

Eagle Gold Project

Project Proposal for Executive Committee Review

Pursuant to the Yukon Environmental and Socio-economic Assessment Act

Appendix 12: Environmental Baseline Report: Terrestrial Wildlife

APPENDIX 12

Environmental Baseline Report: Terrestrial Wildlife

EAGLE GOLD PROJECT

Environmental Baseline Report: Terrestrial Wildlife

FINAL REPORT



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EXECUTIVE SUMMARY

Stantec was retained by Victoria Gold Corporation to prepare an environmental baseline report to characterize wildlife habitat use in the vicinity of the Eagle Gold Project area. Field programs were conducted in 2009 following a review of current regulatory requirements and historic data from consultant reports written in 1995, 1996, and 2006. This report presents background information, methods, and results for the baseline wildlife assessment.

The study area is located in the Mayo Lake-Ross River Ecoregion and contains two ecological zones, Subalpine and Forested. Both of these zones serve as habitat for wildlife. To characterize wildlife use of these areas, this report draws on information from a number of sources, including existing literature, data gap analyses, terrestrial wildlife studies conducted during 2009 by Victoria Gold; and preliminary discussions with wildlife biologists in the region and with the First Nation of Na-Cho Nyäk Dun (NNDNFN).

A total of thirty-one individual species were recorded using data from all sources. Mammals present include two ungulate species (moose, woodland caribou), two bear species (black bear, grizzly bear), and an assortment of small to medium size mammals including gray wolf, wolverine, red fox, American marten, snowshoe hare, and lemming. Moose was the most commonly detected¹ mammal species. It was found across all survey types and a wide range of habitat types, indicating a relatively wide distribution in the area. Most detections were in lower-elevation forested habitat zones likely used all year long. These areas contain riparian areas, marshes, and deciduous forest stands which contain preferred food sources and offer thermal protection in winter. The study's moose detections are consistent with the reports from the NNDNFN—the area provides winter habitat for moose and is important for moose hunting. Aerial and ground surveys and telemetry data suggest that while woodland caribou make some use of the study area, it does not represent core habitat for them.

Snowshoe hare, red squirrel, and ptarmigan were the most commonly detected mammal species after moose. This is of interest as all three species represent potential prey for a range of larger mammals (e.g., lynx, wolf, and red fox), and raptor species such as Golden Eagle. While formal bird surveys have not been carried out, eighteen bird species were detected in the study area including Golden Eagle, Gyrfalcon, Trumpeter Swan, Dusky Grouse, Common Raven, Ptarmigan, and Grey Jay.

¹ Detections refer to all instances in which the presence of a wildlife species is noted. It includes both direct observations of wildlife (e.g. an animal is seen) and evidence of animal sign (e.g. wildlife tracks or scat are noted).

ABBREVIATIONS AND ACRONYMS

ARSA	Access Road Study Area
COSEWIC.....	Committee on the Status of Endangered Wildlife in Canada
IEE	Initial Environmental Evaluation
LSA	Local Study Area
NNDFN.....	First Nation of Na-Cho Nyäk Dun
RSA.....	Regional Study Area
TEM.....	Terrestrial Ecosystem Mapping
TK.....	Traditional Knowledge
WKA.....	Wildlife Key Areas
YESAA	<i>Yukon Environmental and Socio-Economic Assessment Act</i>

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1 INTRODUCTION

This report presents results of the wildlife assessment completed by Stantec during 2009 for the Eagle Gold Project (the Project) proposed by Victoria Gold Corporation. The Project is a proposed open pit gold mine within the Dublin Gulch watershed located 85 km northeast of the Village of Mayo, Yukon Territory.

Stantec was contracted by the Stratagold Corporation to begin environmental baseline studies in 2007. In 2009, Stratagold Corporation was acquired by Victoria Gold Corporation. During this time, the project was renamed from Dublin Gulch to Eagle Gold and the local study area was updated to reflect any changes to the geographic extent of the proposed Project.

Wildlife are important due to their value in maintaining functioning ecosystems, providing a harvest resource and for the value and rights associated with First Nations, including the First Nation of Na-Cho Nyäk Dun (NNDNFN). This report characterizes baseline conditions for wildlife in the area of the proposed Project. It draws on information from a variety of sources, including previous studies, baseline field surveys, information provided by the NNDNFN, and wildlife biologists in Yukon. A future report will summarize habitat suitability for key indicator species, using Terrestrial Ecosystem Mapping. It is anticipated that this report will be submitted with the Project Proposal as required by the *Yukon Environmental and Socio-Economic Assessment Act (YESAA)*.

The Project is located in the Mayo Lake-Ross River Ecoregion. There are two ecological zones in the study area (see Appendix A for photographs of the area). The Subalpine zone occurs on the ridge tops and high plateaus above 1,225 m. Here tree cover is discontinuous or absent and the vegetation is dominated by scrub birch, willows, ericaceous shrubs, herbs, as well as mosses and lichens. The Forested zone ranges from 600 m elevation to 1,225 m and includes the valley bottoms and the slopes of the mountains below the tree line. In the valley bottoms, forests are dominated by open canopy stands of black spruce. However white spruce is found along creeks and rivers. On the mid to lower slopes, continuous stands of subalpine fir occur along with minor components of white spruce, Alaska birch, trembling aspen, and black spruce. On the upper slopes and up to tree line, open subalpine fir stands are predominant with trees becoming smaller and more spread out with increasing elevation.

Both of these ecological zones serve as habitat for wildlife. To characterize wildlife use of these areas, this report draws on information from a number of sources, including:

- Information from existing literature, including studies conducted between 1993 and 1996 for the Dublin Gulch Project
- A data gap analysis completed in 2007 by Stantec for StrataGold in support of the Project. The gap analysis examined previous wildlife surveys conducted for the Dublin Gulch Project in the 1990s prior to ownership by StrataGold. This analysis identified three gaps, each of which was addressed in the 2009 field surveys—(a) winter track surveys (ungulates, furbearers, and other mammals); (b) summer aerial surveys (ungulates, raptors, Trumpeter Swan, and grizzly bear); and (c) summer ground-based surveys for wildlife (habitat features, wildlife sign, movement corridors, and habitat evaluations)

Eagle Gold Project

Environmental Baseline Report:

Terrestrial Wildlife

Final Report

Section 2: Methods

- Terrestrial wildlife studies conducted during 2009 by Victoria Gold as part of the Project
- Discussions with wildlife biologists familiar with the area
- Preliminary discussions regarding Traditional Knowledge (TK) with the First Nation of Na-Cho Nyäk Dun (NNDNFN), held November 2 – 6, 2009.

This report describes both the methods for the various studies and their results.

2 METHODS

The methods described below fall into three broad categories: a review of existing information, wildlife field surveys, and the analysis of information from both. The baseline report compiles existing information on all wildlife species while focusing on several of particular interest. Of particular interest are moose (the most harvested species that occurs in the study area, and of interest to regulators, NNDNFN, and the public), woodland caribou (boreal populations are listed in Schedule 1 of the *Species at Risk Act*), grizzly bear (which is also of interest to the groups mentioned above), and furbearers such as American marten (which are present and trapped in the study area).

2.1 Review of Existing Literature

The first step in characterizing the area was to review existing information. While the amount of published information for the area is limited, key sources include the following:

- Previous reports on work conducted in the Dublin Gulch Project area (Hallam Knight Piésold Ltd. 1994, 1996, Northern Affairs Program 1995, Rescan 1997)
- Gap analyses for the Dublin Gulch Project (Jacques Whitford AXYS 2007 and Madrone Environmental Services Ltd. 2006), which emphasize the large time frame that has elapsed since some of the initial survey work was completed
- Government of Yukon Department of Environment Wildlife Key Areas' digital-map files of identified wildlife key-areas within Yukon
- Government of Canada Species at Risk Public Registry website (Government of Canada 2009) database, which provides information on species at risk
- Committee on the Status of Endangered Wildlife in Canada (COSEWIC) website, which provides the most up-to-date list of COSEWIC assessed species in Canada (Government of Canada 2009)
- Canadian Endangered Species Conservation Council (CESCC), which provides information on where Canadian species occur and what their status is (CESCC 2006)
- Environment Yukon website, which summarizes species at risk and those provided status under *Yukon Wildlife Act*, 2002.

2.2 Study Area Boundaries

2.2.1 Local Study Area

The Local Study Area (LSA) consists of an approximately 18 square km area encompassing the proposed project site and a surrounding buffer ranging from 0.5 to 1 km (Figure 2-1). The LSA was chosen to encompass the area in which direct effects on wildlife could occur.

2.2.2 Access Road Study Area

The Access Road Study Area (ARSA) is designed to assess the potential effects associated with the access road (Figure 2-1). The ARSA was created by buffering the South McQuesten Road and the Haggart Creek Access Road by 500 m on each side up to the existing Eagle Gold camp site. The ARSA is approximately 44.8 km in length and 45.8 km². The access road study area is intended to provide a baseline for potential disturbance to wildlife resources that may occur due to realignment of the Project access road and use of the road during the Project.

2.2.3 Regional Study Area

The Regional Study Area (RSA) consists of a 23 km by 21 km (483 km²) area surrounding the Project site. This area was chosen because it is large enough to potentially encompass a grizzly bear home range, raptor nest sites (e.g., cliff habitat), and movement corridors (riparian drainages). It includes the Lynx Creek watershed to the south (which is relatively undisturbed when compared to the majority of the placer-mined drainages in the area), the McQuesten River watershed to the north, and the major habitat types present in the region (Figure 2-1).

