



**Sisson Project: Winter Wildlife Surveys 2012**

**Prepared for:**

Northcliff Resources Ltd.  
15<sup>th</sup> Floor – 1040 W. Georgia Street  
Vancouver, BC V6E 4H8

**Prepared by:**

Stantec Consulting Ltd.  
845 Prospect Street  
Fredericton, NB E3B 2T7

Project No. 121810356  
February 15, 2013



## **ABOUT THIS DOCUMENT**

---

This report has been prepared by Stantec Consulting Ltd. (Stantec) for the sole benefit of Northcliff Resources Ltd. (Northcliff). The report may not be relied upon by any other person or entity, other than for its intended purposes, without the express written consent of Stantec and Northcliff.

This report was undertaken exclusively for the purpose outlined herein and is limited to the scope and purpose specifically expressed in this report. This report cannot be used or applied under any circumstances to another location or situation or for any other purpose without further evaluation of the data and related limitations. Any use of this report by a third party, or any reliance on decisions made based upon it, are the responsibility of such third parties. Stantec accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken based on this report.

Stantec makes no representation or warranty with respect to this report, other than the work was undertaken by trained professional and technical staff in accordance with generally accepted engineering and scientific practices current at the time the work was performed. Any information or facts provided by others and referred to or used in the preparation of this report have been assumed to be correct. This report should not be construed as legal advice.

This report presents the best professional judgment of Stantec personnel available at the time of its preparation. Stantec reserves the right to modify the contents of this report, in whole or in part, to reflect any new information that becomes available. If any conditions become apparent that differ significantly from our understanding of conditions as presented in this report, we request that we be notified immediately to reassess the observations and any conclusions provided herein.



## **TABLE OF CONTENTS**

<b>1.0 INTRODUCTION</b> .....	<b>1</b>
<b>2.0 WINTER AERIAL WILDLIFE SURVEY</b> .....	<b>2</b>
2.1 METHODS.....	2
2.2 RESULTS .....	6
2.2.1 Tracks and Animal Sightings.....	6
2.2.1.1 Moose.....	7
2.2.1.2 North American River Otter.....	8
2.2.1.3 Fisher.....	9
2.2.1.4 American Marten.....	9
2.2.1.5 Eastern Coyote .....	9
2.2.1.6 Canada Lynx.....	9
2.2.1.7 North American Beaver.....	9
2.2.1.8 American Mink .....	10
2.2.2 Wintering Areas .....	10
<b>3.0 WINTER TRACK TRANSECT SURVEY</b> .....	<b>11</b>
3.1 METHODS.....	11
3.2 RESULTS .....	11
3.2.1 Transect T-1.....	11
3.2.2 Transect T-2.....	12
<b>4.0 DISCUSSION</b> .....	<b>15</b>

## **LIST OF TABLES**

Table 1	Summary of track locations and animal sightings by species. ....	6
Table 2	Summary of Tracks Recorded on Transect T-1.....	12
Table 3	Summary of Tracks Recorded on Transect T-2.....	12

## **LIST OF FIGURES**

Figure 1	Winter Aerial Wildlife Survey Results .....	3
Figure 2	Track Transects .....	13

## **LIST OF APPENDICES**

Appendix A	Track Transect Instructions
Appendix B	Track Transect Data Sheets



## 1.0 INTRODUCTION

---

This is the report documenting the results of the winter wildlife survey carried out for the Sisson Project (“the Project”) proposed by Northcliff Resources Ltd. (Northcliff) near Napadogan, New Brunswick. The surveys, consisting of an aerial survey to identify the presence of ungulates in or near the PDA and to identify deer wintering areas and other habitat types, as well as a track transect survey to identify animal tracks in the Project Development Area (PDA), were carried out to provide background information for the environmental impact assessment (EIA) for the Project.

The surveys were conducted to assess the presence and distribution of both furbearer and ungulate wildlife species in and around the PDA for the Sisson mine site, but were not conducted in the proposed corridor for the transmission line as the precise alignment of the transmission line had not been determined at the time of conducting the surveys. The surveys consisted of two parts:

- a winter aerial wildlife survey, carried out by Stantec and experienced trappers from the New Brunswick Trappers and Fur Harvesters Federation (NBTFHF) via helicopter on March 16, 2012, to identify the presence of ungulates (*i.e.*, moose and deer) in or near the PDA, and in particular to identify the presence of any active wintering areas in the PDA to supplement existing information maintained by the New Brunswick Department of Natural Resources (NBDNR); and
- a winter track transect survey, carried out by experienced trappers from the NBTFHF under contract with Northcliff on January 9, 2012, to identify possible evidence of furbearing mammals in the PDA through visual observation of the mammals themselves or through the presence of tracks, scat or other signs of wildlife in two defined tracks in the PDA.

The winter aerial wildlife and track transect surveys covered both the PDA and the landscape around it, with focus on mature forest habitat and provincially-identified deer wintering areas (DWA). The winter aerial wildlife surveys enabled the identification of wildlife presence in large inaccessible areas within a short period. The winter track transects conducted within and just outside the PDA, also made it possible to detect the recent presence of a wide variety of wildlife species without the necessity of seeing the actual animals.

