

10. A Significant Mineral Lick

1) Definition

A *significant mineral lick* means a naturally occurring mineral lick that is used at least annually by one or more species as evidenced by:

- well-established trails or braided trail systems leading to the mineral lick site,
- extensive excavation or trampling, and/or
- teeth marks, pellets, tracks, and hair.

This definition is not applicable where the mineral lick has been created by a human activity (e.g., road construction).

A mineral lick (Figure 38) is an area used on a habitual basis by ungulates to obtain dietary macroelements, including sodium, calcium, and phosphorous, and trace elements such as manganese, copper, or selenium.



Figure 38. Mountain Goats at a wet mineral lick. (Photo: Karl Bachmann)

2) Importance of Mineral Licks

A mineral lick is a natural mineral deposit where animals in nutrient-poor ecosystems can obtain essential mineral nutrients. Mineral licks are frequented by ungulates throughout the year but particularly during periods when bone, antler, horn, and muscle growth peak (i.e., spring and summer). Ungulates require these minerals for nutrition and also to aid in digestion by countering

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the effects of unpalatable plant compounds. Mineral licks are relatively uncommon across the landscape and some ungulates will travel extensive distances (e.g., over 15 km) to visit them.

3) What to Look For

Three types of mineral licks are generally recognized:

1. wet or mucky mineral licks found in seepage areas;
2. dry earth exposures, such as clay or lacustrine deposits, often found above river cut banks (Figure 39); and
3. rock face mineral licks.



Figure 39. Bighorn Sheep at dry mineral lick. (Photo: Tatiana Gettelman).

Some mineral licks are easily recognizable by their exposed crystallization, which shows as white or colourful deposits. Other mineral licks are nondescript and are easily overlooked, only appearing as bare soil areas or muddy seepages. Most mineral licks will have visible, well-used wildlife trails that typically radiate out in multiple directions from the mineral lick. Bare soil areas associated with most mineral licks are usually covered in animal tracks that can help identify the wildlife species using the mineral lick.

Significant licks include those that are known or are relatively rare on the landscape. Individual ungulates would need to travel relatively long distances from traditional escape terrain (> 1 km) to reach these licks. They may be used annually by multiple species of ungulate or multiple individuals of a single species.

Table 38 summarizes what to look for when identifying a significant mineral lick. Table 39 provides information to consider when conducting primary forest activities or range practices adjacent to a mineral lick.

Table 38. A significant mineral lick: what to look for.

Description of a Significant Mineral Lick
<ul style="list-style-type: none">• Well-established trails or braided trail systems through forested and non-forested areas usually lead to regularly used mineral lick sites. Although these trails are used most frequently in the spring and early summer, Mountain Goats and Sheep also visit these sites during the autumn (October–November).• Both dry and wet mineral licks can occur. Seepage areas and hot springs may provide potential mineral licks. In contrast, clay and (or) silty lacustrine cut banks or rock face areas can provide high concentrations of minerals.• Heavy use of mineral licks is shown by areas of trampling (wet lick) or significant excavation (dry lick).• Other evidence of use at each mineral lick site includes teeth marks, pellets, tracks, or hair.

Table 39. Information to consider when conducting primary forest or range activities or near a significant mineral lick.

Information to Consider
<ul style="list-style-type: none">• Avoid physical destruction of the mineral lick site (e.g., skid trail or road building).• Maintain the integrity of trails between mineral lick sites and seasonal ranges (winter/spring range).• Avoid locating new roads near known mineral lick sites and trails. It is important not to isolate the mineral lick from nearby escape cover (forest, cliffs, rocky outcrops); if roads are required near mineral licks, implement measures to minimize disturbance to mineral lick access trails by restricting the number of road crossings and by maintaining connectivity to adjacent forest areas.• For existing roads near known mineral licks, minimize road use and disturbance (where possible) during critical use periods (May–November; date will depend on geographic location and ungulate species).• Where roads can be deactivated, do so as soon as possible; erect all-terrain vehicle barriers; reclaim roads with native vegetation.• Where harvesting activities occur near lick sites, provide some visual screening (i.e., forested cover) around the lick; this will provide security and escape cover for animals using the lick.• Arrange helicopter or fixed-wing flight plans to avoid areas with known mineral licks, especially during critical use periods (May–November; date will depend on geographic location and species).• Consult a qualified professional biologist to assess use and significance of the site for local ungulate populations; some licks may be assessed as “non-significant.”

4) Regional Information – Kootenay Boundary

In this section, we provide specific timing windows and guidance on disturbance buffers for the Kootenay Boundary Region. This information may vary from provincial guidance and may not be applicable outside of the Kootenay Boundary Region because of regional specificity.

Mineral licks are unique and are found across the landscape. They are generally associated with mineral springs or places where mineral precipitate is deposited. No identified biogeoclimatic associations are relevant for mineral licks. Ungulates using these licks have varying sensitivity to

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disturbance, depending on their existing exposure to disturbance and the level of disturbance from the proposed activity. Table 40 provides suggested minimum buffer sizes. Additional protection or alternative measures may be needed, depending on the nature of the disturbance, existing landscape and cover, or other factors.

Licks are most heavily used when ungulates are most active (spring to autumn). Visiting animals will be most sensitive to disturbance at lick sites during early season green-up. Fall use of licks is linked to horn growth in males and post-lactation nutrient requirements in females. This creates a potential *sensitive period of April 1–October 1* in the Kootenay Boundary Region. The length of this sensitive period will depend on the geographic location and ungulate species. No regional range maps exist for mineral licks.

Table 40. Guidance on disturbance buffers for significant mineral licks.

A Significant Mineral Lick – Guidance on Buffers
<ul style="list-style-type: none">• Do not construct roads within 200 m of a significant lick, unless no other practical option exists. Maintain a visual screen between any roads (existing or built) and the lick.¹• If no longer needed, reclaim any existing roads within 200 m of the lick.• Maintain a minimum 100 m buffer of intact forest around significant licks; this buffer should include at least two primary trails leading to the lick and connect adjacent forest to provide a windfirm travel corridor.• Avoid conducting field reconnaissance, layout, cruising, or tree planting within 100 m of a significant lick from April 1 to October 1 (where possible). Leave the area if animals are observed approaching or at the site.

5) Additional Information

BC Timber Sales Cariboo–Chilcotin Field Guide to Wildlife Habitat Management:
<https://www.for.gov.bc.ca/ftp/tcc/external!/publish/ems2/SFM/TCC-Field-Guide.pdf>

Management Plan for the Mountain Goat (*Oreamnos americanus*) in British Columbia:
http://www.env.gov.bc.ca/wld/documents/recovery/management_plans/MtGoat_MP_Final_28May2010.pdf

Wildlife Habitat Features – Summary of Management Guidelines, Northern Interior Forest Region (Draft):
<https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/wildlife-wildlife-habitat/regional-wildlife/northeast-region/draftwhfnorthinteriorrevisejuly30.pdf>

¹ Modified from BC Timber Sales Cariboo–Chilcotin Field Guide to Wildlife Habitat Management (2009).