2.3 Field Programs

Field surveys were conducted to update information and address gaps identified during the literature review and gap analysis (Section 3.1). In 2009, a wildlife field program was conducted over two separate periods. Late winter aerial surveys and ground-based track transects were completed between April 21 – 22, 2009. Summer aerial surveys and ground-based surveys were conducted between August 26 and September 3, 2009.

Program Objectives:

- Rate ecosystem units/habitats for their wildlife value, focusing on the species identified as key indicators (final results of this work are dependent upon modelling and will be presented in a subsequent document)
- Identify and assess key wildlife features (such as cliffs for raptor use) that may be of importance to wildlife
- Record all wildlife observations and wildlife sign (e.g., trail locations, stick nests, dens, and mineral licks) to characterize the present wildlife communities.

The surveys made note of all wildlife species detected. Detections include both direct **observations** of wildlife (e.g., a moose) and **evidence of animal sign** (e.g., moose tracks or scat).

Special focus was placed on species that may occur in the area and are at risk, are hunted or trapped, and/or are of particular interest to the NNDFN or regulatory agencies. These species include grizzly bear (*Ursus arctos*) and woodland caribou (*Rangifer tarandus*) which are both listed as Special Concern by COSEWIC (2009), moose (*Alces alces*), and American marten (*Martes americana*). It is important to note that not all of these species may use the area extensively. For example, in preliminary discussions wildlife biologists familiar with the area noted that while woodland caribou are wide ranging, telemetry data indicate that the project area is peripheral to the range of the Clear Creek herd (which is largely on the opposite side of the North McQuesten River, O'Donoghue, pers. comm. 2009). Nonetheless, given the importance of woodland caribou, field programs described below sought evidence of their use of the area.

2.3.1 2009 Aerial Survey – Late Winter

The aerial survey methods were based on protocols developed for British Columbia (Resources Inventory Committee 2002). The late winter aerial survey's main objectives were to determine whether there is any use by woodland caribou (*Rangifer tarandus caribou*) of the RSA, and to gain information on potential moose (*Alces alces*) abundance. In the RSA a total of 21 transects, of 23 km in length spaced 1 km apart (flight transect grid), were surveyed using a Bell 206 helicopter on April 21, 2009 (Figure 2-1). Transects were flown at a height of approximately 100 m above ground level at approximately 90 km per hour. All species observed were recorded, including group composition and number of individuals observed at each location. In addition to animal observations, tracks were recorded and identified where possible. Coordinates were recorded for each observation using a hand-held GPS. Weather conditions were recorded at the beginning and end of the survey. Species observed while flying outside transects were recorded as incidental observations (see below).

2.3.2 2009 Track Survey – Late Winter

Furbearers were the principal focus of the track surveys, as they are an important socio-economic and cultural resource in the general area. Winter is the only time when furbearer tracks can be easily observed and identified during ground-based searches.

The track survey methods were based on protocols developed for British Columbia (for medium sized carnivores, see Resources Information Standards Committee 1999). These protocols consolidate information on survey techniques from a variety of sources and for a range of species, and are considered applicable to Yukon. These protocols consolidate information on survey techniques from a variety of sources and for a range of species, are readily applicable to other geographic regions including Yukon.

Eight track transects ranging in length from 200 to 250 m were surveyed in or just outside the RSA on April 21 and 22, 2009 (Figure 2-2). The first transect began at 08:15 and the last was completed by 16:30. Transects were surveyed on foot by two biologists. All animal sign (tracks, pellets, scat) was recorded for 25-m sections along each transect. Transect locations were selected

to sample each of the broad habitat types identified in the RSA (e.g., subalpine forest, riparian zone, mature boreal forest, shrub, and burn) plus one that was run along an existing road.

2.3.3 2009 Aerial Survey – Summer

In addition to detecting large mammals, the summer-aerial survey of the RSA was used to identify potential habitat for cliff-nesting raptors and wetland use by nesting Trumpeter Swans.

The aerial survey methods were based on protocols developed for British Columbia (Resources Information Standards Committee 2002). A Bell 206 helicopter was used to survey 21 aerial transects following a grid pattern of 23-km transects set 1 km apart (Figure 2-1). Due to weather conditions, part of the survey was conducted on August 26, 2009, and the remainder on August 27, 2009. The transect grid was centered on the study area and included portions of Lynx Creek to the south, and the East McQuesten River to the north. Transects were flown at a height of approximately 100 m above ground level at approximately 90 km per hour. There were two biologists on board making observations, one on each side of the helicopter. Coordinates were recorded for all observations of animals or animal tracks using a handheld GPS unit. Species identification, number of individuals, and group composition were recorded. Wildlife observations made while flying outside the transect grid were recorded as incidental observations (see below).

2.3.4 2009 Ground-based Surveys – Summer

Wildlife biologists visited 73 plots that were also surveyed by the Terrestrial Ecosystem Mapping (TEM) crew (see Figure 2-3). TEM plots were chosen to ensure coverage of the majority of different habitat types potentially occurring within the LSA, ARSA, and small portion of the RSA. This work was conducted within a variety of ecosystem/habitat types represented primarily within the LSA, centered on the proposed project infrastructure site, and the access road. The ground-based survey methods were based on protocols developed for British Columbia (Resources Inventory Committee 1998). For additional details on the Terrestrial Ecosystem Mapping methodology and results see Stantec 2009.

To assess wildlife use within selected TEM plots, two biologists conducted systematic surveys of animal signs centered on a 10m radius circular plot.

Plot boundaries were marked with flagging tape. The plot was divided in half between the two biologists who searched and recorded any evidence of wildlife presence or habitat usage. Within each plot, any wildlife sign such as scat, tracks, browse evidence, etc., were recorded and identified to species when possible.

2.3.5 2009 Incidental Detections

Incidental detections are those that are not recorded as part of a formal survey protocol. They were recorded during the field studies and included direct visual observations of wildlife (e.g., birds and mammals) and evidence of wildlife sign (e.g., den sites, tracks, or feces) outside of formal ground survey plots or off transect during the aerial surveys.

2.4 Data Analysis

2.4.1 Previous Studies Data

The baseline survey work, from previous studies (Hallam Knight Piésold Ltd. 1993 – 1996) and the current 2009 work, provided information on the presence/absence of wildlife species in the RSA. The data collected from previous studies were not geo-referenced, and contained only verbal descriptions of wildlife detection (visual and sign) locations, and associated species. As such, all data collected from the previous studies were grouped together to form a “master” species list and corresponding numbers of detections recorded (Table 3-1). The total number of detections was counted by adding discrete tracks, scat, and visual observations, which were each considered a discrete detection (e.g., seven moose detections may have been comprised of a mix of two pellet groups, four visual observations and one track detection across more than one survey type).

2.4.2 2009 Ground-based Summer Survey Data

The 2009 summer ground-based surveys focused on assessing wildlife use of the previously delineated TEM mapping sites within the LSA, ARSA, and RSA. For data summary (see Table 3-4 in Section 3.2.4) not every detection type within a discreet plot was presented but rather the number of surveyed plots in which sign of the individual species was detected is summarized. This presents an overall measure of how commonly detected a given species was relative to others across all plots surveyed, but does not necessarily indicate how common a species is, as some species are more easily detected than others.

2.4.3 2009 Aerial and Track Survey Data

Winter and summer aerial survey data and winter track data from 2009 were summarized and presented in both text and tabular format, providing the total number of detections per species (Tables 3-2, 3-3). These detections were also summarized with respect to the habitat or vegetation type they occurred in. Survey detections were mapped to illustrate their relation to both the LSA and RSA (Figures 3-1, 3-2, 3-3). Where wildlife sign was not identifiable to a specific species, the detection was listed by species group (e.g. unidentified raptor).

2.4.4 Incidental Detections

Incidental detections from the summer 2009 field program were summarized in text and tabular format, presenting the total number of each individual species/species group detected (Table 3-5). Detection types were also presented. Although these data represented information collected outside of formal survey protocols, they were considered supplemental and useful in fully characterizing wildlife presence in the both the LSA and RSA.

Data from all sources were compiled to form a “master” baseline summary table (Table 3-6) of species and species groups detected in the LSA, ARSA, and RSA.

3 RESULTS

3.1 Review of Existing Literature

3.1.1 Wildlife Key Areas

The Yukon Government recognizes that to maintain wildlife populations, good quality habitat must be conserved. As such, a digital database of “key areas” for wildlife is maintained and managed by Yukon Department of Environment, Habitat Programs Section. Wildlife Key Areas (WKAs) are defined as “geographical locations used by wildlife for critical, seasonal life functions” (Government of Yukon 2009). The key area concept is most applicable to species that use key areas seasonally each year and less applicable to more generalist or widely distributed species. WKAs have been identified throughout the Territory, although they do not reflect an exhaustive survey of habitat within Yukon.

The nearest WKA to the project lies in the South McQuesten River and McQuesten Lake area. It includes summer nesting-habitat for ducks in the wetlands upstream of McQuesten Lake, for Peregrine Falcon and/or Osprey and/or Bald Eagle on McQuesten Lake, and for Gyrfalcon and/or Golden Eagle immediately north of McQuesten Lake. No WKA is recorded in the LSA, ARSA, or RSA (Government of Yukon 2009).