The results of these surveys are detailed in the remainder of this report. The methods and results of the winter aerial surveys are discussed first in Section 2, followed by the methods and results of the winter track transect surveys in Section 3. A brief discussion of the results is provided in Section 4. Field data sheets are provided in the appendices.

## **2.0 WINTER AERIAL WILDLIFE SURVEY**

---

During ground-based field work of the PDA conducted during the summer of 2011, Stantec survey crews noted the presence of moose and occasional deer within the PDA, as well as signs of furbearing mammals such as American marten, Canada lynx, American muskrat and North American beaver, to name a few. Additionally, a number of deer wintering areas are known from NBDNR databases to be located outside the PDA. As a result, a non-systematic aerial survey targeting suitable wintering habitat areas was conducted by helicopter during winter of 2012 to:

- gain a better understanding of the potential use of the PDA and the surrounding landscape by furbearers and ungulates, and
- gauge the use of wintering areas by ungulates.

The methods and results of the winter aerial wildlife survey, conducted by Stantec on March 16, 2012, are detailed in the sub-sections that follow.

### **2.1 METHODS**

The aerial wildlife survey was planned for mid-winter of 2012, once the snowpack in the area of the Project had reached a depth that would encourage white tailed deer to engage in yarding and when animal tracks would be readily visible on the surface of the snow.

Prior to survey field work, mature coniferous forest habitat and provincial Deer Wintering Areas (DWAs) were identified in and within approximately 10 km of the PDA (Figure 1). While the flyover covered a wide area in and around the PDA, mature coniferous forest habitat and DWAs were targeted as areas that were estimated to have the highest likelihood of containing deer yards and/or moose. Deer wintering areas are characterized by mature softwood forest cover. If deer were present in or near the PDA, evidence of their presence could be found in these areas as they fulfill an important habitat requirement for ungulates in winter through the provision of moderate nighttime temperatures and relatively low snow cover. Mature coniferous forest habitat is also an important component of winter habitat for several mustelid (weasel family) species. A series of waypoints was selected to maximize coverage of mature forest habitat within the full day of scheduled flight time. A global positioning system (GPS) unit was loaded with the waypoint coordinates of these areas so that the flight plan could include these locations during the course of the survey.





DATE:  
30/01/2013

PREPARED BY:  
J. Benjamin

BASE DATA SOURCES:  
NBDNR

**Winter Aerial Wildlife Survey Results  
Sisson Project**

- |                         |   |                       |                        |
|-------------------------|---|-----------------------|------------------------|
| ▲ Animal Sighting       | — Embankment                              | — Major Road          | ■ Overmature Mixedwood |
| ■ Track Observation     | — TSF                                     | — Secondary Road      | ■ Overmature Softwood  |
| ■ Tree Stand            | — New Transmission Line (138 kV)          | — Resource Road/Trail | ■ Mature Hardwood      |
| — Ungulate Survey Track | — Transmission Line (345 kV) Re-alignment | — Railway             | ■ Mature Mixedwood     |
| — Contour (10m)         | ■ Study Area Corridor                     | — Transmission Line   | ■ Mature Softwood      |
|                         | ■ Quarry                                  | ■ Waterbody (DNR)     |                        |
|                         | ■ Open Pit                                | ■ Wetland (DNR)       |                        |
|                         | ■ Deer Wintering Area                     | ■ Watercourse (DNR)   |                        |
|                         | ■ Old Spruce Fir Habitat                  |                       |                        |

FIGURE NO:  
**1**

PROJECT NO.: 121810356

CLIENT: Northcliff Resources Ltd.









**Photo 1: Mature coniferous forest habitat from the air.**

The field team for the aerial wildlife survey included a Stantec terrestrial ecologist and two experienced trappers who are members of NBTFFH (Mr. Kirby Burt and Mr. Christopher Bay). A Bell 206 JetRanger helicopter operated by Canadian Helicopters Inc. and based at the Fredericton Airport was contracted to carry out the aerial survey. The pilot of the helicopter also had prior experience with aerial wildlife and was able to assist in spotting. The helicopter was equipped with bubble windows in the rear passenger doors for increased visibility.

The flight plan was to leave the Fredericton Airport at approximately 09:00 on March 16, 2012, to fly directly to the site. Halfway through the day, the aircraft was refueled in Fredericton and the survey continued until the fuel level dictated the need to return to Fredericton Airport and as daylight conditions were no longer ideal.

The survey occurred approximately 24 hours following a light snowfall which would have covered the tracks of smaller mammals or those that walked on the surface of the snow. Any tracks seen from the helicopter for these types of animals would have been created since the snowfall the day before. Tracks of larger animals such as moose and deer would be visible from prior to the snowfall, however it was possible to distinguish between fresh tracks and old tracks. Very common animal species of low commercial importance such as red squirrel and snowshoe hare were not recorded during the survey. Flight altitude varied between 10 m and 100 m above ground level (agl), depending on what the surveyors were observing. The tracks are generally visible from a distance at higher altitudes where a greater radius could be surveyed, but smaller animal tracks could only be identified by hovering at lower altitude above the location when necessary.

