



**ALEXCO**

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**WILDLIFE PROTECTION PLAN**

**QML-0009**

**November 2009**

**BELLEKENO PROJECT**

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**ACCESS**  
CONSULTING GROUP

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## **1.0 INTRODUCTION**

The Keno Hill Silver District supports a variety of wildlife including ungulates, fur-bearers, small mammals, upland game birds and waterfowl. Results of moose surveys conducted between 1993 and 2006 as well as an annual ground based monitoring program (2001 – 2006) generally indicate that the density of moose in the Mayo-Elsa-Keno area is higher than the Yukon average. Small mammals common to the area include muskrat, beaver, ground squirrel, red squirrel, varying hare, fox, mink, weasel, vole and shrew. Less common are porcupine, river otter and chipmunk. Alpine areas have local populations of hoary marmot and pika as well as a unique population of butterflies. Large carnivores include black bear, grizzly bear, lynx and timber wolf. This area is included in the range of the Mayo woodland caribou herd, although only anecdotal information on the herd is available. Caribou and sheep are also observed on rare occasion.

A summary of the key terrestrial resources and resources utilization within the regional area is provided:

- the area is characterized by widespread discontinuous permafrost with a variety of habitat types including low wetland areas to scree dominated mountainous areas;
- a wide variety of wildlife is supported (above);
- the area has a long history of resources utilization by local communities and first nations with exploitation of local wildlife populations; and
- local observations indicate that wildlife habitat is regenerating and wildlife populations are being maintained.

### **1.1 Wildlife Protection During Operations, Temporary Closure and Post Closure**

During development and operations, this wildlife protection plan will guide activities. During temporary closure, Alexco will ensure that all sites are fenced, and all open holes and shafts and adits are blocked in order to prevent wildlife entrapment. All refuse will be removed and incinerated. The Reclamation and Closure Plan includes wildlife protection objectives for closure and post closure.

## 1.2 Site History

There is no question that past anthropogenic activities in the Keno Hill Silver District have altered the local landscape and affected local wildlife populations. However, observations of these effects over time have indicated the environment's natural capacity to regenerate habitat and sustain wildlife and waterfowl populations in the face of past development and occupation pressures. With the Bellekeno mine/mill development and operation activities, it is expected that there will be minimal loss of wildlife habitat or displacement of local wildlife due to the Bellekeno mine/mill development operation. Some areas within the mill site and tailing areas have been previously disturbed with many facilities already in existence on the sites (Flame and Moth pit is a previously disturbed area).

## 2.0 TOPICS OF CONCERN AND PROTECTION MEASURES

The objective of the procedures described below is to mitigate adverse impacts on wildlife by minimizing disturbance to the animals and their habitat, and minimizing disruption of their free movement.

Topic of Concern	Protection Measures
General	<ul style="list-style-type: none"> <li>• All incidents and interactions with wildlife shall be reported to the District Conservation Officer in Mayo at (867) 996-2202, as well as any other communication regarding wildlife.</li> <li>• Every effort shall be made to avoid disturbing wildlife.</li> <li>• The provisions of the <i>Quartz Mining Land Use Regulations</i> Schedule 1 Operating Conditions (MLUA Class 3 LQ00186) will be adhered to.</li> </ul>
Access Management	<ul style="list-style-type: none"> <li>• Public access to the mill site will be controlled by means of signage at the mine site, mill site and all site haul and access roads.</li> <li>• Public access to the mine site, ponds and adits will be controlled by signage or gates and/or fencing</li> <li>• Access to the Flat Creek Camp will be controlled by means of fencing and a gate.</li> <li>• Speed limits will be enforced for mine traffic and posted along the access and site roads (maximum 40 km/hr, reduced to 20 km/hr at blind corners and bridge crossings). Mine traffic between the mill and the mine site will be radio controlled for safety and speed control.</li> </ul>

Topic of Concern	Protection Measures
	<ul style="list-style-type: none"> <li>• To the maximum extent possible employees will be encouraged to take advantage of project bussing and transportation from Mayo/Elsa to the mine and mill site, thereby minimizing hunting opportunities and direct road mortalities;</li> <li>• Private employee all-terrain vehicles will be prohibited on the access road and at the mine site.</li> <li>• Existing trails and disturbed areas will be used where possible to minimize the addition of new linear corridors and there will be no unnecessary disturbance to the organic mat and soils.</li> <li>• Subject to safety concerns (WCB requirements for haul roads) snow plows on the access road will create breaks in the snow berm every 0.5 km to allow for wildlife to escape from the access road.</li> </ul>
Harassment	<ul style="list-style-type: none"> <li>• As provided for in sections 92 and 93 of the <i>Wildlife Act</i>, the proponent shall not harass wildlife or encourage wildlife to become a public nuisance.</li> <li>• Employees will undergo wildlife orientation, which will encompass no wildlife feeding, wildlife avoidance, and bear awareness among other topics.</li> <li>• Project personnel will not be allowed to have pets in camp.</li> </ul>
Ecologically Sensitive Areas	<ul style="list-style-type: none"> <li>• Every precaution will be taken to avoid disturbance of wildlife sensitive areas, including but not limited to calving, denning or nesting sites.</li> <li>• Vegetative buffer zones will be maintained around stream riparian areas and facilities to minimize wildlife disturbance and protect wildlife corridors.</li> </ul>
Wildlife Movement	<ul style="list-style-type: none"> <li>• Measures will be implemented to reduce any impediment of wildlife movements, including ploughing back snow banks and ensuring sufficient breaks in the bank to provide adequate sightlines for drivers and wildlife escape.</li> <li>• All project activities will be maintained to the project area. Personnel movement will be restricted to the project area and access routes. Wildlife movements will not be restricted.</li> <li>• Windrows will not be created so that wildlife movements are not restricted, and fire hazards are minimized with the exception of roll over protective berms on haul roads.</li> </ul>
Wildlife Mortality	<ul style="list-style-type: none"> <li>• Speed limits and signage at possible wildlife crossings will be posted to minimize vehicle/wildlife collisions.</li> <li>• Collisions between wildlife and project vehicles along the mine haul route may result in changes to the Traffic Management Plan to minimize these effects.</li> </ul>