3.1.2 Species at Risk

Species that are provided status in Yukon by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC, 2009) that may occur in the three study areas include:

- **Special Concern:** woodland caribou (Northern mountain population – *Rangifer tarandus caribou*), grizzly bear (*Ursus arctos*), wolverine (*Gulo gulo*), Short-eared Owl (*Asio flammeus*), and Peregrine Falcon (*Falco peregrines anatum/tundrius*), Rusty Blackbird (*Euphagus carolinus*), Horned Grebe (*Podiceps auritus*)
- **Threatened:** Olive-sided Flycatcher (*Contopus cooperi*), Common Nighthawk (*Chordeiles minor*).

Species which are considered “specially protected” only in Yukon (identified by the *Yukon Wildlife Act*, Government of Yukon 2009) include:

Specially Protected: mule deer (*Odocoileus hemionus*), elk (*Cervus elaphus*), cougar (*Puma concolor*), Gyrfalcon (*Falco rusticolus*), Peregrine Falcon (*Falco peregrines anatum*), and Trumpeter Swan (*Cygnus buccinator*).

3.1.3 Previous Studies

Previous inventories of wildlife and habitat resources in the study areas are limited in number and scope and the results are not geo-referenced. The primary study of wildlife and habitat was completed between 1993 and 1995 by Hallam Knight Piésold Ltd. as a component of an Initial Environmental Evaluation (IEE) (Hallam Knight Piésold Ltd. 93 – 95).

The species detected are listed below in Table 3-1, based on:

- Winter tracking survey (February 1996)
- Wildlife observation log (1993 June – August, 1995 May-Sept)
- Wildlife observations November 1995 (local trappers line #81)
- Various pellet counts, wildlife sign inventory (July 1995).

Table 3-1: Compiled Species Detection List, 1993 – 1995 (Hallam Knight Piésold data)

Common Name	Scientific Name	Number of Detections ³
Moose	<i>Alces alces</i>	49
Woodland caribou	<i>Rangifer tarandus</i>	1
Grizzly bear	<i>Ursus arctos</i>	2
Black bear	<i>Ursus americanus</i>	7
Bear species	<i>Ursus sp.</i>	5
American marten	<i>Martes americana</i>	10
Wolverine	<i>Gulo gulo</i>	6
Grey wolf	<i>Canis lupus</i>	1
Fox species	<i>Vulpes sp.</i>	13
Great Gray Owl	<i>Strix nebulosa</i>	2
Gyrfalcon	<i>Falco rusticolus</i>	1
Golden Eagle	<i>Aquila chrysaetos</i>	2
Northern Hawk Owl	<i>Surnia ulula</i>	1
Grouse ¹	N/A	17
Ptarmigan ²	<i>Lagopus sp.</i>	42
Bird species	N/A	28
Hare	<i>Lepus americanus</i>	18
Lynx	<i>Lynx canadensis</i>	2
Squirrel	<i>Tamiasciurus hudsonicus</i>	8

NOTES:

¹ Three species likely to occur in the area: Spruce Grouse, Ruffed Grouse, Dusky Grouse

² Three species likely to occur in the area: White-tailed Ptarmigan, Willow Ptarmigan, and Rock Ptarmigan

³ Detections include any discrete finding of sign (tracks, scat) and discrete visual observations of animals

Yukon Renewable Resources completed moose surveys in 1988 and 1993 in the area between the South McQuesten and the Mayo-Elsa-Keno Road (Northern Affairs Program 1995). The estimated moose density was:

- In 1988: 104 moose per 1,000 km²
- In 1993: 119 moose per 1,000 km².

3.2 Field Program Results

3.2.1 2009 Aerial Survey – Late Winter

Three species were observed during the aerial survey: moose (n = 7), grouse² (n = 5), and ptarmigan³ (n = 6). Five of the moose were observed in the East McQuesten River drainage, and two in the Haggart Creek drainage, including one just outside the RSA (Figure 3-1). All moose were observed in spruce or mixedwood forest. Ptarmigan were seen east of the study area in subalpine habitat (on and east of the Potato Hills area), and in the headwaters of Haggart Creek (Figure 3-1). Grouse were observed in mature spruce or mixedwood forest, west and north of the RSA (Figure 3-1).

Tracks observations were also recorded during the aerial survey although identification to species was not always possible. Tracks of the following species were identified on the flight transect grid within the RSA: wolf, wolverine, snowshoe hare, red fox, Canada lynx, marten, and red squirrel. Track observations were distributed throughout the RSA within the flight transect grid and included moose, ptarmigan, snowshoe hare, and lynx tracks (Figure 3-2). A concentration of unknown ungulate tracks were observed outside of the flight transect grid in an old burn in the East McQuesten River drainage. This area was investigated on the ground the following day (see section 3.2.2).

A high number of unidentified ungulate tracks were recorded on Red Mountain on the western edge of the RSA during the aerial survey. Moose are expected to occur in the RSA, and moose pellets and individual animals were recorded during track surveys and a reconnaissance flight over Red Mountain. Local knowledge indicates that woodland caribou herds have been present on Red Mountain for the last 20 years (D. Buyck, 2009 pers. comm., August 2009). A bull woodland caribou was killed by a wolverine at the head of Red Creek 1994 (D. Buyck, 2009 pers. comm., May 2009) indicating that this species may make use of the area.

3.2.2 2009 Track Survey – Late Winter

A total of 146 track sets, or wildlife sign, were recorded during the late winter track survey. These surveys detected signs from six identified and three unidentified species (Table 3-2). All transects are in the LSA with the exception of 3, 5, and 6 (which fall in the RSA, see Figure 2-1).

Moose records were the most common, followed by snowshoe hare, red squirrel, and unknown ungulate (Table 3-2). No woodland caribou tracks were observed. Transects 7 and 8, which were located in an old burn and in riparian habitat along Lynx Creek respectively (Figure 3-2), had the highest number of species (n = 4) (Table 3-2). Moose, snowshoe hare, red fox, and ptarmigan were recorded along these transects.

The records of unknown ungulates were from Transect 7. This transect location was selected based on the observation of a concentration of unknown-ungulate tracks from the air the day before. The

² Three species likely to occur in the area are Spruce Grouse, Ruffed Grouse and Dusky Grouse.

³ It was not possible to distinguish ptarmigan species during the aerial surveys, although individuals sighted would belong to one of three species likely to occur in the area: White-tailed Ptarmigan, Willow Ptarmigan, and Rock Ptarmigan.

tracks were old and could not be positively identified. However, there were winter moose pellets present and a few moose were seen in the vicinity later that day. The burned area was shrubby, with willow species present, indicating a potential desirable food source for moose on winter range.

Table 3-2: Wildlife Track Sets and Sign Recorded on Track Transects, Late Winter, 2009

Transect ID	Habitat Type	Number of Track Sets/Sign Records									
		Moose	Grey Wolf	Snowshoe Hare	Wolverine	Red Fox	Red Squirrel	Ptarmigan	Ungulate Species	Bird Species	Small Mammal Species
1	Shrub	17	1	6							
2	Riparian	1	1	1							
3	Subalpine					1					
4	Mature Conifer/shrub	21								1	2
5	Mature conifer	10		4							
6	Road	14		7							
7	Burn			1			1		19 ^b		1
8	Riparian	11		2	5 ^a		18				
Total		74	2	21	5	1	19	1	19	1	3

NOTES:

^a Likely the same individual as all tracks were in close proximity to each other

^b Old tracks, very likely moose

3.2.3 2009 Aerial Survey – Summer

A total of ten animals were observed during the 2009 summer aerial survey: five moose (*Alces alces*), two Trumpeter Swans (*Cygnus buccinator*), and three raptors. All of the moose observed were adults (one male, three females and one unidentified sex). The two swans observed together were assumed to be a breeding pair. One of the raptors was a Great Gray Owl (*Strix nebulosa*), one a species of hawk, and the third was unidentified. No cliff or rock-outcrop raptor nesting was found during the aerial survey.

Table 3-3 below summarizes the observations made during the aerial survey. Figure 3-3 shows the locations of the observations made.

Table 3-3: Wildlife Aerial Survey Results, Summer 2009

Common Name	Scientific Name	Number Counted	Group Composition	Vegetation Type	Comment
Trumpeter Swan	<i>Cygnus buccinator</i>	2	adults	fen/wetland	wetland complex/low lying
Trail	NA	NA	NA	lichen/spruce	extensive trails/wetland complex
Raptor Species	NA	1	adult	forest/conifer	unidentified species
Raptor Species	NA	1	unidentified	conifer forest	unidentified species
Great Grey Owl	<i>Strix nebulosa</i>	1	adult	conifer forest	perched, treetop
NA	NA	NA	NA	NA	significant game trail
Moose	<i>Alces alces</i>	1	adult male	subalpine	running/mountain top
Moose	<i>Alces alces</i>	1	adult female	wetland/open water	feeding in water
Moose	<i>Alces alces</i>	1	adult female	river/wetland	feeding, head repeatedly under water
Moose	<i>Alces alces</i>	1	adult female	conifer/open	standing
Moose	<i>Alces alces</i>	1	adult	wetland	feeding (incidental, off transect)

3.2.4 2009 Wildlife Ground-based Surveys – Summer

Sign evidence for 24 unique wildlife species was recorded during the ground survey work in 2009 (Table 3-4). Moose represented the most commonly detected mammal species in survey plots (51% of all plots), followed by snowshoe hare (29%), red squirrel (25%), and grey wolf (4%). Moose sign was most evident within open, black spruce forests and 76% of detections were in habitat types broadly classified as forest vs. 24% in subalpine habitats. Woodland caribou sign was located in one survey plot (fresh pellets-coniferous/subalpine fir) confirming that this species does move through the LSA periodically, possibly only single individuals making larger movements away from core herd areas elsewhere. Three woodland caribou herds occur in the general area (Clear Creek, Hart River, and Bonnet Plume) (Government of Yukon 2005).

