	0	0	0	0	18
370	4/15/2023	0	0	0	18	0	0	0	0	0	18	0	0	0	0	0	18
371	4/14/2023	0	0	0	47	0	0	0	0	0	47	0	0	0	0	0	47
372	4/14/2023	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
373	4/14/2023	NA	NA	NA	NA	NA	NA	4	3	2	1	0	0	4	6	0	0
374	4/15/2023	4	0	0	0	0	0	4	0	0	0	0	0	2	0	2	0
375	4/12/2023	2	78	0	0	0	0	1	79	0	0	0	0	1	79	0	0
376	4/9/2023	0	0	0	10	0	0	0	0	0	10	0	0	0	0	0	8
377	4/10/2023	3	0	0	0	0	0	3	0	0	0	0	0	2	0	0	1
378	4/10/2023	38	0	0	4	0	0	40	0	0	2	0	0	37	1	0	4
379	4/11/2023	28	18	1	1	0	0	22	20	6	0	0	0	17	22	0	9
380	4/11/2023	8	37	3	0	0	0	1	46	1	0	0	0	0	48	0	0
381	4/14/2023	0	0	0	8	0	0	0	0	0	4	1	0	0	0	0	0
382	4/14/2023	12	1	0	1	0	0	11	1	0	0	0	0	10	1	0	0
383	4/14/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
384	4/15/2023	0	0	0	8	0	0	0	0	0	8	0	0	0	0	0	8
385	4/16/2023	1	0	1	0	0	0	2	0	0	0	0	0	1	0	0	1
386	4/16/2023	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0
387	4/18/2023	87	0	0	15	0	0	98	0	0	4	0	0	67	0	0	0
388	4/17/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
389	4/19/2023	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	2
390	4/19/2023	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
391	4/30/2023	0	0	1	1	0	0	0	0	0	2	0	0	0	0	0	2
392	5/23/2023	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	2
393	6/21/2023	1	3	0	0	0	0	0	4	0	0	0	0	0	4	0	0
394	10/24/2023	8	0	4	2	0	0	14	0	1	0	0	0	6	0	0	9
395	10/22/2023	0	1	5	0	1	0	0	1	6	0	0	0	0	0	7	0
396	10/24/2023	0	0	0	2	0	0	2	0	0	0	0	0	2	0	0	0
397	10/27/2023	5	0	0	0	0	0	1	0	0	2	0	0	0	0	0	1

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Alert 24	Trotting 24	Feeding 27	Laying 27	Standing 27	Walking 27	Alert 27	Trotting 27	Feeding 30	Laying 30	Standing 30	Walking 30	Alert 30	Trotting 30
355	3/30/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
356	3/31/2023	0	0	0	56	0	0	0	0	0	56	0	0	0	0
357	4/1/2023	0	0	12	0	0	38	0	0	25	0	0	25	0	0
358	4/1/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
359	4/1/2023	0	0	0	35	5	10	0	0	0	40	5	5	0	0
360	4/3/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
361	4/4/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
362	4/5/2023	0	0	50	0	6	0	0	0	54	0	0	2	0	0
363	3/30/2023	0	0	0	0	0	2	0	0	0	0	0	2	0	0
364	4/8/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
365	4/7/2023	0	0	0	0	0	30	0	0	0	0	0	30	0	0
366	4/14/2023	0	0	0	0	0	36	0	0	0	0	0	69	0	0
367	4/12/2023	0	0	0	0	0	34	0	0	0	0	0	0	0	0
368	4/10/2023	0	0	5	0	0	0	0	0	5	0	0	0	0	0
369	4/15/2023	0	0	0	0	0	18	0	0	0	0	0	18	0	0
370	4/15/2023	0	0	0	0	0	18	0	0	0	0	0	18	0	0
371	4/14/2023	0	0	0	0	0	47	0	0	0	0	0	47	0	0
372	4/14/2023	0	0	0	0	0	0	0	0	0	0	0	2	0	0
373	4/14/2023	0	0	2	0	0	8	0	0	0	0	0	10	0	0
374	4/15/2023	0	0	0	0	4	0	0	0	0	0	3	1	0	0
375	4/12/2023	0	0	1	79	0	0	0	0	1	79	0	0	0	0
376	4/9/2023	0	2	0	0	0	10	0	0	0	0	0	10	0	0
377	4/10/2023	0	0	2	0	0	0	1	0	0	0	0	3	0	0
378	4/10/2023	0	0	35	0	0	5	0	0	36	0	0	1	0	0
379	4/11/2023	0	0	20	27	0	1	0	0	20	27	0	1	0	0
380	4/11/2023	0	0	0	48	0	0	0	0	0	48	0	0	0	0
381	4/14/2023	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
382	4/14/2023	0	0	7	1	2	0	0	0	7	2	0	0	0	0
383	4/14/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
384	4/15/2023	0	0	0	0	0	8	0	0	0	0	0	8	0	0
385	4/16/2023	0	0	0	0	0	2	0	0	2	0	0	0	0	0
386	4/16/2023	0	0	1	0	0	0	0	0	0	0	0	1	0	0
387	4/18/2023	9	26	82	0	0	10	0	0	72	0	0	20	0	0
388	4/17/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
389	4/19/2023	0	0	0	0	0	2	0	0	0	0	0	2	0	0
390	4/19/2023	0	0	1	0	0	0	0	0	0	0	0	1	0	0
391	4/30/2023	0	0	0	0	0	2	0	0	0	0	0	2	0	0
392	5/23/2023	0	0	0	0	0	2	0	0	0	0	0	2	0	0
393	6/21/2023	0	0	0	4	0	0	0	0	2	2	0	0	0	0
394	10/24/2023	0	0	15	0	0	0	0	0	14	0	1	0	0	0
395	10/22/2023	0	0	5	0	0	0	0	2	7	0	0	0	0	0
396	10/24/2023	0	0	2	0	0	0	0	0	1	0	1	0	0	0
397	10/27/2023	0	0	12	0	0	0	0	0	18	0	0	5	0	0