The coordinates for tracks were recorded in groups or clusters; multiple tracks at one location were recorded as one instance except where the actual animals were present. When animals were observed, the number and where possible, sex and approximate age, of the animal(s) were recorded. Where tracks continued for long distances, but were evidently made by a single animal, they were recorded as a single location. For larger animals such as moose, tracks were identified as “old” if they were laid prior to the recent snowfall, or “fresh” if they had been made since the snowfall.

Upon completion of the survey, the geographic coordinates of the track and animal locations were overlaid on digital mapping of forest cover and hydrological features (Figure 1) in order to investigate any qualitative trends that might be evident in the distribution of tracks for a given species.

## 2.2 RESULTS

The weather was sunny throughout most of survey which took place on March 16, 2012, with some cloudiness developing late in the day. The direct sunlight provided favorable contrast for viewing tracks in the snow for most of the day. There were approximately 6.5 hours of flight time spent surveying the site (excluding commuting time to and from the Fredericton Airport).

### 2.2.1 Tracks and Animal Sightings

A summary of the number of tracks and animal sightings seen by species can be seen in Table 1. Tracks from eight mammal species were recorded during the survey: moose, eastern coyote, Canada lynx, American marten, fisher, North American river otter, North American beaver, and American mink. Despite some occasional incidental sightings within the PDA during the summer of 2011, no white-tailed deer tracks or individuals were seen during the survey. The most widespread and commonly seen tracks were moose with 55 track locations; moose were the only animals seen during the aerial survey, with 12 individuals sighted either singly or in small groups at eight different locations. Given the large home range of many of these species, some individual animals may be responsible for multiple track locations.

**Table 1 Summary of track locations and animal sightings by species.**

Species	Number of Track Locations Observed, March 16, 2012	Number of Animal Sightings by Species, March 16, 2012
moose ( <i>Alces alces</i> )	55	12
North American river otter ( <i>Lontra canadensis</i> )	20	0
fisher ( <i>Martes pennanti</i> )	11	0
American marten ( <i>Martes americana</i> )	11	0
eastern coyote ( <i>Canis latrans</i> )	10	0
Canada lynx ( <i>Lynx canadensis</i> )	10	0
North American beaver ( <i>Castor canadensis</i> )	1	0
American mink ( <i>Neovison vison</i> )	1	0
<b>Total</b>	<b>119</b>	<b>12</b>

The track locations for most animals were widely distributed across the survey area, although there were some minor trends in the distribution patterns of individual species that are discussed below. In general, there did appear to be a trend of greater activity for all species in proximity to mature and/or overmature forest as well as in proximity to watercourses and wetlands. On the landscape level, old forest tends to be associated with watercourses and wetlands, so it is difficult to generalize which habitat feature may most important to the presence of these species. Also, the survey path was designed to concentrate on mature forest and major watercourses; although it was noted during the survey that younger or cutover stands had less evidence of animal activity. Given the non-systematic nature of the survey, conclusions cannot be drawn from a direct quantitative comparison of the presence of animals within the PDA with their use outside the PDA; however, general trends are noted.



**Photo 2: Aerial view of the PDA (TSF area), looking southeast.**

### **2.2.1.1 Moose**

A total of 55 moose track locations and sightings of 12 individuals were recorded during the survey. The moose sightings were comprised of 1 bull, 5 cows, 2 calves, and 4 adult individuals of unknown sex. Moose appeared to be common throughout the survey area, although only two track locations were recorded within the PDA compared to 53 being recorded outside the PDA. Despite the trend toward higher moose activity outside the PDA, there were no obvious trends to indicate that the moose were favoring any particular habitat type. No further conclusions can be drawn based on the qualitative nature of the survey.





**Photo 3: A moose crossing a skidder trail in coniferous forest.**

#### **2.2.1.2 North American River Otter**

River otter tracks were seen across the landscape wherever there were major watercourses, with a total of 20 track locations recorded. No sightings of otter were made. No otter tracks were recorded within the PDA, although half of the tracks recorded were along the West Branch Napadogan Brook and East Branch Napadogan Brook just to the north and northeast of the site. However, given the wide range of these animals and the proximity of the tracks observed to one another, it is possible that many of these tracks could belong to the same individuals. No clear landscape level trends were obvious, other than an affinity of otters to large watercourses.



**Photo 4: Recent otter tracks across open ground.**

### **2.2.1.3 Fisher**

A total of 11 track locations were recorded for fisher at various locations scattered across the survey area. No sightings of fisher were made. There were no particular concentrations of activity, but there did appear to be an affinity of these animals for wetter areas near wetlands and watercourses--this trend may have been influenced partially by the survey pattern. Only one track location was identified within the PDA.

### **2.2.1.4 American Marten**

A total of 11 track locations were recorded at various locations scattered across the landscape, with one track location inside the PDA. No sightings of American marten were made. Six of these locations were near the West Branch Napadogan Brook and East Branch Napadogan Brook, similar in distribution to the concentration of otter tracks, but not as closely associated with watercourses. All but one of the track locations were seen within 2 km of the PDA, despite most of the survey time being spent at greater distance.

### **2.2.1.5 Eastern Coyote**

Track locations for this species (10 in total) were concentrated within the PDA and immediately to the north of the PDA along the West Branch Napadogan Brook, although the same family group might have been responsible for the majority of these tracks given their proximity and the large range of these animals. No sightings of eastern coyote were made.