While formal surveys for birds were not conducted, a total of 13 unique species were recorded during the ground survey work (Table 3-4). All detections were visual or identified by call. For bird species, Dusky Grouse (5% of all plots), and Gray Jay (6%) (both non-migratory residents) were the most commonly observed avian species (Table 3-4). Seasonally, most migratory bird species would have been preparing to leave, or left the area, by late August/early September or potentially passing through on migration routes (e.g., Northern Waterthrush). One pair of Trumpeter Swans was recorded flying overhead during the ground survey work.

Table 3-4: Wildlife Sign Detections at Ground Survey Plots, Summer 2009

Common Name	Scientific Name	Sign Detections Forest Eco Zone Plots	Sign Detections Subalpine Eco Zone Plots	Total Number Plot Detections	Dominant Habitat Classification	Detection Occurrence Among Surveyed Plots (N=73)
Mammal Species						
Moose	<i>Alces alces</i>	28	9	37	Coniferous: black spruce, open; moist to wet	51%
Grey wolf	<i>Canis lupus</i>	2	1	3	Various ³	4%
Woodland caribou	<i>Rangifer tarandus</i>	1		1	Coniferous: Subalpine-fir	1%
Lemming	<i>Lemmus sp.</i>	3		3	Coniferous: black spruce, open; moist to wet	4%
Snowshoe hare	<i>Lepus americanus</i>	21		21	Coniferous: black spruce, open; moist to wet	29%
Muskrat	<i>Ondatra zibethicus</i>	1		1	Marsh	1%
Red squirrel	<i>Tamiasciurus hudsonicus</i>	18		18	Coniferous: Subalpine-fir, Graminoid	25%
Black bear	<i>Ursus americanus</i>	1		1	Coniferous : white spruce	1%
Grizzly bear	<i>Ursus arctos</i>	1		1	Graminoid	1%
Bear species	<i>Ursus sp.</i>	1		1	Coniferous: black spruce, open; moist to wet	1%
Small mammal species	N/A		1	1	Coniferous: open forest – shrub	1%
Bird Species						
Mallard	<i>Anas platyrhynchos</i>	1		1	Marsh	1%
Common Raven	<i>Corvus corax</i>	2		2	Coniferous: black spruce, open; moist to wet	2%
Trumpeter Swan	<i>Cygnus buccinator</i>	1		1	Marsh	1%
Dusky Grouse	<i>Dendragapus obscurus</i>	3	1	4	Coniferous: Subalpine-fir	5%
Grouse Species ²	N/A	1		1	Coniferous: black spruce, open; dry	1%

Common Name	Scientific Name	Sign Detections Forest Eco Zone Plots	Sign Detections Subalpine Eco Zone Plots	Total Number Plot Detections	Dominant Habitat Classification	Detection Occurrence Among Surveyed Plots (N=73)
Ptarmigan ¹	<i>Lagopus sp.</i>		2	2	Shrub: intermediate to tall	2%
Varied Thrush	<i>Ixoreus naevius</i>	1		1	Coniferous: Subalpine-fir	1%
Gray Jay	<i>Perisoreus canadensis</i>	4	1	5	Various ³	6%
Boreal Chickadee	<i>Poecile hudsonicus</i>	1		1	Coniferous: Subalpine-fir	1%
Ruby-Crowned Kinglet	<i>Regulus calendula</i>	1		1	Deciduous	1%
Northern Water Thrush	<i>Seiurus noveboracensis</i>	1		1	Deciduous	1%
Northern Hawk Owl	<i>Surnia ulula</i>	2		2	Coniferous: Subalpine-fir, Coniferous: black spruce, open	2%
Sparrow Species	N/A	1		1	Coniferous: Subalpine-fir	1%
Sapsucker species	N/A	2		2	Coniferous: white spruce	2%

NOTES:

¹ Three species likely to occur in the area: White-tailed Ptarmigan, Willow Ptarmigan, and Rock Ptarmigan

² Three species likely to occur in the area: Spruce Grouse, Ruffed Grouse, Dusky Grouse

³ various refers to different eco-type for every detection (no one common type)

3.2.5 Incidental Detections

Twelve species were recorded as incidental observations (Table 3-5). Moose represented the most commonly detected species (7), followed by grey wolf (3). Grizzly bear, red fox, and Dusky Grouse each had (2) detections.

Table 3-5: Incidental Wildlife Detections Recorded during Summer 2009 Field Surveys

Common Name	Scientific Name	Number of Detections	Detection/Sign Type
Moose	<i>Alces alces</i>	9	Observed (2 cows), tracks, pellets
Woodland caribou	<i>Rangifer tarandus caribou</i>	1	Scat
Black bear	<i>Ursus americanus</i>	3	Tracks, observed (2)
Grizzly bear	<i>Ursus arctos</i>	2	Scat

Common Name	Scientific Name	Number of Detections	Detection/Sign Type
Bear species	NA	1	Scat
Grey wolf	<i>Canis lupus</i>	3	Scat, tracks
Wolverine	<i>Gulo gulo</i>	1	Visual (1)
Red fox	<i>Vulpes vulpes</i>	2	Scat
Canada Lynx	<i>Lynx canadensis</i>	1	Observed
Porcupine	<i>Erithizon dorsatum</i>	1	Observed
Beaver	<i>Castor canadensis</i>	1	Lodge
Canada Goose	<i>Branta canadensis</i>	1	Observed (13 individuals)
Dusky Grouse	<i>Dendragapus obscurus</i>	2	Observed (4 individuals)
Ptarmigan	<i>Lagopus sp.</i>	1	Scat
Spruce Grouse	<i>Canachites canadensis</i>	1	Observed (3 individuals)

3.3 Traditional Knowledge

Studies of Traditional Knowledge (TK) with the First Nation of Na Cho Nyäk Dun (NNDNFN) are currently underway. The following results are therefore preliminary. NNDNFN citizens report that the general project area is very important for moose habitat and moose hunting. This is especially true near the South McQuesten River near Haggart Creek, particularly in NNDNFN Category B Lands just north of McQuesten Road. The Dublin Gulch valley also provides winter moose habitat, and the access road is frequently used for hunting, although some people report less moose there in recent years. Cougar have been observed in undisclosed locations relative to the general project area in recent years, even though they were thought to be extremely rare in the past.

3.4 Summary of Baseline Conditions

Habitat types occurring within the LSA, ARSA, and RSA are varied and may be broadly classified as Forest and Subalpine zones (Stantec 2009). Please refer to Appendix A for representative habitat photographs. The Forested zone includes the valley bottoms, and the slopes of the mountains below the treeline. The elevation range of this zone is from the lowest point in the project area (600 m) to the Subalpine zone – about 1,225 m. In the valley bottoms, forests are dominated by open canopy stands of black spruce, however white spruce is found along creeks and rivers. On the mid to lower slopes, continuous stands of subalpine fir occur along with minor components of white spruce, scrub birch, trembling aspen, and black spruce. On the upper slopes and up to treeline, open subalpine fir stands are predominant with trees becoming smaller and more spread out with more elevation (Stantec 2009).

The Subalpine zone occurs on the ridge tops and high plateaus above 1,225 m. Tree cover is discontinuous or absent at this elevation, and the vegetation is dominated by scrub birch, willows, ericaceous shrubs, herbs, as well as mosses and lichens. Alpine dwarf-shrub heath and herb

communities are common at the highest elevations. High elevation areas with large amounts of rock and rubble are vegetated by lichens (Stantec 2009). Riparian corridors along small tributaries and medium size streams, such as Haggart Creek, are plentiful in the RSA, providing dense cover and food resources for many wildlife species. Exposed rock outcrop and steep cliff habitats (often utilized by nesting raptor species such as Golden Eagle) are virtually absent from the RSA. Human disturbance within the study area is relatively low. One primary road leads into the area where sporadic placer mining activities are present on a small scale. Noise levels and access road traffic volumes are low.

The area provides habitat for a wide range of wildlife species that typically inhabit the central Yukon area. These include mammal species such as moose, woodland caribou, black bear, grizzly bear, grey wolf, red fox, snowshoe hare, wolverine, and American marten. Game bird species include Spruce Grouse, Dusky Grouse, Ruffed Grouse, and three species of ptarmigan. Raptors present may include Golden Eagle, Red-tailed Hawk, Northern Hawk Owl, Great Gray Owl, and Gyrfalcon. A variety of passerine/songbird species are also present. They include Dark-eyed Junco, Gray Jay, Tree Swallow, and Townsend's Solitaire. Waterfowl species include Trumpeter Swan, Mallard, and Canada Goose amongst others. The wood frog (*Lithobates sylvaticus*) is the only amphibian species likely to occur and no reptile species are expected to inhabit the area.