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Disturbance 0	Disturbance 3	Disturbance 6	Disturbance 9	Disturbance 12	Disturbance 15	Disturbance 18	Disturbance 21	Disturbance 24	Disturbance 27	Disturbance 30
355	3/30/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
356	3/31/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
357	4/1/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
358	4/1/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
359	4/1/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
360	4/3/2023	NA	NA	NA	NA	Convoy	Convoy	Convoy	NA	NA	NA	NA
361	4/4/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
362	4/5/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
363	3/30/2023	NA	Heavy Equipment	NA	Heavy Equipment	NA	Heavy Equipment	Heavy Equipment	NA	NA	NA	NA
364	4/8/2023	NA	NA	NA	NA	Light Truck	Light Truck	NA	NA	NA	NA	NA
365	4/7/2023	NA	NA	Light Truck	NA	NA	NA	NA	NA	NA	NA	NA
366	4/14/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
367	4/12/2023	NA	NA	NA	NA	Light Truck	NA	NA	NA	NA	NA	NA
368	4/10/2023	NA	NA	NA	NA	NA	NA	Convoy	NA	NA	NA	NA
369	4/15/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
370	4/15/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
371	4/14/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
372	4/14/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
373	4/14/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
374	4/15/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
375	4/12/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
376	4/9/2023	NA	NA	NA	NA	NA	NA	NA	NA	Convoy	NA	NA
377	4/10/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	Light Truck	NA
378	4/10/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
379	4/11/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
380	4/11/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
381	4/14/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
382	4/14/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
383	4/14/2023	NA	NA	NA	NA	Convoy	Convoy	NA	NA	NA	NA	NA
384	4/15/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
385	4/16/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
386	4/16/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
387	4/18/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
388	4/17/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
389	4/19/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
390	4/19/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
391	4/30/2023	NA	Light Truck	NA	NA	NA	NA	NA	NA	NA	NA	NA
392	5/23/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Convoy
393	6/21/2023	NA	Aircraft	NA	NA	NA	NA	NA	NA	NA	NA	NA
394	10/24/2023	NA	NA	Heavy Equipment	Heavy Equipment	NA	Tanker	NA	NA	Tanker	Heavy Equipment	NA
395	10/22/2023	Tanker	NA	NA	NA	Heavy Equipment	Heavy Equipment	Heavy Equipment	NA	NA	Heavy Equipment	NA
396	10/24/2023	Heavy Equipment	NA	NA	NA	NA	Light Truck	NA	NA	NA	NA	NA
397	10/27/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Year	Long	Lat	Reconnaissance Survey	Project Tolerant Info	Distance from caribou to road	Caribou group size estimate	Size of subset	Dominant group sex	Road open or closed
355	3/30/2023	2023	-96.23867151	64.95483398	Yes	No	100-300 m	NA	10	Mixed group	Closed
356	3/31/2023	2023	-96.35583992	64.7364502	Yes	No	1 - 1.5 km	NA	56	Mixed group	Closed
357	4/1/2023	2023	-96.06180441	65.09124756	Yes	No	300 m -1 km	NA	30	Mixed group	Closed
358	4/1/2023	2023	-96.145	65.16674805	No	No	1 - 1.5 km	NA	10	Mixed group	Closed
359	4/1/2023	2023	-96.2437	65.21966553	Yes	No	1 - 1.5 km	101-200	50	Mixed group	Closed
360	4/3/2023	2023	-95.99454854	65.05688477	Yes	No	300 m -1 km	NA	30	Mixed group	Closed
361	4/4/2023	2023	-96.22457718	64.98718262	Yes	No	100-300 m	NA	40	Mixed group	Closed
362	4/5/2023	2023	-96.25158494	64.94891357	No	No	0-50 m	NA	56	Mixed group	Closed
363	3/30/2023	2023	-96.54625757	65.34368894	Yes	No	0-50 m	NA	2	Mixed group	Open
364	4/8/2023	2023	-96.18693505	65.01470947	No	No	100-300 m	NA	50	Mixed group	Closed
365	4/7/2023	2023	-96.66659717	65.40148926	No	No	300 m -1 km	101-200	30	Mixed group	Closed
366	4/14/2023	2023	-96.66659717	65.40148926	No	No	300 m -1 km	NA	93	Mixed group	Closed
367	4/12/2023	2023	-96.66659717	65.40148926	Yes	Yes Same group reported on wildlife surveys	300 m -1 km	NA	34	Mixed group	Closed
368	4/10/2023	2023	-96.03010645	65.04632568	Yes	No	100-300 m	101-200	5	Mixed group	Closed
369	4/15/2023	2023	-96.60235	65.37683105	Yes	Yes Same group as survey northbound	>1.5 km	NA	18	Mixed group	Closed
370	4/15/2023	2023	-96.60261667	65.36560059	Yes	Yes Same group as survey northbound	>1.5 km	NA	18	Mixed group	Closed
371	4/14/2023	2023	-96.66659717	65.40148926	Yes	No	300 m -1 km	NA	47	Mixed group	Closed
372	4/14/2023	2023	-96.020609	65.080258	Yes	No	300 m -1 km	NA	2	Mixed group	Closed
373	4/14/2023	2023	-96.020609	65.080258	Yes	No	300 m -1 km	NA	10	Mixed group	Closed
374	4/15/2023	2023	-96.14354307	65.05554199	Yes	No	300 m -1 km	NA	4	Mixed group	Closed
375	4/12/2023	2023	-96.37826667	64.69146729	Yes	No	51-100 m	NA	80	Mixed group	Closed
376	4/9/2023	2023	-96.09730336	65.11499023	Yes	No	300 m -1 km	201-500	10	Mixed group	Closed
377	4/10/2023	2023	-96.63238252	65.40477781	No	Yes The environment team did a wildlife survey this morning and noted the 3 caribous at this exact location.	51-100 m	NA	3	Juveniles	Closed
378	4/10/2023	2023	-96.60683474	65.39318845	Yes	No	>1.5 km	NA	55	Mixed group	Closed
379	4/11/2023	2023	-96.6329453	65.40411374	No	No	51-100 m	NA	47	Mixed group	Closed
380	4/11/2023	2023	-96.63295793	65.40411374	Yes	Yes We did a behaviour survey on them a few minutes before this one.	100-300 m	NA	48	Mixed group	Closed
381	4/14/2023	2023	-96.620775	65.40020749	No	No	300 m -1 km	NA	16	Mixed group	Closed
382	4/14/2023	2023	-96.60225916	65.37716036	No	No	300 m -1 km	NA	16	Mixed group	Closed
383	4/14/2023	2023	-96.44545583	65.32177732	No	No	300 m -1 km	101-200	6	Mixed group	Closed
384	4/15/2023	2023	-96.0734269	65.02124023	No	No	>1.5 km	NA	8	Mixed group	Closed
385	4/16/2023	2023	-96.18638513	65.01501465	Yes	No	300 m -1 km	NA	2	Mostly females	Closed
386	4/16/2023	2023	-96.30177276	64.92462158	No	No	1 - 1.5 km	NA	1	Mixed group	Closed
387	4/18/2023	2023	-96.63295793	65.40411374	No	No	300 m -1 km	NA	102	Mixed group	Closed
388	4/17/2023	2023	-96.32189777	64.84722898	Yes	No	300 m -1 km	NA	31	Mixed group	Closed
389	4/19/2023	2023	-96.07342705	65.02124021	No	No	51-100 m	NA	2	Mostly males	Closed
390	4/19/2023	2023	-96.07342705	65.02124021	No	No	>1.5 km	NA	1	Mostly males	Closed
391	4/30/2023	2023	-96.31511618	64.83319092	No	No	100-300 m	NA	2	Mixed group	Closed
392	5/23/2023	2023	-96.09228266	65.03778076	No	No	100-300 m	NA	2	Mixed group	Closed
393	6/21/2023	2023	-96.07369983	65.0211792	No	Yes Walking around airstrip for the past week	51-100 m	NA	4	Mixed group	Open
394	10/24/2023	2023	-96.60003674	65.35797119	No	No	100-300 m	NA	11	Mixed group	Open
395	10/22/2023	2023	-96.66661909	65.40142819	Yes	No	100-300 m	NA	8	Mixed group	Open
396	10/24/2023	2023	-96.66658429	65.40136719	No	No	100-300 m	NA	2	Mixed group	Open
397	10/27/2023	2023	-96.6027059	65.36505124	Yes	No	100-300 m	NA	26	Mixed group	Closed