### **2.2.1.6 Canada Lynx**

Canada lynx is a species of conservation concern, protected under the New Brunswick *Species at Risk Act* as "regionally endangered". A total of 10 Canada lynx track locations were recorded. These locations were scattered across the landscape with no apparent pattern in their distribution except that they tended to be proximal to watercourses and wetlands and/or mature forest, which are typically associated with each other in the survey area. One track location was recorded within the PDA. The locations of tracks identified in the field were often along edges of stands and hydrological features where the vegetation was low and dense. In Northern Maine, Canada lynx (and their main prey, snowshoe hare) were most abundant in habitats with dense coniferous sapling cover, which in that area was typically the product of past clear cutting (Vashon *et. al.* 2008). Similar habitat use by lynx could be expected in the LAA and RAA area which is similar to Maine in land use characteristics, climate, and forest community, and like Maine, the RAA has an abundance of dense coniferous sapling cover habitat.

### **2.2.1.7 North American Beaver**

Only one track was seen for this species, but it is well known to be common within and around the PDA as evident by sighting and signs of activity along watercourses throughout the area. There were no sightings of North American beaver during the aerial survey, but these have been identified by field crews extensively throughout the PDA. The relative paucity of tracks is likely a result of the reduced terrestrial activity by this species in winter.

#### **2.2.1.8 American Mink**

Only one mink track location was identified during the survey, along East Branch Napadogan Brook to the east of the PDA. Mink tend to forage in and around watercourses as they have a diet that is rich in aquatic life. Their small size makes their tracks difficult to see from the air, so the relative paucity of tracks for this species during the aerial survey is not necessarily a representation of their rarity.

#### **2.2.2 Wintering Areas**

Several DWAs, as designated by NBDNR, are located within 10 km of the PDA, including one along the transmission line corridor (Figure 1). The aerial survey covered the entire PDA, portions of the transmission line alignment, and areas in the vicinity of the PDA where DWAs might be present, based on the presence of mature coniferous forest. No evidence of active DWAs could be found during the aerial survey. In fact, no deer were observed during the survey, either in potential deer wintering habitat, or in other habitats. While we cannot conclusively state that deer were not present inside or outside the PDA at the time of the survey, the surveyors are confident that in the areas they surveyed, if there were concentrations of deer using the DWAs or other potential areas identified and surveyed, they would likely have been detected.



## **3.0 WINTER TRACK TRANSECT SURVEY**

---

To assess the abundance of commercially important fur-bearing species and their use of habitats in and around the PDA, ground-based track transects in and around the PDA were conducted during the winter of 2012.

### **3.1 METHODS**

Two ground-based track transects were carried out by Mr. Kirby Burttt and Mr. Christopher Bay of the NBTFHF, on behalf of Northcliff. The two transects (identified as T1 and T2, Figure 2) were arranged along roads intersecting the PDA that would experience little or no vehicle traffic or ploughing, and where a variety of habitat types would be surveyed. The transects were to be surveyed after between 5 and 20 cm of snow had fallen within 24 to 48 hours prior to the site visit so that fresh tracks could be readily identified. If possible, the transects were scheduled to be surveyed twice during the winter months (early and late winter), assuming suitable snow conditions defined above could be achieved. Access to the transects was achieved using snowmobiles.

While the transects were designed to be 3 km long, a partial alternate route (1.1 km) was identified for transect T2, resulting in a combined length of 4.1 km. Both the originally proposed and alternate routes were completed in the field.

Detailed instructions (Appendix A) were provided to the survey teams to ensure a consistent methodology for carrying out the track transect field work. Transect forms (Appendix B) were provided to record all tracks encountered that crossed the transects. Tracks that crossed a transect multiple times at one location were only counted as one track or considered a trail.

### **3.2 RESULTS**

Mr. Burttt and Mr. Bay surveyed transects T-1 and T-2 during the early survey. These transects were surveyed on January 9, 2012, approximately 36 hours after a snowfall of 6 cm depth. The air temperature was recorded at -15°C. The late winter survey was not conducted due to a lack of suitable snow conditions that met the methodological constraints, within the desired timeframe.

Ten different mammal species were recorded along the transects. These species included the Canada lynx, for which multiple tracks were recorded at each transect.

#### **3.2.1 Transect T-1**

The habitat along transect T-1 was recorded by the surveyors as dominated by immature and young stands, having been largely cutover in the past. A total of ten species were recorded along the 3 km transect, as shown in Table 2.

**Table 2 Summary of Tracks Recorded on Transect T-1**

Species	Tracks	Trails
American marten	12	-
fisher	4	-
red squirrel ( <i>Tamiasciurus hudsonicus</i> )	16	43
Ruffed Grouse ( <i>Bonasa umbellus</i> )	18	-
weasel (short or long tailed)	44	-
snowshoe hare ( <i>Lepus americanus</i> )	61	85
eastern coyote	4	-
Canada lynx	11	-
moose	7	-
North American beaver	3	-

No sightings of any of the above mammals were made during the survey.