Table 3-6: Baseline Summary of Past/Present Wildlife Species Detections across Survey Types and Habitat Types

Common Name	Scientific Name	Survey Type						Habitat Class											Total Observed			
		Late Winter Transects ¹	Summer Ground Plots ²	Late Winter Aerial ¹	Summer Aerial ²	Summer Incidental ²	Hillam Knight Plésold ³	Road	Burn	Wetland/ Riparian	Marsh	Graminoid	Shrub	Coniferous Forest				Deciduous Forest		Subalpine Zone	Unknown ⁴	
														Mixed Coniferous	Black Spruce	White Spruce	Subalpine Fir					
Moose	<i>Alces alces</i>													X	X				X			181
Woodland caribou	<i>Rangifer tarandus</i>		X			X	X										X					3
Ungulate species	N/A	X		X				X														20
Black bear	<i>Ursus americanus</i>		X			X	X	X									X					12
Grizzly bear	<i>Ursus arctos</i>		X			X	X				X											4
Bear species	<i>Ursus sp.</i>		X			X	X									X						7
Canadian lynx	<i>Lynx canadensis</i>			X			X													X		3
Grey wolf	<i>Canis lupus</i>	X	X	X		X	X			X			X									8
Red fox	<i>Vulpes vulpes</i>	X		X		X													X			4
Beaver	<i>Castor canadensis</i>					X														X		1
Wolverine	<i>Gulo gulo</i>	X		X			X			X									X			12
Lemming	<i>Lemmus sp.</i>		X													X						3
Snowshoe hare	<i>Lepus americanus</i>	X	X	X			X	X	X	X			X	X								61
American marten	<i>Martes americana</i>			X			X													X		11
Muskrat	<i>Ondatra zibethicus</i>		X								X											1
Porcupine	<i>Erithizon dorsatum</i>					X														X		1
Red squirrel	<i>Tamiasciurus hudsonicus</i>	X	X	X			X		X	X		X					X					46

Common Name	Scientific Name	Survey Type						Habitat Class											Total Observed					
		Late Winter Transects ¹	Summer Ground Plots ²	Late Winter Aerial ¹	Summer Aerial ²	Summer Incidental ²	Hallam Knight Piesold ³	Road	Burn	Wetland/ Riparian	Marsh	Graminoid	Shrub	Coniferous Forest						Deciduous Forest	Subalpine Zone	Unknown ⁴		
														Mixed Coniferous	Black Spruce	White Spruce	Subalpine Fir							
Fox species	<i>Vulpes</i> sp.						X															X	13	
Small mammal Species	N/A	X	X										X											3
Mallard	<i>Anas platyrhynchos</i>		X							X														1
Golden Eagle	<i>Aquila chrysaetos</i>						X															X	1	
Canada Goose	<i>Branta canadensis</i>					X																X	13	
Spruce Grouse	<i>Canachites canadensis</i>					X																X	1	
Common Raven	<i>Corvus corax</i>		X												X									2
Trumpeter Swan	<i>Cygnus buccinator</i>		X		X					X	X													3
Dusky Grouse	<i>Dendragapus obscurus</i>		X			X												X						8
Gyrfalcon	<i>Falco rusticolus</i>						X															X	1	
Ptarmigan ¹	<i>Lagopus</i> sp.	X	X	X		X	X					X									X			52
Varied Thrush	<i>Ixoreus naevius</i>		X															X						1
Gray Jay	<i>Perisoreus canadensis</i>		X																					5
Boreal Chickadee	<i>Poecile hudsonicus</i>		X															X						1

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Common Name	Scientific Name	Survey Type						Habitat Class											Total Observed		
		Late Winter Transects ¹	Summer Ground Plots ²	Late Winter Aerial ¹	Summer Aerial ²	Summer Incidental ²	Hallam Knight Piésold ³	Road	Burn	Wetland/ Riparian	Marsh	Graminoid	Shrub	Coniferous Forest				Deciduous Forest		Subalpine Zone	Unknown ⁴
														Mixed Coniferous	Black Spruce	White Spruce	Subalpine Fir				
Ruby-crowned Kinglet	<i>Regulus calendula</i>		X														X				1
Northern Water Thrush	<i>Seiurus noveboracensis</i>		X														X				1
Northern Hawk Owl	<i>Surnia ulula</i>		X				X									X		X			3
Great Gray Owl	<i>Strix nebulosa</i>				X		X						X								3
Grouse ² species	N/A		X	X			X						X	X							23
Raptor species	N/A				X								X								2
Sparrow species	N/A		X													X					1
Sapsucker species	N/A		X												X						2
Bird species	N/A	X					X						X								29

NOTES:

¹ Late Winter Ground-based Transects and Aerial Surveys were conducted by Stantec on April 21 to 22, 2009.

² Summer Ground-based Plots, Aerial Surveys, and Summer Incidental observations were conducted by Stantec on August 26 to September 3, 2009.

³ Observation records from field surveys conducted by Hallam Knight Piésold Ltd. (Hallam Knight Piésold) 1993 to 1995.

⁴ Unknown Habitat Class is designated for wildlife observations that did not specifically include descriptive habitat (i.e. Hallam Knight Piésold surveys and Incidental Observations).

A total of 32 individual species were recorded when all data were combined (Table 3-6). Mammals consisted of two ungulate species (moose, woodland caribou), two bear species (black bear, grizzly bear), and an assortment of small to medium size mammals including grey wolf, wolverine, red fox, American marten, snowshoe hare, and lemming.

Moose were more commonly detected than any other species when all sign detection data available were combined (Table 3-6). Moose were detected across all survey types and in the widest range of habitat types indicating a relatively strong presence within the RSA. Most detections were in lower elevation forested habitat zones. The lower elevation forested zone is likely used all year long as riparian areas, marshes, and deciduous forest stands provide preferred food sources for moose. These low-elevation forest habitats and valley bottoms are also preferred in winter for both thermal protection and feeding. These observations are consistent with the reports from the NNDFN that the area provides winter habitat for moose and is important for moose hunting. Some NNDFN citizens report fewer moose in the area in recent years.

Woodland caribou are identified to three herds in the general area (Clear Creek, Hart River, and Bonnet Plume) (Yukon Department of Environment 2005). All key woodland caribou areas are outside of the RSA. Preliminary discussions with wildlife biologists familiar with the area noted that while woodland caribou are wide ranging, telemetry data indicate that the project area is peripheral to the range of the Clear Creek herd (which is largely on the opposite side of the North McQuesten River (O'Donoghue, pers. comm. 2009). No key woodland caribou areas have been identified within the RSA (Clear Creek is the closest mapped herd with 900 individuals, but it does not overlap with the RSA). Field surveys supported these observations. Only three caribou detections were recorded when combining past and present data (Table 3-6). All detections occurred within subalpine habitat types in the RSA, with only one detection (2009) within the LSA.

Grizzly bear are a wide ranging species that seasonally uses a variety of habitat types. The study area provides a variety of potentially attractive habitats for grizzly, including forested riparian gullies, marsh habitats, and subalpine areas. The combined data only indicates four detections for grizzly bear (Table 3-6). Only one of these detections was in the LSA. This is not entirely surprising as grizzly tend to avoid humans and associated disturbance, and both the LSA and RSA do not contain a seasonally attractive —magnet” food resource, such as spawning salmon, that would potentially attract many individuals to a concentrated area. Anecdotal information from a local guide outfitter indicated that a grizzly bear may have been using a riparian gully in the LSA (Bawn Boy Gulch) during late summer/early fall 2009 as indicated by track sign and visual observation. Combined data does not reflect high numbers of black bear detections, however they did outnumber grizzly detections by nearly double.

American marten is often a commercially valued species for trapping and was of interest during 2009 wildlife survey work. No detections were recorded in 2009. However, past data (Hallam Knight Piésold Ltd. 1994, 1996) provided a total of ten detections not linked to any specific habitat type. The LSA and RSA contained few habitat elements typically associated with this species (e.g., course woody debris and large mature coniferous forest).

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Snowshoe hare, red squirrel, and ptarmigan were the most commonly recorded species outside of moose. This is of interest as all three species represent potential prey for a range of larger mammals expected to occur in the LSA, ARSA, and RSA (e.g., lynx, wolf, and, red fox) and raptor species such as Golden Eagle. Snowshoe hare and red squirrel detections were limited to forest habitat zones, while the majority of Ptarmigan detections were in subalpine zones.

Although no bird data was collected via formal survey between 1993 and present, (18) species were detected in the study area including Golden Eagle, Gyrfalcon, Trumpeter Swan, Dusky Grouse, Common Raven, Ptarmigan, and Gray Jay. Observations of grouse and ptarmigan species were high relative to other bird species.

4 CLOSURE

Stantec has prepared this report for the sole benefit of Victoria Gold for the purpose of documenting baseline conditions in anticipation of an environmental assessment under the Yukon *Environmental and Socio Economic Assessment Act*. 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 Victoria Gold. 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.

The information provided in this report was compiled from existing documents and data provided by Victoria Gold, field data compiled by Stantec (formerly Jacques Whitford AXYS Ltd.) The report represents the best professional judgment of our 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 conclusions provided herein.

