



Implementation Guidance: Suggested Best Management Practices (BMPs) for Stone's Sheep

This guide summarizes how to apply Best Management Practices (BMPs) to protect Stone's sheep populations near industrial access roads, based on research from the Jade Boulder Road (JBR) project.

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1. Protect Key Mineral Licks & High-Value Habitat

Sheep rely heavily on specific mineral licks to recharge nutrient deficiencies accumulated during winter. Maintain a strict **2 km buffer zone** around these locations.

- **Prohibit Resource Extraction:** Ban vegetation removal, mining, exploration, trail building, and timber harvesting within the buffer zone.
- **Restrict Ground Vehicles:** Enforce a total ban on all motorized ground activity within the designated lick area from **June 1 to October 31**.
- **Manage Air Traffic:** Require all helicopters to maintain a minimum of **2,000 m horizontal** and **400 m vertical** separation from the lick during the same June 1 – October 31 window.

2. Manage Road Traffic Within Movement Corridors

Crossing industrial roads is a highly stressful event for sheep. Restrict vehicle usage during critical migration windows: **May 25 to July 10** (spring/northbound) and **August 15 to September 15** (fall/southbound).

- **Limit Traffic Volume:** Restrict daytime industrial travel to a maximum of **2 days per week** during migration windows.
- **Utilize Night Convoys:** Schedule bulk transport via monitored convoys after dark if traffic volume must exceed baseline limits.
- **Enforce Speed and Stopping Rules:** Mandate a maximum speed limit of **20 km/h** through the corridor and strictly prohibit vehicles from stopping.
- **Require Noise Suppression:** Mandate industrial vehicles to use enhanced mufflers or noise suppression technology to minimize wildlife panic.

3. Control Infrastructure and Footprint Growth

Unregulated road expansions destroy critical escape terrain and increase predator access.

- **Freeze Sensitive-Period Maintenance:** Completely halt road improvements, construction, or heavy maintenance during the active migration windows.
 - **Constrain Road Width:** Limit the active roadway footprint to a maximum of **one lane** in width.
 - **Minimize Clearing:** Strict guidelines must prevent any vegetation clearing beyond the absolute minimum required for the immediate right-of-way.
 - **Use Radio Controls:** Implement radio-controlled traffic systems to coordinate single-lane movement and eliminate vehicle standoffs.
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4. Mitigate Human Disturbance and Recreation

Industrial roads can expand public access and recreational use (e.g., hunting access and camping), compounding the stress caused by industrial operations.

- **Enforce Camping Bans:** Prohibit any camping or overnight staging within **2.5 km** of identified sheep crossing points.
 - **Deploy First Nations Guardians:** Establish traffic control checkpoints managed by local Indigenous Guardians (e.g., Tahltan Guardians) during peak recreational months in August and September.
 - **Restrict Off-Road Vehicles:** Strictly limit All-Terrain Vehicle (ATV) use exclusively to the main road corridor during the migration seasons.
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Project pre-requisites:

1. For this project area, the population was inventoried pre and post project. This also supported an understanding of the seasonal ranges and use by these Stone's sheep.
2. Winter capture of sheep and installation of GPS radio collars was undertaken; a full suite of wildlife health samples were also collected and analyzed.
3. From the collar data, timing of use and specific movement corridors (used for trail camera placement), grazing areas, natal ranges and mineral licks were obtained. Trail cameras were then placed to evaluate baseline vehicle traffic and these data used to develop disturbance thresholds and inform BMPs.
4. Field sampling was undertaken of vegetation, soils and sheep pellet groups, followed by laboratory analyses.
5. The analyses, having identified a disturbance effect with unregulated vehicle traffic, helped inform creating site-specific BMPs in an effort to mitigate or remove negative effects.



If you need further details on project delivery or want more information on the **specific permit conditions** applied to the Caribou Pass region, please contact me.