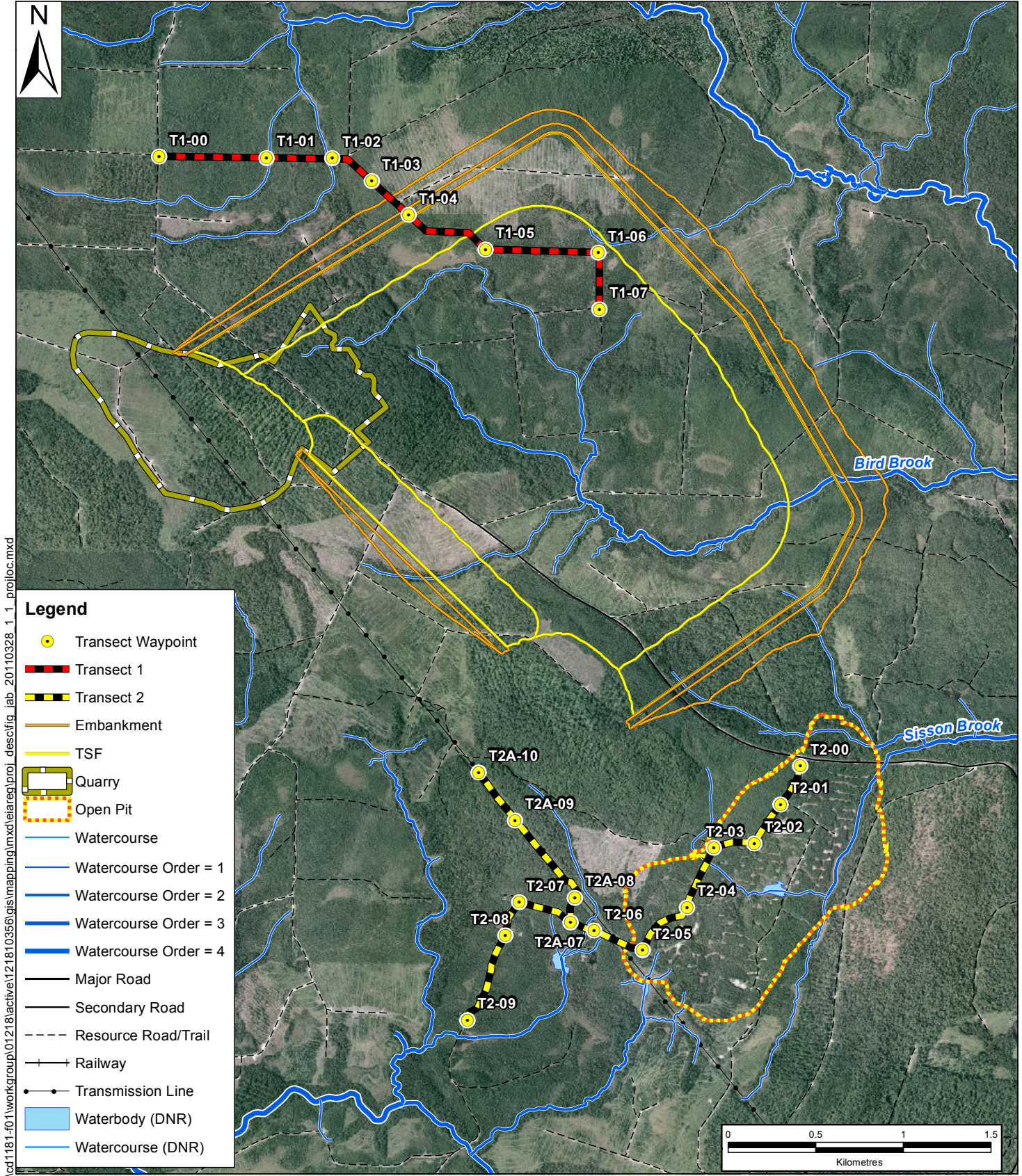
### 3.2.2 Transect T-2

The habitat along transect T-2 was characterized by the surveyors as being dominated by young and immature forested stands, with a portion of the alternate route (that was also surveyed) falling within a cleared transmission line corridor with older forest adjacent. A total of ten species were recorded along the transect, as shown in Table 3.

**Table 3 Summary of Tracks Recorded on Transect T-2**

Species	Tracks	Trails
American marten	15	-
fisher	2	-
red squirrel	70	66
Ruffed Grouse	15	-
weasel (short or long tailed)	31	-
snowshoe hare	27	18
eastern coyote	16	-
Canada lynx	2	-
moose	1	-
North American beaver	1	-





\\od1181-f01\workgroup\01218\active\121810356\gis\mapping\mxd\heliareg\proj\_desc\fig\_1ab\_20110328\_1\_1\_1\_proloc.mxd

**Legend**

- Transect Waypoint
- Transect 1
- Transect 2
- Embankment
- TSF
- Quarry
- Open Pit
- Watercourse
- Watercourse Order = 1
- Watercourse Order = 2
- Watercourse Order = 3
- Watercourse Order = 4
- Major Road
- Secondary Road
- Resource Road/Trail
- Railway
- Transmission Line
- Waterbody (DNR)
- Watercourse (DNR)

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC PROJECT AND SHOULD NOT BE USED FOR OTHER PURPOSES.					
<b>Track Transects</b>		Scale:	Project No.:	Data Sources:	Fig. No.:
Winter Wildlife Survey, Sisson Project		1:30,000	121810356	NBDNR Aerial 2008	2
Napadogan, N.B.		Date:	Dwn. By:	Appd. By:	
Client: Northcliff Resources Ltd.		04/10/2012	JAB	GAMJ	





## 4.0 DISCUSSION

---

Tracks from a total of 11 mammals and one game bird species (ruffed grouse) were recorded during the aerial and/or track transect surveys. Species identified included moose, snowshoe hare, red squirrel, weasel sp., coyote, fisher, American marten, Canada Lynx, Ruffed Grouse, river otter, beaver, and mink. Species such as red squirrel, snowshoe hare, ruffed grouse, and weasel were not specifically assessed during the aerial survey.