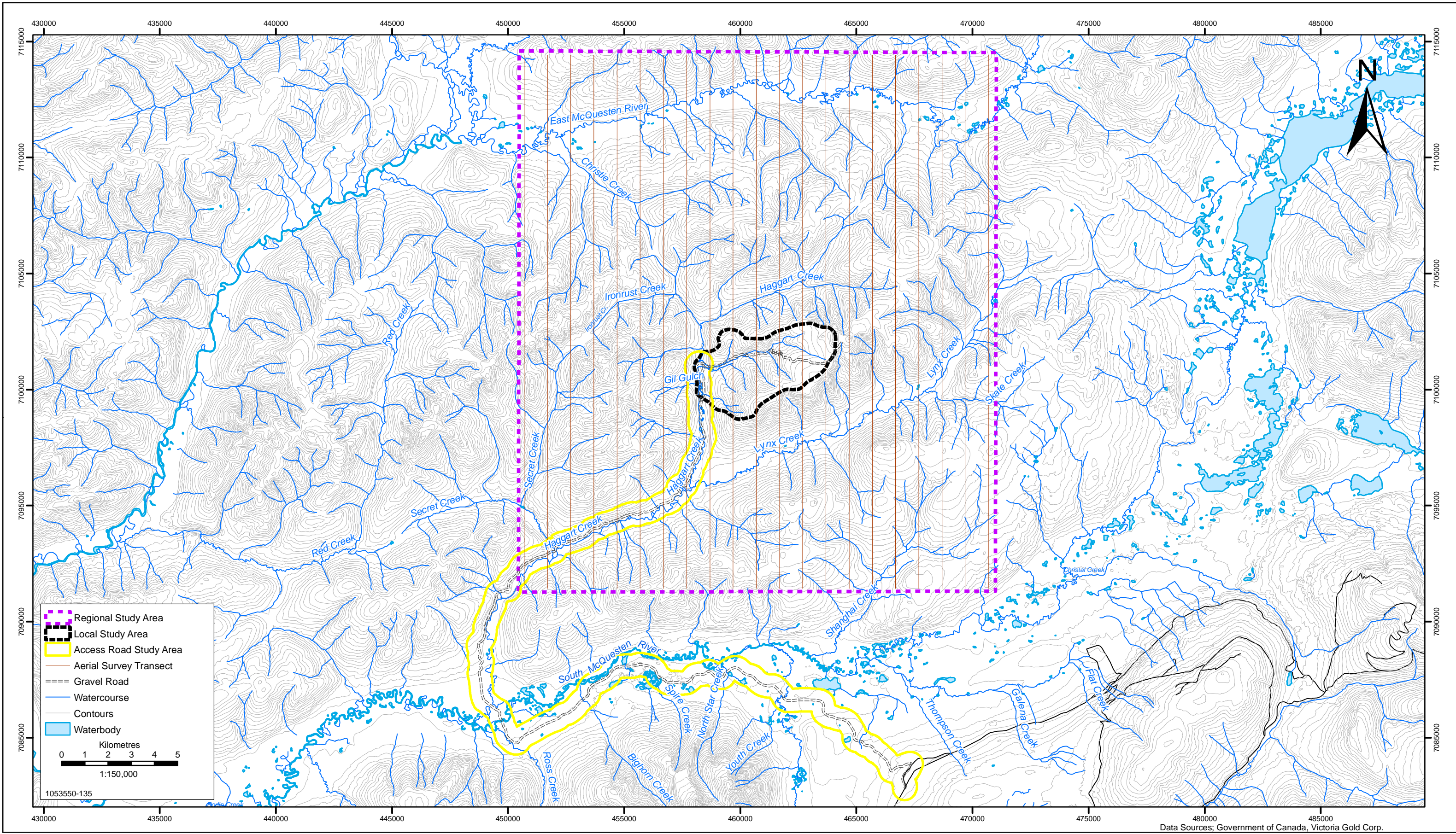
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6 FIGURES

Please see the following pages.



Data Sources: Government of Canada, Victoria Gold Corp.



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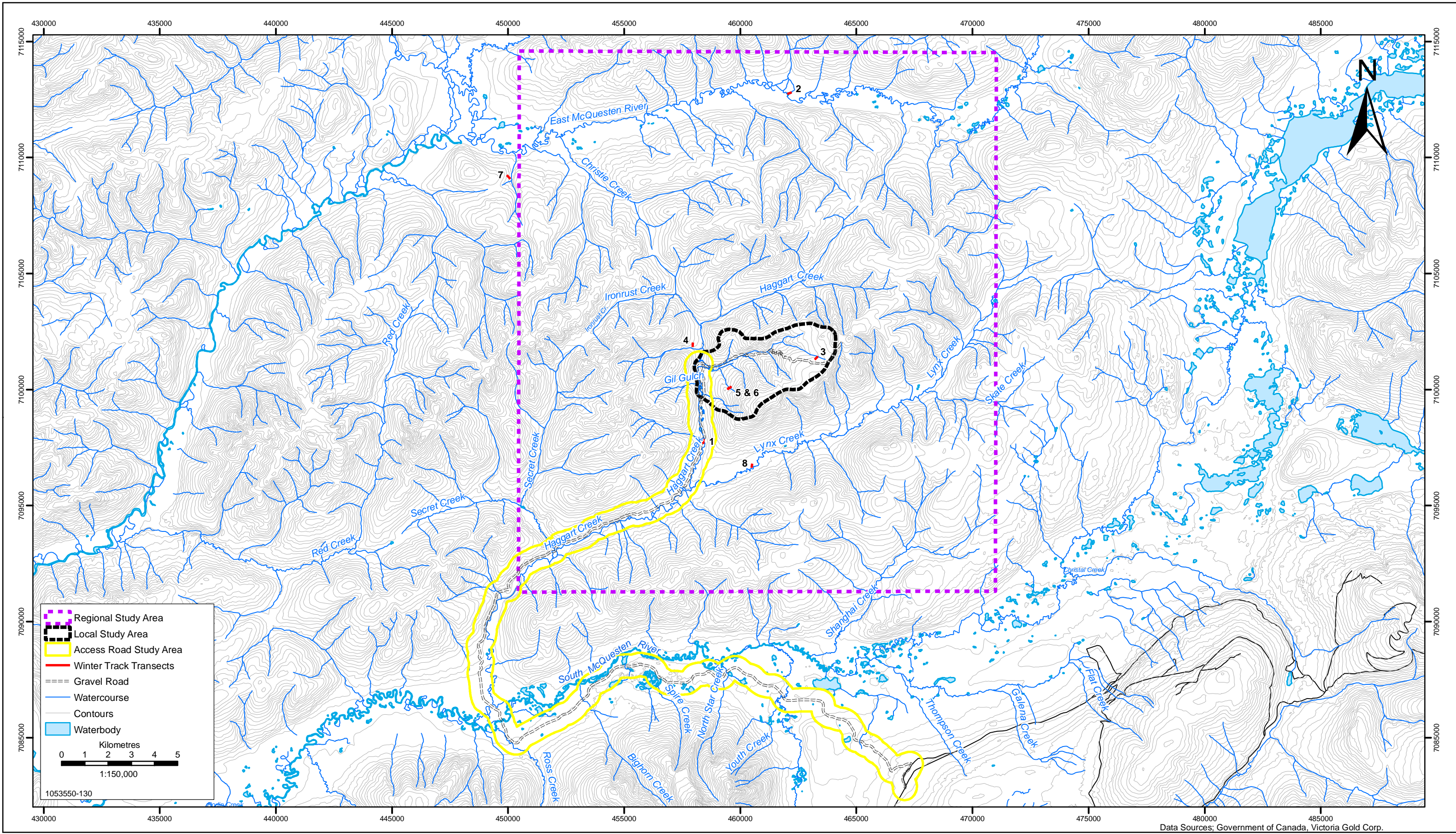