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Road open2	survey id	Type survey caribou	Direction travel survey	survey type	Caribou group size exact	Caribou group size binned	road cross	Season
355	3/30/2023	NA	31482949	Normal	W	01- Behavior	100	51-100	0	Spring Migration
356	3/31/2023	NA	31489794	Normal	NA	01- Behavior	56	51-100	0	Spring Migration
357	4/1/2023	NA	31491320	Normal	S	01- Behavior	30	26-50	0	Spring Migration
358	4/1/2023	NA	31491321	Normal	E	01- Behavior	10	25-Mar	0	Spring Migration
359	4/1/2023	NA	31491322	Normal	S	01- Behavior	101	>100	1	Spring Migration
360	4/3/2023	NA	31502264	Convoy	N	01- Behavior	390	>100	0	Spring Migration
361	4/4/2023	NA	31517336	Convoy	S	01- Behavior	40	26-50	1	Spring Migration
362	4/5/2023	NA	31517337	Normal	W	01- Behavior	56	51-100	0	Spring Migration
363	3/30/2023	NA	31520356	Normal	W	01- Behavior	2	2-Jan	1	Spring Migration
364	4/8/2023	NA	31523310	Convoy	NA	01- Behavior	50	26-50	NA	Spring Migration
365	4/7/2023	NA	31526729	Convoy	N	01- Behavior	101	>100	0	Spring Migration
366	4/14/2023	NA	31548100	Normal	E	01- Behavior	93	51-100	0	Spring Migration
367	4/12/2023	NA	31548932	Convoy	S	01- Behavior	34	26-50	0	Spring Migration
368	4/10/2023	NA	31553241	Convoy	NA	01- Behavior	101	>100	0	Spring Migration
369	4/15/2023	NA	31558160	Normal	N	01- Behavior	18	25-Mar	0	Spring Migration
370	4/15/2023	NA	31558160	Normal	N	01- Behavior	18	25-Mar	0	Spring Migration
371	4/14/2023	NA	31561292	Convoy	S	01- Behavior	47	26-50	0	Spring Migration
372	4/14/2023	NA	31561293	Convoy	E	01- Behavior	47	26-50	0	Spring Migration
373	4/14/2023	NA	31561294	Normal	NA	01- Behavior	247	>100	0	Spring Migration
374	4/15/2023	NA	31568507	Normal	NA	01- Behavior	4	25-Mar	0	Spring Migration
375	4/12/2023	NA	31570231	Normal	NA	01- Behavior	433	>100	0	Spring Migration
376	4/9/2023	NA	31570232	Convoy	E	01- Behavior	201	>100	0	Spring Migration
377	4/10/2023	NA	31584092	Convoy	NA	01- Behavior	3	25-Mar	1	Spring Migration
378	4/10/2023	NA	31584093	Normal	NA	01- Behavior	55	51-100	0	Spring Migration
379	4/11/2023	NA	31584094	Convoy	NA	01- Behavior	47	26-50	0	Spring Migration
380	4/11/2023	NA	31584095	Convoy	W	01- Behavior	48	26-50	0	Spring Migration
381	4/14/2023	NA	31584096	Convoy	W	01- Behavior	16	25-Mar	0	Spring Migration
382	4/14/2023	NA	31584097	Normal	NA	01- Behavior	16	25-Mar	0	Spring Migration
383	4/14/2023	NA	31584098	Convoy	W	01- Behavior	101	>100	0	Spring Migration
384	4/15/2023	NA	31590587	Normal	N	01- Behavior	8	25-Mar	0	Spring Migration
385	4/16/2023	NA	31591417	Normal	NA	01- Behavior	2	2-Jan	0	Spring Migration
386	4/16/2023	NA	31591418	Normal	N	01- Behavior	1	2-Jan	0	Spring Migration
387	4/18/2023	NA	31603281	Convoy	N	01- Behavior	102	>100	0	Spring Migration
388	4/17/2023	NA	31607822	Convoy	S	01- Behavior	31	26-50	NA	Spring Migration
389	4/19/2023	NA	31620087	Normal	E	01- Behavior	7	25-Mar	0	Spring Migration
390	4/19/2023	NA	31620088	Normal	S	01- Behavior	3	25-Mar	0	Spring Migration
391	4/30/2023	NA	31712929	Normal	NA	01- Behavior	2	2-Jan	0	Spring Migration
392	5/23/2023	NA	31857444	Normal	S	01- Behavior	2	2-Jan	0	Spring Migration
393	6/21/2023	NA	32002681	Normal	NA	01- Behavior	4	25-Mar	0	Calving and Summer
394	10/24/2023	NA	33181926	Normal	NA	01- Behavior	11	25-Mar	0	Fall Migration
395	10/22/2023	NA	33183054	Normal	N	01- Behavior	8	25-Mar	0	Fall Migration
396	10/24/2023	NA	33183055	Normal	NA	01- Behavior	2	2-Jan	0	Fall Migration
397	10/27/2023	NA	33183056	Normal	N	01- Behavior	87	51-100	0	Fall Migration

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Observers	Waypoint	Road name and distance marker	Distance from caribou to observer location binned	Bearing to caribou group	Is group East or West of survey	Did the group cross the road during the survey
398	10/27/2023	Laurence Archambault	NA	Haul Road KM 171	100-300	55	East	No
399	10/27/2023	Laurence Archambault	NA	Haul Road KM 171	100-300	55	East	No
400	10/28/2023	Brandon Ipkarnerk	NA	AWAR KM 9	50-100	45	West	No
401	10/28/2023	Brandon Ipkarnerk	NA	AWAR KM 9	300-1000	280	West	No
402	10/31/2023	Brandon Ipkarnerk	NA	AWAR KM 50	100-300	225	East	NA
403	11/2/2023	Brandon Ipkarnerk Brendan mannik	NA	AWAR KM 50	100-300	70	East	No
404	11/2/2023	Brandon Ipkarnerk Brendan mannik	NA	AWAR KM 47	0-50	45	East	No
405	10/29/2023	Eric Leonard	NA	Haul Road KM 154	300-1000	335	East	No
406	11/7/2023	Kelly Habib Brenden Mannik	NA	AWAR KM 60	100-300	60	West	No
407	11/6/2023	TD	NA	AWAR KM 77	100-300	90	East	No
408	11/9/2023	Kelly Habib and Brendan Mannik	NA	AWAR KM 40	300-1000	90	East	NA
409	11/12/2023	Derek	NA	AWAR KM 64	300-1000	285	West	No
410	11/8/2023	Brandon Ipkarnerk	NA	AWAR KM 63	50-100	330	West	No
411	11/11/2023	Renee Pudnak	NA	AWAR KM 8	300-1000	15	East	No
412	11/11/2023	Renee Pudnak	NA	AWAR KM 17	>1000	30	West	NA
413	11/11/2023	Renee Pudnak	NA	AWAR KM 60	300-1000	35	West	NA
414	11/1/2023	Kate Walker, Laurence Archambault, Felix Quessy S.	NA	Haul Road KM 117	100-300	80	East	No
415	11/17/2023	Derek	NA	AWAR KM 93	>1000	215	East	No
416	11/18/2023	Derek	NA	AWAR KM 55	>1000	10	East	No
417	12/6/2023	Brendan Mannik	NA	AWAR KM 49	100-300	45	West	No
418	12/6/2023	Brendan Mannik	NA	AWAR KM 19	>1000	90	West	No
419	12/1/2023	Brendan Mannik	NA	AWAR KM 57	0-50	355	East	Yes
420	12/8/2023	Kelly Habib and Brendon Mannik	NA	AWAR KM 17	>1000	270	West	No
421	12/12/2023	Kelly Habib and Branden Mannik	NA	AWAR KM 56	300-1000	90	East	No
422	12/16/2023	Renee	NA	AWAR KM 73	300-1000	280	East	No
423	12/17/2023	Renee Pudnak	NA	AWAR KM 67	>1000	20	East	No
424	12/18/2023	Renee pudnak	NA	AWAR KM 65	300-1000	0	East	No