Moose were apparently abundant both in and outside the PDA, but white-tailed deer were not recorded during the surveys. Though a small number of deer were incidentally observed by field crews during summer months, there was no evidence of white-tailed deer presence during the winter surveys, despite the survey of five deer wintering areas and several areas of mature coniferous forest habitat. Twelve moose were seen during the aerial survey, including adult males, females and calves.

Signs of Canada lynx were seen at both track transects and at multiple locations across the landscape from the air. During the aerial survey, the greatest concentration of tracks from various species was found to the north of the PDA along the West Branch Napadogan River and its tributaries.

Most of the activity across the landscape was concentrated around areas of mature forest, intersected by watercourses and wetlands. This trend is partially due to the study design which focused on mature forest, but many heavily cutover areas were viewed from the air and had notably less activity. There were no species present within the PDA that were not noted on multiple occasions outside the PDA and there were no species that demonstrated a particular affinity for the PDA. All species recorded during the aerial surveys appeared to have a wide distribution across the landscape with the exception of mink and beaver which were only recorded once, and there were no apparent affinities for landscape characteristics that exhibit a heavy presence within the PDA.



# **Appendix A**

## Track Transect Instructions





# TRACK TRANSECT

DEAR TRAPPER,

PLEASE ENSURE THAT ALL DATA SHEETS AND RECEIPTS ARE PROPERLY COMPLETED FOR TRACK TRANSECT LINES. FURTHERMORE, TO RECEIVE PAYMENT FOR YOUR EXPENSES, RECEIPTS MUST BE MAILED TO ME. AFTER THE RECEIPT HAS BEEN RECEIVED A CHEQUE FOR THE REQUESTED AMOUNT WILL BE SENT TO YOU.

IF YOU REQUIRE HELP WITH COMPLETING YOUR TRACK TRANSECT LINES (E.G. IDENTIFYING TRACKS, INTERPRETING DATA SHEETS, ETC.), DNR HAS A PERSON AVAILABLE TO ASSIST YOU WITH THE TRANSECT LINE AND COMPLETING THE NECESSARY PAPERWORK.

**EACH TRAPPER HAS BEEN GIVEN 4 LINES TO COMPLETE; HOWEVER, ONE EXTRA MAP OR LINE HAS BEEN ESTABLISHED IN EACH WILDLIFE MANAGEMENT ZONE AS A BACKUP.** SHOULD ONE LINE NOT BE SUITABLE FOR A SURVEY (E.G. BEING PLOWED) THE BACKUP LINE CAN BE USED. IF YOU ARE THE ONLY TRAPPER IN THE WILDLIFE MANAGEMENT ZONE COMPLETING TRACK TRANSECTS THE EXTRA MAP OR BACKUP LINE WILL BE INCLUDED IN YOUR PACKAGE. IF THERE ARE SEVERAL TRAPPERS COMPLETING TRANSECT LINES IN ONE WILDLIFE MANAGEMENT ZONE, THE EXTRA MAP OR BACKUP LINE WILL BE AVAILABLE AT THE REGIONAL OFFICE OF DNR IN YOUR AREA.

INITIALLY TRANSECT LINES CAN BE STARTED AT EITHER END OF THE ROUTE, BUT SHOULD CONTINUALLY BE STARTED AT THE SAME PLACE AND SURVEYED IN THE SAME DIRECTION FROM YEAR TO YEAR. FURTHERMORE, THE SAME TRAPPER SHOULD SURVEY THE LINES FROM YEAR TO YEAR.

EACH LINE IS APPROXIMATELY 3 KM IN LENGTH. SHOULD THE LINES BE A LITTLE SHORTER OR LONGER THAN THE 3KM, PLEASE INDICATE ON YOUR DATA SHEETS.

PLEASE SEE THE ATTACHED SURVEY PROCEDURES FOR FURTHER DETAILS.

IF YOU HAVE ANY QUESTIONS PLEASE CONTACT ME, MARSHALL CHRISTIE AT (506) 696-8693.

THANK YOU FOR YOUR PARTICIPATION.

SINCERELY,

MARSHALL CHRISTIE

## PROCEDURES FOR WINTER TRACK TRANSECT FIELDWORK

-----

Objective: To obtain abundance indices of furbearers and their prey across varying habitat types in accessible area of the Sisson Project Area.