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STUDY AREAS
EAGLE GOLD PROJECT
YUKON TERRITORY

PROJECTION	UTM - ZONE 8	NP	NP
DATUM	NAD 83	CHECKED BY	
DATE	04-Mar-10	FIGURE NO.	2-1

R:\2009\Fiscal\1053550_EagleGold\GIS\MXD



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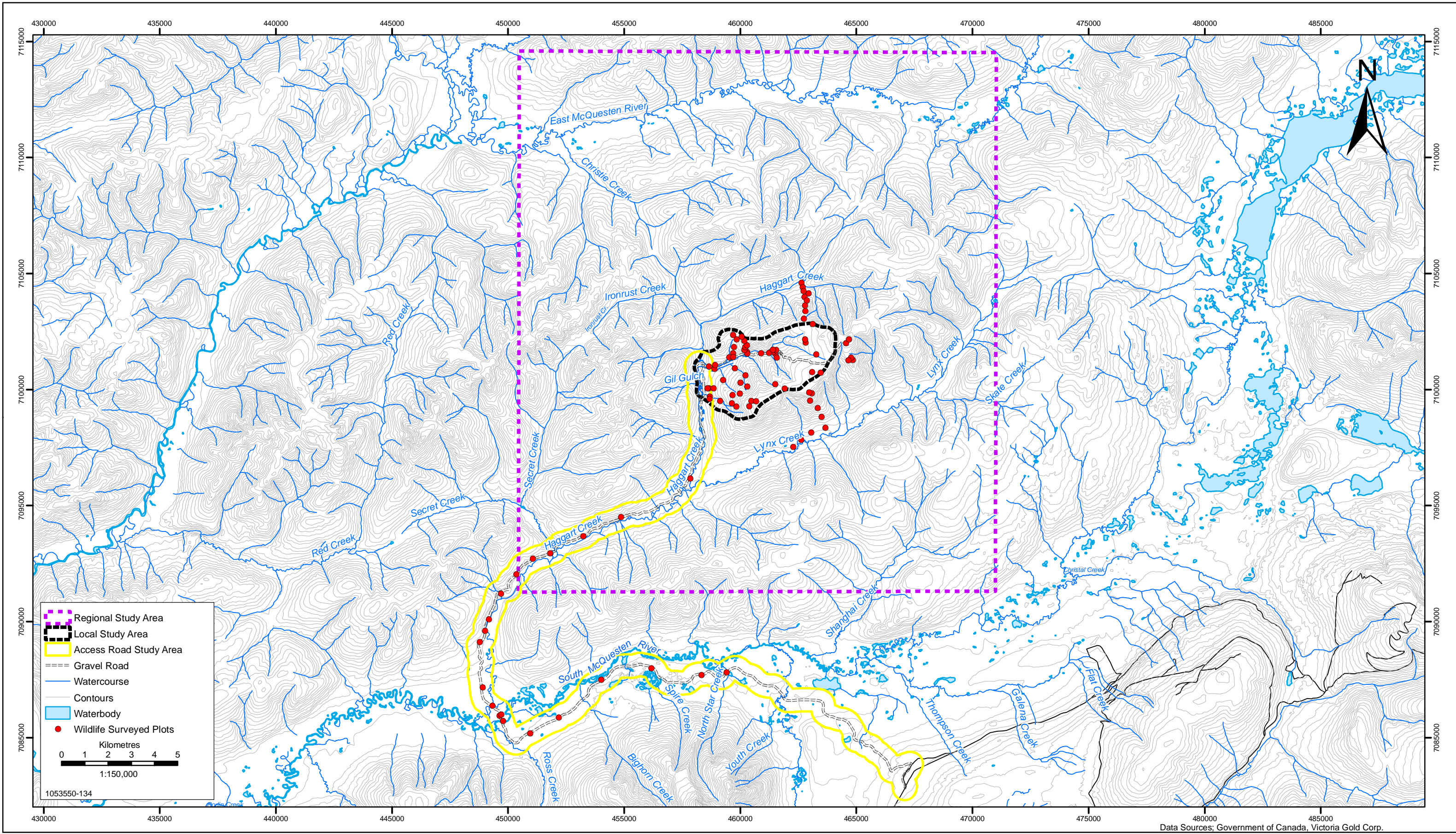


Victoria
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TRACK SURVEY TRANSECT LOCATIONS (LATE WINTER 2009)
 EAGLE GOLD PROJECT
 YUKON TERRITORY

PROJECTION	UTM - ZONE 8	NP	NP
DATUM	NAD 83	CHECKED BY	
DATE	04-Mar-10	FIGURE NO.	2-2

R:\2009\Fiscal\1053550_EagleGold\GIS\MXD



Data Sources: Government of Canada, Victoria Gold Corp.



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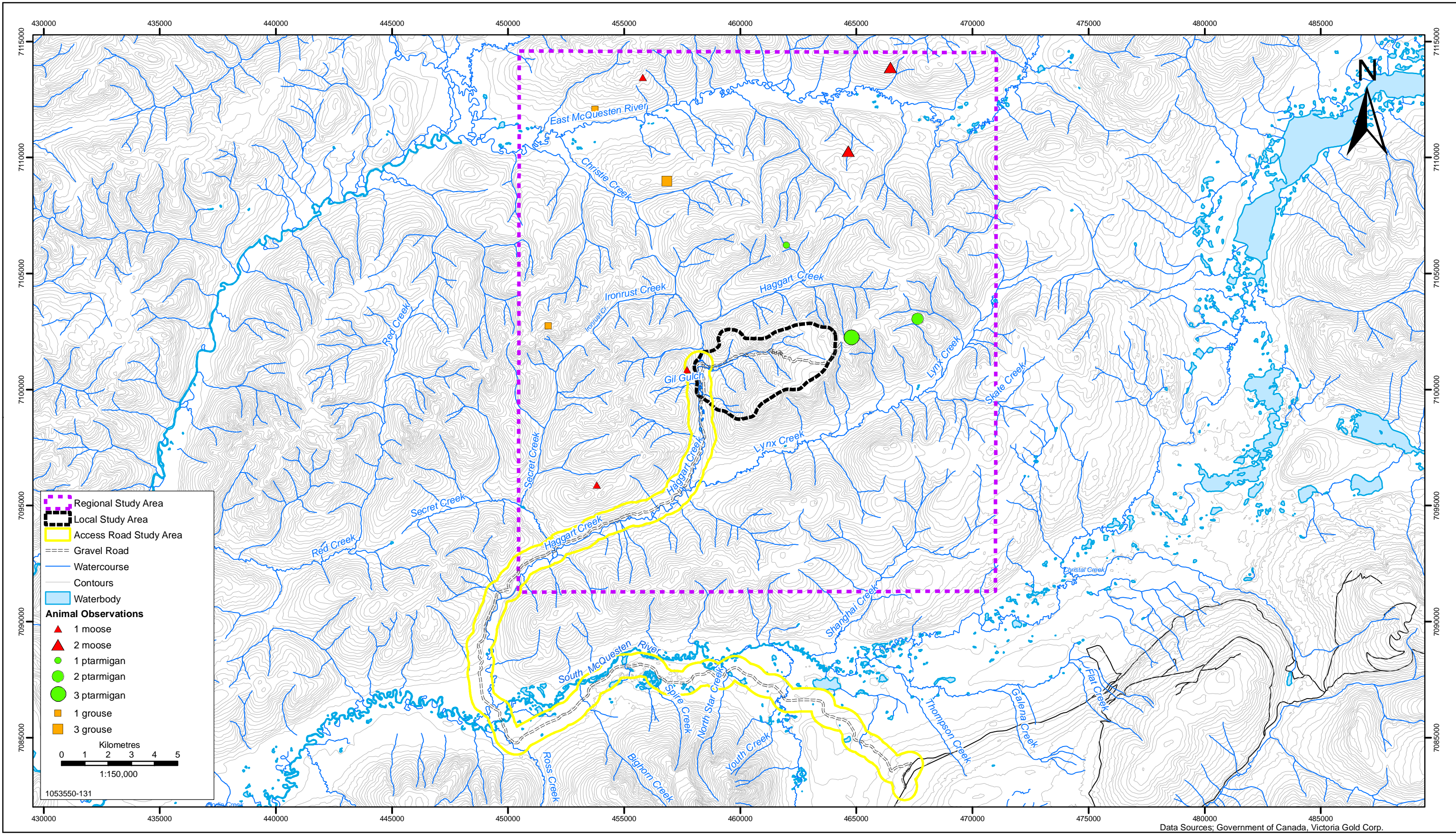


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WILDLIFE GROUND BASED SURVEY PLOT LOCATIONS (SUMMER 2009)
 EAGLE GOLD PROJECT
 YUKON TERRITORY

PROJECTION	UTM - ZONE 8	NP	NP
DATUM	NAD 83	CHECKED BY	
DATE	04-Mar-10	FIGURE NO.	2-3

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Data Sources: Government of Canada, Victoria Gold Corp.

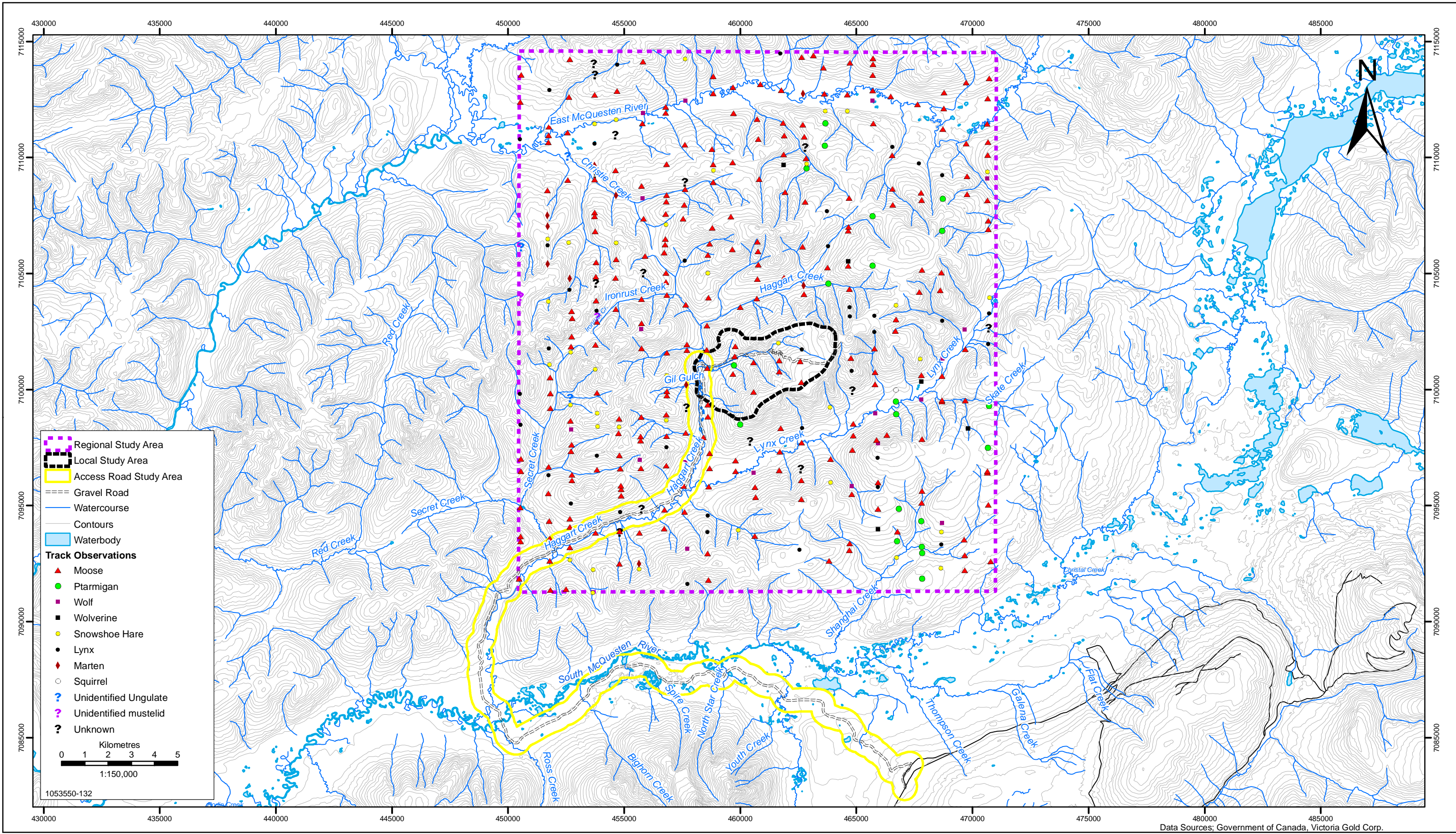
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LOCATIONS OF ANIMALS OBSERVED DURING LATE WINTER AERIAL SURVEY (2009)
 EAGLE GOLD PROJECT
 YUKON TERRITORY