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Caribou group size	Temperature	Wind speed km h	Wind direction	Humidity	Days since last snow or wind event	Weather observations	Road Height cm	Road side width cm	Structures present	Feeding 0	Laying 0
398	10/27/2023	NA	-8	12	NW	93	0	Precipitation: Light snow Cloudy	100	2000	None	10	10
399	10/27/2023	NA	-8	12	NW	93	0	Precipitation: Light snow Cloudy	200	2000	None	8	16
400	10/28/2023	25	-7	15	NW	93	0	Precipitation: 0	200	800	NA	23	0
401	10/28/2023	20	7	15	NW	93	0	Precipitation: O	100	900	Bridge	0	0
402	10/31/2023	100	11	40	NW	0	1	Precipitation: 0	100	1000	0	16	0
403	11/2/2023	6	11	50	NW	0	1	Precipitation: 50	100	900	Barrel	6	0
404	11/2/2023	4	11	50	NW	0	1	Precipitation: 50	0	1000	Sea cans	0	4
405	10/29/2023	8	-13	2	NE	92	0	Precipitation: Light snow Light snow, overcast	100	1000	None	3	0
406	11/7/2023	276	-8	15	NW	30	1	Precipitation: 0	200	600	O	0	0
407	11/6/2023	2	-17	20	NW	90	5	Precipitation: 0 No wind sunny	500	1000	NA	0	0
408	11/9/2023	100	-15	20	NW	30	0	Precipitation: 0 Overcast	100	500	No	100	0
409	11/12/2023	100	-4	15	N	10	1	Precipitation: White out White out	200	1000	P	26	0
410	11/8/2023	200	15	20	NW	75	1	Precipitation: 0	100	1000	Emergency seaman	15	0
411	11/11/2023	3	-12	20	NE	1	1	Precipitation: 1 Cold	300	300	No	3	0
412	11/11/2023	600	-12	20	NE	1	1	Precipitation: 1 Cold	300	200	0	100	0
413	11/11/2023	27	-12	20	NE	1	1	Precipitation: 1 Cold	3000	200	0	13	15
414	11/1/2023	1	-11	50	NW	83	1	Precipitation: 0 Foggy	0	2000	None	1	0
415	11/17/2023	100	-14	30	N	40	1	Precipitation: Snowing White out snowing	200	1000	None	0	0
416	11/18/2023	150	-20	30	NW	40	1	Precipitation: Clear ..	0	1200	None	9	9
417	12/6/2023	5	-12	20	E	50	1	Precipitation: Snow Snowy	100	500	NA	5	0
418	12/6/2023	2	-13	15	E	50	1	Precipitation: Snow Snowy	100	400	NA	1	1
419	12/1/2023	37	-18	0	N	0	1	Precipitation: 50 Foggy	100	1000	0	0	0
420	12/8/2023	13	-20	15	NW	50	1	Precipitation: 0 Overcast	0	1000	No	0	0
421	12/12/2023	12	-27	15	NW	75	0	Precipitation: 0 Sunny	0	1000	No	12	0
422	12/16/2023	1	-28	50	NW	0	2	Precipitation: 0 â€¦.	70000	200	0	0	0
423	12/17/2023	43	-24	30	W	0	3	Precipitation: 0 0	2000	200	0	43	0
424	12/18/2023	187	-24	15	W	1	4	Precipitation: 1 1	500	200	0	187	0

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Standing 0	Walking 0	Alert 0	Trotting 0	Feeding 3	Laying 3	Standing 3	Walking 3	Alert 3	Trotting 3	Feeding 6	Laying 6	Standing 6	Walking 6	Alert 6	Trotting 6	Feeding 9	Laying 9
398	10/27/2023	0	0	0	0	12	8	0	2	0	0	11	9	0	0	0	0	7	13
399	10/27/2023	0	1	0	0	7	18	0	0	0	0	7	18	0	0	0	0	0	2
400	10/28/2023	2	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA
401	10/28/2023	0	20	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
402	10/31/2023	0	3	0	0	19	0	0	0	0	0	19	0	0	0	0	0	19	0
403	11/2/2023	0	0	0	0	7	3	0	3	0	0	8	0	0	5	0	0	0	0
404	11/2/2023	0	0	0	0	0	4	0	0	0	0	0	4	0	0	0	0	0	3
405	10/29/2023	0	4	0	0	8	0	0	0	0	0	0	0	0	1	0	0	0	0
406	11/7/2023	0	100	0	0	0	0	0	100	0	0	0	0	0	100	0	0	0	0
407	11/6/2023	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	2	0
408	11/9/2023	0	0	0	0	100	0	0	0	0	0	0	100	0	0	0	0	0	100
409	11/12/2023	0	0	0	0	25	0	0	1	0	0	0	0	0	26	0	0	0	0
410	11/8/2023	15	0	0	0	12	0	14	0	0	0	14	0	14	2	0	0	15	0
411	11/11/2023	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0
412	11/11/2023	100	100	100	0	0	0	100	100	100	100	NA	NA	NA	NA	NA	NA	NA	NA
413	11/11/2023	15	0	27	0	15	4	15	15	15	0	0	0	27	27	27	0	NA	NA
414	11/1/2023	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0
415	11/17/2023	0	50	0	0	0	0	1	49	0	0	2	2	7	39	0	0	40	6
416	11/18/2023	2	5	0	0	20	0	5	0	0	0	13	0	10	2	0	0	20	0
417	12/6/2023	0	0	0	0	5	0	0	0	0	0	5	0	0	0	0	0	0	0
418	12/6/2023	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	2
419	12/1/2023	0	4	0	0	4	0	0	0	0	0	4	0	0	0	0	0	4	0
420	12/8/2023	13	0	0	0	0	0	13	0	0	0	0	0	13	0	0	0	0	0
421	12/12/2023	0	0	0	0	9	0	0	3	0	0	9	0	0	3	0	0	9	0
422	12/16/2023	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
423	12/17/2023	43	0	0	0	43	0	43	0	0	0	43	0	43	0	0	0	43	0
424	12/18/2023	187	0	0	0	187	0	187	0	0	0	187	0	187	0	0	0	187	0