1. Before field season begins, lines should be ground-trued to ensure:
  - a) Lines are reachable by snowmobile/snowshoes.
  - b) Beginning posts (tie-ins) are clearly marked/bearings are accurate.
  - c) Roads must not be ploughed during winter.
2. Lines are 3 km each.
3. Lines should be surveyed following at least 5 cm of snowfall (2 inches), but not surveyed when snowfall is greater than 20 cm (8 inches).
4. Surveyors should wait at least 24 hours after a snowfall to allow animal movement and thus sufficient tracks to count. Do not wait more than 48 hours to minimize confusion.
5. Ensure that field sheets are completed in their entirety including number of hours since snowfall, date, observers, snow accumulation, wildlife management zone (WMZ), region, line #, etc.
6. Each track transect line should be surveyed once during December/January, and again late season (February/March).
7. Make a note of all tracks encountered. White-tailed deer, moose, and bear can be placed in “other species” category (but still note species).
8. Only count a track if it bisects the transect line. Comments should be recorded for all tracks observed, even if not bisecting transect line.
9. If you can obviously see (within your field of view) that an animal has doubled-back or wandered over the transect several times, only count this as one individual.
10. Solitary squirrel tracks are recorded as such. A squirrel trail (numerous squirrel tracks on each other, too many to count, creating a trail) is recorded as one squirrel trail.
11. Solitary hare tracks are recorded as such. A hare trail (numerous hare tracks on each other, too many to count, creating a trail) is recorded as one hare trail.
12. If survey line becomes inaccessible during season (e.g. blow downs across road, flooding, etc.), please notify Greg Davidson.

## FURBEARER TRACK TRANSECT

- (A) **Line Number (Region – WMZ – Line #):** \_\_\_\_\_
- (B) **Date:** \_\_\_\_\_
- (C) **Amount of Snow Fall (cm):** \_\_\_\_\_
- (D) **Temperature (°C):** \_\_\_\_\_
- (E) **Time Since Last Snow (Hrs):** \_\_\_\_\_
- (F) **Region:** \_\_\_\_\_ **WMZ:** \_\_\_\_\_
- (G) **Observers:** \_\_\_\_\_

Species	(H) Total # Tracks by Habitat Segment				
Marten					
Fisher					
Bobcat					
Red Squirrel Track					
Red Squirrel Trail					
Grouse					
Weasel					
Hare Track					
Hare Trail					
Coyote					
Fox					
Porcupine					

Other Species:


# FURBEARER TRACK TRANSECT

Transect Number: \_\_\_\_\_

Date: \_\_\_\_\_

<b>Habitat Segment #</b>	<b>Start Point</b>	<b>End Point</b>	<b>Description</b>

# **Appendix B**

Track Transect Data Sheets



## FURBEARER TRACK TRANSECT

- (A) Line Number (Region - WMZ - Line #): T-2
- (B) Date: JAN 9 . 2012
- (C) Amount of Snow Fall (cm): 6
- (D) Temperature (°C): -15°C
- (E) Time Since Last Snow (Hrs): 36 HRS
- (F) Region: WMZ: 16
- (G) Observers: CHRIS BAY & KIRBY BURT

Species	(H) Total # Tracks by Habitat Segment				
	IMMATURE				
Marten	T2-03	T2-09			15
Fisher	T2-04	T2-05			2
Bobcat					
Red Squirrel Track	SCATTERED THROUGHOUT T200-T2A-10				16
Red Squirrel Trail	"	"	"	"	43
Grouse	T2-03	T2-09			18
Weasel	SCATTERED THROUGHOUT T200-T2A-10				44
Hare Track	"	"	"	"	61
Hare Trail	"	"	"	"	83
Coyote	T2-00	T2A-07			4
Fox					
Porcupine					

Other Species:

LYNX	T2-00	T2-01	YOUNG		1
LYNX	T2A-08	T2A-10	HYDRO CUT		1
MOOSE	T2-01	T2-02	IMMATURE		1
BEAVER	T2-09		IMMATURE		1

# FURBEARER TRACK TRANSECT

Transect Number: T2 - T2A

Date: JAN 9/2012

Habitat Segment #	Start Point	End Point	Description
	T200	T2-09	YOUNG / IMMATURE LOGGING ROAD
	T2A-07	T2A-70	HYDRO RIGHT OF WAY





## Transect 2 Sisson Project

- Hw-mw-sw.shp
  - Hardwood
  - Mixedwood
  - Softwood
- Track\_transect\_points.shp
- Track\_transect1.shp
- Projaccessroads\_20110211.shp
- Projsecondaryaccessroads\_20110211.shp
- Dnr\_forest\_20110317.shp
  - Immature
  - Mature
  - Overmature
  - regenerating
  - sapling
  - Young

200 0 200 400 600 Meters

# FURBEARER TRACK TRANSECT

- (A) Line Number (Region - WMZ - Line #): T-1
- (B) Date: JAN 9 2012
- (C) Amount of Snow Fall (cm): 6cm
- (D) Temperature (°C): -15°C
- (E) Time Since Last Snow (Hrs): 36 HRS
- (F) Region: WMZ: 16
- (G) Observers: CHRIS BAY, KIRBY BURT