PROJECTION	UTM - ZONE 8	NP	NP
DATUM	NAD 83	CHECKED BY	
DATE	04-Mar-10	FIGURE NO.	3-1

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Regional Study Area
 Local Study Area
 Access Road Study Area
 Gravel Road
 Watercourse
 Contours
 Waterbody


Track Observations

- ▲ Moose
- Ptarmigan
- Wolf
- Wolverine
- Snowshoe Hare
- Lynx
- ◆ Marten
- Squirrel
- ? Unidentified Ungulate
- ? Unidentified mustelid
- ? Unknown

0 1 2 3 4 5
 Kilometres
 1:150,000

1053550-132

Data Sources: Government of Canada, Victoria Gold Corp.



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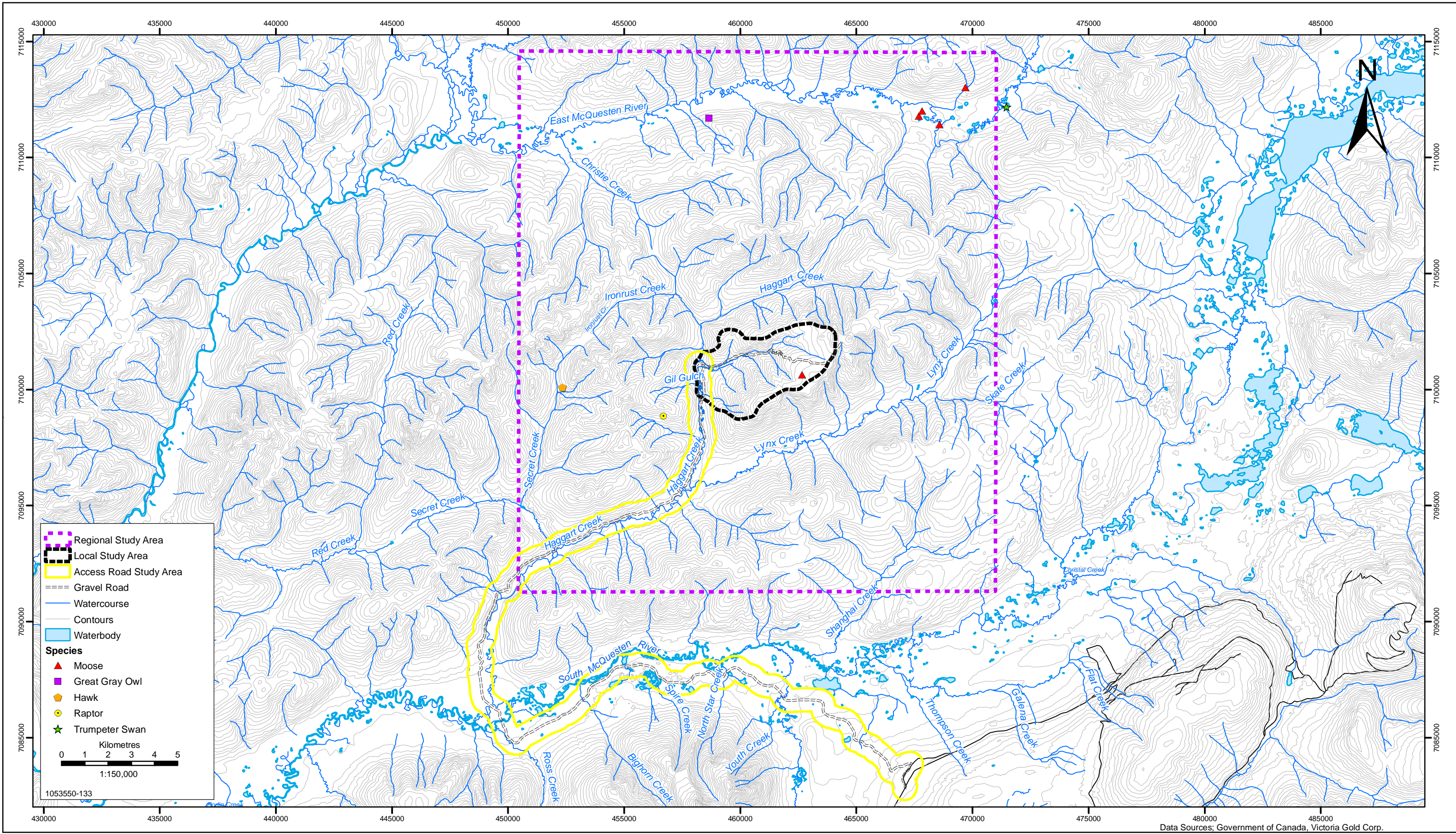
Victoria
 GOLD CORP

LOCATIONS OF TRACKS OBSERVED DURING LATE WINTER AERIAL SURVEY 2009

EAGLE GOLD PROJECT
YUKON TERRITORY

PROJECTION	UTM - ZONE 8	NP	NP
DATUM	NAD 83	CHECKED BY	
DATE	04-Mar-10	FIGURE NO.	3-2

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Data Sources: Government of Canada, Victoria Gold Corp.

Stantec
 4370 Dominion Street
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Victoria
 GOLD CORP

LOCATIONS OF ANIMALS OBSERVED DURING SUMMER AERIAL SURVEY 2009

EAGLE GOLD PROJECT
 YUKON TERRITORY

PROJECTION	UTM - ZONE 8	NP	NP
DATUM	NAD 83	CHECKED BY	
DATE	04-Mar-10	FIGURE NO.	3-3

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APPENDIX A

Study Area Photographs, 2009



Photo 1: Typical alpine habitat, showing terrestrial lichen for caribou forage



Photo 2: Spruce bog habitat with terrestrial lichen



Photo 3 Wildlife trail leading to watering pond



Photo 4: Mature coniferous forest with lichen ground cover, providing forage for caribou

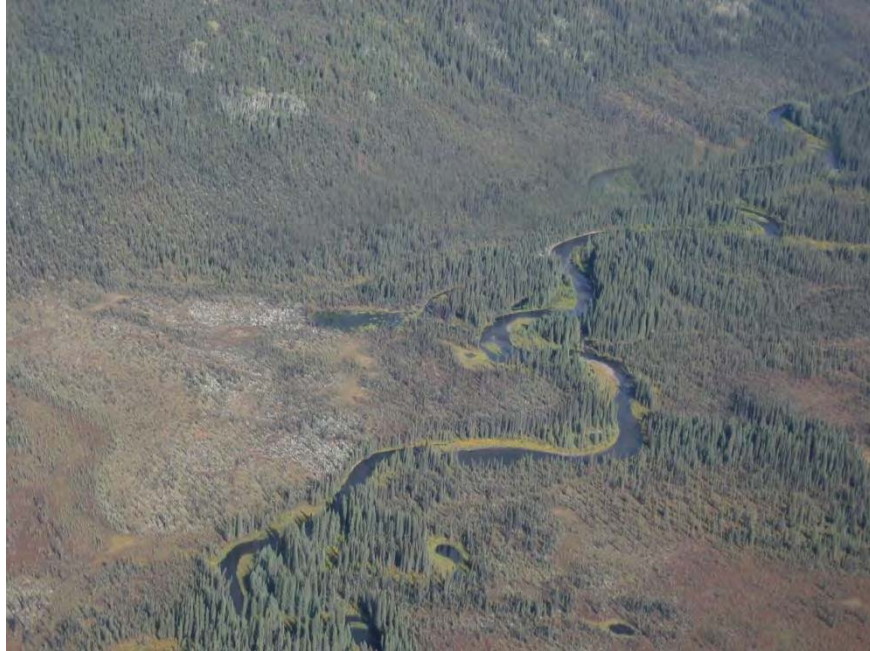


Photo 5: Valley bottom riparian habitat within the RSA.



Photo 6: Mature coniferous forest with abundance of terrestrial lichen.



Photo 7: Coniferous forest altered by forest fire.



Photo 8: Aerial view of Dublin Gulch looking south.