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Standing 9	Walking 9	Alert 9	Trotting 9	Feeding 12	Laying 12	Standing 12	Walking 12	Alert 12	Trotting 12	Feeding 15	Laying 15	Standing 15	Walking 15	Alert 15	Trotting 15
398	10/27/2023	0	0	0	0	3	17	0	0	0	0	2	18	0	0	0	0
399	10/27/2023	0	23	0	0	18	2	5	0	0	0	21	4	0	0	0	0
400	10/28/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
401	10/28/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
402	10/31/2023	0	0	0	0	19	0	0	0	0	0	NA	NA	NA	NA	NA	NA
403	11/2/2023	0	13	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA
404	11/2/2023	0	1	0	0	0	3	0	1	0	0	0	3	0	1	0	0
405	10/29/2023	1	5	0	0	6	0	0	0	0	0	NA	NA	NA	NA	NA	NA
406	11/7/2023	0	100	0	0	0	0	0	0	0	100	0	0	0	0	0	100
407	11/6/2023	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
408	11/9/2023	0	0	0	0	0	100	0	0	0	0	0	100	0	0	0	0
409	11/12/2023	0	25	0	1	0	0	0	26	0	0	0	0	3	23	0	0
410	11/8/2023	15	3	0	0	15	0	15	4	0	0	15	0	15	1	0	0
411	11/11/2023	3	0	3	0	3	0	3	0	3	0	0	0	3	3	3	3
412	11/11/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
413	11/11/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
414	11/1/2023	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
415	11/17/2023	4	0	0	0	40	6	4	0	0	0	45	5	0	0	0	0
416	11/18/2023	3	2	0	0	25	0	0	0	0	0	5	0	3	17	0	0
417	12/6/2023	0	5	0	0	0	0	0	5	0	0	0	0	5	0	0	0
418	12/6/2023	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
419	12/1/2023	0	0	0	0	3	0	0	1	0	0	4	0	0	0	0	0
420	12/8/2023	0	13	0	0	0	0	0	13	0	0	0	0	0	13	0	0
421	12/12/2023	0	3	0	0	8	0	0	4	0	0	8	0	0	4	0	0
422	12/16/2023	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
423	12/17/2023	43	0	0	0	43	0	43	0	0	0	43	0	43	0	0	0
424	12/18/2023	187	0	0	0	187	0	187	0	0	0	187	0	187	0	0	0

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Feeding 18	Laying 18	Standing 18	Walking 18	Alert 18	Trotting 18	Feeding 21	Laying 21	Standing 21	Walking 21	Alert 21	Trotting 21	Feeding 24	Laying 24	Standing 24	Walking 24
398	10/27/2023	3	16	1	0	0	0	2	18	0	0	0	0	2	18	0	0
399	10/27/2023	14	11	0	0	0	0	14	11	0	0	0	0	9	16	0	0
400	10/28/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
401	10/28/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
402	10/31/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
403	11/2/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
404	11/2/2023	0	0	0	4	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
405	10/29/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
406	11/7/2023	0	0	0	100	0	0	0	0	0	100	0	0	0	0	0	100
407	11/6/2023	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
408	11/9/2023	0	100	0	0	0	0	0	100	0	0	0	0	0	100	0	0
409	11/12/2023	0	0	0	26	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
410	11/8/2023	15	0	15	6	0	0	15	0	15	2	0	0	NA	NA	NA	NA
411	11/11/2023	0	0	0	3	3	0	3	0	3	0	3	0	3	0	3	0
412	11/11/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
413	11/11/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
414	11/1/2023	1	0	0	0	0	0	1	0	0	0	0	0	NA	NA	NA	NA
415	11/17/2023	43	7	0	0	0	0	44	6	0	0	0	0	39	6	5	0
416	11/18/2023	25	0	0	0	0	0	25	0	0	0	0	0	23	0	2	0
417	12/6/2023	0	0	0	5	0	0	0	0	0	5	0	0	0	0	0	5
418	12/6/2023	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0
419	12/1/2023	3	0	1	0	0	0	3	0	0	0	0	0	3	0	0	1
420	12/8/2023	0	0	13	0	0	0	0	0	0	13	0	0	0	0	0	13
421	12/12/2023	5	0	0	7	0	0	0	0	0	12	0	0	0	0	0	12
422	12/16/2023	1	0	1	0	1	0	1	0	1	0	1	0	0	1	0	0
423	12/17/2023	43	0	43	0	0	0	43	0	43	0	0	0	43	0	43	0
424	12/18/2023	187	0	187	0	0	0	187	0	187	0	0	0	187	0	187	0

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Alert 24	Trotting 24	Feeding 27	Laying 27	Standing 27	Walking 27	Alert 27	Trotting 27	Feeding 30	Laying 30	Standing 30	Walking 30	Alert 30	Trotting 30
398	10/27/2023	0	0	3	21	0	0	0	5	2	18	5	0	0	0
399	10/27/2023	0	0	5	15	0	5	0	0	4	18	3	0	0	0
400	10/28/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
401	10/28/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
402	10/31/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
403	11/2/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
404	11/2/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
405	10/29/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
406	11/7/2023	0	0	0	0	0	100	0	0	0	0	0	100	0	0
407	11/6/2023	0	0	0	0	0	2	0	0	0	0	0	2	0	0
408	11/9/2023	0	0	0	100	0	0	0	0	0	100	0	0	0	0
409	11/12/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
410	11/8/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
411	11/11/2023	3	0	3	0	3	0	3	0	3	0	3	3	3	0
412	11/11/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
413	11/11/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
414	11/1/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
415	11/17/2023	0	0	44	6	0	0	0	0	43	7	0	0	0	0
416	11/18/2023	0	0	25	0	0	0	0	0	20	0	1	4	0	0
417	12/6/2023	0	0	0	0	0	5	0	0	0	0	0	5	0	0
418	12/6/2023	0	0	0	2	0	0	0	0	0	0	0	0	0	0
419	12/1/2023	0	0	4	0	0	0	0	0	4	0	0	0	0	0
420	12/8/2023	0	0	0	0	13	0	0	0	0	0	0	13	0	0
421	12/12/2023	0	0	0	0	0	12	0	0	0	0	0	12	0	0
422	12/16/2023	1	0	0	1	0	0	1	0	0	1	0	0	1	0
423	12/17/2023	0	0	43	0	43	0	0	0	43	0	43	0	0	0
424	12/18/2023	0	0	187	0	187	0	0	0	187	0	187	0	0	0