Species	(H) Total # Tracks by Habitat Segment				
	IMMATURE	SAPLING			
Marten	T1-00 - T1-003	T1-003 - T1-006			12
Fisher	T1-00	T1-005 - T1-06			4
Bobcat					<del>0</del>
Red Squirrel Track	SCATTERED THROUGHOUT T-100 - T1-06				16
Red Squirrel Trail	"	"	"	"	43
Grouse	T1-00 - T1-06				18
Weasel	SCATTERED THROUGHOUT T1-00 - T1-06				44
Hare Track	"	"	"	"	61
Hare Trail	"	"	"	"	85
Coyote	T1-00 - T1-04				4
Fox					<del>0</del>
Porcupine					<del>0</del>

Other Species:

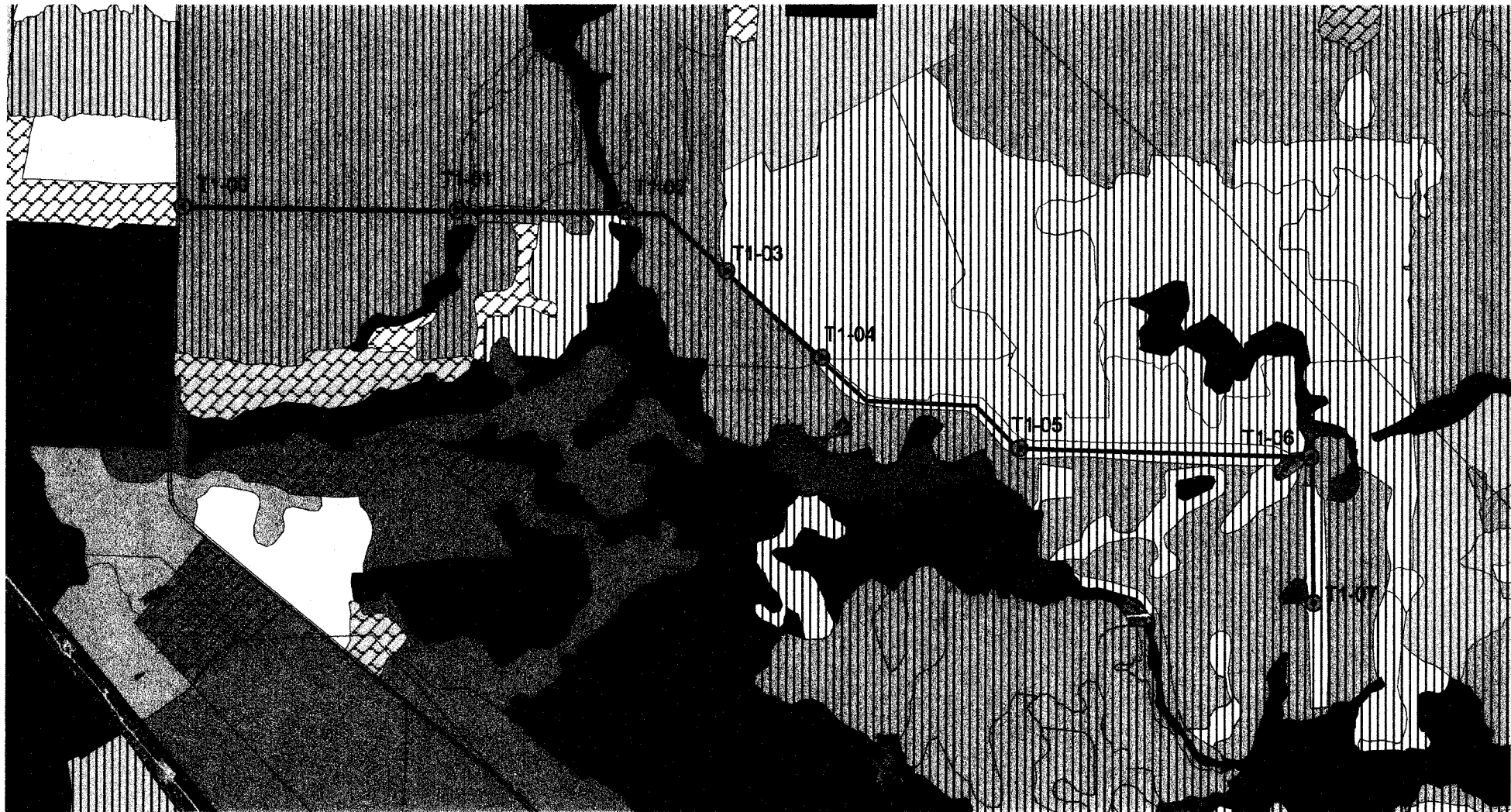
LYNX	T1-00	T1-04 - T1-06			11
MOOSE	T1-04	T1-06			7
BEAVER	T1-01 - T1-02	(CREEK)			3

# FURBEARER TRACK TRANSECT

Transect Number: T-1

Date: JAN 9 / 2012

Habitat Segment #	Start Point	End Point	Description
1	T1-00	T1-07	MIXED IMMATURE / SAPLING LOGGING ROAD



## Transect 1 Sisson Project

- Hw-mw-sw.shp
  - Hardwood
  - Mixedwood
  - Softwood
- Track\_transect\_points.shp
- Track\_transect1.shp
- Projaccessroads\_20110211.shp
- Projsecondaryaccessroads\_20110211.shp
- Dnr\_forest\_20110317.shp
  - Immature
  - Mature
  - Overmature
  - regenerating
  - sapling
  - Young

