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SUPPORTING DOCUMENT

Three Sisters Mountain Village Area Structure Plan - Adaptive Management

Golder Associates

Adaptive Management

As outlined in the ASP, the development within the ASP boundaries will proceed generally in a west to east fashion and north to south (ASP Section 14.2) and is estimated that full build out of the proposed project will take 20 to 30 years. This time frame will provide an opportunity to take an adaptive management approach to monitoring and mitigation. Wildlife exclosure fencing should be constructed prior to any development commencing. Monitoring of the fence and the adjacent lands will provide data to inform further build out of the development at later stages. The scenarios outlined below represent just a few of the possible options that could be considered depending on the kinds of challenges that the monitoring program identifies.

If challenges with mitigations are identified as a result of monitoring, these learnings and developed solutions can be applied to subsequent phases of the project. It will be the responsibility of the Monitoring Program Committee to assess the annual result of the monitoring and make required recommendations in respect of additional mitigation.

The following are examples of how issues that are raised by the monitoring program could be addressed.

- If increases in sensory disturbance associated with FireSmart clearing is found to have a greater adverse effect on corridor functionality than predicted, additional tree planting along the fence line or an opaque fabric might be applied to the wildlife exclosure fence to reduce visual sensory disturbance in the corridor.
- The predictions of impacts assume that the wildlife fence is not frequently damaged and therefore will not be porous to wildlife. If patrols regularly discover fence damage or other issues regarding the maintenance of the wildlife exclosure fencing, more frequent patrols of the perimeter fencing to reduce the risk of fence breaches by wildlife may be required or it may require that trees which threaten the integrity of the fence (e.g., dead trees, partially uprooted trees) are removed prior to them falling and creating a breach.
- If wildlife use of the corridor is lower than desired, yet these same species are present in adjoining habitat patches, the creation of additional narrow trails on benches above the development or additional habitat enhancement patches distant from the north edge of the corridor could be created to increase the attractiveness of corridors and the ease with which wildlife can travel through the corridor. Habitat enhancement options could depend on the target species. Buffaloberry enhancement would be preferred additional bear movement is desired. Creation of grass meadows would increase the attractiveness of corridors for ungulates and therefore associated predators like cougars and wolves. If, after all these mitigations have been applied and monitoring indicates that wildlife use of the corridor remains lower than desired, other options will be explored, one of which may be moving the fence north to increase the width of the corridor.
- Currently the Stewart Creek Underpass is not being used by some species. Once built, the wildlife exclosure fencing on either side of the Stewart Creek Corridor may increase the effectiveness of the corridor so that more wildlife comes into contact with the underpass and its use increases. If this does not occur, additional mitigations such as approach trails from TransAlta transmission line could be considered to increase the use of the underpass by carnivores. Vegetation management options that increase the density of vegetation within the Stewart Creek Across Valley Corridor could also be considered where possible to increase wildlife use of the corridor.

- If the presence of the fence, education and a low level of enforcement activities does not reduce human use of undesignated trails in wildlife corridors, stepped up enforcement (e.g., print photos in the paper, Province puts in more enforcement effort, citizen monitoring tip line, bylaw enforcement in corridors on Town land), increased education efforts (e.g., more signs, better signs, more effort to convey importance of wildlife and problems in the corridor to the public using newspapers, existing environmental organizations [WildSmart, Y2Y, Biosphere Institute] and other community outreach opportunities) may be required. Camera data will allow the development of targeted programs. If off-leash dogs are the primary challenge, then targeting education for that group specifically may provide increased compliance. Similarly, the camera data may provide information as to the locations where use of undesignated trails originates. If the data indicate that the issue is with cyclists coming in from adjacent habitat patches, then specific education and enforcement activites can be directed at the access points. This could include remote cameras to specifically photograph offenders on particular undesignated trails.
- If human use of the corridor declines, but wildlife use of the corridor also declines and wildlife use of habitat patches is low, then management should focus on improvements in habitat patches. The problem may not be the corridor, but the fact that animals are not using the regional habitat patches or are not motivated to move between habitat patches. Options for management include reducing human use in habitat patches and improving habitat in habitat patches to increase wildlife use of those patches. This could include many of the same techniques already discussed but applied within the habitat patches, instead of the corridors.
- Elk currently using the areas that become unavailable as a result of fencing may begin showing up elsewhere in the Town of Canmore where they are a safety issue. Depending on where the elk are causing challenges, management options may include, but are not limited to, the removal of attractants where possible, targeted use of ungulate fencing to change available travel routes for nuisance elk, direct harassment of nuisance elk using dogs, and elk translocation as has been done in Banff National Park.

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