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Disturbance 0	Disturbance 3	Disturbance 6	Disturbance 9	Disturbance 12	Disturbance 15	Disturbance 18	Disturbance 21	Disturbance 24	Disturbance 27	Disturbance 30
398	10/27/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
399	10/27/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
400	10/28/2023	Aircraft	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
401	10/28/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
402	10/31/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
403	11/2/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
404	11/2/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
405	10/29/2023	NA	NA	NA	Heavy Equipment	NA	NA	NA	NA	NA	NA	NA
406	11/7/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
407	11/6/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
408	11/9/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
409	11/12/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
410	11/8/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
411	11/11/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
412	11/11/2023	Aircraft	Aircraft	NA	NA	NA	NA	NA	NA	NA	NA	NA
413	11/11/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
414	11/1/2023	Convoy	NA	Heavy Equipment	NA	Heavy Equipment	Light Truck	NA	NA	NA	NA	NA
415	11/17/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
416	11/18/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
417	12/6/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
418	12/6/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
419	12/1/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
420	12/8/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
421	12/12/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
422	12/16/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
423	12/17/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
424	12/18/2023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Year	Long	Lat	Reconnaissance Survey	Project Tolerant Info	Distance from caribou to road	Caribou group size estimate	Size of subset	Dominant group sex	Road open or closed
398	10/27/2023	2023	-96.59262888	65.355957	No	No	0-50 m	201-500	20	Mixed group	Closed
399	10/27/2023	2023	-96.59215857	65.355957	No	No	0-50 m	201-500	25	Mixed group	Closed
400	10/28/2023	2023	-96.07370258	65.02117917	Yes	No	300 m -1 km	NA	25	Mostly females with calves	Closed
401	10/28/2023	2023	-96.01488327	64.38830564	No	No	300 m -1 km	NA	20		Closed
402	10/31/2023	2023	-96.37330395	64.67999265	No	No	100-300 m	NA	19	Mixed group	Closed
403	11/2/2023	2023	-96.3720009	64.6762695	No	No	100-300 m	NA	6	Mixed group	Closed
404	11/2/2023	2023	-96.33443142	64.65618894	No	No	0-50 m	NA	4	Mixed group	Closed
405	10/29/2023	2023	-96.66662244	65.40142822	Yes	No	300 m -1 km	NA	8	Mixed group	Open
406	11/7/2023	2023	-96.37091667	64.74804688	Yes	No	100-300 m	NA	100	Mixed group	Closed
407	11/6/2023	2023	-96.33808333	64.89556885	No	No	100-300 m	NA	2	Mostly males	Open
408	11/9/2023	2023	-96.28005	64.61932373	No	No	300 m -1 km	NA	100	Mixed group	Closed
409	11/12/2023	2023	-96.3377803	64.78826901	Yes	No	300 m -1 km	NA	25	Mostly males	Closed
410	11/8/2023	2023	-96.3471258	64.7698364	No	No	51-100 m	NA	11	Mixed group	Closed
411	11/11/2023	2023	-96.01581688	64.38208008	No	Yes Same group same location as yesterday	300 m -1 km	NA	3	Mixed group	Open
412	11/11/2023	2023	-96.0802399	64.45458984	No	Yes Same area as yesterday	1 - 1.5 km	NA	600	Mixed group	Closed
413	11/11/2023	2023	-96.36201315	64.75671387	No	No	300 m -1 km	NA	27	Mixed group	Closed
414	11/1/2023	2023	-96.03221505	65.08325192	Yes	No	100-300 m	NA	1	Mostly females	Closed
415	11/17/2023	2023	-96.22065309	64.99853513	Yes	No	1 - 1.5 km	NA	50	Mixed group	Closed
416	11/18/2023	2023	-96.34191615	64.72253415	Yes	No	300 m -1 km	NA	25	Mixed group	Closed
417	12/6/2023	2023	-96.3707172	64.66748044	No	No	100-300 m	NA	5	Mixed group	Open
418	12/6/2023	2023	-96.08516365	64.46765134	No	No	1 - 1.5 km	NA	2	Mixed group	Open
419	12/1/2023	2023	-96.35804665	64.72729489	No	No	0-50 m	NA	4	Mixed group	Closed
420	12/8/2023	2023	-96.07764107	64.45355225	Yes	Yes Same group from road survey at KM18 2023-12-08	1 - 1.5 km	NA	13	Mixed group	Closed
421	12/12/2023	2023	-96.35923098	64.72796631	Yes	Yes Same group as 12/12/2023	300 m -1 km	NA	12	Mixed group	Open
422	12/16/2023	2023	-96.32383275	64.85174561	No	No	300 m -1 km	NA	1	Mostly males	Open
423	12/17/2023	2023	-96.32478738	64.81390381	No	No	1 - 1.5 km	NA	43	Mixed group	Open
424	12/18/2023	2023	-96.33683558	64.78894043	No	No	300 m -1 km	NA	187	Mixed group	Open

APPENDIX B: DATA FROM CARIBOU BEHAVIOUR SURVEYS

Survey Number	Date	Road open2	survey id	Type survey caribou	Direction travel survey	survey type	Caribou group size exact	Caribou group size binned	road cross	Season
398	10/27/2023	NA	33183057	Normal	NA	01- Behavior	201	>100	0	Fall Migration
399	10/27/2023	NA	33183058	Convoy	NA	01- Behavior	201	>100	0	Fall Migration
400	10/28/2023	NA	33195601	Normal	E	01- Behavior	25	25-Mar	0	Fall Migration
401	10/28/2023	NA	33195602	Normal	W	01- Behavior	20	25-Mar	0	Fall Migration
402	10/31/2023	NA	33222678	Normal	N	01- Behavior	100	51-100	NA	Fall Migration
403	11/2/2023	NA	33223645	Normal	S	01- Behavior	6	25-Mar	0	Fall Migration
404	11/2/2023	NA	33223646	Normal	N	01- Behavior	4	25-Mar	0	Fall Migration
405	10/29/2023	NA	33234609	Normal	S	01- Behavior	8	25-Mar	0	Fall Migration
406	11/7/2023	NA	33244159	Normal	NA	01- Behavior	276	>100	0	Fall Migration
407	11/6/2023	NA	33249244	Normal	S	01- Behavior	2	2-Jan	0	Fall Migration
408	11/9/2023	NA	33264150	Normal	NA	01- Behavior	100	51-100	NA	Fall Migration
409	11/12/2023	NA	33285335	Normal	S	01- Behavior	100	51-100	0	Fall Migration
410	11/8/2023	NA	33290087	Normal	W	01- Behavior	200	>100	0	Fall Migration
411	11/11/2023	NA	33315326	Normal	E	01- Behavior	3	25-Mar	0	Fall Migration
412	11/11/2023	NA	33315327	Normal	S	01- Behavior	600	>100	NA	Fall Migration
413	11/11/2023	NA	33315328	Normal	NA	01- Behavior	27	26-50	NA	Fall Migration
414	11/1/2023	NA	33315331	Normal	NA	01- Behavior	1	2-Jan	0	Fall Migration
415	11/17/2023	NA	33350455	Normal	W	01- Behavior	100	51-100	0	Fall Migration
416	11/18/2023	NA	33350456	Normal	NA	01- Behavior	150	>100	0	Fall Migration
417	12/6/2023	NA	33400083	Normal	N	01- Behavior	5	25-Mar	0	Fall Migration
418	12/6/2023	NA	33400084	Normal	W	01- Behavior	2	2-Jan	0	Fall Migration
419	12/1/2023	NA	33401116	Normal	S,W	01- Behavior	37	26-50	1	Fall Migration
420	12/8/2023	NA	33415168	Normal	NA	01- Behavior	13	25-Mar	0	Fall Migration
421	12/12/2023	NA	33466361	Normal	NA	01- Behavior	12	25-Mar	0	Fall Migration
422	12/16/2023	NA	33479489	Normal	S	01- Behavior	1	2-Jan	0	Fall Migration
423	12/17/2023	NA	33489584	Normal	E	01- Behavior	43	26-50	0	Fall Migration
424	12/18/2023	NA	33490415	Normal	N,E	01- Behavior	187	>100	0	Fall Migration