Topic of Concern	Protection Measures
Wildlife Monitoring	<ul style="list-style-type: none"> <li>• Wildlife monitoring is outlined within the Environmental Monitoring Program and includes maintaining a wildlife observation log onsite; reporting wildlife encounters; monitoring measures to ensure birds do not settle in ponds. Environmental personnel on site will monitor project activities and modify operations to address wildlife concerns.</li> <li>• Wildlife monitoring responsibilities will include waterfowl and shorebirds within the sedimentation pond during migration periods.</li> </ul>
Hunting and Fishing	<ul style="list-style-type: none"> <li>• Project personnel will not be permitted to have firearms on the project site, unless authorized as a safety precaution.</li> <li>• Employees are discouraged or prohibited from hunting and fishing while on the mine site or in the vicinity of the project area, including during travel to and from the site. Infringement of this policy will be reported and may result in disciplinary measures.</li> </ul>
Migratory Birds	<ul style="list-style-type: none"> <li>• Monitoring of measures to ensure waterfowl and shorebirds do not settle in ponds. Environmental personnel on site will monitor project activities and modify operations to address wildlife concerns.</li> <li>• Further measures to protect against impact on migratory birds will be discussed with the Canadian Wildlife Service. These discussions may include bird scaring devices and measures to ensure birds do not settle in the sedimentation pond.</li> </ul>
Bears	<ul style="list-style-type: none"> <li>• The Company will have an employee bear awareness program.</li> <li>• The camp shall be equipped with bear deterrent devices and the devices shall be maintained in good working order throughout the duration of camp occupancy.</li> <li>• A Waste Management Plan is provided (section 6.0). Routine garbage patrols will be undertaken to remove materials, (e.g., metals, plastics, grease) which may be potentially harmful to wildlife. Garbage and debris destined for disposal will be collected routinely and prior to incineration stored in wildlife proof containers / fenced short term storage areas in a manner which does not attract wildlife to the mine site. Solid waste will be frequently and completely incinerated at the Elsa Solid Waste Management Facility in a manner which minimizes odours and eliminates the attraction of bears and other wildlife to the mine site. Nuisance bears shall be reported to Yukon Government authorities.</li> <li>• In the event that bears or other wildlife become a nuisance or problem at the camp, the Company will take appropriate measures such as the installation of a portable electrified fence around the perimeter of the camp.</li> </ul>

Topic of Concern	Protection Measures
Caribou	<ul style="list-style-type: none"> <li>• All caribou observations will be reported to the Regional Biologist in Mayo</li> <li>• If caribou are observed on the project site between 15 May and 30 June<sup>1</sup>, construction activities will be minimized to reduce disturbance of caribou calving.</li> </ul>
Riparian Areas	<p>To avoid major erosion and sedimentation problems the following general practices will be implemented:</p> <ul style="list-style-type: none"> <li>• The area of clearing and disturbed soil will be minimized – existing trails and disturbed areas will be used where possible to minimize the addition of new linear corridors and there will be no unnecessary disturbance to the organic mat and soils;</li> <li>• Erosion protection measures (riprap, earth breaks or cross ditches) will be implemented as required;</li> <li>• Early construction of diversion ditches and sediment control ponds to manage runoff and provide for settling of suspended solids will be implemented with inspection to ensure effectiveness;</li> <li>• Construction activities will be completed efficiently to minimize the length of time disturbed soils are exposed;</li> <li>• Site clearing will be timed to minimize soil compaction. To the maximum extent possible, disturbances will be restricted to times when soils are dry or frozen and avoid or delay construction during wet site conditions;</li> <li>• Riparian areas will not be unnecessarily disturbed – a minimum buffer of 30 m will be maintained from surface watercourses to protect riparian areas;</li> <li>• The Construction Surface Water Management Plan (submitted in Section 4 of the Construction Site Plan, Revision 1) will be followed and adapted as required to manage changing or unexpected site conditions.</li> </ul>
Trapping and Traditional Use	<ul style="list-style-type: none"> <li>• Trap line trails and trapping areas will not be disturbed;</li> <li>• Continued access to traditional harvest areas will be provided;</li> </ul>

### 3.0 REFERENCES

Gamberg Consulting, 1999. Contaminants in Yukon Moose and Caribou. Whitehorse, YT. March 1999