APPENDIX C PROPORTION OF RESPONSE BEHAVIOUR DURING EACH SURVEY

FIGURE C-1 PROPORTION OF RESPONSE BEHAVIOUR DURING EACH SURVEY – 2020

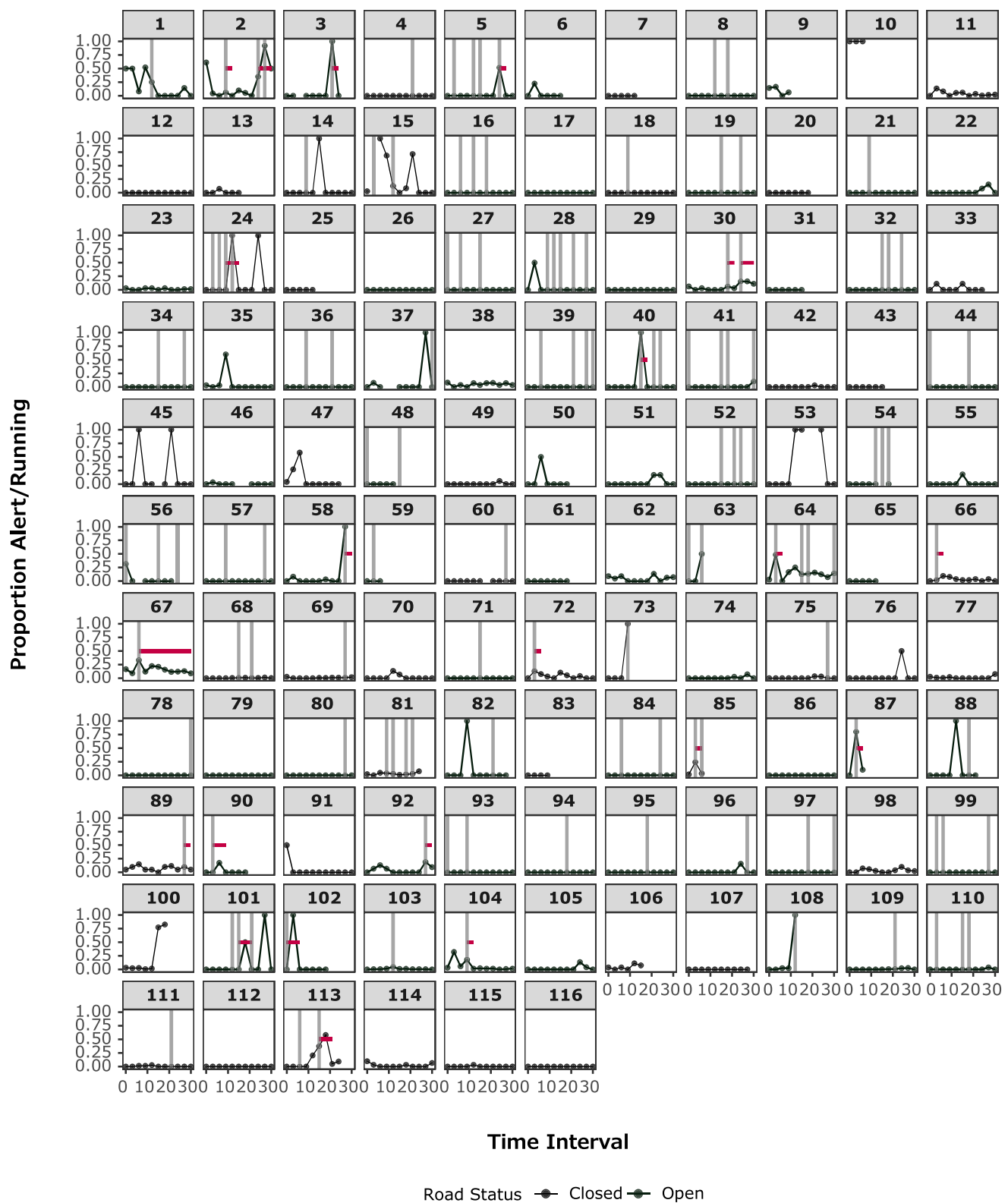


FIGURE C-2 PROPORTION OF RESPONSE BEHAVIOUR DURING EACH SURVEY – 2021

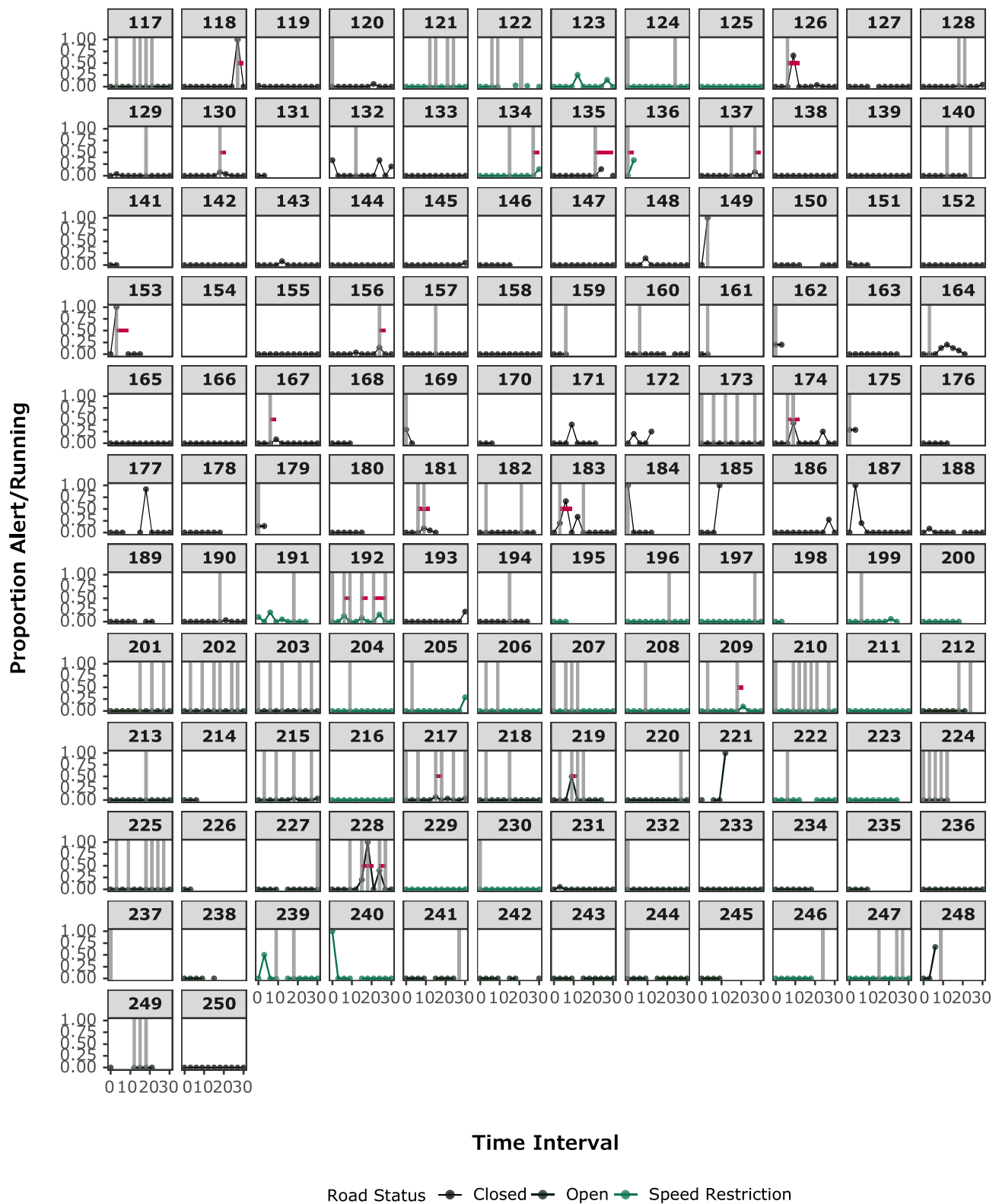


FIGURE C-3 PROPORTION OF RESPONSE BEHAVIOUR DURING EACH SURVEY – 2022

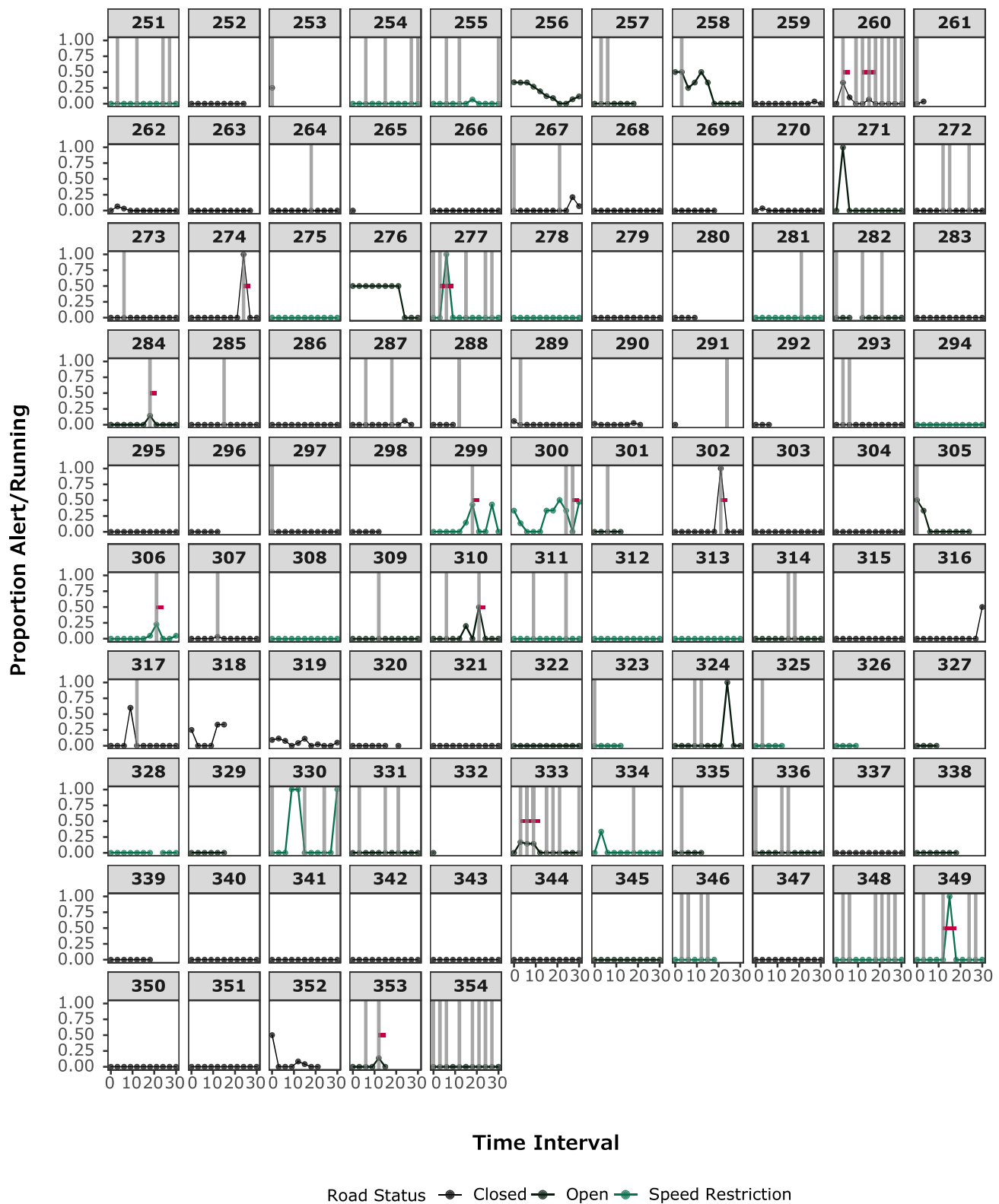
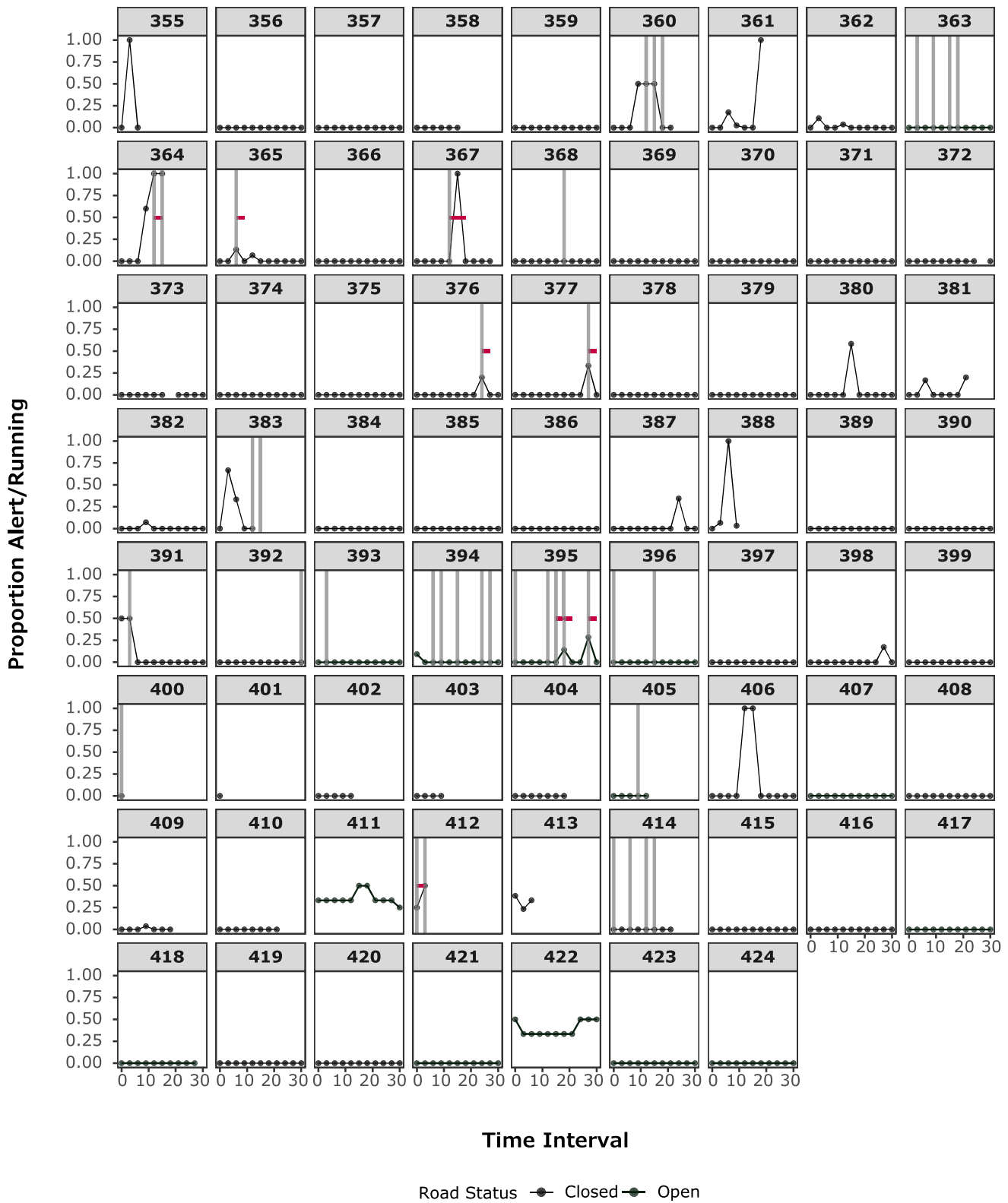


FIGURE C-4 PROPORTION OF RESPONSE BEHAVIOUR DURING EACH SURVEY – 2023





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